

Doctoral Dissertation

**The Socio-Economic Integration of Cumans in Medieval Hungary.
An Archaeozoological Approach**

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We usually consider our academic achievements our own merit and undoubtedly there is a lot of work and effort put into an earned academic degree. It is customary to thank our friends, family, professors and colleagues who supported us during our work, while we rarely give a thought to the fact that it is partly a historically defined accumulation of the Earth's wealth that allows us to carry out research, live in a comfortable flat in good hygienic circumstances, read by artificial light in the evening, go to libraries maintained by the state, or do analyses in laboratories. I believe luck is as much of a factor in our success as diligence, mental skills or hard work. The place where we were born often determines our possibilities of becoming scholars and joining the privileged scholarly élite of the Western world. While I do not want to underestimate the intellectual effort put into a piece of scholarship, I definitely feel the need to give a thought to those people I met during my research travels, from Kazakhstan to Mexico and Argentina, who never actually had the same opportunities to study as I have, and for whose fate and well-being, I believe, everyone who considers him- or herself an intellectual must feel some responsibility.

Chapter 1

Introduction: Cuman history in perspective

Cumans, a people that inhabited the steppe zone in the medieval period, formed a tribal federation with the Kipchaks and actively shaped the fate of the region from the Black Sea to the Carpathian Basin, have been primarily known to history as nomadic, mounted warriors. Among their numerous interactions with medieval feudal states, there is one which is of special interest in terms of nomad-sedentary relations: their integration to the Hungarian Kingdom after their thirteenth-century migration to the country. This transformation of the Cuman community has been in the focus of research in the past decades; however, so far not much attention has been given to how their animal husbandry was transformed, although this branch of agriculture is seen as the main economic activity they were involved in during their life on the steppe. This dissertation is concerned with this aspect of economic and social integration. Through the examination of both written sources and archaeological evidence, this research aims to clarify how animal-based activities from herding to food preparation, the view of domesticates, and their role in the Cumans' belief system changed through the course of the Late Middle Ages.

In his small 2009 book on the descendants of Cuman leaders in Eastern Europe, the historian S.T. Katanchiev cites an interesting anecdote he heard from 72 year-old Bilyan Ketenchiev, who learned it from his father.¹ The Ketenchiev family – in the author's interpretation, directly related to the thirteenth-century Cuman khan Kuten – had always been famous for their straightforward and courageous ways, and cherished all family stories that they felt demonstrated their noble character. Once, a member of the family, a certain Yakub, had a magnificent horse that amazed everyone. A certain prince, who often crossed the village with his henchmen, was so much taken by the animal's beauty that he asked Yakub to allow him to ride it just once. Yakub, in accordance with traditional Caucasian hospitality, gave his permission with pleasure. The next time the prince crossed the village, he asked Yakub again to allow him a short ride, and so he took a ride on the marvelous horse every time he had a cause to come to the

¹ Szultán Talevics Katancsijev, *Kun vezérek leszármazottai Kelet-Európában*. [The Descendants of Cuman Leaders in Eastern Europe.] (Budapest: Cédrus Művészeti Alapítvány – Nap Kiadó, 2009), 51.

village. The more time the prince spent on the back of the magnificent animal, the greater his desire grew to possess it. One day he asked Yakub to give him the horse once and for all, but the young man refused him. For him it was unthinkable to hand over the horse - he was a *dzhigit*, a brave equestrian who was not considered a man if he had no horse. Besides, the horse was dear to him, they had fought together in many battles and the animal had helped him in various ways all through its life. The prince answered with a burst of anger that if Yakub was unwilling to give him the horse he would come back and take it by force; his threats, however, did not frighten Yakub. The family advised him to sell the horse before the prince returned, but Yakub decided to defend his horse if necessary, as a man should, no matter who his adversary might be. In an encounter he killed the prince and had to hide in the mountains for a time in order to escape the vengeance of the prince's family.

In spite of all the methodological problems inherent in Katanchiev's theories on Cuman family ties, this anecdote gives a valuable insight into the way a Cuman khan's – real or imaginary – descendant was expected to behave, even according to nineteenth-twentieth-century narrators. This kind of attachment to the animal companion is touched, but in fact never dwelt upon very long in the sources and scholarly literature on Eurasian nomads. If presented to an academic audience, the above-mentioned anecdote would, in all likelihood, be analyzed from the point of view of social structure, family ties, rights and obligations, but most probably only few approaches would focus on the human-animal bond that lies at its core – although this bond might have influenced more aspects of history than appears at first sight.

“Animal studies”, as they are called nowadays, make a valuable contribution to history, even though the topic has been, and still is, a marginal area within – or rather between – disciplines. From our modern perspective we tend to see the various aspects of the human-animal bond as separate phenomena, a source of folktales, symbols and imagination; a means of food production and; a source of raw materials as well as power. This separation is, nevertheless, completely arbitrary and artificial. Co-existence with animals in the past as well as today not only influenced human culture through various elements in the human-animal relationship, but represented a framework within which a given community organized its daily activities, defined aspects of its identity or presented itself to the outside world. In ‘The Secret History of the Mongols’, long passages are dedicated to the way posting stations that made a speedy journey with changing horses possible, were set up (an establishment Khan Ogodei mentions among his

most notable deeds), and how sheep, milking mares and oxen were provisioned to supply these stations.² This is an example of a large-scale enterprise that required attention to the animals' physical needs and whose success, on the other hand, had an enormous impact on the community network.

In medieval Europe, animals were present in almost all aspects of life: meat consumption meant consuming the animal's body as well as facing our own, gluttonous and greedy animal self, a notion repeatedly addressed by the church; using an animal's skin and bones for producing leather clothes, vellum for books or tools for agricultural work was inevitably intertwined with the concepts of luxury and status representation. The herd was, for many communities, the basis of subsistence, and activities connected to it were the common means of making a living; even religious monasteries at least took care of a small flock of sheep or herd of pigs, or started large-scale agricultural enterprises such as the mansions of the Cistercians. At the same time, animals may be found on coats-of-arms, they appeared as ornaments and in metaphorical form on illuminated manuscripts, or could even be incorporated within a constructed ancestry justifying the position of a political leader. Some species became associated with religious concepts in the most intricate manner. Animals served as food, through which social status could be communicated; their dead bodies provided raw material for clothes and everyday items used in the household as well as in the workshops; it was their skins on which the accounts, chronicles, religious works or donations were noted and preserved; they were feared as the beasts of the wild and despised as vermin; and they prevailed in human imagination, from the human-like animal characters of Aesop to the half animal, half human creatures of hell depicted by Hieronymus Bosch.

The human-animal connection seems even stronger in the case of past nomadic peoples. Nomadism has been considered an animal-based way of life, in which the spatial movement of the community follows an intricate schedule fitted to the herd's biological needs, and in which the concept of wealth is interlocked rather with the animal herd than with cultivated land or money. Whether this connection was, in fact, more expressed and obvious in the mind of nomads, is impossible to say, partly due to the complexity of the phenomena we associate with the label of nomadism, and partly due to a lack of authentic sources. It is certain, however, that a

² Urgunge Onon (translated and ed.), *The Secret History of the Mongols. The Life and Times of Chinggis Khan.* (Abingdon, Oxon, UK: Routledge-Curzon, 2005), 276-277.

community whose annual movement follows animal tracks and whose primary economic activity is herding, will have a different view of animals than groups living a sedentary life based mainly on land cultivation. On the other hand, the human-animal connection was important not only in terms of economics and social cohesiveness but also in the way groups were seen from the outside: medieval nomads are often reported to rely solely and exclusively upon their herds, but also to behave and live like animals, have customs resembling those of wild beasts, kill Christians with an animal-like bestiality and even consume the flesh of humans, like wolves.³

The Cumans, the subjects of the present study, do not have their own written account, and their present day perception of their own history has been shaped by their early modern struggle for their privileges, as well as by nineteenth-century identity building and the modern re-discovery of their (at least, imagined) ancient heritage, the latter inevitably intertwined with animal husbandry and animal breeding. Since animal keeping is seen as the predominant occupation of the Cuman groups entering the Hungarian Kingdom in the thirteenth century, the transformation of this branch of the economy must have been a key element in the process during which the newcomers found their niche in their new homeland; at the beginning, the demands for extensive grazing land seems to have been at the root of serious conflicts with the surrounding indigenous Hungarian populations as well.

In this introductory chapter, an outline of Cuman history will be presented to create the historical context in which their integration within medieval Hungary and the transformation of their animal-based economy will be discussed.

1.1 Early Cuman history – an outline

Much scholarly debate has been focused on the early history of the Cumans. People with names like Cuman, Qún, Куман, Kipchak, Polovtsi, Walben etc. appear in historical sources.⁴

³ Felicitas Schmieder, “Menschenfresser und andere Stereotype gewalttätiger Fremder – Normannen, Ungarn und Mongolen (9-13. Jahrhundert)” in *Gewalt im Mittelalter. Realitäten – Imaginationen*, ed. by Manuel Braun and Cornelia Herberichs (München: Wilhelm Fink Verlag, 2005), 159-179. (henceforth: Schmieder, Menschenfresser)

⁴ András Pálóczi Horváth, “A kipcsak pusztaságtól Cumaniáig” [From the Kipchak Desert to Cumania], in *Keleti népek a középkori Magyarországon. Besenyűk, úzok, kunok és jászok művelődéstörténeti emlékei* [Peoples of Eastern Origin in Medieval Hungary. The Cultural Heritage of Pechenegs, Uzes, Cumans and the Jász]. Studia ad

However, it remains difficult to reconstruct ethnic boundaries and migrations on the basis of the sporadic and often quite contradictory written evidence. These denominations, known from medieval sources, cannot be transferred to ethnic or even cultural entities as we think of them today: the groups behind them were constantly merging, separating and making alliances. As Horváth notes, language and ethnic identities were probably of secondary importance in the nomads' life, and acculturation / assimilation (both in linguistic and anthropological terms) must have been an important factor in the lives of different groups that existed in close proximity to each other. Moreover, these names (taken as ethnic terms by the historical tradition) may only be relevant for certain periods, and may actually signify that whole military and political alliances were named after their leading élite.⁵ Not only the itinerary of the Cumans' long, complex migration, but also their relationship with other steppe peoples such as the Kipchaks, the Qitay and the Uyghur groups is a question yet to be resolved. Here, there is no room for a detailed discussion of all available sources and existing views on the astonishingly complex history of the Turkic tribes, but a short summary of early Cuman history is, nevertheless, necessary.⁶

In the mid-sixth century AD, a population of Turkic origin appeared in the steppe region of Inner and Central Asia; they came from the southern area of the Altay mountains and up to the eighth century AD they possessed political authority over a vast region in the steppe zone, forming the political entity known from Chinese sources as the Turkic Khaganate. Later, Uyghur-Oghuz tribes took over the region in the eighth century AD and the Uyghur Khaganate was formed. This Turkic-Uyghur-Oghuz complex gave rise to the custom of horse burials. This diverse funerary tradition, typical for nomadic horsemen of the steppe, appeared in this zone in the sixth to eighth centuries AD in almost all its known forms.⁷

How and whether the predecessors of the Cumans were related to this Turkic-Uyghur-Oghuz complex, is uncertain. There are two main views on the Cumans' ancient homeland: some

Archaeologiam Pazmaniensiae – Archaeological Studies of the Péter Pázmány Catholic University, Department of Archaeology 2. (Budapest: Archaeolingua, 2014), 71-86: 71-73.

⁵ Ferenc Horváth, *A csengelei kunok ura és népe* [The Lord and People of the Cumans in Csengele] (Budapest: Archeolingua, 2001), 236. (henceforth: Horváth, A csengelei kunok)

⁶ A lot of what is known (and hypothesized) today is based on linguistic evidence, which cannot be discussed here extensively. For a detailed argument on the Cumans' migrations from Eastern Asia to Europe in the Hungarian scholarship, see: András Pálóczi Horváth, *Hagyományok, kapcsolatok és hatások a kunok régészeti kultúrájában* [Traditions, connections and influences in the archaeological culture of the Cumans] Keleti Örökségünk 2 (Karcag: Karcag Város Önkormányzata, 1994), 17-95 (henceforth: Pálóczi Horváth, Hagyományok, kapcsolatok és hatások); Horváth, A csengelei kunok, 235-262.

⁷ Horváth, A csengelei kunok, 239.

locate it in northeastern China, north of present-day Beijing, on the southeastern border of the Gobi desert; others locate it on the borders of Inner Asia and southern Siberia. Accordingly, two distinct routes of migration have been reconstructed. One runs from China through the southern borderland of the Gobi Desert, the Dzhungarian Gate and the Semirechye area; the other starts from the Altay mountains, Lake Baikal and the upper reaches of the Yenisey River, through northern Mongolia, southwestern Siberia and the Turgay Gate. In both cases, however, the migration reached the southern Russian steppe zone through present-day Kazakhstan.

The former theory, first presented by Marquart in 1914,⁸ is mainly based on an account of the Arab chronicler Marwazi, written around 1120. This text mentions a group of Turkic people called the *Qūn*. According to the text they came from northeastern China and had left their ancient homeland because they were afraid of the khan of the Qitay. However, at another point Marwazi writes they migrated due to the scarcity of pastures in their original lands, suggesting that these people were mobile pastoralists. Interestingly, Marwazi presents them as Nestorian Christians, but at the same time, he connects Ekinchi ibn Qochar, a shah of the Muslim state of Khwarezm (died in 1097), to them. They were followed by the people called the Qay, who pressed them forward, and thus, the Qun came to the land of the Šari (who may be identified with the “Pale Uyghur”,⁹ a people who lived in the region of the Nan-Shan mountains). Probably there was some assimilation going on between these ethnic elements, something also reflected in the confusion surrounding their names.¹⁰ Although Marwazi’s account has been in the focus of debates, it is clear that the people mentioned by him could not alone have fueled a huge wave of migration;¹¹ moreover, according to Marwazi’s chronology, they must have made this 6,000 km journey in only 30 years’ time, which also seems highly unlikely.¹² This, however, is not the only contradiction in Marwazi’s account, which has to be handled with care. It has also been proposed

⁸ Joseph Marquart, “Über das Volkstum der Kumanen”, in *Osttürkische Dialektstudien*, ed. Willy Bang and Joseph Marquart (Berlin : Weidmann, 1914), 25-238: 38-42, 57, 64-68, 78-80, 113-163, 173-186

⁹ Czeglédy, Károly. “A kunok eredetéről” [On the origin of the Cumans] *Magyar Nyelv* 45 (1949), 43–50: 47. (henceforth: Czeglédy, A kunok eredetéről).

¹⁰ Németh argues that the word Qoman means “yellow, pale” in Turkic languages, and Czeglédy found that the Sari are probably identical with the Sari Uyghur or Pale/Blond Uyghur, who were named this way after their physical appearance. This may signify a connection between the Cumans and the Uyghurs. In Czeglédy’s view the name Qoman was given in the eleventh century to the people previously known as the Sari, by other ethnic groups of the Kipchaq federation. (Gyula Németh, “A kunok neve és eredete” [The name and origin of the Cumans] *Századok* 76 (1942), 166-178; Czeglédy, A kunok eredetéről, 47-48.

¹¹ Czeglédy, A kunok eredetéről, 44.

¹² Horváth, A csengelei kunok ura és népe, 252.

that Marwazi may have confused two events in the ninth and tenth centuries respectively, hence the chronological problems in his report.¹³ The identification of the Qun with the Cumans is debated, although the debate has not been settled. It was questioned whether the Qun noted in Muslim and Syrian sources have any connection with the Cuman-Kipchak tribes.¹⁴ This would also mean that the Cumans' ancient homeland was not northeastern China but must be sought elsewhere.

The other main theory locates the Cumans' homeland in the Altay region and southern Siberia. The name Kipchak, by which the Muslim and Mongol sources probably meant Cumans (or at least the ancestors of those who later were known as the Cumans),¹⁵ appears on an eighth-century inscription suggesting that they belonged to the leading élite of the Turkic Khaganate that previously ruled over the steppe zone.¹⁶ The Kipchaks mentioned in *The Book of Roads and Kingdoms* by Ibn Khordadbeh (ninth c.) were still living in the southern part of Siberia, that is, in the northeastern zone of the vast area inhabited by Turkic peoples. They probably formed a political alliance with the Kimeks or were subjugated to them in the framework of the Kimek Khaganate situated between the Ob and Irtysh Rivers.¹⁷ Archaeological evidence as well as linguistic investigations also trace the Cumans to southern Siberia. Most importantly, the *kamennaya baby* statues, known from southern Russia (an area exclusively inhabited by Cumans in the eleventh to thirteenth centuries), appear first between the Altay and Sayan Mountains in the sixth century AD. Those variants closest to the Cuman statues were found in the area of modern-day Tuva, the geographical center of Asia in southern Siberia, and were dated to the eighth century (that is, to the time when the Uyghur Khaganate arose). Similar statues are present

¹³ Omeljan Pritsak, "The Polovtsian and the Rus," *Archivum Eurasiae Medii Aevi* 2 (1982), 321-380.

¹⁴ Györffy, György. "A kun és a komán népnév eredetének kérdéséhez." [On the origins of the ethnic names kun and koman.] In: Györffy, György. *A magyarság keleti elemei. [Eastern Elements of the Hungarian People.]* Budapest: Gondolat, 1990. 200-219 (henceforth: Györffy, A kun és komán népnév); György Györffy, *Az Árpád-kori Magyarország történeti földrajza* [The Geography of Hungary in the Period of the Árpád Dynasty] Vol. 2 (Budapest: Akadémiai Kiadó, 1987), 525-526 (henceforth: Györffy, Az Árpád-kori Magyarország történeti földrajza)

¹⁵ The thirteenth-century traveler William of Rubruk, who made a journey to the court of the Great Khan Möngke and reported on the Eurasian steppes, identifies the two peoples. Peter Jackson and David Morgan eds, *The Mission of Friar William of Rubruck*. Works Issued by the Hakluyt Society, Second Series no. 173 (London: The Hakluyt Society, 1990), 105. (henceforth: Rubruck ed. Jackson and Morgan)

¹⁶ Horváth, A csengelei kunok, 254; Golden, Peter. "Cumanica IV: The Tribes of the Cuman-Qipcaqs." *Archivum Eurasiae Medii Aevi* 9 (1995-97), 99-122: 102, footnote 10 (henceforth: Golden, Cumania IV); Toru Senga, "Megjegyzések a kimekek törzsszövetségének kialakulásához" [Notes on the Development of the Tribal Alliance of the Kimeks] *Antik Tanulmányok / Studia Antiqua* 41 (1997) /1-2, 175-193: 187, see also footnote 53.

¹⁷ Golden, Cumania IV, 102-103.

in the Semirechye, the Land of the Seven Rivers, north of the Tien Shan mountains in Central Asia (around the modern-day city of Almaty in Kazakhstan).¹⁸

The Cuman-Kipchak migration to Europe was part of a great migration wave in the steppe zone in the first half of the eleventh century. Pálóczi Horváth argues that this migration was probably started by the expanding Qitay Empire in the early eleventh century (he accepts Marwazi's account and proposes that there must have been another additional route north of the Dzungarian Gate that passed through Kimek and Kipchak territories).¹⁹ Whatever their route may have been, it is certain that by the eleventh-twelfth century, Cuman-Kipchak tribal alliances controlled a huge territory covering present-day Kazakhstan, southern Russia and the Ukraine to western Wallachia and southern Moldavia. This Pontic steppe region was frequently called Cumania in Byzantine, Arab and Russian sources (not to be confused with a smaller area located in modern-day Ukraine and Wallachia, also called Cumania in the western sources after the first Cuman groups converted to Christianity). In the second half of the eleventh century a new, distinct archaeological culture appears west of the Volga River, signifying there had been a movement of a human population. This late nomadic archeological heritage (mainly burials) was analyzed and categorized extensively by the Soviet archaeologists Pletneva and Fedorov-Davydov.²⁰ The group of finds they identified as being associated with the Cumans revealed typical funerary grave goods including the burial of whole horse carcasses, where a separate pit was created for the horse, covering the grave with planks or timbers, and a stone covering or the presence of stones in the grave. The graves were oriented to the east.²¹ Other burial elements, such as the cauldrons placed in the graves (typical for the region between the Don and Donets Rivers), again reinforce the hypothesis that there were ties between the Cumans in Eurasia and

¹⁸ Horváth, A csengelei kunok, 255-256; Pálóczi Horváth, Hagyományok, kapcsolatok és hatások, 71-95.

¹⁹ Pálóczi Horváth, Hagyományok, kapcsolatok és hatások, 26.

²⁰ German Alekseyevich Fedorov-Davydov, *Kochevniki Vostochnoy Evropy pod vlastyu zolotoordynskikh hanov* [The Nomads of Eastern Europe Under the Rule of the Golden Horde Khans] (Moscow: Izdatelstvo Moskovskogo Universiteta, 1966) (henceforth: Fedorov-Davydov, Kochevniki Vostochnoy Evropy); Svetlana Alexandrovna Pletneva, “Pecenegi, torki i polovcy v juznorusskikh stepyah” [Pechenegs, Turks and Polovtsy in the South Russian Steppes] in Mikhail I. Artamonov (ed) *Trudy Volgo-Donskoj arheologiceskoj ekspedicii. Materialy i issledovanija po arheologii SSSR* 62 [Proceedings from the Volga-Don Archaeological Expedition. Material and Archaeological Research in SSSR 62.] (Moscow, 1958), 151-226 (henceforth: Pletneva, Pecenegi, torki i polovcy); Svetlana Alexandrovna Pletneva, “Pecenegi, torki, polovcy” [Pechenegs, Turks and Polovtsy], in *Stepi Evrazii v epohu srednevekova. Arheologija SSSR* [The Eurasian Steppes in the Middle Ages. Archaeology of the SSSR], ed. S.A. Pletneva (Moscow, 1981), 213-223.

²¹ Pálóczi Horváth, Hagyományok, kapcsolatok és hatások, 53-54; Pletneva, Pecenegi, torki i polovcy, 172-173; Fedorov-Davydov, Kochevniki Vostochnoy Evropy, 142-147, Tables 15-16.

the Turkic peoples in Siberia and the Altay region.²² Certain types of horse harness, such as the thick bits, the wide stirrups with straight treads, or bone plates used for arranging and dividing leather straps were also brought to the Eastern European steppe by the Cuman-Kipchak tribes. Iron helmets and mail vest armors, also frequently found in Cuman noblemen's graves, reflect changes in nomadic warfare in the eleventh-twelfth century.²³

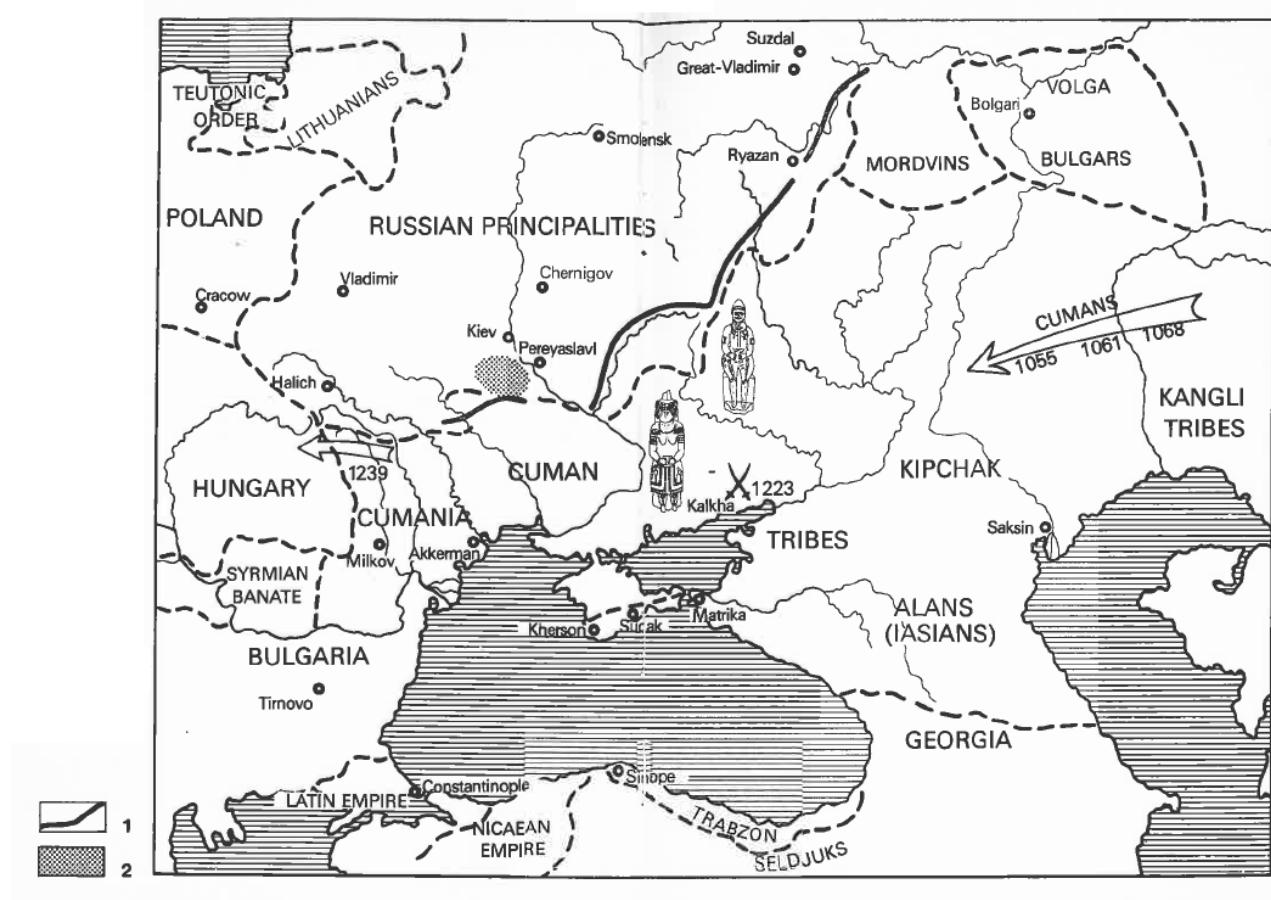


Fig. 1.1.1 The Eurasian steppe in the early thirteenth century. 1 – frontiers of the Russian Principalities in 1055; 2 – the location of the “Chernye klobuky” (“black hats”) federation (Turkic tribes in alliance with the Rus). The statuettes mark the central Cuman territory.²⁴

In the twelfth century, the terms White and Black Cumania appear in the sources. These names may refer to a western and eastern branch of the same federation, White Cumania was the land of western tribes between the Dniester and Dnieper Rivers while Black Cumania was an alliance of eastern Cuman tribes around the Donets Basin. Another name, the Polovtsy is used in

²² Horváth, A csengelei kunok, 255; Pálóczi Horváth, Hagyományok, kapcsolatok és hatások, 62.

²³ Pálóczi Horváth, Hagyományok, kapcsolatok és hatások, 63.

²⁴ After Pálóczi Horváth, Pechenegs, Cumans, Iasians, 40-41.

the Russian chronicles for Cuman-Kipchak tribes living in the upper reaches of the Don River. These names are again, debatable – they may signify an internal separation within the Cuman-Kipchak territories, but it has also been proposed that the names of the Cumans (Cuni, Cumani) were used for the Oghuz tribes as well.²⁵ Another explanation is that the terms Black and White as used here did not signify ethnic groups but rather a social stratification, the White being the leading élite of the Cuman-Kipchak society and the Black people the subjugated commoners.²⁶

The precise location that the Cumans who arrived in thirteenth-century Hungary originally came from is difficult to identify, mostly because the background of these groups is uncertain. Pletneva identifies the tribe of Kuthen (the khan who asked for asylum on the eve of the Mongol Invasion of Hungary) with a group that lived between the Dnieper and Don Rivers before they were defeated by the Mongols in the battle at the Kalkha River in 1223;²⁷ Polgár locates Kuthen's original campsite someplace west of the Dnieper.²⁸ It is, nevertheless, certain that those people who crossed the Hungarian border and asked for help from the Hungarian king were actually tribal fragments brought together by the necessity of fleeing from the invading Mongol forces, and who most likely originated from different segments of the manifold tribal alliance characteristic of the steppe zone.²⁹

The possibility of an Uyghur-Oghuz / Cuman connection has also been raised in the Hungarian scholarship concerning some of the Cuman groups who migrated to Hungary. This is especially interesting because the linguist István Mándoky Kongur proposed that the people of Greater and Lesser Cumania spoke different dialects. In his view, the language spoken in Greater Cumania still retains a number of elements of the Kipchak-Turkic language, but Lesser Cumania seems to have been characterized by tribal fragments that were probably descendants of Oghuz groups who joined the Cumans on their journey to the Carpathian Basin, or were subjugated by

²⁵ Horváth, A csengelei kunok, 246-247; Béla Kossányi, "Az úzok és a kománok történetéhez a XI-XII. században" [Notes on the history of the Oghuz and the Cumans in the 11th-12th c.], *Századok* 58/1-6 (1924), 519-537: 537.

²⁶ Pálóczi Horváth, Hagyományok, kapcsolatok és hatások, 40, footnote 17. Pálóczi Horváth builds on Györffy's theory who suggested a similar division between the White and Black Hungarians, the latter being other tribal fragments or former alliances that joined the "proper" Hungarians, called white in the sources. György Györffy, István király és műve [King Stephan and His Work] 4th Edition. (Budapest: Balassi, 2013), 166

²⁷ Svetlana Alexandrovna Pletneva, Polovcy [Polovtsy] (Moscow, 1990), 170, cited by Horváth, A csengelei kunok, 259.

²⁸ Szabolcs Polgár, "Kötöny, kun fejedelem" [Kuthen, a Cuman chieftain], in Tanulmányok a középkori magyar történelemről: Az I. Medievistikai PhD-konferencia (Szeged, 1999. július 2.) előadásai [Studies on Hungarian Medieval History: Proceedings of the 1st Medieval Studies Conference, Szeged, July 2 1999], eds. Sarolta Homonnai, Ferenc Piti and Ildikó Tóth (Szeged: Szegedi Középkorász Műhely, 1999), 91-102: 98.

²⁹ Horváth, A csengelei kunok, 259.

them and brought along.³⁰ In fact, the presence of two main different dialects in the language of the Codex Cumanicus was suggested by Lajos Ligeti;³¹ this also supports the impression that the population that migrated to Hungary and were labeled as Cumans, in fact, consisted of groups with diverse ethnic and linguistic backgrounds – although the discrepancies between them and the Hungarians may have been great enough to create an image of a homogenous entity of “the Other.” It is also worth mentioning here that Hungarian chroniclers of the time usually not only called the Cumans themselves Cuman but also the Oghuz and the Pechenegs, peoples subjugated by the Cuman-Kipchak tribal federation.³²

1.2 Cuman economic life on the steppe before the migration to Hungary

There is little written evidence concerning Cumanian economic life in the vast area occupied by the Cuman-Kipchak Federation, although many reports exist on the lifestyle of various nomadic tribes from the steppe zone. Medieval travelers and chroniclers such as Henry of Livonia, Robert of Clari, or William of Rubruk, give very similar accounts on the sustenance of nomadic societies, including the Cumans. These stories are sometimes highly stereotypical. Their attachment to the nomadic, “independent” way of life is sometimes even romanticized in these accounts.³³ It is likely, though, that various forms of local subsistence were practiced in

³⁰ István Mándoky Kongur, *A kun nyelv magyarországi emlékei*. [Remains of the Cuman Language in Hungary] (Karcag, 1993), 113, 135-136, 151-152. (henceforth: Mándoky Kongur, A kun nyelv magyarországi emlékei) He also proposed that the geographical names Bodoglár and Pecsene have Oghuz connections. The latter name, he argues, refers to the name of the Pechenegs, who were first assimilated by the Oghuz and then joined the Cuman-Kipchaqs. On this basis, he identified a small area around present-day Kisújszállás where Oghuz tribal fragments may have lived. Torma (and after him, also Horváth), however, warns that Mándoky Kongur may have preferred Greater Cumania as a researcher and dismissed Lesser Cumania as a region “too much influenced by the Oghuz language” for personal grounds. Thus, he concentrated on the Kipchak linguistic elements which, in his view, were better preserved in Greater Cumania. (József Torma, Bérem bélő, íkem ígő... Mándoky Kongur István emlékére [Bérem bélő, Íkem ígő... Studies in the Honor of István Mándoky Kongur.] (Karcag: Karcag Város Önkormányzata, 1999) 36 (henceforth: Torma, Bérem bélő); Horváth, A csengelei kunok, 261.)

³¹ He hypothesized that the so-called “Italian part” and “German part” of the Codex reflect two thirteenth-century main dialects spoken by different Cuman groups with whom the missionaries came into contact. Ligeti Lajos, *A Codex Cumanicus mai kérdései* [Recent Debates on the Codex Cumanicus] (Budapest: Kősöri Csoma Társaság, 1985), 19-23.

³² Czeglédy, A kunok eredetéről, 49.

³³ There is a widely cited story about the Kipchak prince Otrok. He was persuaded to return to the steppe by a bard who called him back to his “native land” and sang Kipchak songs to him. Although Otrok was moved neither by the words nor by the song, he began to weep when the bard presented him with herbs from the steppe, and he

different regions in this huge area that lacked any centralized state power. Their position on the steppe was ideal from an economic point of view: they had access to extensive pastures and the goods of sedentary populations as well as opportunities both to trade and to raid. The khans and their retinue, supported by a military élite (the so-called *neugherii*, who later also served the Hungarian kings as *nyögérek*), ruled over a mass of commoners who were mainly involved in animal herding. It seems that before their migration to the Carpathian Basin, Cumans started to settle permanently in what were their previous winter camps and became engaged in land cultivation. Important trade routes, such as the one between the cities of Khworezm, Volga Bulgaria and Eastern Europe, and the one connecting Byzantine colonies with the Russian Principalities, crossed Cuman territory and presented opportunities for trade, tribute and raiding alike (although sometimes we only hear of these routes when they were endangered). The trans-steppe trade was, in fact, so important that it resumed immediately after the Mongol Conquest.³⁴ When the Mongol attack drove the Cumans westwards, the economy that disintegrated was probably a transitional form between nomadism and proper settled agriculture manifesting in various subtypes in accordance with the immediate local realities. All reports concerning the Cumans emphasize that their economy mostly relied on animal husbandry and looting, with little or no involvement in land cultivation, but at the same time, they participated in trade and there were commercial urban centers under their control.

The animal-based nomad economy operates in cycles, and although a temporary balance is possible, it is extremely vulnerable to fluctuations such as droughts, animal disease, extreme weather, the availability of appropriate pastures, trade opportunities with the settled population, or drying up of water resources. Moreover, these variables are not jeopardized by factors that operate synchronically, but each may be affected by many other factors, both temporary and constant ones.³⁵ This situation lead to a high level of instability where secondary countermeasures had to be established; not only primitive forms of agriculture, but also the

returned to his homeland. (Gerard Chaliand, *Nomadic Empires. From Mongolia to the Danube* (London: Transaction Publishers, 2004), 52.)

³⁴ Thomas S. Noonan, “Rus, Pechenegs, and Polovtsy: Economic Interaction Along the Steppe Frontier in the Pre-Mongol Era” *Russian History* 19/1-4 (1992), 301-327: 321 (henceforth: Noonan, Rus, Pechenegs, and Polovtsy)

³⁵ Anatoly M. Khazanov, *Nomads and the Outside World*, Second Edition (Madison, Wisconsin: University of Wisconsin Press, 1984), 72-75 (henceforth: Khazanov, Nomads and the Outside World) This text, taken from the Chronicle of Kostroma, was however, composed in the seventeenth century and probably bears little relevance to the thirteenth-century realities of steppe life.

practice of raiding and requesting tribute (of course, these were not only important in an economic, but also a political and military context, which will not be discussed here).



Fig. 1.1.2 a-b Cumans moving around in yurt-like carts in the illustrations of the Radziwill Chronicle (or Königsberg Chronicle), fifteenth century

Medieval contemporaries described the Cumans and Kipchaks in general terms as mobile people with animal herds. At the time of their migration to Hungary, there is scarcely any hint of their flocks except for general remarks made by Master Roger. Plano Carpini notes that the Cumans were pagans who did not till the soil but lived in tents and ate the produce of their animals.³⁶ He, however, was writing about Cumans reduced to slavery, living under Mongol rule. According to the account of the Fourth Crusade by Robert of Clari, Cumans did not plough or sow and lived only on meat, cheese and milk.³⁷ This is certainly an exaggeration but might signify a highly specialized economy that must have been dependent on outside resources and as such, could not have been self-sufficient. The Cumans' expertise on animals and livestock management was greatly appreciated. According to the sources, even Cuman commoners were sometimes captured and commissioned to train horses or handle flocks.³⁸

In fact, very similar descriptions are found about other nomadic tribes in Western Eurasia as well. In the "ninth century, al-Yaqubi wrote about the Oghuz that they dwell in "ribbed domes", whose "pegs are belts made from the skins of beasts and cows", and "there is no agriculture in Turkistan except for millet... their food is mare's milk and they eat its flesh and most of what they eat is the flesh of wild game..."³⁹ Al-Jahiz also commented on the Turkic peoples of ninth century Inner Asia saying, "so the Turks are nomads, dwellers in the wilderness and owners of beasts... they do not busy themselves with industry and merchandise and medicine and agriculture and engineering and forestry and architecture and irrigation and the raising of crops, but all their interest is in raids and incursions and hunting and riding and the fights of warriors and seeking for plunder and subduing countries..." And he also adds that the Turkic peoples make objects themselves, from swords to saddles and arrows, and they "do not turn again and again to a manufacturer". He also emphasizes what skilled horsemen they are.⁴⁰ Ibn

³⁶ Christopher Dawson (ed), *Mission to Asia*, Medieval Academy Reprints for Teaching 8. (Toronto – Buffalo – London: University of Toronto Press, 1980), 58 (henceforth: Plano Carpini, ed. Dawson)

³⁷ Sándor Csérus and Annamária Cs. Tóth (ed. and transl.), *Robert de Clari – Konstantinápoly hódoltatása* [The Conquest of Constantinople] A középkori francia történeti irodalom remekei 1. (Budapest: Balassi, 2013), 89. (henceforth: Robert of Clari ed. Csérus and Cs. Tóth)

³⁸ Noonan, Rus, Pechenegs and Polovtsy, 315.

³⁹ David Christian, *A History of Russia, Central Asia and Mongolia*. Vol.1. *Inner Eurasia from Prehistory to the Mongol Empire* (Oxford: Blackwell, 1998), 355. (henceforth: Christian, A History of Russia)

⁴⁰ C.T. Harley Walker, "Jahiz of Basra to al-Fath ibn Khaqan on the »Exploits of the Turks and the Army of the Khalifate in General.«", *Journal of the Royal Asiatic Society of Great Britain and Ireland* 1915/4, 631-697: 684-686.

Battuta recorded in the mid-fourteenth century that north of the Black Sea, in the land of the Kipchaks, the Turkic people ate no bread, only some thin soup prepared from millet into which they put meat. The meat of horses was consumed most, followed by mutton. They also consumed mare's milk (koumiss) in large quantities.⁴¹ The same was noted by Plano Carpini among the Mongols: he wrote that they had “neither bread nor herbs nor vegetables or anything else, nothing but meat”, and drank mare’s milk as well as the milk of ewes, cows, goats and camels. Later, he contradicts himself and writes that in the wintertime the Mongols boil millet in water and make a thin soup out of it, and exist on it almost exclusively.⁴² This, however, is most likely an exaggeration, as humans are omnivores and need at least some plant-based food to survive. In fact, due to the lack of reliable sources it is hard to tell how much plant-based food was consumed by the Cumans during their life in the steppe region (not to mention that the dietary composition must have varied according to social status, of which there is absolutely no information available). Anthropological studies revealed a wide variety of dietary adaptations including diets with minimal amount of grains and vegetables and those that significantly relied on plant-based foods as supplements.⁴³ This must have depended on a number of factors such as the size and composition of the animal herd, local climatic conditions, opportunities to hunt and gather, or trading options. Khazanov emphasizes that, although such theories exist, it is not possible for nomads to survive solely on dairy products and meat; he cites an example from the eighteenth-nineteenth century, when the khans of Khiva (in present-day Uzbekistan) inflicted a severe punishment on Turkmen by denying them access to markets where they could buy the grain they needed for everyday subsistence.⁴⁴ It must be kept in mind that although culture may overwrite a number of practicalities, nutritional needs cannot be among these; it was observed among the Tuareg in the Near East that weeks or months spent without proper vegetable foods cause fatigue and stomach pain in the population.⁴⁵ Although Eurasian nomads rely more on

⁴¹ István Boga (ed), Ibn Battúta zarándokútja és vádorlásai [Ibn Battuta’s pilgrimages and wanderings], Világjárók – Klasszikus útleírások V (Budapest: Gondolat, 1964), 186. (henceforth: Boga, Ibn Battúta zarándokútja) The travels of Ibn Battuta, A.D. 1325-1354 / translated with revisions and notes from the Arabic text edited by C. Defremery and B.R. Sanguinetti by H.A.R. Gibb; translation completed with annotations by C.F. Beckingham

⁴² Plano Carpini ed. Dawson, 16-17.

⁴³ Khazanov, Nomads and the Outside World, 52-69.

⁴⁴ Khazanov, Nomads and the Outside World, 53.

⁴⁵ Johannes Nicolaisen, “Slavery among the Tuareg in the Sahara. A preliminary analysis oif the structure,” in Ecology and Culture of the Pastoral Tuareg: With Particular Reference to the Tuareg of Ahaggar and Ayr,

animal-based products than those in the Near East, biological necessities make it unlikely that Cumans could have survived only on meat and milk and occasionally, millet alone for longer periods of time, as suggested in written sources.

From the beginning of the eighth century significant changes started along various geographical, religious, political and economic factors which resulted in the emergence of different pastoral traditions, the Turkic tradition in Southern Central Eurasia being one of these. This was gradually characterized by highly selective breeding of horses, animal food supplements such as beans, grains, fodder, melons or animal fat, partly as a result of interaction with Arabic and Persian cultural entities.⁴⁶ For such specialization, firm ties to sedentary populations and channels for obtaining other commodities were a precondition. This, however, does not mean that on their part Cumans did not practice any kind of land cultivation.

The *Codex Cumanicus* contains a surprisingly extensive vocabulary connected to plant cultivation, which Györffy explained by the fact that the wordlist was compiled on the basis of the language spoken in, more-or-less, settled Cuman communities in the Crimea.⁴⁷ Plant species such as millet, barley, wheat, rye, hemp, rice, spelt, flax, onion, garlic, carrots, squash, melons, grapes, apple, pear, plum and walnuts are included in the wordlist, along with expressions for chaff, straw, and plow land.⁴⁸ Of course, the fact that these words existed in the Cuman tongue does not necessarily imply that they cultivated such crops. However, although there is no mention of Cuman agriculture in the sources at all (only millet is mentioned which they cultivated around their summer camps because it ripened very fast),⁴⁹ basic agricultural tools, such as the plow and the plowshare, are included in the wordlist. Interestingly, words associated with fruit production are of Persian origin which indicates that this practice was not an internal development but learned from other, more sedentary, communities.⁵⁰

Nationalmuseets Skrifter, Etnografisk Raekke 9. (Copenhagen: National Museum, 1963), 209; cited by Khazanov, Nomads and the Outside World, 57.

⁴⁶ Ruth I. Meserve, "On medieval and Early Modern Science and Technology in Central Eurasia," in *Cultural Contact, History and Ethnicity in Inner Asia*, ed. by Michael Gervers and Wayne Schlepp, Toronto Studies in Central and Inner Asia No. 2. (Toronto: Joint Centre for Asia Pacific Studies, 1996), 49-70: 56-58.

⁴⁷ György Györffy, "A kipcsaki kun társadalom a Codex Cumaminus alapján." [The Cuman-Kipchak society based on the Codex Cumanicus], in *A magyarság keleti elemei* [Eastern Elements of the Hungarian People] (Budapest: Gondolat, 1990). 242-273: 244. (henceforth: Györffy, A kipcsaki kun társadalom).

⁴⁸ Györffy, A kipcsaki kun társadalom, 244-245.

⁴⁹ Györffy, A kipcsaki kun társadalom, 244. It is not specified which primary source Györffy used here.

⁵⁰ Györffy, A kipcsaki kun társadalom, 245.

They must have been able to practice small-scale farming that fit within their cycles of seasonal migration.⁵¹ Draught-resistant crops such as spring wheat, millet and oat could be cultivated even in areas generally deemed unfit for agriculture. In fact, archaeological evidence suggests that there was plant cultivation in the steppe region (in Manchuria, Inner and Northern Mongolia, South Siberia, the Trans-Baikal region, in present-day Kazakhstan, north of the Black Sea and in the Pontic Steppe) in the Bronze and Iron Age. The climatic change that resulted in drier seasons, desiccation and lower temperatures from the end of the Neolithic did not actually make steppe agriculture impossible.⁵² Therefore, it is more realistic to see the steppe zone as a place where various nomadic tribal subsystems as well as settled and semi-settled agro-pastoralists interacted and depended on each other. There would have been various options to procure staple foods other than animal-based products. The ways these foods were produced or procured must have been linked to the amount consumed and food preferences as well.

Commodities other than animal products were supplied mainly through trade. The complex web of central places in pre-Mongol Rus, and the agricultural production that served them, provided the supplementary commodities the Cumans needed.⁵³ Some of these places were even under Cuman control including the city of Sudak, where Cumans bought fabrics in exchange for furs of foxes, beavers and squirrels, as well as slaves, which they sold to Levantine merchants.⁵⁴ Similar practices were also recorded in connection with the Uighurs, who exchanged tens of thousands of horses for silk⁵⁵ or fur to the Chinese.⁵⁶ The same was recorded

⁵¹ According to ethnographic observations, nomadic Mongol families utilized wooden plows, and then broke up the clods with their hands. Wheat, barley and rye seeds were also sown by hand. After sowing, they moved to the summer pastures, and returned to the seeded soil in the autumn, when crops were ripe. (András Róna-Tas, “Some data on the agriculture of the Mongols”, in *Opuscula Ethnologica Memoriae Ludovici Biró Sacra*, eds. Tibor Bodrogi and L. Boglár eds.. (Budapest: Akadémiai Kiadó, 1959), 443-472: 449.)

⁵² Nicola Di Cosmo, “Ancient Inner Asian Nomads: Their Economic Basis and Its Significance in Chinese History,” *The Journal of Asian Studies* 53/4 (1994), 1092-1126: 1096-1104, 1110-1111 (henceforth: Di Cosmo, Ancient Inner Asian Nomads)

⁵³ David B. Miller, “The Many Frontiers of the Kievan Rus,” *Russian History* 19/1-4 (1992), 231-260: 235-237.

⁵⁴ Charles-Francois Defrémy, ”Fragments de geographes et d'historiens Arabes et Persans inedit, relatifs aux anciens peuples du Caucase et de la Russie meridionale.” *Journal Asiatique* 4th Series, vol. 13, Paris, 1849. 457. Online edition: https://archive.org/stream/FragmentsDeGeographiesEtDhistoriensArabesEtPersansIneditRelatifsAux/JA_Defremery_Caucasus_djvu.txt Accessed 11.30.2014; Victor Spinei, *The Great Migrations in the East and South of Europe from the Ninth to the Thirteenth Century* (Cluj-Napoca: Romanian Cultural Institute, 2003), 225 (henceforth: Spinei, The Great Migrations)

⁵⁵ It seems, however, that these horses were not as valued as those of the Tatars, as they were labeled useless by the Chinese, and more was paid for them than they were worth. This may signify the importance of diplomatic gestures in trade. (Christian, A History of Russia, 267, 271.)

of the Oghuz who traded with the Rus in livestock for luxury goods.⁵⁷ Grave goods in noble graves from the Pontic steppe yielded objects of Oriental, Russian and Western origin, which suggest far-flung contacts, although these goods could have been procured by raiding as well. These materials were, however, all luxury goods and commodities not needed for everyday subsistence. Thus, these data do not reveal much about the commoners, but rather suggest how the élite procured items intended for status display; the sources mainly dwell on these. The way Cumans procured plant-based staple food is, however, not elaborated upon, even though it is clear that their diet could not have been exclusively animal-based. Anna Komnena mentions “the Comans who frequented the place [the city of Cherson] for trading purposes and for carrying home necessities from that town”,⁵⁸ which probably testifies to the role of trade in securing everyday items they themselves did not produce. (In fact, Györffy interprets this piece of data as evidence that Cumans only practiced primitive agriculture. In this way, grain was supplied by trade.⁵⁹) This suggests that the Cuman economy was not self-sufficient but intertwined with intensive commercial relations, which at the same time, allowed the mobile population to specialize in animal-related activities. She also writes about the Cumans who were “dispersed for foraging purposes over the adjacent territories”⁶⁰ (this, however, was an exceptional case of finding subsistence in a war situation, which had probably little to do with the normal economy). Rubruck observed that grain as well as animals were sold in the capital of the Mongols, Karakorum; however, he reported that grain was only brought there in lower quantities (which means that it must have been procured from channels other than trade).⁶¹

Steppe horses seem to have been a pivotal commodity of trade between the Slavic

⁵⁶ Christian, A History of Russia, 271.

⁵⁷ Christian, A History of Russia, 360.

⁵⁸ Elizabeth A. Dawes ed and tr. *Anna Komnena, Alexiad*. (London: Routledge, 1928) Book 10/II, 238. Online edition: <http://www.fordham.edu/halsall/basis/AnnaKomnena-Alexiad10.asp> Accessed Dec 02 2014. (henceforth: Anna Komnena, Alexiad) It must be kept in mind, however, that Komnena’s account also has a highly stereotypical flavor concerning Cumans; according to her, they are “barbarians [who] have lightheartedness and changeableness as natural characteristics” (Anna Komnena, Alexiad, Book 10/III, 241), and who were “longing eagerly to gulp down draughts of human blood and take their fill of human flesh, as well as to carry off much booty from our country” (Anna Komnena, Alexiad, Book 10/II, 238).

⁵⁹ Györffy, A kipcsaki kun társadalom, 244.

⁶⁰ Anna Komnena, Alexiad, Book 10/IV, 246.

⁶¹ Rubruck ed. Jackson and Morgan, 221. “The town is enclosed by a mud wall and has four gates. At the east gate are sold millet and other kinds of grain, though they are seldom imported; at the western, sheep and goats are on sale; at the southern, cattle and wagons; and at the northern, horses.”

merchants and Mongols, Cumans and Pechenegs; “Tartar horses” were held in high esteem.⁶² According to preserved price lists in the late twelfth-century Kievan law code *Pravda Rus’skaia*, horses were the most valuable animals in the Rus’ economy: one as yet unbroken stallion was equal in price to two two-year-old cattle, a milking cow, or ten sheep, goats or pigs, while a trained horse was twice as expensive. Interestingly, however, although several horse types are mentioned, the “steppe horse” acquired from nomads is not listed as a separate category, although they were extremely sought after at that time⁶³ (probably because these horses were also very variable in terms of usefulness, age, temperament and skills). Ibn Battuta, traveling north of the Black Sea in the mid-fourteenth century, reported that the tribes living there had many horses, and some owners even had thousands of them.⁶⁴ A complex and sophisticated web of trade emerged between the Cumans and the Rus’ élite, with good quality horses being the most important commodity (partly due to the growing importance of mounted cavalry in warfare).⁶⁵ As it was of pivotal importance for the Cumans not to overgraze pastures with surplus horses and thus endanger the natural resources needed for animal production, their export had to be more-or-less continuous. The need both for pastures and for agricultural products also required a fine balancing act: as much as Cumans needed to keep the Rus’ peasants out of their valuable grasslands, they also had to make sure that the agricultural activity of these peasants continued undisturbed.

It is important to note, however, that although there was a lively trade with the settled communities, the Cumans never developed such an organized system of trade as did the Khazars and West Turks, simply because there was no central state power which could have provided a framework for a safe international market with major hubs that could be conveniently approached by many routes. On the contrary, the tribes were divided into different tribal units which all had their own leaders. Similarly to the Pechenegs, the Cumans could not establish a

⁶² Ann M. Kleimola, “Good breeding, Muscovite style: “Horse culture” in Early Modern Rus,” in: *Forschungen zur Osteuropäische Geschichte*, ed. Carsten Kumke, Historische Veröffentlichungen – Band 50. Osteuropa-Institut der Freien Universität Berlin (Berlin: Harrasowitz Verlag, 1995), 199-238: 201-202.

⁶³ Daniel H. Kaiser, “The Economy of the Kievan Rus: Evidence from the *Pravda Rus’skaia*,” in *Ukrainian Economic History. Interpretive Essays*, ed. I.S. Koropeckyj. Harvard Ukrainian Research Institute – Sources and Documents Series. (Cambridge, MA: Harvard University Press, 1991), 37-57: 39-40.

⁶⁴ István Boga tr. and ed., *Ibn Battúta zarándokútja és vándorlásai* [The Pilgrimage and Wanderings of Ibn Battuta], (Budapest: Gondolat, 1964), 188 (henceforth: Ibn Battuta ed. Boga)

⁶⁵ Igor Iakovlevich Froianov, “Large-scale Ownership of Land and the Russian Economy in the Tenth to Twelfth Centuries,” *Soviet Studies in History* 24/4 (1986), 9-82; Noonan, Rus, Pechenegs and Polovtsy, 309.

central power in the form of a khaganate or state formation (although there were attempts to establish a centralized power in the early thirteenth century which was then swept away by the Mongol attacks).⁶⁶ This was due to the relative strength of competing local leaders who jostled each other for political influence and control over pastures (although sometimes they did form temporary military alliances with each other).⁶⁷

Central places for commerce, such as Cherson or Sudaq in the Crimea, played an important role in the trans-steppe trade, and were sometimes protected by the Cuman khans. In 1226, the Rus and the Cumans formed a military alliance against a Seljuk attack on Sudaq.⁶⁸ Cumans were normally present in this city as middlemen and collected fees and taxes for their “services” and “protection”.⁶⁹ It is, however, not clear how these market hubs influenced Cuman settlement. For the Uighurs it has been hypothesized that towns that served as military garrisons, where in wartime nomadic tribesmen took refuge, later became centers for agriculture (which archaeological findings also testified to).⁷⁰ It is not clear whether the Cumans partook of this process. It is probable, however, that the winter camps, like embryonic towns, were places where impoverished pastoralists could find means of sustenance after they lost their livestock.

In times when military campaigns were frequent, normal exchange relations were not possible. It was recorded that Cumans sometimes blocked the roads between Byzantium and the Rus,⁷¹ which must have made it more difficult to establish regular trade with these states. Anna Komnena mentions the city of Cherson which worked as a Byzantine-nomadic trade hub in the eleventh century, where nomads bought various goods.⁷² Although trade must have been controlled by the élites, simple commoners may have been involved as well. Rubruk notes that Mongol commoners also traded in sheep and skins in order to obtain grain, clothes or other

⁶⁶ Peter B. Golden, “Aspects of the Nomadic Factor in the Economic Development of the Kievan Rus” in *Ukrainian Economic History. Interpretive Essays*, ed. I.S. Koropeckyj. Harvard Ukrainian Research Institute – Sources and Documents Series. (Cambridge, MA: Harvard University Press, 1991), 58-101: 78-79. (henceforth: Golden, Aspects of the Nomadic Factor)

⁶⁷ Noonan, Rus, Pechenegs, and Polovtsy, 305.

⁶⁸ Noonan, Rus, Pechenegs, and Polovtsy, 324-325.

⁶⁹ Golden, Aspects of the Nomadic Factor, 98.

⁷⁰ Albert Kamalov, “Material Culture of the Nomadic Uighurs of the Eighth-Ninth Centuries in Central Asia” in *Religion, Customary Law, and Nomadic Technology. Papers Presented at the Central and Inner Asian Seminar, University of Toronto, 1 May 1998 and 23 April 1999*. Ed. Michael Gervers and Wayne Schlepp. Toronto Studies in Central and Inner Asia no. 4. (Toronto: Joint Centre for Asia Pacific Studies, 2000), 27-33: 30.

⁷¹ Spinei, The Great Migrations, 230.

⁷² Anna Komnena, *Alexiad*. Book 10/II, 238..

commodities.⁷³

In cases when the nomads' demand for certain goods such as cereals and various other things, could not be met by trade with settled neighbors, raiding was another option. In fact, it has been hypothesized that Inner Asian regularly raided the Chinese due to their dependency on imports.⁷⁴ Raiding presented a viable alternative to trade in times of war. Moreover, commodities to be sold later could be procured through looting as well. Villehardouin writes in his chronicle of the Fourth Crusade that Cumans "retired, having done according to their will in the land, and won many good horses and good hawberks",⁷⁵ and "seized the cattle off the land, and took captive men, women and children, and destroyed the cities and castles."⁷⁶ The emphasis on these activities may, however, be inherent in the nature of our sources: the aim was not to provide a detailed account on the everyday life of Cuman tribes but to document the military troops that appeared as raiders.

The usually highly negative depiction of Cumans and Pechenegs in the sources of the Kievan Rus obviously oversimplifies a complex relationship between the Rus and the nomads, which was not only entangled with economic interests, but also with political and military alliances.⁷⁷ Noonan came to the conclusion that the devastation was rather caused by frequent nomadic raiding inherent in the Rus' political and military system, a system in which the Cumans and Pechenegs took over the role of the Vikings as mercenaries; he even stated that these were acts of "licensed and controlled predation".⁷⁸ Moreover, raiding not only served as a form of supply for the nomads, but was, in fact, mutual. There are records testifying to Kievan princes stealing livestock, especially horses, from the Cumans, when these animals could not be acquired by any other means (such as trade).⁷⁹ In addition, as there was no centralized state to coordinate needs and exert control, the Cuman khans could simply raid horses off each other if necessary. Noonan hypothesized that large-scale horse stealing must have been common in the eleventh-

⁷³ Noonan, Rus, Pechenegs and Polovtsy, 318-319; Rubruck ed. Jackson and Morgan, 84.

⁷⁴ Di Cosmo, Ancient Inner Asian Nomads, 1093

⁷⁵ Frank T. Marzials ed and tr. *Memoirs of the Crusades by Villehardouin and Joinville* (London: J.M. Dent, 1908), 108. Online edition: <http://www.fordham.edu/halsall/basis/villehardouin.asp> (henceforth: Villehardouin ed. Marzials)

⁷⁶ Villehardouin ed. Marzials, 111.

⁷⁷ Golden even concluded that large-scale violent actions were not typical for nomad-sedentary interactions of Western Eurasia and encounters with Cumans and Pechenegs were largely peaceful. (Golden, Aspects of the Nomadic Factor, 86.)

⁷⁸ Noonan, Rus, Pechenegs, and Polovtsy, 302, 316.

⁷⁹ Noonan, Rus, Pechenegs, and Polovtsy, 311-313.

thirteenth century, not only between the Cumans and the Rus, but between various Cuman tribes as well.⁸⁰

Human trade – that is, trade in slaves and serfs – was also an important source of income. The taking of hostages from the civil population and using or selling these people as slaves comes up often in the accounts. Accounts from the eleventh-century Pontic steppe reveal that the Kipchaks regularly took Christians as prisoners of war and used them as slaves.⁸¹ Russian chronicles mention that the Cumans' military campaigns aimed to capture as many slaves as possible and then to ask ransom for them or sell them. Altogether 5,000 slaves were captured during one campaign according to a Georgian chronicle.⁸² This means that the slave trade must have significantly contributed to their economy, either as commodities or in the work force. Those workers who could not be used in the nomadic economy were sold on the markets of the north coast of the Black Sea and, thus, contributed to the trade with Crimean markets. It was also customary to capture members of the élite – both on the Rus' and on the Cumans' side – who then could be ransomed for large amount of wealth.⁸³ Pelts (especially those of local squirrel and beaver, but also those of the more valuable foxes) as an important commodity, were sold along with slaves for clothing and were also mentioned several times in the sources.⁸⁴

The local division of labor in terms of agricultural production versus animal herding is an issue that must be raised. It is possible that tasks were ethnically or socially divided, serfs or slaves carrying out small-scale land cultivation, while the Cuman aristocracy and most commoners stayed mobile with their activities rather organized around livestock management. It may have been included in the Cuman Laws in Hungary in 1279 that Cumans had to set free all Christian slaves they captured in the country (although they could retain their foreign slaves).⁸⁵

⁸⁰ Noonan, Rus, Pechenegs and Polovtsy, 312.

⁸¹ The Laurentian Chronicle reports on a Cuman raid of the town of Torchesk, 65 km south of Kiev, in 1093: "The Polovtsians [that is, the Cumans – K.L.] after seizing the town, burned it. They divided up the people and led them to their dwelling places, to their own relatives and kin. Many Christians suffered..." This account is even more interesting as the inhabitants of this town were mainly Pechenegs and Oghuz, and the story shows how the Kipchak elite displaced the Pechenegs from their ruling status in the steppe zone. (Christian, A History of Russia, 357.)

⁸² Spinei, The Great Migrations, 232.

⁸³ Noonan, Rus, Pechenegs and Polovtsy, 315.

⁸⁴ Janet Martin, "The Land of Darkness and the Golden Horde. The fur trade under the Mongols, XIII-XIVth Centuries" *Cahiers du Monde russe et soviétique* 19/4 (1978), 401-421: 404-405.

⁸⁵ "Ceterum, super articulo restitucionis captivorum Christianorum, quem dominus legatos precipuum et maximum pre ceteris mente reputabat, ad nostram et venerabilium patrum episcoporum et ceterorum prelatorum ac baronum nostrorum instanciam, idem dominus legatus paternaliter condescendit hoc modo: quod captivos, quos

However, it is interesting that the medieval sources usually mention slaves and captives as serfs kept around the household or soldiers sent to the front lines in battle, not as peasants toiling on the land. Therefore it is questionable if they were, in fact, used for such tasks, and how being deprived of their slaves really affected the Cuman economic activities after their settlement in Hungary.

There are ethnographic examples where nomadic families do not use serfs but distribute the tasks among themselves. Among the Khalkha Mongols in the early twentieth century, poorer tribesmen helped the rich families with farming and supervising the crops while the herders were away with the animals.⁸⁶ In fact, the transition from animal-based sustenance and plant cultivation may have been viewed differently in different communities. Vainshtein observed among Tuvian nomads in Southern Siberia that engaging in tillage was not the result of impoverishment, cattle loss or lower status, as hypothesized for the Kazakhs or the Mongols of the Golden Horde. In fact, a precondition for land cultivation is stored grain, suitable pieces of land, equipment and draft animals; therefore, poorer families on their own usually could not start land cultivation, and even if they tried, the rent of draft animals and grain for sowing cost a large

in regno et terris nostris Christianos quoquo modo retinebant, precise et absolute reddere, nec retinere tenebuntur, alios vero captivos suos, in extraneis regnis captivatos, retinebunt." Although this piece of text is only preserved in the second Cuman Law whose authenticity has been questioned (Nóra Berend, "Az 1279-i »kun törvények« szövege és keletkezés körülményei" [The text and creation of the Cuman Laws of 1279] in A Jászkunság kutatása 2000. Tudományos konferencia a Kiskun Múzeumban. [Research of the Ias-Cuman Area. A Scholarly Conference Held in the Kiskun Museum.] Eds. Erzsébet Bánkiné Molnár, Edit Hortiné Bathó, and Erika Kiss (Jászberény-Kiskunfélégyháza: Kiskun Múzeum. 2002), 147-154 (henceforth: Berend, Az 1279-I kun törvények), this detail seems realistic. (Gyárfás, A jász-kunok, vol. 2, 441; Gábor Hatházi, "Halas kun székközpont és magyar mezőváros a középkorban" [Halas, a Cuman seat center and Hungarian market town in the Middle Ages] in Kiskunhalas története 1. Tanulmányok Kiskunhalasról a kezdetektől a török kor végéig [The History of Kiskunhalas. Vol. 1. Studies on Kiskunhalas from the Beginnings to the End of the Turkish-Ottoman Era] Eds. József Ö. Kovács and Aurél Szakál (Kiskunhalas: Kiskunhalas Városi Önkormányzat, 2000), 169-302: 182-183 (henceforth: Hatházi, Halas kun székközpont)

⁸⁶ In this community farming was a combined operation by wealthy and poor families alike. An area was plowed and planted, then the wealthier families left with their animals and moved to their summer pastures, while the poor families remained to supervise the crops, keeping their own animals nearby. At harvest time, the wealthy families returned, and after harvest they compensated the helpers with part of the crop. This form of labor distribution was indispensable if the families had large herds: sheep required constant supervision during the day throughout the year and horses required constant night surveillance during five months of the year after the foals were born. Moreover, during the summer there was an intensified milking period for both sheep and horses. Cattle herds were less problematic. A combination of horse and sheep herding was difficult, and a large number of people were needed in herd management. Camps that were wealthy in sheep and cattle and had means to support dependent, poorer families and herdsmen as seasonal assistants could maintain large herds of horses. Herbert Harold Vreeland, *Mongol Communities and Kinship Structure*, Behavior Science Monographs (Westport, Connecticut: Greenwood Press, 1962), 42, 46.

part of the harvest.⁸⁷ Although the sources are silent on this matter, it may be hypothesized that in the Cuman case, land cultivation – regardless of the extent to which it was practiced – was probably carried out at the commission of the richer families, either by foreign servants/slaves or other, less wealthy members of the tribe. Their production was then supplemented by grain and other plant-based food by trade.

Tributes also provided a form of income for the leading élite of the Cuman population. The aristocratic ties to the Rus' élite, a form of military alliance reinforced by a series of intermarriages, must have accelerated the flow of certain goods in the form of non-commercial exchange such as dowries and gifts. These could add up to considerable amounts. Although this form of income was definitely limited to a narrow stratum of Cuman society, it contributed to the élite's wealth and thus to the maintenance of their control over commoners.

As we have seen, the available written sources on the Cumans' economy mainly discuss élite activities, while little is revealed on how animal herding, trade and land cultivation was coordinated on an everyday level. It is certain, however, that Cuman economy was not completely self-sufficient at the time they were forced to migrate westwards, but dependent on outside resources.

1.3 The Cumans' arrival in Hungary and the steps of integration into feudal society⁸⁸

As we have seen, in the years predating their arrival into Hungary, the Cumans lead a mobile, nomadic lifestyle on the steppe. Their culture, language, religion and customs must have differed significantly from those of other contemporary groups in the region such as the Hungarians. It must be noted, however, that they had intensive contacts with Christian states upon their appearance on the southern borders of the Russian Principalities in the mid-eleventh century; they also frequently came into conflict with the Hungarians. This, however, also meant

⁸⁷ Sevyan Vainshtein, *Nomads of South Siberia: The Pastoral Economies of Tuva* (Cambridge: Cambridge University Press, 1980), 158.

⁸⁸ Arguments in this subchapter were discussed in a recent article of mine: Kyra Lyublyanovics, "Spies of the enemy, pagan herders and vassals most welcome: Cuman - Hungarian relations in the 13th century", in *Expulsion and Diaspora Formation: Religious and Ethnic Identities in Flux from Antiquity to the Seventeenth Century*. ed. John Tolan. RELMIN 5 (Turnhout: Brepols, 2015), in press

that by the end of the twelfth century they were acquainted with Christianity, partly because from the early thirteenth century onwards mendicant orders showed a great interest in steppe peoples, especially the Cumans and Tatars.⁸⁹ Moreover, the Cumans had already become accustomed to forming alliances with foreign states or peoples whose culture and language was different from their own. As we have seen in the previous subchapter, the Cuman-Kipchak Confederation, a vast territory habited by Turkic-speaking tribes north of the Black Sea in the eleventh and twelfth century, was a loose alliance of ethnically diverse groups.⁹⁰ This must have brought a linguistic and cultural assimilation between populations of different origins. In some cases, these tribes were only brought together during the slow westward movements fuelled by the Mongol expansion. After the battle at the Kalkha River in 1223, the Mongols viewed Cumania as their territory and the Cumans as their subjects, and thus, a rapid westward movement of the steppe population began. A smaller Cuman community under the leadership of Khan Bortz had already been baptized and made an allegiance with the Hungarian king in 1227, as they sought protection from the growing Mongol threat; thereafter, Duke Béla (the *rex junior*, and later Béla IV, king of Hungary) started to use the title *rex Cumaniae*.⁹¹ As a devastating military conflict with the Mongols seemed inevitable, another Cuman khan, Kuthen, asked for asylum in Hungary in 1239, and entered the kingdom with a large group of people. By that time, missionary activities and the establishment of the Cuman bishopric in Milkov under the jurisdiction of the Hungarian Church resulted in closer Cuman-Hungarian connections.

The first clashes between the Cuman and Hungarian population in their long history of coexistence, reported on mostly by Master Roger, had at least four main aspects. The political

⁸⁹ The first missionaries sent to the Cumans were Dominicans; it is uncertain in which year they started their missionary work but most probably it was in 1221. Their work was extensively supported by the Hungarian king for obvious political reasons. The friars were very active among the Cumans in the 1220s and by 1228 the first Cuman bishopric was established, probably in Milkov, Moldavia. (The sources predating the Mongol Invasion do not mention the name of this town; it first appears in the sources in 1279.) (Ioan Ferent, *A kunok és piisökségiik* [The Cumans and Their Bishopric] (Budapest: Szent István Társulat, 1981), 123-138 (henceforth: Ferent, *A kunok és piisökségiik*); László Makkai, *A milkói (kún) püspökség és népei* [The (Cuman) Bishopric in Milkov and Its Peoples.] (Debrecen: Pannonia, 1936), 10-18; 26, footnote 32.) Later, when the Cuman migration was completed, their Christianization was continued by the Franciscan order that was also active among Hungarian Cumans from the late thirteenth century onwards, following the order of the pope. (István Gyárfás, *A jász-kunok története* [The History of Cumans and Iasians] Vols 1-4. (Budapest – Kecskemét - Szolnok, 1870-1885), vol. 2, 432. (henceforth: Gyárfás, *A jász-kunok*)

⁹⁰ Spinei, *The Great Migrations*, 234-236

⁹¹ Gyárfás, *A jász-kunok*, vol. 2, 257; András Pálóczi Horváth, *Pechenegs, Cumans, Iasians. Steppe Peoples in Medieval Hungary* (Budapest: Hereditas-Corvina, 1989), 48. (henceforth: Pálóczi Horváth, Pechenegs, Cumans, Iasians)

component involved the impact Cumans had on the struggle between royal power and the aristocracy. The conversion of the newcomers to Christianity, an issue that comes up again and again in the textual sources, as well as the “ethnic” component (language, attire, pagan customs), must also have played a role in the way they were perceived as uninvited strangers.⁹² A fourth, economic aspect, the damage the Cumans’ herds inflicted on crops and the fact that they took Christians as prisoners, also contributed to an escalation of conflicts.⁹³ This resulted in waves of Cuman emigration during the thirteenth century. It is important to note here that even though Cumans had experience forming alliances with various political and military forces, they never formed a state.⁹⁴ Now, however, they were facing a feudal kingdom with a host community much bigger than their own. Thus, conflicts were probably unavoidable.

King Béla IV needed military allies against the approaching Mongol armies and hoped to use the Cumans as military allies against this threat. Cumans had cavalry troops superior to European armies in terms of agility and their knowledge of steppe warfare.⁹⁵ Moreover, Béla IV also needed supporters in his struggle against influential Hungarian lords, as he wanted to stabilize his own royal position.⁹⁶ He tried to create bonds quickly with the Cuman nobility and

⁹² Interestingly, the so-called Cuman laws issued in 1279 that regulated Cuman-Hungarian co-existence, originally said nothing about attire, hairstyle or other factors usually connected with ethnicity. These factors are only mentioned in the “Second Cuman Law”, which was long taken to be the final version of these laws although its authenticity was questioned by Nóra Berend (see footnote 85 above). A letter of Pope Nicholas III from 1279 reveals that Cumans were not willing to reject their traditional hairstyle, and finally the papal legate (with whose help the Cuman laws were issued) dropped the question. (Augustino Theiner, *Vetera Monumenta Historica Hungariam Sacram Illustrantia. Tomus I.* (Rome, 1859), Vol.1, 342 (henceforth: Theiner, *Vetera Monumenta Historica*) It must be added, however, that the question of the second law’s authenticity has not yet been settled. Péter Langó argues that the charter contains too many authentic details of thirteenth-century documents, of which an eighteenth-century forger probably could not have been aware of (Péter Langó, “Kun László kun törvényei. Megjegyzések a kunok középkori jogi státusáról” [The Cuman Laws of Ladislaus the Cuman. Notes on the medieval Cuman legal status] In: *Jászok és kunok a magyarok között. Ünnepi kötet Bánkiné Molnár Erzsébet tiszteletére* [Iasians and Cumans Among the Hungarians. Studies in Honor of Erzsébet Bánkiné Molnár], eds. Edit Bathó, László Faragó and Magdolna Kókai. Jászsági Könyvtár 6. (Jászberény: A Jász Múzeumért Alapítvány, 2006), 60–77 (henceforth: Langó, Kun László törvényei). If we accept Langó’s theory that the second law is, in fact, authentic, it must be concluded that ethnic markers of the Cuman population were strictly controlled by the state. However, in a most recent publication Nóra Berend defended her viewpoint and insisted that the second text is an early modern forgery, and the “first” Cuman law (which says nothing about ethnic markers) is the only authentic text (Nóra Berend, “Forging the Cuman law, forging and identity”, in *Manufacturing a Past for the Present. Forgery and Authenticity in Medievalist Texts and Objects in Nineteenth-Century Europe*, eds. János M. Bak, Patrick J. Geary and Gábor Klaniczay (Brill: Leiden, 2015), 109–128 (henceforth: Berend, Forging the Cuman law)

⁹³ Acquiring a labor force by taking slaves during military campaigns was a widespread custom in the Cuman-Kipchak Federation and was also reported on by Russian chronicles. (Spinei, *The Great Migrations*, 228–230.)

⁹⁴ Berend, *At the Gates of Christendom*, 118

⁹⁵ Spinei, *The Great Migrations*, 227.

⁹⁶ He had been crowned only four years earlier and he had had serious conflicts with the Hungarian nobility as he

turn them into reliable vassals. Thus, Cumans played an ambiguous political role right from the beginning and the Hungarian aristocracy looked at their new allies with suspicion. They were mass-baptized with Béla IV acting as their godfather, and received a collective legal status that was highly dependent on the king.⁹⁷ In return, they were granted with privileges usually given to *hospes* peoples: they were partly freed from the obligation to pay taxes and possessed a level of internal autonomy (they were free to make their own legislation and jurisdiction).

Our most important written source on the initial conflicts is the *Epistola in miserabile carmen* by Master Roger of Apulia. He saw the roots of all problems in the king's attitude that favored Cumans in all his decisions. The Cumans, on the other hand, are mostly represented through stereotypes in this text. It is uncertain how much first-hand information Master Roger had on the Cuman commoners, however, he definitely had connections to the royal court and so the ties to the Cuman aristocracy must have been well known to him. He mentions that the king tried to put an end to the conflicts between commoners of the two peoples by making an agreement to disperse the Cumans throughout the country so that the smaller communities would be easier to handle than a single, large Cuman block.⁹⁸ The Cuman leadership was probably unaware that they now played a role in a bitter political struggle. Shortly after they arrived in the country, news reached the Hungarian court that there were Cumans in the Mongol army (which was, in fact, true; these were Cuman captives, reported also by John of Plano Carpini⁹⁹ and Thomas of Split¹⁰⁰), and it was assumed that the Cumans who asked for asylum were actually

tried to consolidate royal power. The accumulation of large feudal domains in the hands of the aristocracy as well as the appearance of a production-centered money economy required a change in the official structures of power. After Endre II's first reform, attempts rather weakened than strengthened the king's position. Béla IV aimed for a new consolidation of royal power and a return to the pre-1200 status quo. The catastrophic defeat of the Hungarian military was partly due to Béla IV's failure to recognize the military potential of the new, rising Hungarian élite. (Jenő Szűcs *Az utolsó Árpádok* [The Last Kings of the Árpád Dynasty] (Budapest: MTA Történettudományi Intézete, 1993), 7-11 (henceforth: Szűcs, Az utolsó Árpádok) It is telling that according to the French chronicler Vincent de Beauvais, the Mongols had a long discussion whether they should attack Hungary and then decided to do so when they heard about the conflicts within the Hungarian élite. (Felicitas Schmieder, "Der Einfall der Mongolen nach Polen und Schlesien – Schreckensmeldungen, Hilferufe und die Reaktionen des Westens," in *Wahlstatt 1241. Beiträge zur Mongolenschlacht bei Liegnitz und zu ihren Nachwirkungen*, ed. Ulrich Schmielewski (Würzburg: Bergstadtverlag Korn, 1991) 77-86: 86

⁹⁷ Nóna Berend, *At the Gate of Christendom. Jews, Muslims and "Pagans" in Medieval Hungary, c. 1000- c. 1300* (Cambridge: Cambridge University Press, 2001), 87. (henceforth: Berend, At the Gates of Christendom)

⁹⁸ Master Roger, ed. Bak et al., 148-149.

⁹⁹ He also reports that he was provided with two Cumans who were considered Tatars. (Plano Carpini, ed. Dawson, 58, 69.)

¹⁰⁰ "Habent autem ex diversi nationibus, quas bellis edomuerunt, multitudinem maximam pugnatorum et precipue Cumanorum, quos ad pugnandum subigunt violenter. Si quem vero ex his paululum trepidare conspiciunt nec in

Mongol spies in disguise. Khan Kuthen and his family were suddenly placed under guard in Buda, and massacred along with their retinue. After this assault, most Cumans left for Bulgaria, where there was a larger Cuman minority. This also meant that the king lost an important military ally on the eve of the Mongol attack.

Little is known about this clash. Master Roger makes only minor comments and explains the animosity towards Cumans by a general hatred. The Hungarian aristocracy had an obvious reason to dislike the Cuman nobles; the peasants, however, who had contact only with the Cuman commoners, had no such agenda. Master Roger mentions the damage the Cumans' herds caused to the crops, and their custom of forcing Christian slaves to labor in their fields. However, the lowest stratum of the Cuman community was certainly poor, and many of them became servants in Hungarian households.¹⁰¹ In fact, there had been other populations of steppe origin who migrated to the Hungarian Kingdom, served as military allies and were later assimilated, and so a model of integrating steppe peoples was certainly known.¹⁰² The Cuman community was very diverse (although they might have been perceived as a homogenous unity); some of the newcomers were already Christians before they entered Hungary.¹⁰³ Nevertheless, a general image of "the Cuman" seems to have existed, mainly based on previous conflicts with the Hungarian state. The legend of the holy king St Ladislaus contains the story of how he saved the life of a Hungarian maiden who had been abducted by a Cuman warrior. This story was a popular theme in manuscript illuminations and church frescos and also made its way into chronicles,

mortem sese tota mentis insania precipitare ansque ulla cunctatione eius amputant caput." (Damir Karbić, Mirjana Matijević Sokol and James Ross Sweeney eds, Archdeacon Thomas of Split - History of the bishops of Salona and Split (Budapest: CEU Press, 2006), 285)

¹⁰¹ György Györffy, "A kunok feudalizálódása" [The feudalization of Cumans] in *Tanulmányok a parasztság történetéhez Magyarországon a 14. században* [Studies on the History of Peasantry in the 14th Century in Hungary], ed. György Székely (Budapest, Akadémiai Kiadó, 1953) 248-275: 251. (henceforth: Györffy, A kunok feudalizálódása)

¹⁰² Pechenegs arrived in waves between the tenth and twelfth centuries. Peoples from the Khwarezm as well as Szeklers also served in the royal army. However, these minorities did not enjoy privileges similar to those given to the Cumans and had no independence in their internal matters. (András Pálóczi Horváth, "»Pogányokkal védelmeztetjük országunkat:« keleti népek a középkori Magyar Királyságban, a kálizoktól a kunokig" ["We protect our country by the help of pagans:" peoples of Eastern origin in the medieval Hungarian Kingdom, from Khwarezmians to the Cumans] *Studia Caroliensia* 2004/2, 10-30: 13-14.) (henceforth: Pálóczi Horváth, Pogányokkal védelmeztetjük)

¹⁰³ William of Rubruk reports on a Christian Cuman he met on his way to the court of Mangu Chan in the mid-thirteenth century. The Cuman was said to have been baptized in Hungary by friars. (Rubruk ed. Jackson and Morgan, 135-136.) Plano Carpini also mentions Christian Cumans whom he met on his journey. (Plano Carpini ed. Dawson, 70).

including the *Chronicon Pictum*¹⁰⁴ (even though this story was not included in the official *vita* of the Holy King). Earlier clashes with the Cumans (and in general, steppe nomads) must have contributed to this negative attitude. However, the image of the pagans who killed and took Christians as captives, burnt churches to the ground and committed all kinds of cruelties against the peaceful peasants was, in fact, highly stereotypic.¹⁰⁵

In 1245 the king invited the Cumans back.¹⁰⁶ They had been camping somewhere on the lower Danubian Plain in Bulgaria since their departure from Hungary.¹⁰⁷ The population loss caused by the Mongol Invasion and the famine that followed made it crucial for Béla to invite new settlers to the country.¹⁰⁸ Worried about a potential new Mongol attack, the king initiated a military reform and a campaign of castle building.¹⁰⁹ He hoped for a renewed military alliance with the Cumans, and it was a reasonable decision to invite them back. Little is known, however, about this second migration wave. Those who came back to Hungary to settle here for good were probably not the same as those who had left Hungary a few years earlier. Other Cumans who had been living in Bulgaria may have joined them too.

The military role previously played by Pechenegs was now taken over by the Cuman forces¹¹⁰ that served as mercenaries in the king's army and supported Béla's campaigns in Austria, Styria and Moravia.¹¹¹ Consequently, their nobility had a strong influence in the royal

¹⁰⁴ Gyula László, A Szent László-legenda középkori falképei [Medieval Murals Depicting the St Ladislaus Legend] (Budapest: Tájak-Korok-Múzeumok Egyesület, 1993), 17-20. (henceforth: László, A Szent László-legenda)

¹⁰⁵ Schmieder, Menschenfresser, 159-179.

¹⁰⁶ György Fejér, *Codex diplomaticus Hungariae ecclesiasticus ac civilis*. Vol IV/3 (Budapest, 1829), 486. (henceforth: Fejér, Codex diplomaticus)

¹⁰⁷ The confusion that followed the death of Tsar Coloman Asen I of Bulgaria in 1246 may have put some pressure on them to migrate back to Hungary at Béla's invitation. Pálóczi Horváth, Pechenegs, Cumans, Iasians, 52.

¹⁰⁸ Although the settlement concentration and village desertion process had started earlier and was accelerated by the Mongol Invasion, the destruction was severe in the Great Plain where the Cumans found a new home. The impact of the invasion varied from one region to the other. In the middle region of the Plain, around present-day Kiskunfélegyháza, 75-90% of the villages were destroyed and abandoned. (Szabolcs Rosta, "Új eredmények a kunok Duna-Tisza közi szállásterületének kutatásában" [New Results in the Research of Cuman Settlement in the Danube-Tisza Interfluve] in "Kun-kép". *A magyarországi kunok hagyatéka. Tanulmányok Horváth Ferenc 60. születésnapja tiszteletér*. [Cuman Image. Heritage of the Cumans in Hungary. Studies in Honor of Ferenc Horváth's 60th Birthday] Ed, Szabolcs Rosta (Kiskunfélegyháza: Bács-Kiskun Megyei Önkormányzat Múzeumi Szervezete, Kiskun Múzeuma, 2009), 175-216: 191 (henceforth: Rosta, Új eredmények)

¹⁰⁹ This was, in fact, a phenomenon that started earlier than the invasion and was accelerated by the Mongol threat. (Erik Fügedi, *Vár és társadalom a 13-14. századi Magyarországon* [Castle and Society in 13th-14th-Century Hungary] Értekezések a történeti tudományok köréből 82 (Budapest: Akadémiai Kiadó, 1977), 18-32

¹¹⁰ Pálóczi Horváth, Hagyományok, kapcsolatok és hatások, 10.

¹¹¹ Pálóczi Horváth, Pechenegs, Cumans, Iasians, 68-77; András Pálóczi Horváth, "Pogányokkal védelmezettük országunkat: Kunok a Magyar Királyságban" ['We have our country defended by pagans': Cumans in the medieval Hungarian Kingdom], in *Keleti népek a középkori Magyarországon. Besenyők, úzok, kunok és jászok*

court. Aristocratic family ties were also formed: Béla IV wedded his son, who later became King Stephan V, to the daughter of the new Cuman khan in 1254,¹¹² and so the minority's place was also secured within the court by dynastic means.¹¹³ Given the power plays between Stephen and Béla IV, the Cumans continued to play a key role in the struggles for royal power.¹¹⁴ In the face of demands by his son, Béla IV divided the country in 1262. The area east of the Danube, including the areas inhabited by Cumans, came under Stephen's authority.¹¹⁵ However, the Cumans rather fought on the king's side, probably because their original loyalty oath bound them primarily to Béla.

The conflict between father and son escalated into a war in 1264, which then ended by a return to the *status quo*. When Stephan ascended to the throne in 1270 after the death of his father, the Cumans again came under direct royal protection, the *dominus Cumanorum* being the same person as the king; at the same time, the palatine started to use the title *judex Cumanorum*.¹¹⁶ Cuman influence reached its peak a few years later during the reign of Ladislaus IV (also called Ladislaus the Cuman), the son of Stephen V and the Cuman noblewoman Elizabeth. The archbishop of Olomouc warned the pope in 1272 about the Cumans' growing influence in the country and described the danger they posed to Christianity in the region, as – he wrote – not only are they fierce but they also force their captives to abandon Jesus Christ and follow their shamanistic faith.¹¹⁷ It is uncertain to what extent these were exaggerations; however, just like Béla IV, Ladislaus also hoped to put an end to the feudal anarchy and relied on Cuman military strength against the barons. He also spent most of his time in Cuman company, repudiated his wife Isabella for the sake of a Cuman mistress, and even began to adopt their

művelődéstörténeti emlékei [Peoples of Eastern Origin in Medieval Hungary. The Cultural Heritage of Pechenegs, Uzes, Cumans and the Jász]. Studia ad Archaeologiam Pazmaniensiae – Archaeological Studies of the Péter Pázmány Catholic University, Department of Archaeology 2. (Budapest: Archaeolingua, 2014), 101–132.

¹¹² It is not clear if she was the daughter of the late Khan Kuthen or another Cuman leader, Zeyhan. The latter is more probable as he is named as a relative of the king in a charter issued one year later. (Szűcs, Az utolsó Árpádok, 18; Gyárfás, A jász-kunok, vol. 2, 307.)

¹¹³ The king created similar dynastic ties to the Ruthenian and Polish aristocracy through his daughters in order to secure future allies. Szűcs, Az utolsó Árpádok, 79–80.

¹¹⁴ Berend, At the Gates of Christendom, 88.

¹¹⁵ This bond was reinforced also by more direct means: Béla spent more money on expensive gifts to the Cuman nobility than on any other group of noblemen in 1264, when the struggle reached its peak Pálóczi Horváth, Pechenegs, Cumans, Iasians, 68–69.

¹¹⁶ Berend, At the Gates of Christendom, 88.

¹¹⁷ Gyárfás, A jász-kunok, vol. 2, 426.

clothing style and pagan customs.¹¹⁸

The king tried to settle the dispute over the Cumans' legal standing and also to ease the tension between his court and the Church by issuing the Cuman Laws, thus, arranging Cuman affairs constitutionally. This text was supposed to regulate the rights and duties of the Cuman minority. The original text has been lost; a 1339 copy is stored in the Archives of the Vatican. The historiographical tradition knows about two texts, the First and the Second Cuman Law, the first of which was interpreted as a draft, while the second, now considered a possible forgery, included a longer and more precise description of the landed properties donated to the Cuman minority by the king.¹¹⁹ The main points of the law compelled the Cumans to be baptized and follow the prescriptions and regulations of the Church as well as abandon their old shamanistic faith; to leave their tents, settle in villages, and adapt the customs of the sedentary population; to avoid killing or harassing Christians; and to leave all landed properties, monasteries or churches that they had illegally occupied.¹²⁰ The Hungarian aristocracy as well as the Church wanted to isolate the Cumans from the king and give effect to the Cuman Laws – which, on the one hand, granted them a good measure of internal independence, but on the other hand, compelled them to assimilate into the feudal state. Cumans organized a revolt, and King Ladislaus IV had to march against them with military force. The disturbance did not last long, but after they were defeated, ca. one third of the Cuman population left Hungary never to return:¹²¹ most of those Cumans inhabiting the southern areas of the Great Plain, left the country forever.¹²² It is uncertain if some

¹¹⁸ In 1288, Ladislaus was captured by Hungarian barons and forced to swear an oath before the archbishop of Esztergom that he would to return to the proper Christian ways. His oath included that he should change back to proper Christian attire and hairstyle as a symbolic expression of his sincere change of ways. (Szűcs, Az utolsó Árpádok, 317; Pálóczi Horváth, Pechenegs, Cumans, Iasians, 81.)

¹¹⁹ Berend, At the Gates of Christendom, 89-92; Berend, Az 1279-I kun törvények, 147-151. Miklós Kring also found this text suspicious. (Kring, Miklós. "Kun és jász társadalomelemek a középkorban. I." [Cuman and Iasian elements in the society in the Middle Ages. I.] *Századok* 66 (1932), 35-63: 39-40.) More recently, Péter Langó revisited the text and argued that it is in fact authentic, and so the geographical regions discussed in the charter as donated to the Cumans can be accepted (Langó, Kun László törvényei, 66). As already mentioned, this debate has not yet been settled.

¹²⁰ Gyárfás, A jász-kunok, vol. 2, 333-335

¹²¹ György Györffy, "Magyarország népessége a honfoglalástól a XIV. század közepéig." [Demography of Hungary from the Conquest to the End of the 14th Century.] in *Magyarország történeti demográfiája* [The Historical Demography of Hungary] ed József Kovacsics (Budapest: Közgazdasági és Jogi Könyvkiadó, 1963), 45-62: 56. Pálóczi Horváth accepts Györffy's calculation. (András Pálóczi Horváth, "Steppe traditions and cultural assimilation of a nomadic people: the Cumanians in Hungary in the 13th–14th century" in *Archaeological Approaches to Cultural Identity*, ed Stephen Shennan, One World Archaeology 10 (London: Routledge, 2003), 291-302: 292 (henceforth: Pálóczi Horváth, Steppe Traditions)

¹²² Pálóczi Horváth, Pechenegs, Cumans, Iasians, 80.

Cumans returned here to settle after their devastating defeat and if so, in what numbers. Those who participated in the revolt and were caught by the royal army were reduced to serfs, and only those who did not support the military campaign were allowed to keep their privileges.¹²³ The latter suggests that at least some Cumans must have decided to stay in the area even if the majority left the country. Simon of Kéza, the chronicler of Ladislaus IV, reports in his *Gesta Hungarorum* that many of the Cumans were taken as captives, others left their possessions and families behind and fled, and those who stayed subjugated themselves to the king.¹²⁴ The tensions between the crown and the Cumans were not yet over. However, only a couple of years later, Ladislaus IV was murdered, probably by his own Cuman retinue.¹²⁵

It seems that it had been the high tensions in the upper stratum of Cuman and Hungarian society that resulted in violent actions, while little is revealed about the everyday interactions of commoners. As a result of a long integration process, Cumans adopted most Hungarian customs within a few generations' time, however, the various aspects of their identity: the language, the attire, the religion, or the inner hierarchy of their community did not change at the same pace. As there are no documents written or even dictated by the Cumans which would testify to their views and interests, all information on their internal matters come second-hand.

Cuman commoners probably integrated into the host society relatively quickly. Elements of their ethnicity such as the Oriental dress and hairstyle, however, survived well into the fourteenth century as attested by pictorial representations as well as archaeological finds, although Cumans entered the Hungarian commodity market and adopted elements of the western attire.¹²⁶ On the other hand, Cuman attire and armament was fashionable in the thirteenth

¹²³ Gyárfás, A jász-kunok, vol. 2, 354; Pálóczi Horváth, Pechenegs, Cumans, Iasians, 61.

¹²⁴ Károly Szabó ed. and transl. *Kézai Simon mester Magyar Krónikája* [The Hungarian Chronicle of Master Simon of Kéza] (Pest, 1863), 83 (henceforth: Simon of Kéza ed. Szabó)

¹²⁵ The way the assassination was organized and the motivation behind it is uncertain, as there is no reliable contemporary record. In Gyárfás' view it is not likely that the Cumans in the court, to whom the king gave privileges, would have plotted against him (Gyárfás, A jász-kunok, vol. 2, 377-382), although traditional narratives report that three Cuman noblemen, Arboc, Törtel and Kemence were the assassins. This version was included in the *Chronica Hungarorum* as well as in the Illuminated Chronicle. In the Styrian Rhymed Chronicle of Ottokar, however, he is said to have been killed by a Cuman, whose wife the king had had an affair with. Perhaps the king's Hungarian adversaries had a hand in the assassination as well. (Szűcs, Az utolsó Árpádok, 321; Gyula Kristó, *Kun László emlékezete* [The Memory of Ladislaus the Cuman] Szegedi Középkori Könyvtár 5 (Szeged: Szegedi Középkorász Műhely, 1994), 245-247; Pálóczi Horváth, Pechenegs, Cumans, Iasians, 82.)

¹²⁶ Pálóczi Horváth, András. "Régészeti adatok a kunok viseletéhez" [Archaeological data concerning the Cuman dress style] *Archaeologiai Értesítő* 109 (1982), 89–107: 99-101 (henceforth: Pálóczi Horváth, Régészeti adatok a kunok viseletéhez); Gábor Hatházi, *A kunok régészeti emlékei a Kelet-Dunántúlon* [The Archaeological Heritage of Cumans in Eastern Transdanubia] Opuscula Hungarica 5 (Budapest: Magyar Nemzeti Múzeum, 2004), 112-

century, probably as a result of the Cuman élite's high status. The steppe-type saddle, the reflex bow, the leather armor, the caftan, the belt and the high felt cap appear again and again on wall paintings and miniatures from this period; elements of this traditional attire were found in high status Cuman graves as well as in cemeteries of commoners.¹²⁷ The process of Christianization sped up when Franciscan missionary activity became intensified in the fourteenth century, under the rule of Louis the Great, who himself had strong ties to the Franciscan Order. Conversion targeted commoners, and its main goal was to ensure a proper payment of taxes. The friars realized quite early that for most Cumans the greatest obstacle in accepting the Christian faith and the control of the Church was tithe paying. In order to overcome this obstacle, King Charles Robert had already asked the pope to allow the Cumans to be exempt from this duty.¹²⁸

According to the more traditional scholarly narrative, the first generation of Cumans maintained a nomadic lifestyle on the Great Hungarian Plain.¹²⁹ Master Roger notes that they “wandered aimlessly”¹³⁰ (although this must have been due to the confusing situation after their primary migration and not a proper form of mobile pastoralism). This point of view, however, was already questioned in the 1980s by László Selmeczi.¹³¹ The image of a nomadic people constantly on the move seemed to be supported by the analysis of place names associated with the early Cuman presence, because charters often name Cuman communities using the construction *in circuitu villarum*, *circa ecclesiam*, or *iuxta locum*, suggesting that Cumans lived in rather temporary camps. The term *descendus* (dwelling, camp) is also often used, usually with

¹²⁰; 131-132 (henceforth: Hatházi, A kunok régészeti emlékei)

¹²⁷ Pálóczi Horváth, Steppe Traditions, 294; András Pálóczi Horváth, “Le costume coman au moyen âge” *Acta Archaeologica Academiae Scientiarum Hungaricae* 32 (1980), 403–27: 408-409, see also footnote 38; Pálóczi Horváth, Régészeti adatok a kunok viseletéhez, 89-107; Jenő Zichy, “A Képes Krónika miniatűrjei viselettörténeti szempontból” [Miniatures of the Illuminated Chronicle from the point of view of dress history] in Petrovics Elek emlékkönyv. *Hommage à Alexius Petrovics* (Budapest: Országos Magyar Művészeti Múzeum. 1934), 59-70

¹²⁸ Gyárfás, A jász-kunok, vol. 3, 49.

¹²⁹ József Szabadvári, “Nomád típusú teleltetési rendszer az Alföldön.” [Nomadic style wintering in the Great Hungarian Plain.] In *Tanulmányok a magyar pásztorkodás köréből* [Studies on Hungarian Pastoralism] *Studia Folkloristica et Ethnographica* 10 (Debrecen: Kossuth Lajos Tudományegyetem Néprajzi Tanszéke, 1984), 60 (henceforth: Szabadvári, Nomád típusú teleltetési rendszer); Miklós Kring, “Kun és jász társadalomelemek a középkorban. I.” [Cuman and Iasian elements in the society in the Middle Ages. I] *Századok* 66 (1932), 34-63: 42; László Marjai Szabó, “A kunok betelepítése és az állandó szállások kialakulása a Nagykunság területén.” [The migration of the Cumans and the appearance of fixed settlements in Greater Cumania.] *Az Alföldi Tudományos Intézet Évkönyve* 1944-45/1 (1946), 97-106: 97-98; Györffy, A kunok feudalizálódása, 250-253, 260; Spinei, The Great Migrations, 221

¹³⁰ Master Roger, ed. Bak et al., 3.

¹³¹ László Selmeczi, “A kunok nomadizmusának kérdése.” [The question of Cuman nomadism] *A Herman Ottó Múzeum Évkönyve* 25-26 (1988), 177-188 (henceforth: Selmeczi, A kunok nomadizmusa)

Turkic personal names of possible Cuman leaders (in the form “the camp of a certain person”). Nevertheless, these ambiguous place names might well reflect the uncertainties caused by Cuman naming practices, according to which a settlement’s name changed in every generation to correspond to the name of the community’s leader.¹³² Thus, the settlements were only given a permanent name when the leaders of these communities abandoned the traditional naming practice. The fact that many settlement names appear only in the fifteenth century also reflects the patchy nature of our charter evidence rather than an early system of nomadic movements on the Plain. Gábor Hatházi calculated that the area at one Cuman family’s disposal could not have been larger than 40-50 km², which was definitely not enough to support any form of real nomadism.¹³³ Thus, nomadic movements must have been almost completely impossible due to physical barriers. Communities might have moved within smaller areas but this movement had obviously nothing to do with nomadic practices where large distances are covered and different ecological niches exploited.

There is an example also often cited as an evidence for Cuman mobility in the later period. A report mentions Cumans living in tents as late as in the mid-fourteenth century: in 1347, Kuncheg, the chieftain of the Cuman Chertan clan issued a charter in which he allowed a Hungarian aristocrat, Töttös, to have ownership of 12 Cumans (or Cuman families¹³⁴), described as Cumans living in “felt houses” (*filtreas domus habentes*),¹³⁵ who had originally fallen under his authority but who had escaped from his territory to the land of Töttös. In this case, however, living in tents was definitely not equivalent to being mobile, because these people had been prohibited from moving around freely. (Hatházi even argues that their repeated escape from the authority of a Cuman lord to a Hungarian lord’s land suggests that the latter meant their fate would be more tolerable.¹³⁶) More recently, research by Szabolcs Rosta also questioned the early

¹³² Berend, At the Gates of Christendom, 138. This is also supported by archaeological observations at the early Cuman settlements. (Rosta, Új eredmények, 199)

¹³³ Gábor Hatházi, “Megjegyzések a kun településhálózat megszilárdulásának kérdéséhez” [Remarks concerning the establishment of a fixed Cuman settlement pattern.] in *Internationales Kulturhistorisches Symposium Mogersdorf 1994, Band 25*. (Eisenstadt: Amt des Bürgenlandischen Landesregierung, 1996), 27-40: 28 (henceforth: Hatházi, Megjegyzések)

¹³⁴ It has been questioned if the charter refers to 12 men or 12 families. In fact, in the *Codex Cumanicus*, the term “yurt” is used not only to mean ‘tent’ but also to refer to ‘household’. (Györfi, A kipesaki kun társadalom, 258; Hatházi, Halas kun székközpont, 228.)

¹³⁵ Gyárfás, A jász-kunok, vol. 3, 72-73.

¹³⁶ The descendants of Cumans who lost their families and properties and were forced to join the Chertan clan in the migration wave a hundred years earlier, must have been in a subjugated position, especially after most Christian

mobility of the Cumans on the Great Plain. He systematically re-investigated ca. 100 late medieval places in the area of Lesser Cumania (some of which were excavated or at least a field walk was carried out around them, and some of which are known only from the textual sources). He analyzed the network of early Cuman presence and came to the conclusion that fixed settlements appeared earlier than had been previously thought; if there was any form of mobility practiced, it must have been the privilege of a small élite. Landed properties associated with early Cuman presence are surprisingly clustered and seem relatively closed.¹³⁷ This, however, may not be true for the other areas the Cumans inhabited. (The question of possible Cuman nomadism as a methodological problem will be discussed more extensively in chapter 2.3.)

Although they might have been perceived by contemporary Hungarians as one distinct and homogenous group, Cumans entering the kingdom consisted of tribal fragments mainly brought together only by the necessity to flee from the Mongols, and this heterogeneity is evidenced also by DNA samples extracted from Cuman burials which showed that most of the population had diverse Western Eurasian roots (although Eastern Asian and Siberian origins could also be traced).¹³⁸ This also implies that these varied groups were most likely not living at the same economic level. Some of them may have been more specialized in animal husbandry, while others were more involved in trade with agriculturalists; some of them may have been rather self-sufficient, while others relied more on trade ties. It is also possible that after their arrival to Hungary the relative mobility of households depended on social status, with commoners being, more-or-less, settled and involved in both small scale animal husbandry and agriculture or mainly in land cultivation as peasants, while nobles maintained a more mobile lifestyle between settlements.

The early fifteenth century brought important changes in the Cuman minority's life. They were no longer needed in the army: although they served as mercenaries in the royal army in the fourteenth century, King Sigismund realized the need for a military reform as he faced the

slaves used in agricultural production and around the households had to be set free, which obviously meant decimation of available manpower. Hatházi, Halas kun székközpont, 216-217.

¹³⁷ Rosta, Új eredmények, 175-216.

¹³⁸ Erika Bogácsi-Szabó, Tibor Kalmár, Bernadett Csányi, Gyöngyvér Tömöry, Ágnes Czibula, Katalin Priskin, Ferenc Horváth, Christopher Stephen Downes, István Raskó, "Mitochondrial DNA of Ancient Cumanians: Culturally Asian Steppe Nomadic Immigrants with Substantially More Western Eurasian Mitochondrial DNA Lineages", *Human Biology* 77/ 5 (October 2005), 639-662. (henceforth: Bogácsi-Szabó et al., Mitochondrial DNA)

growing threat of the Turkish forces. Cumans were more and more thought of as taxpayers rather than military allies. It was only the Cuman captains, members of the Cuman élite, who still had to serve in the army, but there were cases when they asked for permission to pay instead. Such instances are known from the mid-fifteenth century onwards.¹³⁹ This *proventus pharetralis*, the money paid instead of military service, represented a decreasing sum, probably due to the modest economic and financial potential of the Cuman “nobility”.¹⁴⁰ As mentioned before, the collective privileges that the Cumans had after 1279 had probably changed in the fourteenth century. It was proposed by Gábor Hatházi that the charter issued in 1407 on the collective privileges of the Iasian minority (another ethnic group that arrived together with the Cumans) was also valid for the Cumans. This charter reinforced the understanding that they still had the right to have their own captains as judges, and were freed from paying tolls.¹⁴¹

A pivotal step in the Cuman integration process was the creation of the so-called *sedes* system (in Hungarian: *székek*); in fact, this was the last step in their loss of importance as military allies and their formal integration into the feudal hierarchy. The *sedes*, or Cuman seats, were administrative units of the state, organized in the areas inhabited by the Cuman population. Thus, the seats of Halas (around present-day Kiskunhalas), Kecskemét, and Mizse or Kara (around present-day Lajosmizse) in Lesser Cumania, Kolbáz in present-day Greater Cumania, and Hontos in Transdanubia, the Mezőföld area, were created. (The history of these seats is discussed in detail in Chapter 3.) This re-organization probably took place between 1411 and 1417, during the reign of Sigismund. This process was accompanied by a wave of inspections, insuring that *de facto* Cuman land ownership was legal. This meant that some lands the Cumans arbitrarily occupied were now taken away.¹⁴² In some cases, especially in the seat of Halas, Cuman communities had to move and re-settle in a now legally certified construction.¹⁴³ This meant that instead of an ethnically organized legislation, a territorial-based organization was set up in the Cuman areas. They were still exempt from tax-paying (except for the money they paid in place of military service), and had the right of jurisdiction in their seat, supported by a jury of 12 members (who were also exempt from paying taxes). Thus, some privileges and internal

¹³⁹ Hatházi, Halas kun székközpont 223; Hatházi, A kunok régészeti emlékei, 179; Gyárfás, A jász-kunok, vol 3, 596.

¹⁴⁰ Hatházi, A kunok régészeti emlékei, 183-184.

¹⁴¹ Hatházi, A kunok régészeti emlékei, 184; Gyárfás, A jász-kunok, vol. 3, 549-551.

¹⁴² Hatházi, A kunok régészeti emlékei, 184.

¹⁴³ Hatházi, Halas kun székközpont, 246-249.

autonomy were still preserved, but now it was organized within administrative units under state control.¹⁴⁴

At the same time, as Hatházi recognized, Cumans were increasingly mentioned in charters as *rurales*, that is, peasants involved in land cultivation.¹⁴⁵ This again signifies an acceleration of the integration process. Interestingly, it seems that conflicts concerning land use were present, not only at the beginning of Cuman integration, but also later when there was a growing need for pasture land. In 1522, there was a serious armed conflict between the Cumans of Kolbázsék and the Hungarian village of Kenderes. According to a document, the Cumans attacked and robbed the peasants of Kenderes, driving away their livestock, which was later used and sold on the market of Kolbázszállás.¹⁴⁶ Although this conflict may resemble those reported by Master Roger (the Cumans are described as violent barbarians who cruelly beat up and wound the peasants and steal everything they can, and later did not even bother to deny these acts), this is a later conflict that was ignited by the changing borders of landed properties, and which may reflect the need for land for cultivation or pasture. It definitely had nothing to do with possible initial conflicts caused by a mobile Cuman population.

During the Turkish-Ottoman wars, Cuman and Hungarian history took the same trajectory; the Great Hungarian Plain was heavily decimated by the war in the sixteenth century, and double taxation was a factor in this depressed situation. The following huge wave of population movement and settlement concentration transformed the Cuman areas, serving as an obvious milestone marking the end of medieval Cuman history (and also as the date of desertion of the settlements whose faunal assemblages I analyze in my thesis). However, there was another important event in the Cuman minority's life in the early modern era, and this was the so-called *redemptio*. This also has to be addressed in a few words, because this period was essential in the identity formation of the modern Cuman minority, and is reflected in the way their history is perceived.

After the devastating Turkish-Ottoman wars, most areas of the Great Hungarian Plain were repopulated only somewhat later, and it was not until the 1720s that the economy started to

¹⁴⁴ Hatházi, A kunok régészeti emlékei, 185.

¹⁴⁵ Hatházi, A kunok régészeti emlékei a Kelet-Dunántúlon, 184.

¹⁴⁶ László Kormos, *Kenderes története, Oklevélkötés 1728-ig.* [The History of Kenderes. A Collection of Charters Until 1728.] A Szolnok Megyei Múzeumok Közleményei 41 (Szolnok: Damjanich Múzeum, 1979), 26-29 (henceforth: Kormos, Kenderes története)

grow again in the Cuman areas, with cattle raising as a leading activity in Greater Cumania, and sheep keeping as the main economic factor in Lesser Cumania.¹⁴⁷ However, from 1702, these areas (now known as the District of Greater and Lesser Cumania, as well as the Iasian District) were sold to the Teutonic Order (along with the rights of jurisdiction, taxation, toll collecting etc). This sale also meant that all privileges the Cumans and Iasians had had previously were obliterated and they sank into serfdom. The Teutonic Order tried to make as much income from these lands as possible and demanded high rental fees for pastures from the inhabitants, who were forced to pay as their main occupation was animal husbandry. It is not surprising that the Cuman areas supported Rákóczi in the short War of Independence in the early eighteenth century. However, the lands remained in the hands of the Order after the peace treaty was signed at Szatmár in 1711 and taxation was still high. Although in 1715 the Hungarian Parliament admitted that selling these districts to the Teutonic Order was, in fact, illegal, the Order was only willing to resign from its privileges upon the return of the sum they had originally paid for these lands. This, however, never happened, and the Order sold its rights over the Cuman districts to a church infirmary (*Pesti Invalidus Rendház*). The new owner tried to continue the same taxation, which met with a huge wave of resistance from the population. The so-called *redemptio* movement targeted buying back these lands. After that a huge amount of money (more than 500,000 forints!) was publicly collected for this purpose, Maria Theresa issued a charter that became the foundation of the new Cuman privileges. The queen reinforced some of the old privileges; she gave the community ownership over the lands they used (although they were not allowed to sell these). The Cuman districts were now exempt from toll paying and were not subjugated to any landlords. Internal autonomy was again introduced: only the palatine had jurisdiction over them, otherwise they could freely manage their own internal legal conflicts. They also had the right to let anyone settle who was free to move; new settlers could be taxed but also enjoyed the same privileges as other inhabitants of the Cuman districts. Thus, these lands became attractive to many settlers. The *redempti*, those who participated in money collecting for buying the lands back, received land ownership in the ratio of the sum they put into the fund-raising. This also resulted in a transformation of landed properties. While the *redempti* held ownership in communally used lands (e.g. pastures), the *irredempti*, those who did not contribute

¹⁴⁷ Erzsébet Bánkiné Molnár, *A kunok Magyarországon* [The Cumans in Hungary] (Kiskunfélegyháza: Kiskun Önkormányzatok Szövetsége, 2008), 57 (henceforth: Bánkiné Molnár, *A kunok Magyarországon*)

to fund raising, only owned their own pieces of land.¹⁴⁸

1.4 Cuman integration in the Hungarian scholarship. A short overview of the secondary literature

Over the past decades, extensive scholarship has been carried out on the history of the Cumans in Hungary both by historians and archaeologists – including distinguished scholars producing thorough and comprehensive works such as András Pálóczi Horváth, Ferenc Horváth, István Fodor, Gábor Hatházi, László Selmeczi or György Györffy, and more recently, Szabolcs Rosta, Edit Sárosi and Zsolt Gallina. The way Cumans became sedentary and integrated into a feudal state-level society became a somewhat fashionable topic, especially in the second half of the twentieth century. As a result, a more-or-less clear and detailed picture emerged about the process of their assimilation in the medieval and early modern period.

The first comprehensive work on Cuman and Iasian history in Hungary, the four-volume monograph *The History of Iasians and Cumans* (*A jász-kunok története*) by István Gyárfás, was published between 1870 and 1885. This study is of special importance because of the abundance of written documents published and analyzed within its framework. Gyárfás attached the relevant charters and letters to his study, but, given the date of publication, his analysis lacks proper modern methodology. György Györffy focused his attention first on Cuman integration in a short study in 1953, where he interpreted the process as “feudalization”. A number of his articles on Cuman history and linguistics were collected and published in his book *The Eastern Elements of Hungarian People* (*A magyarság keleti elemei*) in 1990.

Given the large number of relevant excavations, there is a vast literature concerning the archaeological research on Cumans. Cuman archaeology came into focus at the end of the nineteenth century, even though the first scholarly publications date to the 1930s (excavations by István Györffy, Lajos Bartucz, Kálmán Szabó and István Éri). These early excavations are, unfortunately, of not much use for modern studies given the lack of proper excavation methods and poor sampling. A new wave of interest in Cuman studies started in the 1970s. The lion share

¹⁴⁸ Bánkiné Molnár, A kunok Magyarországon, 52-64.

of modern research was conducted by this generation, especially László Selmeczi, András Pálóczi Horváth and Gábor Hatházi. Selmeczi focused on Greater Cumania (Nagykunság), Pálóczi-Horváth on Lesser Cumania (Kiskunság), while Hatházi analyzed the Cuman presence in the area of Hontos, just west of the Danube River.

Alongside the large number of articles and small studies on specific sites, comprehensive summaries of their research have been published in the past decades. Selmeczi's 1992 volume *Archaeological and Ethnographic Studies on Iasians and Cumans* (*Régészeti és néprajzi tanulmányok a jászokról és a kunokról*) is a collection of articles and studies on various topics connected to Cuman and Iasian research problems including settlement, nomadism, Christianization and burial customs. Later, he focused his attention on Iasians, and recently published a monograph on Iasian history (*A jászok eredete és középkori műveltsége, The Origin and Medieval Culture of the Iasians*, 2005).

Pálóczi Horváth summarized his observations in two larger monographs. His 1989 book, *Pechenegs, Cumans, Iasians*, and his 1993 volume, *Traditions, Connections and Influences in Cuman Material Culture* (*Hagyományok, kapcsolatok és hatások a kunok régészeti kultúrájában*) incorporate all available archaeological research completed by the date of their publication. Together they are regarded among the most important pieces of work written on this subject. He published a series of articles about the 25-year excavations at the village of Szentkirály, the largest excavated Cuman settlement.

Gábor Hatházi provides an excellent summary on the most recent Cuman research in the first volume of the monograph on the city of Kiskunhalas (*Kiskunhalas története*, 2000), discussing results achieved since Pálóczi's comprehensive monograph. In his book *Archaeological Remains of the Cumans in the Eastern Transdanubia* (*A kunok régészeti emlékei a Kelet-Dunántúlon*, 2004) he provides a thorough study of all available archaeological finds in the Hontos area.

In 2001, Ferenc Horváth published *The Chieftain and People of Cumans in Csengele* (*A csengelei kunok ura és népe*), a more popular, but in its scholarly quality, excellent monograph on his excavation in Csengele, where a Cuman nobleman was found buried along with his horse.

Nóra Berend has written extensively about the Cumans as a minority in medieval Hungary in her book *At the Gates of Christendom* (2001), analyzing written as well as archaeological evidence. The problems of the Cuman language and the traces it left in the

Hungarian language have been discussed thoroughly in the Candidate dissertation of István Mándoky Kongur (*A kun nyelv magyarországi emlékei, Remains of the Cuman Language in Hungary*, 1993). Cuman ethnography and its Central-Asian analogies have been extensively discussed by Júlia Bartha, whose studies are of special interest due to her first-hand experience with contemporary nomadic peoples.

Most recently, András Pálóczi Horváth published a volume in which he extensively discusses the history of Cuman, Iasian and Pecheneg minorities in medieval Hungary. This book, published in late 2014, summarizes the historical and archaeological research of the past decades, and touches upon archaeological evidence, Cuman attire, the question of Cuman territories, Cuman military forces in the royal army, the development of fixed settlements, as well as the heritae these peoples brought from the steppe region (András Pálóczi Horváth, *Keleti népek a középkori Magyarországon. Besenyűk, úzok, kunok és jászok művelődéstörténeti emlékei* [Peoples of Eastern Origin in Medieval Hungary. The Cultural Heritage of Pechenegs, Uzes, Cumans and the Jász].

András Pálóczi-Horváth proposed a periodization of the process of Cuman integration.¹⁴⁹ He described five different stages:

1. The first stage lasted from their arrival until ca. 1280. In this phase, Cumans tended to preserve their traditional way of life and tried to keep up a more mobile way of life within the boundaries offered by their new home country. Their autonomy was regulated by their contract with King Béla IV. This stage ended with the revolt of dissatisfied Cuman groups and the creation of the Cuman Laws.

2. The second stage lasted from 1280 until the end of the fourteenth century. The Cuman laws reflect a mutual agreement with Hungarian authorities. Cumans tried to adapt to the requirements of a sedentary way of life through conversion and acceptance of Hungarian laws. They still served as mercenaries in the army, even though the number of Cuman light cavalry had considerably decreased by the reign of Louis the Great.

3. The lion's share of the transformation of Cuman society started in the second half of the fourteenth century when they were settled and their existence as an independent military

¹⁴⁹ András Pálóczi-Horváth, "Kunok a kelet-európai sztyeppén és Magyarországon" [Cumans on the East European Steppe and Hungary], in *Az Alföld társadalma*, ed. Novák László, Az Arany János Múzeum Közleményei VIII (Nagykörös: Arany János Múzeum, 1998), 109-146; 115-116 (henceforth: Pálóczi Horváth: Kunok a kelet-európai sztyeppén és Magyarországon)

force ended. According to the view of Pálóczi-Horváth, Cumans were bilingual and had a “double” cultural background, identifying themselves as Cumans and Hungarians at the same time.

4. Cuman history from the beginning of the fifteenth until the middle of the sixteenth century has not yet been properly analyzed. This phase seems to be a time of slow, uneven and spontaneous integration.

5. After 1541, regions inhabited by Cumans fell under Turkish Ottoman rule. Since the new invaders did not differentiate between Cuman and Hungarian settlements, Cuman and Hungarian history took the same twists and turns.

The periodization developed by Pálóczi-Horváth is a useful tool, even though it is clear that the process of economic, social and linguistic integration did not take place at the same pace, and of all aspects of integration, the economy must have had a decisive role in their development. It is clear that the Cuman economy had to undergo certain changes to adapt to the economic structures characteristic of state level society. How this development is reflected in their animal husbandry has been, however, a largely unexplored topic. In the following chapters, I investigate archaeological finds that testify to this transformation, along with textual evidence. Before discussing the actual site materials, however, some methodological issues will be raised and the research questions formulated in the next chapter.

Chapter 2

Research targets and methodological concerns

A systematic review of the archaeological material cannot avoid a re-definition of the subject and the discussion of methodological problems underlying the cultural identification of the sites. By re-addressing the identity of these people and the background of the sites I do not imply that the archaeologists and/or historians who identified them as Cuman were wrong, I only want to draw attention to methodological issues that certainly influence the way Cuman history is perceived. It is of pivotal importance to synthesize information from textual records and archaeological excavations. These sources reveal various aspects of the same integration process and reflect different spheres of everyday life, from large-scale animal trade to animal-related household activities. Such varied aspects of Cuman life coexisted at different levels of cultural and social integration.

In this chapter, first the working methods and the most important archaeozoological tools are discussed. In the second half, site identification and the notion of nomadism as a methodological question is addressed. At the end of the chapter, research questions and working hypotheses are formulated.

2.1 The main methods and types of evidence utilized in this study

The sources I use to investigate the Cuman integration are manifold. Written evidence consists of charters (mainly concerning land donations and conflicts about land ownership), contemporary accounts, trade and tax records (especially in the Turkish-Ottoman period), conscriptions, letters etc. Many of these sources are used and discussed extensively throughout the dissertation although I only used textual sources that had been published, at least in Latin.

Archaeological information is abundant as well. It is available in the form of field walk reports, excavation documents and publications. The sites' identification as Cuman is a

frequently debated point which will be discussed for each site. It is, of course, not possible to address extensively all archaeological problems associated with the Cuman habitation areas within the framework of one PhD thesis; here the main emphasis will be put on evidence connected to animal keeping and economic orientation. Altogether 11 sites are discussed in detail. These excavations yielded altogether ca. 28,000 animal bones. For comparison, published data from more than 50 archaeological sites are used. (For a list of sites used for comparison, see Table 2.1 in the Appendix.)

Other types of evidence used in the study are ethnographic and linguistic. Ethnographic observations on modern steppe nomads and the eighteenth to twentieth-century population of the Great Hungarian Plain are abundantly available. In this study, I mainly used the data published by György Almásy, István Tálas, Júlia Bartha, Attila Paládi Kovács, Ottó Herman, Bálint Illyés, Erzsébet Bánkiné Molnár, Kálmán Szabó and László Nagy Czirok. These observations are used only to raise possibilities of interpretation by presenting analogies, but the focus of this study is not ethnography. Linguistic evidence comprises the analysis of personal and geographical names of Cuman origin. These data are mainly taken from the works of István Mándoky Kongur. Not being a Turkish linguist, I use these data and Mándoky Kongur's interpretations, but to critically evaluate these linguistic arguments is beyond my competence.

Archaeozoological evidence and methodology

The main task undertaken during the archaeological data collection phase was to analyze animal bone remains from archaeological sites that have not been looked at before. During this phase, a primary dataset was recorded for each bone fragment, which included the following:

1. the species the animal belonged to
2. the skeletal element the fragment represents
3. the part of the skeletal element
4. if it comes from the left or the right side of the animal
5. the age, and if determinable, the sex of the animal
6. the greatest dimension of the find
7. if possible, the weight of the find
8. taphonomic alterations (gnawing marks, traces of burning etc.)

9. traces of deliberate breaking and cutting
10. traces of deliberate modification, bone working
11. pathological phenomena, signs of illness
12. archaeometric measurements as specified for the given skeletal element in the standard text by von den Driesch.¹⁵⁰ (Bone measurements included in the Appendix also follow this standard.)

Secondary data derived were from these descriptive and numeric data. These included relative frequencies of species, dietary contribution of species, estimates of body dimensions, kill-off patterns, sex ratios, and in some cases, seasonality.

A comparative dataset that unites data from sites of the region should reveal whether there are common phenomena inherent to faunal assemblages of sites traditionally identified as Cuman. The comparative analysis of the faunal material provides information directly on the following factors:

1. food preferences (which parts of which animals were preferably eaten),
2. slaughter and the treatment of the carcass (influenced by gastronomy which defines the desirable outcome of butchering),
3. the animals available in the region (kept by the locals or brought to them by trade),
4. the quality, character and health of the regional meat-purpose livestock;
5. in ritual contexts, the symbolic meanings attested to animals;
6. whether sick and injured animals were taken cared for and how.

Indirectly, the material shows the general attitude towards animals, the conditions under which they were kept (the quality of pastures, food, environmental stress), and the immediate environment (the wild species' habitat type).

The relative frequency of species is used to establish the extent to which the different taxa contributed to an assemblage. It is usually calculated on the basis of the NISP value (the number of identified specimens recorded for each species), the minimum number of individuals (MNI,

¹⁵⁰ Angela Von den Driesch, *A guide to the Measurement of Animal Bones from Archaeological Sites*, Peabody Museum Bulletins 1 (Cambridge, Mass: Harvard University, 1976)

calculated from the number of paired skeletal elements) and, if this piece of data is available, bone specimen weight.¹⁵¹ Faunal samples usually represent consumption and not production, and thus, the contribution of each species to the assemblage does not directly reflect their ratio in the herds being kept. Besides, different amounts of meat and other useful products (dairy, wool, hide) is provided by different taxa. The more fragmented the material, the less reliable MNI calculations are (one bone can produce many fragments and it is not always realized they belong together, especially if different fragments end up in different contexts).

NISP and MNI values describe the archaeological sample but not the whole death assemblage they derive from; this is one of the key problems in archaeozoology.¹⁵² This means that they lack validity beyond the immediate sample and sample size significantly influences NISP and MNI results. Sample size is, however, a factor usually beyond the researcher's control: as archaeologists we must work with what we have. Small samples in this study are approached somewhat differently, and they are rather used in non-quantitative arguments: NISP calculations are interpreted rather as tendencies than as face values. However, appreciating the bias it brings, this problem is inherent in the present methods available for the archaeologist, and solving the sample size issue is definitely beyond the scope of this thesis.

Body size calculations provide important secondary data that help in describing the quality and character of livestock. These values, including withers height estimations and data revealing body proportions, form the basis of many comparative applications. In most species, body size is influenced by sex and geographic distribution. Size as well as stature may have a range of local and individual variations within one region's animal population. Although

¹⁵¹ Elisabeth Jean Reitz and Elisabeth S. Wing, *Zooarchaeology*, Cambridge Manuals in Archaeology (Cambridge: Cambridge University Press, 1999), 191. (henceforth: Reitz and Wing, *Zooarchaeology*); Simon J. M. Davies, *The Archaeology of Animals* (London: Routledge, 2002), 36 (henceforth: Davies, *The Archaeology of Animals*)

¹⁵² See e.g.: Theodore E. White, "A method of calculating the dietary percentage of various food animals utilized by the aboriginal peoples," *American Antiquity* 18/4 (1953): 396-398; Grover S. Krantz, "A new method of counting mammal bones," *American Journal of Archaeology* 72/3 (1968): 286-288; Sándor Bökönyi, "A new method for the determination of the number of individuals in animal bone material," *American Journal of Archaeology* 74 (1970): 291-292; John P.N. Watson, "Fragmentation analysis of animal bone samples from archaeological sites," *Archaeometry* 14/2 (1972): 221-228; Donald K. Grayson, "On the methodology of faunal analysis," *American Antiquity* 38 (1973): 432-439; Richard W. Casteel, "Characterization of faunal assemblages and the minimum number of individuals determined from paired elements: continuing problems in archaeology," *Journal of Archaeological Science* 4/2 (1977): 125-134; John P.N. Watson, "The estimation of relative frequencies of mammalian species: Khirokitia 1972," *Journal of Archaeological Science* 6/2 (1979): 127-137; N.R.J. Fieller and A. Turner, "Number estimation in vertebrate samples," *Journal of Archaeological Science* 9/1 (1982): 49-62; Dave N. Schmitt and Karen D. Lupo, "On mammalian taphonomy, taxonomic diversity, and measuring subsistence data in zooarchaeology," *American Antiquity* 60/3 (1995): 496- 514.

“breeds” are sometimes mentioned in archaeozoological publications on past livestock, I would rather avoid this term and interpret variations as different types, because the term breed implies conscious and planned animal production as well as genetic connections between these individuals, for which there is hardly any proof from the medieval period in the region. It is, however, possible to calculate withers heights. Different mathematical formulae exist for different species, and some of these may provide rather different results. The methods I use here are widespread and generally accepted: Kiesewalter’s and Vitt’s method for horses (I use both of them as they sometimes give different results, and this way biases in the calculations can be minimized), Matolcsi’s method for cattle, Schramm’s method for goats, Teichert’s methods for sheep and swine, and Harcourt’s method for dogs.¹⁵³ Withers height was only calculated for adult individuals (whose epiphyses are fused and they have therefore reached their full size), in cases when long bones were suitable for taking the measurement that serves as a basis for calculation (GL, greatest length). Withers height calculations are referred to in the text, but are included in detailed tables in the Appendix.

Kill-off patterns, that is, age clusters based on the age of death, provide information on the use of animals (there is an optimal slaughtering age, when the maximum amount of meat can be obtained with the minimum amount of invested labor) and sometimes on seasonality (offspring are usually born at a particular time of year). If wide ranges of ages are present, the given species was probably locally bred and kept, while imported animals typically appear as clusters of restricted age ranges. Animals that are bred for export, are driven away and slaughtered elsewhere, may be perceived as a group where the young age cohorts are missing (those are sold).¹⁵⁴ Secondary exploitation is usually seen in the kill-off pattern as an abundance of adult and mature individuals which were kept for their wool, blood, milk or draught power well-beyond reaching the optimal age for slaughter. Kill-off patterns are usually influenced by

¹⁵³ Ludwig Kiesewalter, Skelettmessungen am Pferde (Leipzig: Inaugural Dissertation, 1888); O. Vitt, „Losadi pazarukszhik kurganov.” *Sovetskaja Arheologia*, 16 (1952), 163-205; Matolcsi, János. “Historische Erforschung der Körpergrösse des Rindes auf Grund von ungarischen Knochenmaterial.” *Zeitschrift für Tierzüchtung und Züchtungsbiologie* 87/2 (1970), 89-137.; Z. Schramm, “Kosci dlugie a wysokosc w klebie u kozy” (Long bones and withers height in goat), *Roczniki Wyższej Szkoły w Poznaniu* XXXVI (1967): 89-105.; Manfred Teichert, “Osteologische Untersuchungen zur Berechnung der Widerristhöhe bei Schafen”, Archaeozoological studies, ed. A. T. Clason (Amsterdam - New York: North Holland and American Elsevier, 1975): 51-69.; Manfred Teichert, “Osteometrische Untersuchungen zur Berechnung der Widerristhöhe bei vor- und frühgeschichtlichen Schweinen” *Kühn Archiv* 83/3 (1969): 237-292.; Ralph A. Harcourt, “The dog in prehistoric and early historic Britain”, *Journal of Archaeological Science* 1 (1974): 151-175.

¹⁵⁴ Reitz and Wing, *Zooarchaeology*, 179.

taphonomic factors (the more fragile and small bones of juveniles are less likely to preserve and be picked up during excavation).

The sex of the animals is, in most cases, impossible to identify. There is a formula developed by Nobis for sexing the metapodia of cattle.¹⁵⁵ Unfortunately, no such formula is available for the other species. The anatomy of the pelvis, if the bone is well-preserved, may help identify the animal's sex; in horses, swine and deer, teeth may provide this information. In species of deer living in the Carpathian Basin, only the males have antlers. In carnivores the presence or absence of a penis bone is an indicator of sex. In cattle and small ruminants, males tend to be larger, and so the sexual dimorphism is present in the form of size cohorts. However, usually there is a considerable overlap between the two sexes in this regard, and thus, it is mostly impossible to specify sex on the basis of a single bone fragment, that is whether the bone came from a male, female or was a castrate). Size is also influenced by individual variation, animal types or nutrition. In addition, castrated individuals may also be present. Their growth is impacted by hormonal levels at the age of castration (which is, again, a variable factor). Therefore, I only used sex identification in cases where there was an unambiguous anatomical feature available.

Body part ratios in an assemblage are used for studying meat preferences (which parts of the carcass were more likely to be used, what was available) and butchering patterns (where are the cut marks located created when the animal body is divided and how they were produced). Skeletal frequencies may also be used to distinguish among species kept for their meat and those kept for their draught power, those that were killed on the site and those killed outside the settlement and transported to the village. For meat quality evaluation I used the widely accepted method of Uerpmann.¹⁵⁶ Butchering traces are of special importance since the patterns of this primary stage in food producing reflects whether the food distribution system was centralized.

¹⁵⁵ Günter Nobis, "Zur Kenntnis der ur- und frühgeschichtlichen Rinder Nord- und Mitteldeutschlands," *Zeitschrift für Tierzüchtung und Züchtungsbiologie* 63 (1954): 155-194.

¹⁵⁶ Hans-Peter Uerpmann, "Animal bone finds and economic archaeology: A critical study of the 'osteological' method," *World Archaeology* 4/3 (1973): 307-322. (henceforth: Uerpmann, Animal bone finds and economic archaeology) Another method was developed by Miklós Kretzoi (Miklós Kretzoi, "Étude plaeontologique" in *La station du la paléolithique moyen d'Érd, Hongrie*, ed. Veronika Gáboriné Csánk (Budapest: Akadémiai Kiadó, 1967), 59-104). Kretzoi's method is more precise in terms of identifying anatomical regions, but I used Uerpmann's method, because it is more accepted in international archaeozoological scholarship, and because in some cases the information published on a site was not sufficient to use the latter method.

Usually, as a settlement grows, inhabitants tend to buy meat from centralized markets and professional butchers instead of relying on household slaughters. Bones in the kitchen garbage of wealthy families may show chop marks made with expensive metal tools instead of the spiral fragmentation patterns of household production. The appearance of the products of professional butchers may indicate close contact to market centers.

Unfortunately, in some cases when only the publication was accessible but not the primary bone material itself, primary level data was difficult to obtain; therefore, there are sites where only the published secondary data could be used for analysis.

Before the research questions and working hypotheses are formulated, two main issues have to be addressed which pose methodological problems in the research of Cumans in Hungary. The first one is the cultural identification of sites and any piece of evidence as being associated with the Cumans; the second is the methodological problems inherent in the often assumed mobility and nomadic heritage of the migrating Cuman population.

2.2 The problems of identification: who are the groups called Cumans in the sources and in the archaeological record?

What is meant by ‘Cuman’?

Ethnicity is subject to constant, dynamic changes as it is intertwined with concepts that are partly defined by the group itself, and things defined by outsiders in an “us and them” relation. These factors, such as language, oral tradition, or historical consciousness are, however, are not at all always archaeologically perceptible. And even if it is possible, the materiality of a group may indicate a variety of things, from embedding in a market economy to representation of social status regardless of ethnicity. Material objects may even communicate the desire to be acknowledged as part of a different social or ethnic group (or on the contrary, as belonging to the dominant majority). Moreover, the communication of being different through ones material culture may contribute to actually remaining different from the group against which a minority

identifies itself.¹⁵⁷ Therefore, it is crucial to discuss how the Cuman “ethnicity” is defined, who are called Cumans in the sources (that is, how diverse is the group one is trying to trace), and what are the potentials and limitations of identifying a group of people or a certain archaeological phenomenon as Cuman.

The problem of ethnic identity as it was perceived, experienced and observed in the past, or whether it existed at all in the sense we think of it today, has been in the focus of ardent discussions in the historiographic literature. If we ask the question whether it is possible to speak about medieval Cumans in strictly ethnic terms, the answer is definitely no. The relation between the Cumans as an ethnic group and the name “Cuman” as it is used in our sources is not always clear, as the two do not necessarily coincide. The name “Cuman” referred to a group of people defined by outsiders; it is impossible to say whether they perceived themselves as a separate ethnic unit or rather as a loose group brought together by legal terms and the need to adapt to an entirely new social and economic environment. We can only accept the name “Cuman” as a label for a, more or less, diverse group of people, who must have shared a number of steppe traditions and customs. The chiefdom-level political formations on the steppe usually consisted of various kinds of groups that preserved their own internal structures, legal systems, languages and religious beliefs.¹⁵⁸ From this point of view, Cumans were used to co-habiting with populations of different cultural backgrounds without being assimilated. (However, the loose military organizations of the steppe differed greatly from the feudal state, and in the lands of their Hungarian asylum, Cumans constituted a small minority and not equal partners.) Most probably, it was only the new challenges, the common interests and the huge discrepancy between their previous and new cultural environments that made them think of themselves as a kind of unit. A process of identity-building based on the common characteristics of the economic and social transformation of diverse groups, which later resulted in a distinct and clearly perceptible “Cuman” identity of Hungarians living in certain areas of the Great Hungarian Plain, seems to be a much later development. In the thesis, I use the term Cuman to people who were identified as

¹⁵⁷ Welinder demonstrated that the so-called Forest Finns in Early Modern Sweden retained their traditional lifestyle and characteristic material objects long after their earlier social network was transformed due to a shift from clans working together on family farms focusing on cereal cultivation. This exhibition of difference became a factor itself, as it strengthened their perception as “the Other”, and their conservatism in materiality actually counteracted their lifestyle becoming more like that of the dominant majority. (Stig Welinder, “Ethnicity, migration and materiality. Forest Finn archaeology”, *Journal of Archaeology and Ancient History* 2015/13, 3-30)

¹⁵⁸ Berend, At the Gates of Christendom, 96-97

such either by their contemporaries or by archaeologists.

Size of the Cuman migration

The number of the Cuman population is a crucial question, as the size of a minority and their relative ratio to the overall population largely determines the types of interaction and the intensity of possible influences. According to modern estimations, the arriving Cumans constituted a small minority, up to 7-8% of the kingdom's population.¹⁵⁹ However, the estimation is very difficult, as the only surviving figure we find in Master Roger's account speaks about ca. 40,000 *familia*¹⁶⁰, and it is uncertain whether the word is used as a term for a family including family members, or as a small community including all servants. As this is the only piece of data surviving in written documents on this matter, it is difficult to say anything for sure, especially keeping in mind that medieval documents rarely provide us with precise numbers. András Pálóczi-Horváth discarded this population number, and calculated the number of Cuman settlers on the basis of the size of their lands. He ended up with a number of 70-80,000 persons moving into the kingdom (of whom ca. 30% died or emigrated due to the revolt and war in the second half of the thirteenth century).¹⁶¹ Nevertheless, this is nothing more than an educated guess, and their proportion in the population of the Hungarian Kingdom at large is also hard to estimate as there are no reliable data for the overall population of thirteenth-century Hungary.

Differentiating markers

Our sources hardly mention any obvious ethnic markers that differentiated the Cumans from the native inhabitants of the kingdom. King László IV, while he agreed on regulating Cuman legal status at the request of the papal legate, asked the legate's permission to allow the Cumans to keep their traditional hairstyle.¹⁶² Except for this, the only distinction mentioned in our documents concerns the mobile way of life, living in tents, killing Christians and not respecting the rules of the feudal state. These, however, are not related to any kind of ethnic marker but to behavioral patterns, which most probably would have been shared by all kinds of steppe groups in such a situation.

¹⁵⁹ Berend, Cuman Integration, 105

¹⁶⁰ “*preter ipsorum familias circa quadraginta milia dicebantur*” (Master Roger, ed. Bak et al, 140)

¹⁶¹ Pálóczi-Horváth, *Pechenegs, Cumans, Iasians*, 52-

¹⁶² Gyárfás, A jász-kunok, vol 2, 339. Berend, At the Gates of Christendom, 258.

Costume is an important indicator of ethnicity and social status. Cuman attires have been reconstructed on the basis of archaeological finds as well as pictorial representations.¹⁶³ The *kamennye baby* statues erected in the Cuman areas of today's Russia, portray both man and women, and represent details of the traditional Cuman clothing. A comparison between the representations and the finds can help in reconstructing the changes Cuman attires underwent after their arrival in Hungary. During the thirteenth and early fourteenth century, Cumans combined the traditional attire with a limited number of new elements. Manuscript illuminations, such as the ones in the *Illuminated Chronicle* or in the *Angevin Legendary* show Cuman men wearing a long caftan, fastened by a belt; this is also confirmed by archaeological finds. Cuman women also seem to retain their traditional costumes in this early period.¹⁶⁴ As this type of clothing differed from that of the local population, who usually wore long tight trousers and tunics, this must have been one of the obvious ethnic markers that distinguished the Cumans in the early phase of their integration process. During the fourteenth century, however, these differences disappeared, and Cumans were assimilated into the local population in their attire and ornaments.¹⁶⁵

The way of wearing their hair, as mentioned above, also differed from the Hungarian custom. Cuman men had no beards, retained a narrow moustache, shaved the top of their heads and braided their hair into one to three tresses, as usual on the steppes for a number of different groups.¹⁶⁶ The conquering Hungarians also had a similar hairstyle at the time of their arrival in the Carpathian Basin; partly therefore, this particular hairstyle was connected to paganism, and its abandonment was interpreted as a key element in the Christianization of the country in the eleventh century. (At the same time, shaving the head became a punishment for criminals.)¹⁶⁷

¹⁶³ András Pálóczi Horváth, "A kun viselet" [The Cuman attire], in *Keleti népek a középkori Magyarországon. Besenyők, úzok, kunok és jászok művelődéstörténeti emlékei* [Peoples of Eastern Origin in Medieval Hungary. The Cultural Heritage of Pechenegs, Uzes, Cumans and the Jász] (Budapest: Archaeolingua, 2014), 133-156.

¹⁶⁴ Berend, At the Gates of Christendom, 255-256; Pálóczi-Horváth, *Hagyományok, kapcsolatok és hatások*, 145-148

¹⁶⁵ Berend, At the Gates of Christendom, 258.

¹⁶⁶ Pálóczi-Horváth, *Hagyományok, kapcsolatok és hatások*, 80, 177

¹⁶⁷ It seems that attire, and especially hairstyles, was also a significant element in the identity of the Cumans. King László IV himself, a ruler with strong Cuman family ties and who was severely criticized by the church for not following proper Christian customs, promised to give up his Cuman clothing and hairstyle as a symbol of his return to Christ. (Berend, At the Gates of Christendom, 258) However, not much is revealed on the hairstyles of women and children, so there is an inherent gender bias in the sources.

Cuman language

Their language is largely unknown. The only fragments we have of the Cuman language are preserved in the *Codex Cumanicus*. This text served as a linguistic manual designed for Franciscan and Dominican missionaries of the thirteenth century who carried out missions among the Cumans and Kipchaks of the Eurasian steppe. This text is our only longer and coherent source for the Cuman language spoken in Medieval Eurasia and it is preserved in a single manuscript, now kept in Venice in the Library of St Mark (*Cod. Mar. Lat. DXLIX*). As the manuscript contains a number of errors, it is certainly a copy of an earlier original which has been lost. The Cuman of the Codex Cumanicus, along with its Persian excerpts, represents some kind of *lingua franca*, which was understood throughout Central Asia. This language, however, is not fully reflected in the manuscript in its full complexity, as it was compiled in a rather haphazard manner. Only sporadic remnants of the Cuman language are known from Hungary, mainly preserved in place names, although a “Cuman Lord’s Prayer” (whose authenticity is debated) exists.¹⁶⁸ The Cuman language was preserved for a couple of generations and died out in the seventeenth century;¹⁶⁹ there are no written records of the Cuman tongue, however, from the Carpathian Basin except for the evidence provided by geographical and personal names.

The ethnic diversity of the Hungarian kingdom itself raises serious problems. The society that embraced the Cuman newcomers was not ethnically homogenous. Germans, Slavs and various peoples from the Balkans were living in a huge number in the kingdom, and the ethnic backgrounds are not always possible to see in a settlement’s material culture. Hungary was rather a political unit, and the term “Hungarian” was not necessarily connected to ethnic origins, language or customs.

Cuman and Hungarian as categories

The categories “Cuman” and “Hungarian” can be taken as a starting point. These names,

¹⁶⁸ Interestingly, the first versions of the Cuman Lord’s Prayer also appeared in the 1740s, in the period of the *redemption*. This text was taught in schools in Cumania until the mid-twentieth century and became a cornerstone of modern Cuman identity. Berend, *At the Gates of Christendom*, 265

¹⁶⁹ Imre Baski, “Meddig élt Magyarországon a kun nyelv? A kun nyelvi asszimiláció kérdéséhez” [How long did the Cuman language exist in Hungary? Notes on the linguistic assimilation of the Cumans], in Jászok és kunok a magyarok között. Ünnepi kötet Bánkiné Molnár Erzsébet tiszteletére [Iasians and Cumans Among the Hungarians. Studies in Honor of Erzsébet Bánkiné Molnár], eds. Edit Bathó, László Faragó and Magdolna Kókai. Jászsági Könyvtár 6. (Jászberény: A Jász Múzeumért Alapítvány, 2006), 429–446.

it should be emphasized, were not so much ethnic groups as broader categories used by contemporaries as well for the newcomers and the established, sedentary folk they found living here. Factors in the local natural and social environment such as markets, power centers, roads and other transportation possibilities, rivers, forests, the presence or absence of extensive grazing fields or the previously built infrastructures probably played a major role in the ways various groups of Cuman commoners behaved on arrival and the process of their integration; therefore, it is the local nexus which must be seen as a key factor in this integration rather than assimilation into an imagined, broader community of “Hungarians”.

When the Christian authors used the designation *Cumani* in parallel structures, it was contrasted with a large variety of groups: *Hungari*, *Christiani*, *nobiles*, or *Tartari*. This means that the word *Cumani* was not used in an ethnic context, but was seen as an equivalent for a number of other categories, religious and status groups. Cumans were not categorized as a cultural or ethnic group, and there was no distinct vocabulary to designate their religious standing, place in the Kingdom’s social stratum or political organization: the term *Cumani* covered all these areas. In case of individual Cumans, when the designation *Cumanus* was added to their proper names, it was used not as a cultural or ethnic term but as a sign of their legal status; the texts in which we find such designations are usually documents of trade, donation and exchange.¹⁷⁰

The use of these designations engenders some pessimism, as it shows that, at least in case of the Cumans, the medieval concept of a people and their ethnicity was quite different from the one historians try to define. Is it possible to distinguish between ethnic, legal, cultural and linguistic communities from the past if no distinction was made by contemporaries along these same lines? It seems that the perception of who is Cuman was rather fluid, and identity was constructed on various foundations. It is quite possible that a late thirteenth-century person who was born in a Cuman family but who had abandoned most steppe traditions and taken up a sedentary, Christian life, was not regarded as Cuman at all and this will not appear as *Cumanus* in our documents, while Hungarians or Slavs who joined a Cuman community after the 1279 laws in order to enjoy the legal privileges, were soon designated as *Cumani*. Despite all these

¹⁷⁰ Berend, At the Gates of Christendom, 193-195. The only exception is the designation *Christianus Cumanus*, which might have been used as a distinction from other, non-Christian family members. It is a term that appears very rarely.

uncertainties, there is no evidence that there were debates as to whether a particular person was Cuman or not; for contemporaries, the means of distinction were obvious. A historian, however, if he wants to say anything about Cuman ethnic realities, has to work with a non-existing self-definition and an unclear, fluid definition created by outsiders.

Changing naming practices

Changing naming practice definitely signifies acculturation – however, it does not mean that it happened on all cultural levels at the same time. Modern examples show that choosing names typical for the host society usually marks a high level of acculturation, even though it might happen through force.¹⁷¹ Cumans with Christian names appear here and there in the late thirteenth century. Such names, however, only become dominant at the end of the fourteenth century, and pagan names disappear around 1450.¹⁷² The family name “Kun” (Cuman) frequently appears in medieval documents, especially Turkish tax rolls and conscriptions of the Great Hungarian Plain. This designation may signify either an ethnic origin, or a legal status. This family name is least common in the Cuman villages themselves (probably because there the ethnic background and the legal status was evident).¹⁷³

DNA evidence

The Cuman law of 1279 speaks about Cumans in general, without specifying who is to be identified as Cuman, which suggests that the difference between the newcomers and the sedentary population was great enough to make the identification of Cuman elements easy. Even though there might have been typical anthropogenic features that made them look different, our sources are silent on this matter.

The analysis of ancient DNA (aDNA) from the bones of such a group of early settlers is

¹⁷¹ Jürgen Gerhards and Silke Hans, “From Hasan to Herbert: Name-Giving Patterns of Immigrant Parents between Acculturation and Ethnic Maintenance,” *American Journal of Sociology*, Vol. 114, No. 4 (January 2009), 1102-1128.

¹⁷² András Pálóczi Horváth, “Lakjanak földhöz rögzített házakban... Az állandó szállások kialakulása” [They should dwell in fixed houses... The development of fixed camps], in *Keleti népek a középkori Magyarországon. Besenyők, úzok, kunok és jászok művelődéstörténeti emlékei* [Peoples of Eastern Origin in Medieval Hungary. The Cultural Heritage of Pechenegs, Uzes, Cumans and the Jász] (Budapest: Archaeolingua, 2014), 169-194: 170-171.

¹⁷³ Lajos Györffy, *Adatok az Alföld törökkorai településtörténetéhez. Az 1571-es szolnoki török defter fordítása* [Notes on the Settlement History of the Great Hungarian Plain. Translation of the Turkish Defter from 1571] Jászkunsági Füzetek 4 (Szolnok, 1956), 59-60. (henceforth: Györffy, Adatok az Alföld törökcorai településtörténetéhez)

the only reliable means to study the genetic affinities and relationships of the Cumans in Hungary. One such study was carried out at Szeged University by Erika Bogácsi-Szabó *et al.*, who compared skeletons from early Cuman burials from the site of Csengele (Great Hungarian Plain) with a Hungarian sample taken from various rural sites throughout the country.¹⁷⁴ This study produced intriguing results, despite its methodological limits.¹⁷⁵ It seems that the genetic distance between the two groups of people was not as big as might be expected. In fact, the results showed that the Cumans received a large admixture of maternal genes from more westerly populations before they arrived in Hungary. Even though it might well be that this result is only characteristic for the particular clan that settled at Csengele, it is still an imperfect but spectacular piece of evidence that biological groups and cultural groups do not necessarily coincide. It seems that the Cumans still possessed elements of a Central Asian steppe culture, but at the same time, they were biologically diverse; this is not so surprising if we consider the political formations on the steppe, where people of very different origin were often brought together in a loose alliance or military organization. It is, nevertheless, clear, that these communities were not closed, and intermarriage with other groups was common. This fact further complicates the question of ethnicity and ethnic distinctions.

Cuman nobility and commoners

Cumans have been viewed as a group of people who, at the beginning of their co-existence with the older inhabitants of the kingdom, differed from the rest of the population both culturally and, presumably, also in ethnic terms. The concept of a distinct group has always been there, emerging partly from certain archaeological phenomena that differ from what was characteristically found archaeologically in the region – first and foremost the spectacular burials of Cuman nobles -, partly from the earlier written accounts on Cuman customs that testify to a culturally different entity, usually viewed by contemporary authors as an almost monolithic, homogenous mass of “the Other”. Cumans were newcomers, strangers from the steppe, whose life ways were alien to the sedentary population. Their wrongdoings were repeatedly addressed

¹⁷⁴ Bogácsi-Szabó *et al.*, Mitochondrial DNA, 639-662

¹⁷⁵ The examination involved only 15 skeletons from one Cuman site and 75 bone samples from Hungarian settlements. It is problematic to draw general conclusions on the basis of the outcomes derived from one site, especially if we keep in mind that the Cuman minority consisted of diverse tribal fragments, and people living at one settlement most probably belonged to the same clan. Therefore, such a sample cannot be really considered representative of the general Cuman population.

by the Church. These aliens had to be integrated, assimilated or – as György Györffy put it – “feudalized”. This concept of a, more-or-less, homogenous and distinct group has not only shaped the interpretation of the Cumans’ history but also directed the archaeologists’ attention and determined what scholars have been looking for.

Beside the clear oversimplification, this concept also misses an important social dimension. The early archaeological assemblages easily identified as Cuman on the grounds of thirteenth-century analogies from the steppes (weapons, horse and/or harness, and objects of Eastern origin in the grave) – that is, the graves of the nobles – reflect the life of a upper social stratum. Data revealed by graves are usually enough to reconstruct certain elements of a community’s life and beliefs, but the emerging picture is far from complete. Since in the early stage of their integration Cumans are supposed to have maintained their mobility, their semi-permanent settlements or winter camps have not been sought for, as such sites are almost impossible to locate and excavate. This also means that there is no archaeological data on the Cuman commoners who must have constituted the majority of the new population. Consequently, it is impossible to say whether the identity, beliefs and customs reflected in the burials of the nobles – that is, an indeed quite distinct complex of customs that in all probability had close connections to the nomadic cultures of the Eurasian steppe – were shared by the whole of the migrating population.

As we have seen, the Cumans who arrived in Hungary must have constituted a rather heterogenous group, although they were organized into clans (four are undoubtedly identifiable although the existence of seven such clans is supported by charter evidence¹⁷⁶). The territories occupied by the different clans, however, were reconstructed on the grounds of the later *sedes* system, the geographical-administrative units only later created by the state in order to enhance control over the areas inhabited by Cumans. András Pálóczi-Horváth suggested that genuine blood lines and blood relations were rather restricted to the aristocracy,¹⁷⁷ while the rest of the population consisted of loosely connected tribal elements. Even though there is no explicit data on this matter, the circumstances under which they entered the kingdom speak rather for an *ad hoc* conglomerate of commoners than for a well-organized group sharing a common and

¹⁷⁶ Pálóczi Horváth, Pechenegs, Cumans, Iasians, 56-59, Gyárfás, A jász-kunok, vol. 2, 281. The history of the different clans is discussed in chapter 3 from region to region.

¹⁷⁷ Pálóczi Horváth, Pechenegs, Cumans, Iasians, 58.

homogenous culture. It is worthwhile to mention here, however, that tribal alliances that were quickly made on the steppe were sometimes even followed by the concept of a common ancestry. Cuman fragments that might even have had conflicts during their time on the steppe could discover that the differences between them were much smaller than those between them and the sedentary population they encountered. These differences certainly formed part of their relationship not only to the indigenous groups they met but also to their own customs and culture. It is important to remember that beside the ruling class (*nobiles*) and free commoners (*universitas Cumanorum*), the Cumans supposedly brought along a number of serfs, who could have been freemen who had lost their livestock and wealth or captives of various origin (sometimes even Christians).¹⁷⁸

As for the thirteenth century, we only have the spectacular burials but practically no settlements. There is a more than 50 years' gap in the archaeological record, from which period we only have data on certain customs of the Cuman nobles but practically nothing about the life of the commoners and serfs.

The situation is further complicated by the devastation wreaked by the Mongols. The mid-thirteenth century population loss destroyed the functioning social and economic network on the Great Hungarian Plain, and thus, became another possible source of conflicts. The ruin of agricultural lands and the lack of manpower to cultivate them must have increased the population's sensitivity to the damage the Cumans' animal herds might have caused to crops. At the same time, the extent of population loss in the given area where a Cuman community moved, and the presence or absence of local economic and social networks, must have largely determined the impact the sedentary population had on the newcomers, and thus, the way a given Cuman community re-defined itself. It seems reasonable that in cases where the connection to the sedentary population was close, the practicality and meaning behind elements of the traditional customs faded rapidly in case of commoners, especially if the incoming Cuman community was small. On the other hand, self-supporting Cuman communities inhabiting larger, depopulated areas could be, more-or-less, sealed off from the outside world for a time and thus, had a better chance to preserve preexisting customs.

¹⁷⁸ Pálóczi Horváth, Pechenegs, Cumans, Iasians, 55.

Identifying Cumans in the archaeological record

The problem of identifying Cumans as Cumans in the historical and archaeological record is clearly complex. First, apart from some rare and spectacular archaeological phenomena (nobles buried in the traditional manner; group A of the finds based on the categorization by András Pálóczi-Horváth¹⁷⁹) there is no distinct and clearly recognizable archaeological trait that would undoubtedly identify a site as Cuman. Cuman graves are identified on the basis of Eastern origin grave goods, horse bones and traces of any “pagan” ritual in or around the grave (however vague this latter concept might be). These rich graves, nevertheless, belong to a higher social stratum only. The cemeteries of commoners are difficult to locate for various reasons. László Selmeczi argued that the Cumans increasingly tended to follow proper Christian burial customs,¹⁸⁰ which means that their graves cannot necessarily be recognized as culturally distinct, even if grave goods were placed beside the deceased. Ferenc Horváth added that if the newcomers were mostly young people – those who were able to cover such distances at all – there must exist a gap in the mortality profile, which might have contributed to the lack of Cuman commoner graves in the first period of their stay.¹⁸¹ Besides, as Gábor Hatházi argued, the proper dating of thirteenth-fourteenth century graves is difficult as the custom of giving an *obulus* to the deceased disappeared and in most graves there is nothing that can be used for dating.¹⁸²

The settlement assemblages labeled as Cuman are usually classified so because there is charter evidence supporting the idea that a given area or settlement was inhabited by or donated to Cumans. Nevertheless, the use of the term “Cumanus” in the written records is somewhat problematic. In fact, Cumans could have possessions in areas traditionally not associated with them (e.g. in Pécs, Szabolcs or Szatmár counties¹⁸³); the fact that a piece of land was owned by a person identified in a text as Cuman does not necessarily mean that the inhabitants of the villages in his possessions were themselves Cumans. This problem needs to be addressed for every site

¹⁷⁹ Pálóczi Horváth, Hagymányok, kapcsolatok és hatások, 105-115

¹⁸⁰ László Selmeczi, “A magyarországi kunok temetkezése a XIII-XVI. században” .” [Cuman burials in Hungary in the thirteenth-fourteenth century], in *Régészeti-néprajzi tanulmányok a jászokról és a kunokról*. [Archaeological and Ethnographic Studies on the Iasians and Cumans] Folklór és etnográfia 64 (Debrecen: Kossuth Lajos Tudományegyetem Néprajzi Tanszék, 1992), 21-47: 44-46. (henceforth: Selmeczi, A magyarországi kunok temetkezése)

¹⁸¹ Horváth, A csengelei kunok, 274-275.

¹⁸² Hatházi, Halas kun székközpont, 229

¹⁸³ Gyárfás, A jász-kunok, vol 3, 462-463

discussed, when the textual evidence is also presented. In this study, however, I mainly accepted the interpretation of the given archaeological sites as Cuman by their excavators (and the archaeologist community in general), simply because revising all archaeological finds associated with them and critically re-evaluating these is beyond the scope of my thesis (and more importantly, beyond my competence).

Non-Christian rituals, presumably indicating reinforcement of social ties and group identity, are sometimes perceptible in the archaeological record, especially in connection to burial practices. Our written sources, nevertheless, do not provide a coherent picture of the Cumans' belief world. Thirteenth-fourteenth century commoners' cemeteries display a mixture of Cuman and Christian ritual while the survival of non-Christian rites is evident throughout the fourteenth century. The very rare, spectacular burials of Cuman leaders took place until the second half of the fourteenth century were also a mechanism for communicating social status. The last traces of pagan customs (or at least, phenomena that are now interpreted as remains of pagan customs) are still present in Cuman graves in the fourteenth through the sixteenth century.¹⁸⁴ On the other hand, it is important to keep in mind that the Christianization process was not uniform and it did not happen at the same pace for all Cuman groups. Some Cumans moving into depopulated Hungarian villages tended to bury their dead beside the church as Christians usually did. While it is possible that they were acting under ecclesiastical orders and did not voluntarily follow Christian rules, they also might have used these pre-existing graveyards because they wanted to bury their dead in a proper Christian way.¹⁸⁵ In most cases, we are left with a number of different interpretations.¹⁸⁶

Practices can be maintained long after they lose their original meaning. Unusual religious practices, despite the lack of codification, seem to have existed in a syncretic manner among a relatively great proportion of the Kingdom's population irrespective of whether they were Cuman or not. Thus, juxtaposing the Cuman faunal material with the coeval Hungarian

¹⁸⁴ Selmeczi, A magyarországi kunok temetkezése, 38-44.

¹⁸⁵ Pálóczi-Horváth, *Pechenegs, Cumans, Iasians*, 105-106

¹⁸⁶ It has also been suggested, for instance, in connection to Scandinavian examples, that in some cases where clearly Christian objects such as crosses were placed in the grave, they might have also functioned as charms or amulets and not as elements of a proper Christian burial. (Lucien Musset, "La pénétration chrétienne dans l'Europe du Nord et son influence sur la civilisation Scandinave", in *La conversione al cristianesimo nell'Europa dell'alto medioevo*, vol 1. 263-325 (Spoleto: 1967), 276-77, 286-287; Berend, *At the Gates of Christendom*, 252)

assemblages in terms of ritual behavior is somewhat problematic; analogies and distinctions can be demonstrated but one cannot expect to be able to find a firm explanation for these special phenomena. In addition, supposedly very different ritual customs of various steppe peoples can result in similar archaeological patterns in the faunal material and connecting them to ethnic or even cultural units presents a real challenge.

Cuman legal status

As has already been touched upon, a key factor in the way contemporaries perceived the Cumans was their legal status. Thus, the name “Cuman” became a legal term regardless of actual ethnic backgrounds. These legal regulations were not stable but rather consisted of changing details. Directly upon their arrival, Cumans fell under royal protection and jurisdiction as “guests” and were exempt from the jurisdiction of Hungarian landlords (unless they voluntarily settled on the lands of these landlords and engaged themselves as servants).¹⁸⁷ After the Mongol invasion and their second invitation back to the Kingdom, Cumans were again declared to be people under royal protection. King Stephan used the title *dominus Cumanorum*, and the palatine (*comes palatinus*) was given the title *judex Cumanorum*: from the end of the thirteenth century onwards, the palatine acted as judge of the Cumans and interceded on their behalf with the king. This royal protection was not only a gesture. As they were used to the political formations of the steppe where ties existed only at the highest level between the ruler and subordinate peoples, but not between the commoners themselves, this gesture of royal protection the Hungarian king ensured Cuman loyalty by creating similar personal ties that matched the Cumans’ own concept of political alliance.

At the time of their arrival, the Cumans possessed their own social and juridical organizations within the framework of chiefdomship, and it seems that they defined their relationship to the Hungarian king in terms of their own customs.¹⁸⁸ The Cumans probably saw their new alliance as similar to those they had had on the steppe, that is, as a loose bond that implied military assistance and a certain level of political unity but not as assimilation into an alien political and cultural unit. At the same time, however, Cuman social structure was

¹⁸⁷ Berend, At the Gates of Christendom, 88

¹⁸⁸ This is also evidenced by the famous pagan blod oath they took when pledged allegiance to the king (see in subchapter 5.2, Animals in rituals).

unavoidably disintegrating and reorganizing, and there were no remaining contacts with outside forces or communities to counterbalance this process. The direction of influences was evidently stronger from the host society towards the Cumans than the other way round. There was also a strong incentive for the Cumans, and especially their élite, to integrate, since access to resources and power was only possible by the adoption of the norms imposed by the majority.

Changes in Cuman legal status at the end of the thirteenth century is a question that is yet to be resolved. The Cuman Laws had been accepted in the scholarship as having been continuously in force. However, Cumans in the fourteenth century definitely did not enjoy the same privileges that had been granted to them by Béla IV. King Endre III was supported by Hungarian landowners whose interests dictated that the Cuman privileges should be curtailed. One of the new king's first decrees called off the laws issued by his predecessor. Hatházi raised the possibility that most of the Cuman privileges were also actually eradicated in 1290 by King Endre's decree.¹⁸⁹ Thus, he argues, the Cuman aristocracy, defeated by the royal forces in the late thirteenth-century struggles, was not replaced by a new Cuman élite: the so-called "captains", the leaders of local Cuman communities certainly had some local authority in the fourteenth-fifteenth centuries, but only within their own districts, and they were definitely not on the same social level as the proper nobility. There are a number of cases when Cuman "nobles" of the fourteenth century asked for royal permission to settle peasants on their own lands, or asked for the rights given to their nobility to be broadened to the whole country, which strongly suggests that their authority was, in fact, only local. Pál Engel suggested that their legal status placed them between the regular Hungarian nobility and the non-noble strata of society.¹⁹⁰ The status of Cuman commoners, the "*universitas*", however, resembled that of the "castle warriors" (*iobagio castri*), and they probably did not enjoy privileges anymore but were rather considered simple commoners or even serfs.¹⁹¹ This must have accelerated assimilation processes.

As already mentioned in the previous chapter, the creation of the Cuman seats marked an important shift in the perception of "being Cuman". This re-organization of the Cuman community probably signified the final disintegration of the clan-based social structure. While

¹⁸⁹ Hatházi, Halas kun székközpont, 216-218

¹⁹⁰ Pál Engel, *Beilleszkedés Európába a kezdetektől 1440-ig* [Intergation into Europe from the Beginnings to 1440.] Magyarok Európában I. [Hungarians in Europe Vol. 1.] (Budapest: História Alapítvány - Holnap, 1990), 303-304.

¹⁹¹ Hatházi, Halas kun székközpont, 217-218. The problems concerning the medieval Cuman legal status has been re-assessed by Langó (Langó, Kun László kun törvényei, 68-70) and Berend (Berend, Forging the Cuman law).

earlier Cuman clan leaders owed their positions to their family relations or their ownership of landed estates, in the newly emerging territorial system, the leaders were officials of the state.¹⁹² The Cuman “captains” were not appointed by the king but locally elected, however, the conflicts between them came under the jurisdiction of the state authorities (e.g. in a case in 1439, it was the *comes* of Kecskemét who settled the conflict).¹⁹³ Thus, their legal status was transformed into territorial privileges, and during the fifteenth and sixteenth century, the notion of being a Cuman was also slowly transformed into a territorially-based concept. This status is already very far from any kind of ethnic concept or culture-based self-definition.

2.3 The problem of nomadism

The Cuman integration process has often been treated as a case of transposing remnants of nomadism onto sedentary culture, and therefore, evidence for their possible nomadic lifestyle has been in focus of research. It seems useful therefore to address briefly the methodological problems inherent in the study of nomadism. There is obviously no possibility here to summarize the vast literature written on (historical and modern) nomads in its entirety; much of this research, using the methods of anthropology or sociology, is even beyond the scope of my competence. Only a few questions will be discussed that in my understanding are crucial in terms of understanding the economic and social processes the migrating Cuman community must have undergone.

Nomads are often described as “invisible” in the archaeological record. Much debate has been focused on the archaeological research of mobile pastoralist societies and especially their recognition on the ground: in most cases it is challenging to locate temporary camps of these mobile communities, and even when their location is known, not much remains to excavate. It seems almost inevitable to express some pessimism as the complex and manifold traces a

¹⁹²György Györffy, “A magyarországi kun társadalom a XIII-XIV. században (a kunok feudalizálódása)” [The society of the Hungarian Cumans in the thirteenth-fourteenth century: The feudalization of Cumans] In *A magyarság keleti elemei* [The Eastern elements of the Hungarian people], 274-304 (Budapest: Gondolat, 1990), 289-90 (henceforth: Györffy, A magyarországi kun társadalom); Berend, At the Gates of Christendom, 264

¹⁹³ Gyárfás, A jász-kunok, vol. 3, 237-238.

nomadic society leaves are not necessarily identifiable by the simple means of archaeological research. However, nomads also use pots and storage jars, and their portable structures (tents) are often accompanied by fixtures, leveled floors, foundations, hearths and stone platforms, or even walls. The problem is that a wide range of objects used in a nomad camp – no matter how much these are limited to the bare essentials – are comparable to those observed in fixed villages. Pottery is usually not transported from site to site, as these objects are heavy and extremely fragile (that is, not really portable). The same is true for stone objects. These find types, however, often do not differ from the inventories found in a sedentary household.¹⁹⁴ As Cribb argues, material culture left behind past nomads are not necessarily beyond the capacities of modern archaeological research to identify, but their remains are nevertheless difficult to distinguish from those of other, more settled communities; differences are often rather economic, organizational and ideological than “cultural”.¹⁹⁵

Another problem is how to locate these temporary settlements. This is especially crucial in the case of Cumans in Hungary. As archaeological fieldwork in Hungary are rarely academically planned enterprises but are often limited to rescue excavations that accompany motorway building or similar projects, the chances to find and identify the early temporary camps of the Cumans are low. In fact, finding and properly documenting such sites would solve a number of problems concerning the early phase of Cuman-Hungarian cohabitation; so far, however, no such camps have been identified and excavated.

At the core of the discussion lies another problem, the definition of nomadism itself. Two concepts, mobility and a specialization in animal herding are both used to define “nomadism”. In Khazanov’s view, however, mobility itself is not sufficient to classify a group as nomadic. Hunter-gatherers – who are also mobile – have little to do with mobile pastoralists.¹⁹⁶ Conceptual obscurities may also be due to the manifold nature of pastoral nomadism as a phenomenon. Khazanov described nomadic pastoralism as a particular form of food-producing economy which is not completely separate economically from other food-producing systems, but it is linked to them by a series of transitional forms, at the basis of which lies the gradually decreasing importance of animal herding. The most important criteria for defining a community as nomadic

¹⁹⁴ Robert Cribb, *Nomads in Archaeology* (Cambridge: Cambridge University Press, 1991), 75-80. (henceforth: Cribb, *Nomads in Archaeology*)

¹⁹⁵ Cribb, *Nomads in Archaeology*, 65-66; 69-75.

¹⁹⁶ Khazanov, *Nomads and the Outside World*, 15-16.

pastoralist are:

- pastoralism is the predominant form of economic activity;
- the maintenance of herds is based all year round on a system of free-range grazing without stables;
- there is periodic mobility in accordance with the demands of pastoral economy within the boundaries of specific grazing territories, or between such territories (as opposed to migration);
- the majority of the population participates in the pastoral activities (as opposed to specialized herdsmen involved in pastoral migration);
- production is not aimed at raising profits, although often it is directed towards exchange.¹⁹⁷

Nomadism is seen as highly dependent on farming communities, urban centers and their products; and as being integrated into agrarian societies on whose margins they live. As we have seen in the introduction on steppe economy such a situation is also suggested by sources on the economic activities of the Cuman-Kipchak tribes. Nevertheless, given the locally refined and environment-dependent nature of most nomadic communities, models have obvious limitations. Most historical and archaeological studies have been carried out on Neolithic, Bronze Age and Iron Age nomads, while modern communities (both of the Old and the New World) have drawn the attention of the ethnographers. Cultural anthropologists and ethnographers, however, have an advantage in that they have the opportunity to observe the object of study in real time and therefore – working with a methodology and data set quite different from that of archaeologists – they can develop models for processes which cannot be studied directly when it comes to historical investigations. On the other hand, the anthropological study of nomads, as a relatively new field, does not have a chronological grasp of the social and economic processes which lie in the focus of historical studies.

Anthropologists have realized that the possibilities of model-building are limited, and therefore, recent scholarship focuses on studies which describe specific situations related to a certain tribe or a limited geographical area. Rudi Paul Lindner has even argued that nomads of the present and the past cannot be described in the same terms. Their political and military power

¹⁹⁷ Khazanov, Nomads and the Outside World, 16-17.

and the factor of a strong and clear common interest, no longer existing in the same form in the present, played a decisive role in their past organization.¹⁹⁸ This must have been so for the Cumans as well; losing their role as important military allies in the thirteenth-fourteenth century must have profoundly influenced their life in general.

Policies of enforced sedentarization are mostly ineffective as long as the underlying factors on which nomadism is based are present. Nomadic and sedentary strategies form a continuum, and both nomadizing and sedentarizing tendencies may be found in any given nomadic population. These tendencies are manifested depending on the actual economic, environmental, historical and political situation. Alternation between mobile and sedentary life is even possible on a household level.¹⁹⁹ This also means that any form of nomadism must be seen as a form of adaptation to circumstances. A rise in population and decrease in the livestock – which may have been a factor in the Cuman case – make a nomadic life a less viable option.²⁰⁰ At the same time, for pastoralist groups who settled but had not yet lost their tribal ties, the process of settling down is much more easily reversed, and options for shifting from one lifestyle to the other can be kept open.²⁰¹

The definition of pastoralism as a “livestock-centered” way of life was proposed by Robertshaw and Collett; they identified peoples being pastoral in terms of their cultural values rather than their subsistence.²⁰² This is especially a crucial question for an archaeological

¹⁹⁸ Rudi Paul Lindner, “What Was a Nomadic Tribe?” *Comparative Studies in Society and History*, Vol. 24, No. 4. (Oct., 1982), 689-711.

¹⁹⁹ Cribb, *Nomads in Archaeology*, 60-61.

²⁰⁰ Frank Hole, “Pastoral nomadism in Western Iran.” In *Explorations in Ethnoarchaeology*, ed. Richard A. Gould (University of New Mexico Press, Albuquerque, 1978), 127-167: 148. Sedentaries with no nomadic tribal membership are very unlikely to become nomads under pressure – not only because they lack the necessary knowledge in practical matters, but also because pastoral nomadism as a viable subsistence requires at least 60 animals (estimated by Alizadeh: Abbas Alizadeh, “The Rise of the Highland Elamite State in Southwestern Iran: “Enclosed” or Enclosing Nomadism?” *Current Anthropology* 51/3 (2010), 353-383: 357-360; henceforth: Alizadeh, The Rise of the Highland Elamite State), which is far beyond the average livestock of settled farmers involved in agricultural production. A number of different estimations exist on this matter. Widstrand estimated that 40 cattle would sustain a family of 6-7 people over the long run. (Carl Gösta Widstrand, “The Rationale of Nomad Economy.” *Ambio* 4/4 (1975), 146-153: 149.) Khazanov cites examples from the Eurasian steppes in the 18th-19th century with extremely varying figures. Most estimates calculate the minimum herd for subsistence as ranging from 100-150 sheep/goat, at least 5-10 horses, and some cows and camels. It must be kept in mind that not only food-purpose animals are needed, but also those used for transportation and riding. Khazanov concludes that the minimum and maximum size of herds cannot be objectively established, but depend on a number of factors and may vary within a single region. (Khazanov, *Nomads and the Outside World*, 29-30.).

²⁰¹ Alizadeh, The Rise of the Highland Elamite State, 357-360.

²⁰² Peter T. Robertshaw, and David P. Collett, “The identification of pastoral peoples in the archaeological record: an example from East Africa”, *World Archaeology* 15/1 (1983), 67-78: 73.

investigation, where it is virtually impossible to quantify the different components of the diet, as only some parts of it are appropriate for reconstruction. The fact that the quality and quantity of livestock was emphasized in connection with the Cumans in our sources might also indicate the social value attached to animals and the extent to which their everyday activities were organized around their livestock (regardless of the actual importance of these animals in the economy).

Although animal herding functions as a key activity in the life of pastoral nomads, no specific herd composition is known to be exclusively associated with nomads. Herd composition is obviously profoundly influenced by environmental factors and the biological needs of the species kept (here the adaptive capacities of a species and the economic expediency and effectiveness of their keeping is not the same thing).²⁰³ There are, however, ideological and social factors at play as well. It is worthwhile to cite an informant from 1948 who explained why nomads in Mongolia struggled to keep more horses than they actually needed:

“Since I have horses I give them to others to use on journeys, to help themselves to *koumiss* and thanks to this people feel kindly towards me and give me whatever help I need, particularly in pastoral migrations, looking after stock, sheep-shearing and taking the wool to the co-operative, I am fulfilling *urton* service [postal and transporting duties – note by Khazanov]. This is the merit of the horse.”²⁰⁴

Two larger categories are set up for pastoral nomads in this regard: those that are mono-specialized and are mainly involved in raising one species, and those who are multi-specialized and keep various species at the same time, often in mixed herds. Multi-specialized systems last longer and are more stable (different species resist ecological stress differently, and insures against great loss of livestock of more than one species at one time). Communities specialized in one species are more sensitive to biological adversities, as a single wave of epidemic disease can have a devastating effect on the whole herd.²⁰⁵ Herd sizes are dependent on the species kept (some animals are more gregarious than others), the proficiency of the herders (how many animals they can supervise), age and sex ratios in the herd, as well as ecological factors such as the size of available pastures, and social variables such as the size of the available work force or

²⁰³ Khazanov, Nomads and the Outside World, 27.

²⁰⁴ Zhagvaral, N. *Aratstvo i aratskoe khoziaistvo* [The Arats and Arat Economy] (Ulan-Bator, 1974), 99. Cited by Khazanov, Nomads and the Outside World, 26

²⁰⁵ Khazanov, Nomads and the Outside World, 25-28.

the way grazing is organized between individual households.²⁰⁶

This dependency on locally changing factors also means that faunal remains cannot be used as face value reflections of a nomadic practice. They rather signify tendencies of species preferences that must be examined within the given historical context. Seasonal occupation of sites, derived from animal bone material, may provide information if a certain location was used for habitation only for a shorter period of time;²⁰⁷ short term occupation is, however, not necessarily identical with nomadism.

One of the key issues regarding Cuman integration is the proper understanding of the manifold aspects of nomad-sedentary relations. Although scholarship has often taken it for granted that Cumans arrived with big animal herds and were mainly involved in a pastoralist economy, in fact, there is no hint as to the size of flocks except for the general remarks made by Master Roger.²⁰⁸ The number of animals they brought with them is even more difficult to assess than the number of the Cumans themselves. It must be kept in mind, nevertheless, that a group quickly and violently pushed forward by a foreign military force such as early thirteenth-century Cumans, will not have the opportunity to practice any of the usual forms of nomadism of which firm and complex ties to settled populations and a regular movement of the herd between ecological zones are indispensable preconditions.²⁰⁹ As has been discussed in the introductory chapter, it seems that the Cumans had already started to settle in the Eurasian steppe and the importance of mobile pastoralism became evident again only when the Mongol attack started²¹⁰ – as an example of the easy shifts between forms of mobile and sedentary lifestyle. Thus, the newly begun mobility must have represented an option which they were forced to take. The question of their early mobility and possible attempts to carry out nomadic herd movements is further complicated by the fact that they had to settle on lands that were agriculturally less favorable – those that were not repopulated after the Mongol Invasion but were left to stand empty.²¹¹

²⁰⁶ Khazanov, Nomads and the Outside World, 29.

²⁰⁷ Sándor Bökonyi, “Zoological evidence for seasonal or permanent occupation of prehistoric settlements” in *Man, Settlement and Urbanism*, eds. Peter J. Ucko, Ruth Tringham and G. W. Dimbleby (London: Duckworth, 1972), 121-126.

²⁰⁸ Master Roger ed. Bak and Rády, 140, 148.

²⁰⁹ Khazanov, Nomad and the Outside World, 33-39; Salzman, Pastoral Nomads, 249-255; Salzman, Pastoralists, 18-29.

²¹⁰ Hatházi, Halas kun székközpont, 200; Rosta, Új eredmények, 198.

²¹¹ Hatházi, Halas kun székközpont, 237.

2.4 The aim and expected outcome of this study

Medieval faunal assemblages unearthed in the regions of the Great Hungarian Plain and associated with the Cumans have the potential to provide direct and so far unavailable information on important aspects of the animal keeping practiced by these people. Combined with textual sources, an attempt will be made to interpret this primary, ‘natural scientific’ dataset within the framework of the Cumans history of settlement and integration. The aim of this study is to collect all available data, historical, ethnographic and archaeological alike, that testify to the various aspects of this complex integration process from the point of view of animal husbandry. Even though the subject might seem utterly alien to politics, diplomatic or intellectual history, the web of practicalities the human-animal bond created and the concepts it was surrounded with all contributed to a medieval reality which provided a basis for and gave rise to all other historical aspects traditionally studied by historians.

With the historical issues so far discussed and with the methodological limitations kept in mind, the research question are formulated thus:

RQ 1. Is the archaeozoological record combined with textual sources suitable to trace and establish various forms of the Cuman economic transformation?

RQ 2. Are there any regional differences in animal-keeping and exploitation between the different Cuman habitation areas in Hungary (Greater and Lesser Cumania and Transdanubia) during this process of integration? If so, how can they be explained? (Differences will be examined between mixed and pure Cuman areas and the importance of settlement size, the presence or absence of economic infrastructures such as markets or fairs will be assessed.)

RQ 3. How does animal exploitation at Cuman settlements differ from settlements with a known Hungarian population? How do these differences evolve over time? How are these differences reflected in settlement materials excavated from the periphery of the Cuman areas?

RQ 4. What kind of starting point can be identified for the Cuman specialization in animal husbandry? Had this economic specialty already been developed by the time they entered the Kingdom or was it a result of integration into a state-level economic system, stimulated by new market opportunities in the late medieval period?

RQ 5. How do butchering methods, meat preferences and food processing traditions change over time? Did the Cumans retain these traditions or were they heavily influenced by Hungarian customs?

RQ 6. How does the presence or absence of power centers (economic and/or political ones) influence the stages of integration and the participation in the animal trade?

The following working hypotheses will be tested during the analysis of the collected data:

Working hypothesis 1

The animal husbandry customs of the Cumans entering Hungary are expected to change relatively rapidly as a consequence of their adapting to a new economic and ecological environment, new spatial boundaries and new markets. This will be perceptible in the species composition of herds, as well as in their age and sex composition and the health (keeping conditions) of the livestock.

Working hypothesis 2

At the same time, customs of cooking and meat consumption, body part preferences, and the tools and methods of butchering, social customs associated with the more intimate household sphere, are expected to be conservative, remaining unchanged for a considerable period of time.

Working hypothesis 3

Specialization in animal husbandry in the Cuman areas was, more or less, a consequence of the economic nexus of the fifteenth century when the demand for animal products significantly increased (both for export and for domestic consumption). Recognizing this opportunity, Cumans were able to fill an economic niche created by increasing market demands and the thirteenth-century loss of the food-producing population (due to the ravages of the Mongol incursions). Thus, they had the opportunity to exploit capital in the trade with animals and animal-based products. It might have been easier to start trading when there was a large market center in the near vicinity of their pasture lands with merchants who could buy up the livestock for sale, and when there was a road-network connecting various regions.

Working hypothesis 3a

Cuman groups with an economy specialized in animal husbandry as suggested in contemporary accounts of their lifeways must have had a long history of economic relations with agriculturalist peoples providing a model for them to focus on one branch of economic activity. Self-sufficiency might have been abandoned in favor of higher production as a consequence of penetrating new technologies, markets, capital and values during their previous stay in the Kijevan Rus. In this case, extensive pastoralism and animal production might also have been regarded as a traditional Cuman activity. Consequently, specialization in this branch of agriculture on the Great Hungarian Plain took place easily and was supported by their cultural identity as well.

Working hypothesis 3b

For any of the Cuman groups whose economy was not yet highly specialized but was rather part of a multi-resourced system, the fifteenth-century specialization must have represented something new. Thus, the process of economic specialization was probably a slower process in their case. Such specialization might have been encouraged by authorities hoping to turn the Cumans into productive contributors to the Hungarian economy.

In the core chapter of the PhD thesis (Chapter 3), a short summary is first provided on the profound economic changes that took place in the Carpathian Basin in the eleventh through the sixteenth centuries. The summary will create a proper background against which Cuman communities can be studied. In subchapters 3.2-3.4, written records and archaeological sources associated with the Cumans and information on their economic activities will be examined from region to region, taking bigger geographical areas as units of the Cuman habitation zone. Therefore, Greater Cumania, Lesser Cumania, and Transdanubia are discussed separately; these regions seem to have been associated with different Cuman clans and were later organized into separate administrative units. After the systematic review of written evidence and archaeozoological results from designated Cuman sites, two additional sites will be discussed from the Cuman area's periphery in subchapter 3.5: Tiszagyenda in Greater Cumania, and Gorza in the southern part of the Great Plain.

After this thorough analysis of the economic orientation within Cuman regions on on

their peripheries, the evidence for environment exploitation in Cuman areas is discussed in Chapter 4.

Different aspects of handling and processing the animal carcass are investigated in Chapter 5, including butchering patterns and meat preferences (subchapter 5.1), the ritual use of animal bodies (5.2), and the exploitation of the carcass for raw material (5.3).

Pathological phenomena observed in the faunal material of the sites, their possible explanation and the evidence for veterinary treatment is in the focus of Chapter 6.

Chapter 7 discusses the Iron Age site of Tuzusai in southeastern Kazakhstan, where I had the chance to work for a few months. This assemblage serves as a reference for a nomadic/semi-nomadic population, and is included in the thesis in order to help establish similarities and differences between the archaeological heritage of Eurasian steppe nomads and that of the Cumans in Hungary.

Throughout the thesis, I use the term *assimilation* for the process whereby a minority group gradually adopts the customs and attitudes of the prevailing culture without being able to maintain its own identity. This term can be used for the Cumans in a linguistic sense: their language died out in the seventeenth century, and from early modern times on they regarded Hungarian as their native tongue. For their economy and social structures in general, however, the term *integration* might be preferred as it signifies that the group was merged into another system but did not necessarily abandon all its own attitudes and characteristics. I rather see this process as the adaptation of several groups at different stages of economic development to an economic, social and market environment which differed from one region to the other. In other words, what we are dealing with is rather a set of individual cases with patterns of similarities and differences. What is observed at one settlement may not be fully true for another. Therefore, I would prefer to discuss *forms* of integration than about stages (“stage” meaning a defined step in a process that is linear and has a clear endpoint).

Long tables were moved to the Appendix. A detailed list of archaeological sites (along with their publication data) used in the comparing diagrams may be found in the Appendix as well.

Chapter 3

Cuman economic orientation in Hungary

3.1 Introduction

In order to investigate Cuman animal husbandry as revealed through archaeology, a number of different archaeological sites were included in the study. Some of these were identified by their excavators as specifically Cuman sites (the problem of Cuman presence will be discussed individually for each site). Two sites (Tiszagyenda and Gorzsa) are located on the periphery of the Cuman habitation area. Sites examined in juxtaposition to each other are located in areas where Cumans were certainly not present. Thus, treating the Great Hungarian Plain as a continuum, distinctive characteristics of sites labeled as Cuman are explored here by means of systematic comparison. First, the larger regions where Cumans settled will be discussed. After reviewing the local history and the available written evidence for Cuman habitation and activities in the given area, the archaeological sites are presented in terms of their faunal assemblages. The results will then be compared with non-Cuman sites. Results from the fourteenth-sixteenth-century Iasian site of Jászberény-Négyszállás will be compared in some cases.

Availability of the find material was a key factor in choosing which sites to study. Most of the faunal materials were processed, identified and analyzed by myself, although Szentkirály, Móric, Csengele and Perkáta were studied and published by others whose results were used here as a kind of secondary literature. (Sites outside the Cuman habitation area whose zoological material was published and used for comparison are listed in the Appendix.) Due to a lack of extensively excavated and documented early sites, it is mostly the late phase of Cuman integration that can be perceived archaeologically.

Site name	Site type	Dating	Excavator, archaeozoologist
Orgondaszentmiklós	village, cemetery	fourteenth-sixteenth century	László Selmeczi
Asszonyszállás	village, cemetery	fourteenth - sixteenth century	László Selmeczi

Kolbazsállás	village	fourteenth - sixteenth century	László Selmeczi
Móric	village	fifteenth-sixteenth century	István Méri, Sándor Bökönyi
Szentkirály	market town	sixteenth century	András Pálóczi Horváth, Andrea Körösi, László Bartosiewicz, Éva Nyerges, István Takács
Kiskunhalas – Dong ér, MOL5	village	thirteenth-fourteenth century	Szabolcs Rosta
Csengele	burial site, settlement	fourteenth century	Ferenc Horváth, István Vörös
Kiskunfélegyháza - Templomdomb	village	fourteenth century	Szabolcs Rosta
Perkáta – Homokbánya (sand mine)	village	fourteenth-sixteenth century	Anna Biller
Gorzsa, X. homokbánya (sand mine)	village	fourteenth - sixteenth century	Mária Wolf
Tiszagyenda – Morotva Part	village	fourteenth - eighteenth century	Zoltán Polgár

Table 3.1.1 Sites included in this study, located in the Cuman habitation area and its periphery

The names Greater Cumania (Nagykunság), and Lesser Cumania (Kiskunság) did not exist before the Turkish-Ottoman Period, and were only used from the sixteenth century onwards.²¹² Therefore, any discussion of their history fourteenth-seventeenth centuries necessarily contains some anachronistic bias. However, these regions have been discussed in the historical and archaeological scholarship as natural (although heterogenous) units.²¹³ Moreover,

²¹² György Györffy, “A Nagykunság és Karcag a középkorban” [Greater Cumania and Karcag in the Middle Ages] in *Karcagi várostörténeti tanulmányok* [Studies on the History of the Town of Karcag], eds. Tibor Bellon and Gyula Kaposvári (Karcag: Györffy István Nagykun Múzeum, 1974), 3-16: 13. (henceforth: Györffy, A Nagykunság és Karcag a középkorban)

²¹³ See, for example: Györffy, A Nagykunság és Karcag a középkorban; László Selmeczi, “A Nagykunság és Karcag a középkorban” [Greater Cumania and Karcag in the Middle Ages] in *Kunok és jászok 770 éve a Kárpát-medencében. A Jászkunság kutatása 2009.* [Cumans and Iasians in the Carpathian Basin, 770 Years of History. Research on the Ias-Cuman Area, 2009.] Ed. Júlia Bartha (Szolnok: Kun Összefogás Konzorcium and Jász-Nagykun-Szolnok Megyei Múzeumok Igazgatósága, 2011), 22-41 (henceforth: Selmeczi, A Nagykunság és Karcag a középkorban); András Pálóczi Horváth , “Középkori településtörténeti kutatások a Nagykunságon” [Studies on the history of settlements in Greater Cumania], in *A Jászkunság kutatása 1985* [Studies on Greater Cumania, 1985], ed. István Fazekas, László Szabó and István Sztrinkó (Kecskemét-Szolnok, 1987), 11-28 (henceforth: Pálóczi Horváth , Középkori településtörténeti kutatások); László Selmeczi, “Régészeti kutatások a Nagykunságban” [Archaeological Research in Greater Cumania.] In *Zúduló sasok. Új honfoglalók – besenyők, kunok, jászok – a középkori Alföldön és a Mezőföldön* [Flying Eagles. New Conquerors – Pechenegs, Cumans, Iasians – in the Great Plain and Mezőföld in the Middle Ages] Havassy, Péter ed. Gyulai Katalógusok 2. (Gyula: Erkel Ferenc Múzeum, 1996), 57-66 (henceforth: Selmeczi, Régészeti kutatások a Nagykunságban); Pál Sümegi, “A Kiskunság a középkorban – geológus szemmel” [Lesser Cumania in the Middle Ages – through the eyes of a

these two areas, more or less, correspond to landed properties usually associated with the Olas and the Chertan clans of the migrating Cuman population (to be discussed in detail in subchapters 3.2 and 3.3).

For the sake of simplicity, sites with long names will be abbreviated, especially if a modern geographical name was added to the site name (e.g. the site of Karcag - Orgondaszentmiklós is, in fact, the former village of Orgondaszentmiklós that no longer exists, but the area is now part of present-day Karcag; this will be referred to as Orgondaszentmiklós in the text).

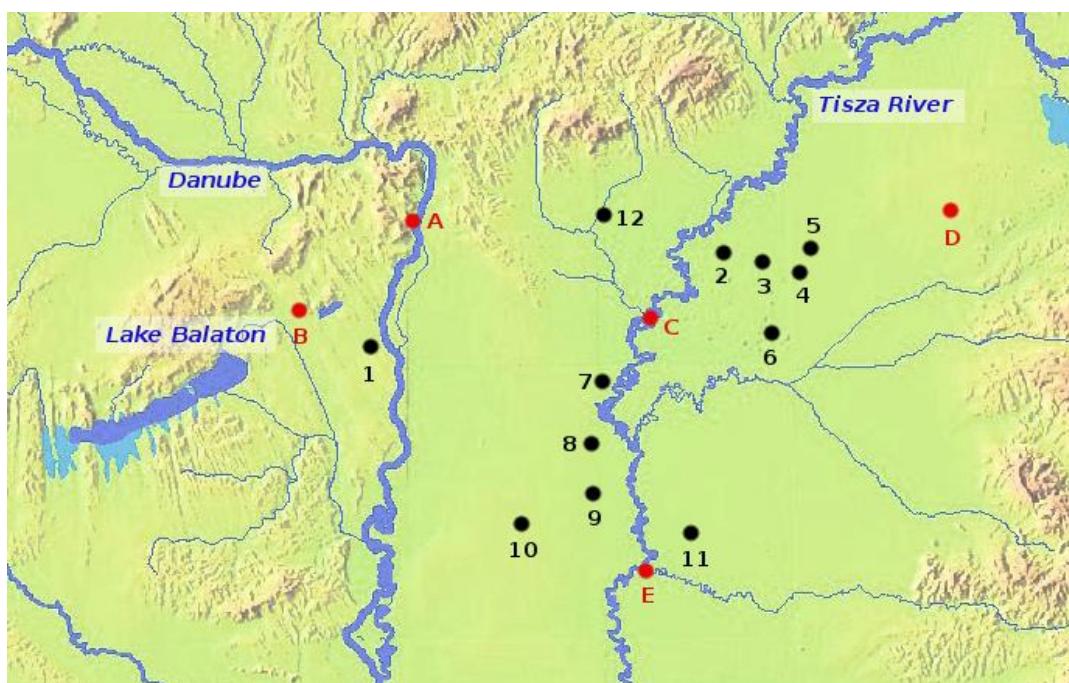


Fig. 3.1.1 Sites in the Cuman habitation area included in the study superimposed on a map of the Carpathian Basin. 1 – Perkáta, 2 – Tiszagyenda, 3 – Kolbazsállás, 4 – Orgondaszentmiklós, 5 – Asszonyszállás, 6 – Móric, 7 – Szentkirály, 8 – Kiskunfélegyháza – Templomdomb, 9 – Csengele, 10 – Kiskunhalas-mol5, 11 – Gorza, 12 – Négyszállás. The modern Hungarian cities of Budapest (A), Székesfehérvár (B), Szolnok (C), Debrecen (D) and Szeged (E) are indicated with red dots.

It is crucial to understand that the host society and its economy the Cumans began to integrate into was not a static and unchanging entity, but a rather dynamic one. Some of these

geologist] in Horváth, A csengelei kunok ura és népe, 313-317 (henceforth: Sümegi, A Kiskunság a középkorban); János Botka, “A Nagy- és Kiskunság az egri vár 1577-1579. évi összeírásában” [Greater and Lesser Cumania in the conscription of the Castle of Eger in 1577-1579] Zounuk 2 (1987), 205-252 (henceforth: Botka, A Nagy- és Kiskunság)

economic and agricultural transformations took place at a time when the first generations of Cumans were seeking their place in this newly forming economic nexus. The profound agricultural changes in this region in the twelfth to sixteenth centuries probably helped the integration of the new minority by creating an economic niche that the Cumans could fill, and conversely, were also shaped by the Cumans themselves from the mid-thirteenth century. Although a comprehensive study of Hungary's medieval social and economic history goes well beyond the scope of this thesis, it is still necessary to provide a short overview in order to provide a picture against which the Cuman case can be drawn. Therefore, before turning to the analysis of the Cuman sites, I have to address some pivotal points concerning the medieval Hungarian economy first.

3.1.1 Economic background: transformations in Hungarian agriculture in the time of the Cuman integration

Preceding and during the period of the Cuman migration, the Hungarian economy underwent a transformation in terms of the field system used in the Kingdom and the organizational forms of land cultivation, in connection with the emerging money economy as well. During the thirteenth to fourteenth centuries, a more uniform stratum of peasants started to develop on the foundation of what had been a socially highly varied and stratified peasant society, which had basically been structured according to the various forms of landed property and types of lords they were attached to.²¹⁴ The *predium*, the typical unit of production in previous centuries, consisted of lands in the ownership of a landlord, basically cultivated by a workforce of serfs using tools exclusively in the landlord's possession. These manors that constituted the basic unit of agricultural production before the thirteenth-century transformation, were typically small; the biggest one in the sources comprised 6-12 families, that is, 50-60 serfs (*caput servorum*), who used three or four plows powered by 8-10 oxen each to till the land. The serfs belonged to the land just in the same way as the plow, and were typically donated together

²¹⁴ Ilona Bolla, *A jogilag egységes jobbágyosztály kialakulása Magyarországon* [The Development of a Legally Uniform Peasant Class in Hungary] (Budapest: Akadémiai Kiadó, 1983); István Szabó, "A prédium. Vizsgálódások a korai magyar gazdaság- és településtörténelem körében. I. rész" [The *predium*. Studies on early Hungarian economic and settlement history. Pt. 1.] *Agrártörténeti Szemle* 5/1-2 (1963), 1-49.

with the land on which they were obliged to work.²¹⁵ This type of organizational unit slowly disappeared in the twelfth and thirteenth centuries. Parts of the landed property were handed over to the serfs for their own use, in exchange for which they had to provide services and pay tribute to the landlord; these pieces of land could even be inherited. The rest of the land, the *allodium*, remained in the landlord's hands for his use as a manor, and was still cultivated by peasant labor, but in a differently organized form. These serfs, although legally sometimes still slaves that could be bought and sold, were now able to practice land cultivation and animal keeping on their own, and eventually produce for the market. This transformation first happened on landed properties in the possession of the crown and the church – these organized themselves following Western examples, where *predium* was already considered an outdated form of agriculture. Besides, lands of any considerable size were more and more difficult to effectively cultivate within the formal framework of the *predium*. Through this change, these estates turned into peasant villages in which the system of taxation was different from the trithes typical for the *predium*.²¹⁶

Thus, the peasant's plot of land became the foundation of a new form of agricultural production. This was supported by the parallel transformation of their legal and social standing: the basis of taxation was now the land, not the person, and peasants who became commoners (*rusticus seu iobagiones*) instead of proper serfs (*servilis conditionis*) could now form themselves into proper village communities.²¹⁷ Previously, living on the *predium*, peasants were defined as *proprieti*, that is, owned by the landlord. The tribute they paid was in the form of agricultural produce and a wide variety of different services, but taxes paid in cash were almost unknown. The social transformation in the late twelfth and thirteenth century, accelerated by the Mongol Invasion, however, brought a new form of taxation, the so-called *terragium* or *census*, which was paid in cash after the piece of land the peasant cultivated for his own purposes. Even

²¹⁵ Jenő Szűcs, "Megosztott parasztság – egységesülő jobbágyság. A paraszti társadalom átalakulása a 13. században. 1. rész." [Divided peasantry – unifying villeinage. The transformation of peasant society in the 13th century. Pt.1.] *Századok* 115/1 (1981), 3-65: 5-6. (henceforth: Szűcs, Megosztott parasztság 1) Of course, medieval realities were not so simple; these communities could take a number of different forms, and there is confusion about the terminology used for them in the sources.

²¹⁶ István Draskóczy, "A honfoglalástól a 16. századig" [From the Conquest Period to the Sixteenth Century] in *Magyarország gazdaságtörténete a honfoglalástól a 20. század közepéig* [Economic History of Hungary from the Conquest Period to the Mid-20th Century] Ed. János Horváth (Budapest: Aula, 2003), 7-78: 20-25; István Szabó, "A prédiuum. Vizsgálódások a korai magyar gazdaság- és településtörténelem körében. II. rész [The *predium*. Studies on early Hungarian economic and settlement history. Pt. 2.] *Agrártörténeti Szemle* 5/3 (1963), 301-337.

²¹⁷ Szűcs, Megosztott parasztság 1.

though this was complemented by tributes paid in produce as well as services, the importance of the latter decreased, or was even marginalized. This meant that the peasants were able to organize their work more effectively: the time they had to spend doing services for their lords was considerably less than before, and so they could be engaged in other activities.²¹⁸ Most *predii* were transformed into peasant villages. The appearance of taxes to be paid in cash is extremely important, because peasants had to collect money, usually by selling their superfluous produce at a local market. Later, it became customary to substitute the tribute originally paid in agricultural produce with cash as well.²¹⁹ After the Mongol Invasion, when there was a significant shortage of workers, landlords had to attract or keep their peasants, and one way of doing so was to limit the required services. The fact that at least one part of the tribute was paid in cash gave the landlord interest in the economic success of his peasants.²²⁰ This resulted in a competition for workers. Serfs and peasants in dependent positions had already started to run away from their lords and find better conditions for settlement elsewhere before the Mongol Invasion, but this tendency accelerated in the mid-thirteenth century with such peasant mobility reaching its peak in the 1260s.²²¹

Consequently, Cumans who migrated into the region in the mid-thirteenth century arrived in a country where the basic forms of agricultural production were disintegrating and in the process of being reorganized. This situation meant that they had to adapt to an economic system that was not strict but probably still rather flexible.

Not only did organizational agricultural forms of undergo important changes at this time but also technological aspects as well. In the period between the foundation of the Hungarian Kingdom and the Mongol Invasion there was an increasing need for a more intensive agricultural

²¹⁸ László Solymosi, *A földesúri járadékok új rendszere a 13. századi Magyarországon*. [The New System of Taxation in thirteenth-Century Hungary] (Budapest: Argumentum, 1998), 19-54, 180-183.

²¹⁹ Zsigmond Pál Pach, *Nyugat-európai és magyarországi agrárfejlődés a XV-XVII. században* [Agricultural Development in Western Europe and Hungary in the Fifteenth-Seventeenth Centuries] (Budapest: Kossuth, 1963), 48-55.

²²⁰ Jenő Szűcs, "Megosztott parasztság – egységesülő jobbágyság. A paraszti társadalom átalakulása a 13. században. 2.rész." [Divided peasantry – unifying villeinage. The transformation of peasant society in the 13th century. Pt.2.] *Századok* 115/2 (1981), 263-319: 269 (henceforth: Szűcs, Megosztott parasztság 2)

²²¹ Szűcs, Megosztott parasztság 1, 25-27; Szűcs, Megosztott parasztság 2, 277-280; György Székely, "A jobbágykölözés mint a paraszti harc egyik jellemző formája" [The moving of villeins as a form of peasant struggle against power] in *Tanulmányok a parasztság történetéhez Magyarországon a 14. században* [Studies on the History of Peasantry in the fourteenth Century in Hungary.] ed. György Székely (Budapest: Akadémiai, 1953), 192-212; Erik Fügedi, "Az újratelepítés." [New resettlement.] in *Tanulmányok a parasztság történetéhez Magyarországon a 14. században* [Studies on the History of Peasantry in the fourteenth Century in Hungary.] ed. György Székely (Budapest: Akadémiai, 1953), 213-224.

technology and enhanced production due to population growth. The three-field system of crop rotation became widespread in the Carpathian Basin in this period, as opposed to the one-crop system and the haphazard crop successions practiced earlier (although the latter were not completely abandoned either). Spring and fall sowing became better organized. The fallow, or “resting”, periods were shortened and more attention was paid to actual field maintenance.²²² Keeping working animals in stables and providing them with complementary fodder became an important practice, so that the horses and oxen could remain fit enough to plow the still wet fields in the springtime. In the eleventh-twelfth centuries, symmetrical plows were used. These plows required 8 oxen to pull them; this also meant that one peasant alone could not secure what was needed to cultivate the land.²²³ Archaeological finds postdating the Mongol Invasion reflect an increase in the size and shape of the plowshare: they become bigger, and asymmetric types appear. These instruments made it easier to break up grasslands, as they did not only cut furrows but also turned the soil over. Plows were more often equipped with a coulter that made plowing more effective. New types of sickles also appeared, with longer and somewhat bigger blades; similar changes can be observed on scythes of the period as well. Migrants from Western Europe (the so-called *hospites*) must also have contributed to these changes with the tools they brought from their homeland.²²⁴ Animal husbandry and plant cultivation were mutually beneficial: animals driven to the field to graze not only provided manure but also trampled the soil, which made later cultivation easier.²²⁵

Shifting cultivation, that is, the practice of moving to new fields after exploiting a piece of land for a while, however, remained important during the medieval period in some regions, including the deforested areas of the Great Hungarian Plain. In fact, shifting cultivation and the

²²² Márta Belényesy, “A földművelés fejlődésének alapvető kérdései a XIV. Században. 1. rész” [Key questions in the fourteenth-century development of land cultivation. Pt.1.] *Ethnographia* 65 (1954), 387-413: 387-411. (henceforth: Belényesy, A földművelés fejlődésének alapvető kérdései 1)

²²³ Iván Balassa, *Az eke és a szántás története Magyarországon* [The History of the Plow and Plowing in Hungary] (Budapest: Akadémiai, 1973), 273, 285 (henceforth: Balassa, Az eke és a szántás története); Márta Belényesy, “A földművelés fejlődésének alapvető kérdései a XIV. században 2. rész” [Key questions in the fourteenth-century development of land cultivation. Pt.2.] *Ethnographia* 66/1-4 (195), 57-93: 80-93.

²²⁴ Róbert Müller, “A középkor agrotechnikája.” [Agricultural technology of the Middle Ages] in *A középkori magyar agrárium. Tudományos ülésszak Ópusztaszeren* [Medieval Hungarian Agriculture. Academic Conference in Ópusztaszer] eds. Lívia Bende and Gábor Lőrinczy (Ópusztaszer: Csongrád Megyei Múzeumok Igazgatósága, 2000), 27-44: 33-35; Balassa, Az eke és a szántás története, 277-285.

²²⁵ The word “nyomás” (literally pushing down, trampling) used in crop rotation also goes back to this practice. Belényesy, A földművelés fejlődésének alapvető kérdései 1, 392, see also footnote 3.

two- or three-crops system were sometimes practiced in parallel with each other.²²⁶ Shifting cultivation could survive partly as a consequence of the population loss caused by the Mongol Invasion and the resulting lower settlement density, and partly due to the emphasis on animal keeping (fields that were left fallow for a longer period were often turned into pastures or meadows for harvesting hay).²²⁷ Shifting cultivation in the tenth-twelfth centuries also meant that village communities had a partially mobile character: they moved close to the newly cultivated lands every time they shifted the area under cultivation. Of course, this had nothing to do with the pastoral nomadism that had previously been practiced by the Hungarians, even if they still used tents as summer dwellings, similarly to the later Cumans. In fact, King Coloman's early twelfth-century law forbade villages to move any great distance from their churches, signifying that moving villages were still usual in this period, although this only occurred within the geographical boundaries of the given *possessio*.²²⁸ This form of land cultivation marked a transition from the earlier semi-nomadic forms of production to a fully settled lifestyle. Thus, the Hungarian community underwent changes similar to those observed for the later Cuman settlement.

Shifting cultivation was still known in the later period, but was not dominant. However, acquiring new lands and the competition for pastures was a phenomenon that was regularly seen in the Cuman areas (this will be extensively discussed in the next subchapters). This practice had an impact on plant cultivation on the Great Plain: even in the fifteenth century, more primitive, hardy grains were cultivated that thrived in freshly broken up fields.²²⁹ This kind of cultivation is also reflected in the fact that Cumans and Iasians paid some of their taxes in the form of millet, lentils, peas, barley and oats: plants that produce good yields in successive years in newly

²²⁶ This is also reflected in the difference between “parlag”, a piece of land that is left fallow for a long period of time, usually for years, and “ugar”, a piece of land that was left fallow for a maximum period of two or three years. Balassa, Az eke és a szántás története, 276; Márta Belényesy, “A parlagrendszer XV. századi kiterjedése Magyarországon” [Shifting cultivation in fifteenth-century Hungary] *Ethnographia* 65/3 (1964), 321-349: 334-335 (henceforth: Belényesy, A parlagrendszer)

²²⁷ In fact, shifting cultivation in the Danube-Tisza Interfluve region was not as sophisticated as the cultivation methods practiced in Transdanubia. Belényesy, A parlagrendszer, 322-325.

²²⁸ László Földes, “Telkek és költözökő falvak a honfoglaló és Árpád-kori magyarság gazdálkodásában” [Plots and moving villages in the agriculture of the conquering Hungarians and in the Period of the Árpád Dynasty] in *Nomád társadalmak és államalakulatok. Tanulmányok* [Nomadic Societies and States. Studies] ed Ferenc Tókés. Körösi Csoma Kiskönyvtár 18 (Budapest: Akadémiai Kiadó, 1983), 327-348: 342.

²²⁹ Belényesy, A parlagrendszer, 324.

broken-up fields.²³⁰

The settlement network was obviously affected by the changes in agricultural production. Village desertion and settlement concentration is already evidenced in the charter material from the first decades of the thirteenth century when the terms *terra deserta*, *terra vacua* or *terra desolata* appear frequently in the sources. Interestingly, from the fifteenth century, these lands are usually called *predium*. According to Szabó, 22-36% of villages became deserted before 1526 in the counties of Szatmár, Ugocsa and Bihar. This situation was also connected to the fact that lands in the hands of the nobility were usually divided between brothers and family members, and micro-communities that settled on such small pieces of lands were not always self-sufficient economically. In such cases, the villagers could move to a nearby settlement, which also could use their lands afterwards.²³¹ Of course, the Mongol Invasion had a huge impact on village desertion in the eastern part of the country.

The formation of larger settlements, the *oppidi* or market towns, accelerated in the fourteenth-fifteenth centuries. These small towns served as hubs for the new money economy and the production and selling of goods. Thus, their crucial role was the organization of weekly (and bigger) markets. They were also usually distinguished legally as they could pay their taxes in a single sum. These settlements were, of course, not uniform, and their role was mostly locally defined; their legal standing also depended on rights granted to them individually by the king or the landlord. They were, however, always characterized by a dominance of agriculture and trade over industrial and artisanal activities, as opposed to the situation in proper towns.²³² They were

²³⁰ 1453: “Item haberent und gersten sind sy schuldig zu den forderen czwain geslossen gerla III^c. Item mer sind sy schuldig zu geben arbais, lynset, hirs und preyn gerla V^e.” They were also obliged to annually give at least four “beautiful stallions” (“mynisten fir hubscher hengst”) to the king. However, according to the document, most Cumans and Iasians were impoverished, and therefore their taxes were in fact lowered, especially the tax meant to be paid in money (“so mus man den Kwnn und Philistein den czins geringern durich irer armüt willen, wan si synd gar groslich peschedigt und verdorben ... roter guldein IIJ^m”). Ernst Birk, *Zur Finanzgeschichte des Königreichs Ungern unter König Ladislaus Posthumus* (Vienna, 1853). 6; Gyárfás, A jász-kunok, vol.3, 259, 629; Belényesy, A parlagrendszer, 324, footnote 9.

²³¹ István Szabó, *A falurendszer kialakulása Magyarországon. X-XV. század* [The Development of Village Network in Hungary. 10th-fifteenth c.] (Budapest: Akadémiai Kiadó, 1966), 141-153. (henceforth: Szabó, A falurendszer kialakulása) Szabó warns, however, that villages sometimes changed their names, which may result in biased statistics. See also: József Laszlovszky, “Tanyaszerű települések az Árpád-korban” [Farmstead-like settlements in the Period of the Árpád Dynasty] in Falvak, mezővárosok az Alföldön [Villages, Market Towns in the Great Hungarian Plain] Eds. László Novák and László Selmeczi (Nagykörös : Arany Múzeum, 1986), 131-151: 144-146.

²³² However, market towns and “proper towns” were not strict and impermeable categories. A lot of research has been done on distinguishing between these settlement types, especially by András Kubinyi. See: Vera Bácskai, *Magyar mezővárosok a XV. században* [Hungarian Market Towns in the fifteenth Century] Értekezések a

self-sufficient in terms of food production. Industry was mainly focused on butchery and milling. The number of butchers was relatively high, as such people were also usually involved in the animal trade that flourished in these towns.²³³

Market towns came into existence from simple villages and out of economic necessity. They represented a unique form of settlement development, on which the road network had an obvious impact. Small, scattered villages with a church and which were easily approachable usually had the best chance to turn into small market hubs.²³⁴ These markets were needed, not only to serve regional trade, but also because peasants had to sell some of their produce regularly in order to be able to pay taxes in cash. Thus, although only a relatively small stratum of peasantry was involved in production exclusively for market purposes, and most peasants only sold as much as needed to cover their taxes, there was a general need for these fairs.²³⁵ By the end of the fifteenth century, *oppidi* were, more-or-less, evenly distributed throughout the country, so that villagers could reach a market town with their goods, sell them and return home in one day.²³⁶ By this time, almost 100 market towns had the right to hold big national fairs once or more annually. Such places became unique regional commercial centers.²³⁷ Such towns attracted peasants who often moved to the *oppidi* from villages; this was, in fact, one of the key elements in the development of market towns.²³⁸ In the areas associated with the Cumans, towns like Kecskemét, Halas, or Karcag became small market hubs; interestingly though, in most cases, these market towns were not proper Cuman settlements, even though, as it shall be seen, they

történeti tudományok köréből, New Series 37 (Budapest: Akadémiai Kiadó, 1965), 14-22, 62-63 (henceforth: Bácskai, Magyar mezővárosok); Erik Fügedi, “Mezővárosaink kialakulása a XIV. században” [The development of our market towns in the fourteenth century] in *Kolduló barátok, polgárok, nemesek. Tanulmányok a magyar középkorról* [Begging Friars, Burghers, Noblemen. Studies on Medieval Hungary] (Budapest: Magvető, 1981), 336-363.

²³³ In fact, more butchers were present in the Transdanubian market towns than in similar towns on the Great Plain. In Transdanubia, ca. every 120 inhabitants had one butcher's shop and slaughterhouse by the end of the fifteenth century, while this number rose to 150 inhabitants on the Great Plain. This is probably due to the fact that this region was geared more toward production of live animals rather than their consumption and also to the professionalization of slaughter and animal trade. (Bácskai, Magyar mezővárosok, 50.)

²³⁴ Elemér Mályusz, “A mezővárosi fejlődés.” [The development of market towns.] In: *Tanulmányok a parasztság történetéhez Magyarországon a 14. században*. [Studies on the History of Peasantry in fourteenth-Century Hungary.] Ed. by György Székely. 128-191 (Budapest: Akadémiai Kiadó, 1953), 129-131. (henceforth: Mályusz, A mezővárosi fejlődés)

²³⁵ Bácskai, Magyar mezővárosok, 82.

²³⁶ Szabó, A falurendszer kialakulása, 196

²³⁷ Bácskai, Magyar mezővárosok, 70-75.

²³⁸ György Székely, “A mezővárosi fejlődés kérdései a XVII. század végig.” [Questions of the development of oppidi until the late seventeenth century.] *A Debreceni Déri Múzeum Évkönyve* 1974, 347-368: 351.

often possessed a number of Cuman inhabitants who moved here from nearby villages.²³⁹

Settlement concentration and the abandonment of smaller villages accelerated in parallel to market town development. The *oppidi* played a key role in the redistribution of fields and pastures that had belonged to abandoned villages; some market towns in the Great Plain such as Szeged or Debrecen, had huge pastures at their disposal which they could use for animal herding purposes. Due to the growing importance of animal production for large western markets, there was constant competition for the available pastures and hay harvesting resources. Success in this competition could decide the fate of a village. The dynamically changing settlement network provided opportunities to acquire abandoned lands for the wealthier population of nearby villages and market towns;²⁴⁰ those villages that could acquire new pastures this way had the best chance to develop into wealthy market towns.²⁴¹

The early sixteenth century saw some crucial changes again. The movement of peasants was now limited by law, and in many cases the tribute a landlord demanded placed a growing emphasis on labor rather than cash. This was partly due to the competition wealthier peasants represented for those members of the nobility interested in trade in agricultural products.²⁴² By this time, peasant society had become highly differentiated from a financial point of view; those who had access to the markets and could serve market demand emerged as well-off farmers.²⁴³ Widening markets also meant that raw material for artisans was now easier to acquire.²⁴⁴ The most important factor in this regard, however, was – in addition to wine production – the growing trade in animals and animal products, which was extensively practiced throughout the Great Hungarian Plain where most Cuman communities settled. The cattle trade, mainly to Germany and Italy but also to domestic markets, became the most important branch of agriculture as it met the growing demand for meat in Western Europe, especially in Venice and

²³⁹ Cuman Szentkirály, a settlement in transition from a village to a market town, was an exception. This village will be discussed extensively in subchapter 3.3.

²⁴⁰ Tibor Neumann, “Telekpusztásodás a késő középkori Magyarországon” [The abandonment of village plots in late medieval Hungary] *Századok* 137/4 (2003), 849-884.

²⁴¹ Vera Zimányi, *Magyarország az európai gazdaságban, 1600-1650* [Hungary in European Economy, 1600-1650] Értekezések a történeti tudományok köréből, New Series 80 (Budapest: Akadémiai Kiadó, 1976), 132. (henceforth: Zimányi, *Magyarország az európai gazdaságban*)

²⁴² Ferenc Maksay, *Parasztság és majorgazdálkodás a XVI. századi Magyarországon* [Peasantry and Manor Economy in sixteenth-century Hungary] Értekezések a történeti tudományok köréből, Új sorozat 7 (Budapest: Akadémiai Kiadó, 1958), 8-10.

²⁴³ Bácskai, Magyar mezővárosok, 83.

²⁴⁴ Mályusz, A mezővárosi fejlődés, 131.

Nuremberg.²⁴⁵ Population in the big European cities grew rapidly and food requirements could no longer be met by local producers; this resulted in a huge increase in food prices and widening opportunities for long-distance trade.²⁴⁶ Cattle herding gained a new emphasis in the period of the Turkish-Ottoman occupation. Animal herds, as opposed to landed properties, could be driven away in cases of danger, and thus, offered a somewhat safer form of subsistence in times of war (although the military could also confiscate or simply steal animals and trade was not always an easy enterprise²⁴⁷). On the other hand, the military represented a continuous demand for food and fodder, which meant new trading opportunities.

While Hungarian cattle dominated the Western European markets in the late fourteenth, early fifteenth century, the trader's position was precarious due to the parlous gold production of the country and the uncertain value of Hungary's and Italy's currencies. From the mid-fifteenth century, although cattle production and trade was still the dominant branch of agriculture on the Great Hungarian Plain, western traders turned to less distant cattle suppliers, including those from the Netherlands and Denmark, and the market became highly competitive.²⁴⁸ However, Hungarian cattle preserved its dominance south of the Main River, and the number of animals driven to the West continued to grow until the 1570s, although trade routes had to be changed due to the Turkish-Ottoman Wars.²⁴⁹ From the last third of the sixteenth century, Polish cattle suppliers presented serious competition in the south German markets, and the position of Hungarian traders was eventually destroyed by the Fifteen Years' War, during which export was significantly reduced and animals from other sources substituted for the Hungarian cattle. Another difficulty was posed by the competition from foreign traders: an Italian organization, the *Compagnia del partido della beccaria* had a monopoly over the Hungarian cattle export to Italy,²⁵⁰ and the Austrian *Landsverlegerische Viehcompagnia* had priority in buying up cattle in

²⁴⁵ István N. Kiss, "Die Bedeutung der ungarischen Viehzucht für Ungarn und Mitteleuropa vom 16. bis zum 18.Jahrhundert" in *Internationaler Ochsenhandel (1350-1750). Akten des 7th International Economic History Congress, Edinburgh, 1978*. Hrsg. Ekkehard Westermann. Beiträge zur Wirtschaftsgeschichte Band 9 (Stuttgart: Klett-Cotta, 1979), 83-124.

²⁴⁶ Zimányi, Magyarország az európai gazdaságban, 54-59.

²⁴⁷ In fact, a lot of corruption has been documented. The issue was addressed extensively by Sándor Takáts. (Sándor Takáts, "A magyar tőzsérek és kereskedők pusztulása" [The destruction of Hungarian cattle drivers and traders] in *Szegény magyarok*. [Poor Hungarians] Vol. 1. (Budapest: Genius, s.a.), 129-248

²⁴⁸ Ian Blanchard, "The Continental European Cattle Trade, 1400-1600." *The Economic History Review* 39/3 (1986), 427-460: 429-433. (henceforth: Blanchard, The Continental European Cattle Trade)

²⁴⁹ Blanchard, The Continental European Cattle Trade, 433-435.

²⁵⁰ Othmar Pickl, "Der Viehhandel von Ungarn nach Oberitalien vo 14. bis zum 17. Jahrhundert" in *Internationaler*

Hungary and re-selling them.²⁵¹ Moreover, prices of meat fell dramatically on the Austrian and German markets in the first half of the seventeenth century due to the impoverishment of the population connected to previous demands of the markets.²⁵²

Thus, the Fifteen Years' War and the years that follow mark a significant crisis in Hungarian agricultural production. This devastating period had a huge impact on the region inhabited by Cumans and also resulted in a series of regional out-migrations and a new wave of settlement desertion. This is also the period when most of the sites investigated in this study were abandoned.

After this short overview of economic history, let us now turn to the regions where Cumans settled. First, Greater Cumania will be discussed in subchapter 3.2, while subchapter 3.3 focuses on Lesser Cumania, and subchapter 3.4 on the Cuman population of Transdanubia.

Ochsenhandel (1350-1750). Akten des 7th International Economic History Congress, Edinburgh, 1978. Hrsg. Ekkehard Westermann. Beiträge zur Wirtschaftsgeschichte Band 9 (Stuttgart: Klett-Cotta, 1979), 39-66: 64-66.

²⁵¹ Zimányi, Magyarország az európai gazdaságban, 137.

²⁵² Zimányi, Magyarország az európai gazdaságban, 133-138.

3.2 The Cumans in Greater Cumania

3.2.1 Textual evidence: the short history of Cumans in the region

The area known today as Greater Cumania is located east of the Tisza River, in the southeastern segment of present-day Jász-Nagykun-Szolnok County. The medieval history of this area after the arrival of the Cumans is complex and landed properties often changed ownership. Just like in other parts of the Plain, smaller areas in non-Cuman possession were interspersed among Cuman villages. In this way, the trajectory of the fate of these Cuman communities was heavily impacted by their geographical situation, immediate environment, property relations, economic and the market opportunities of the individual settlements.²⁵³ András Pálóczi Horváth identified 41 settlements in this area dated to the fourteenth-seventeenth centuries that were associated with a Cuman population or were under Cuman ownership. Nine settlement names (probably early, temporary camps, not yet located and identified archaeologically) can be added to this number. Some of these nine sites are known from late fourteenth-century documents (Abcsikszállás, Alonnépe, Besemihályszállása, Csonkaszentmiklós, Csorbaszállás, Fábiánsebestyén, Homokszállás, Kakat, Kisszállás, Kolbazszállás),²⁵⁴ but most settlements only appear later. Thus, it is challenging to formulate any statement on the early stage of Cuman habitation.

The original, thirteenth-century habitation area of Cumans in this region is unknown. The earliest (although indirect) data on Cumans in present-day Greater Cumania comes from the late thirteenth century, when noblemen who had properties around present-day Abádszalók had to flee from rebellious Cumans.²⁵⁵ The settlement name Köttön in the vicinity of modern Kunszentmárton suggests that the first khan of the Hungarian Cumans, Kuthen, had his camp

²⁵³ András Pálóczi Horváth , “Településtörténeti kutatások a középkori kun szállásterületen.” [Investigations into settlement history in the area of medieval Cumanian qarters: the case of Nagykunság (Great Cumania).] In: “Kun-kép”. A magyarországi kunok hagyatéka. Tanulmányok Horváth Ferenc 60. születésnapja tiszteletére. [Cuman Image. Heritage of the Cumans in Hungary. Studies in Honor of Ferenc Horváth’s 60th Birthday.] Ed by Szabolcs Rosta. Kiskunfélegyháza: Bács-Kiskun Megyei Önkormányzat Múzeumi Szervezete, Kiskun Múzeuma, 2009. 217–232: 220. (henceforth: Pálóczi Horváth , Településtörténeti kutatások)

²⁵⁴ Pálóczi Horváth , Településtörténeti kutatások, 224-226.

²⁵⁵ Gábor Bagi, A Nagykunság a XIII-XVI. században. [Greater Cumania in the 13th-16th century.] (Karcag: Barbaricum Könyvműhely, 2007), 18. (henceforth: Bagi, A Nagykunság)

somewhere near here.²⁵⁶ This name appears in the form Kethenzallasa (Kuthen's camp) in 1493.²⁵⁷ King Ladislaus IV was also killed by his Cuman henchmen in the vicinity at Körösszeg castle .²⁵⁸

Most probably, the Cumans of the Olas clan were settled in the area that later became known as Greater Cumania.²⁵⁹ The name Olas first appears in a charter in 1328.²⁶⁰ Almost two decades later, a document from 1344 reports that King Louis the Great took two Cumans under his protection and exempted them from the jurisdiction of the leader of the Olas clan after they escorted him from the village of Túr to the village of Kócs during the night. Györffy suggested that this area corresponds to later Greater Cumania and helping the king find his way through this land during the night certainly required a profound knowledge of the region. Thus, it seems likely that these two Cumans must have been members of the Olas clan.²⁶¹ It is not certain, however, if there was an actual clan defined by blood ties behind this name or whether this community consisted of smaller, perhaps quite diverse tribal fragments. According to Pálóczi Horváth, the clan known in the Carpathian Basin as Olas is identical to the *Ulaševiči* group mentioned in twelfth-century Russian chronicles. Fragments of this clan turn up in Anatolia and among Turkmen tribes in the sixteenth century.²⁶² Servants of unknown origin must also have accompanied the community when they arrived in the region. Linguistic analysis of place names around present-day Karcag suggests that names of different clans or extended families are present in them; this might signify that the Olas clan, whose name refers to the Cuman word *ulaš* ('achieve, unite'²⁶³), in fact, united a number of groups with different backgrounds.²⁶⁴ It is not clear, however, how these groups related to each other, or if they were part of the same economic tradition, were equally sedentary and shared the same sort of social stratification.

²⁵⁶ Bagi, A Nagykunság, 18.

²⁵⁷ András Pálóczi Horváth , "A magyarországi kunok régészeti kutatásának helyzete" [The research of Cumans in Hungary] *Folia Archaeologica* 24 (1973), 241-251: 246. (henceforth: Pálóczi Horváth , A magyarországi kunok)

²⁵⁸ Pálóczi Horváth , Pechenegs, Cumans, Iasians, 82., Bagi, A Nagykunság, 19.

²⁵⁹ Györffy, Az Árpád-kori Magyarország történeti földrajza, vol. 3, 531.

²⁶⁰ István Mándoky Kongur, "A kunok Ulas törzse és törökségi kapcsolatai" [The Ulas tribe of the Cumans and their Turkic connections] *Jászkunság* 22/1-2 (1976), 54-59: 56. (henceforth: Mándoky Kongur, A kunok Ulas törzse)

²⁶¹ Györffy, A magyarországi kun társadalom, 302.

²⁶² Pálóczi Horváth, Pechenegs, Cumans, Iasians, 56., Györffy, A Nagykunság és Karcag a középkorban, 308, Mándoky Kongur, A kunok Ulas törzse, 56-57

²⁶³ Pálóczi Horváth, Pechenegs, Cumans, Iasians, 56; Mándoky Kongur, A kunok Ulas törzse, 56.

²⁶⁴ Selmeczi, A Nagykunság és Karcag a középkorban, 29-30. The linguistic analysis was done by István Mándoky Kongur (Mándoky Kongur, A kun nyelv magyarországi emlékei, 146-153), but the interpretation comes from Selmeczi.

Early graves of the Cuman nobility were excavated in this area. The burial discovered at Kunszentmárton - Jaksorérpart contained a male skeleton, the harness of a horse (headgear and a saddle placed under the head of the deceased), as well as a double-edged sword. It is not known if the horse was buried in the close vicinity in a separated pit, but it was most likely a symbolic horse burial, with the harness standing-in for the horse itself. Selmeczi dated the grave to the last third of the thirteenth or the beginning of the fourteenth century.²⁶⁵ Another grave from the same period, containing not only a human but also a complete, harnessed horse, was unearthed at Homok-Óvirághegy (the former village of Homokszállás).²⁶⁶ Although noble burials are usually located relatively far from the common habitation area, they signify an early Cuman presence in the region. (Both the later villages of Kunszentmárton and Homokszállás belonged later to the Cuman administrative unit of Kolbazszék, from which they were erased in the late sixteenth century.²⁶⁷)

Cuman landed properties were interspersed with those in non-Cuman ownership, even if some of the latter were uninhabited after the Mongol Invasion so that Cumans might have used them from time to time for their own purposes, even if illegally.²⁶⁸ Pálóczi Horváth concluded that settlement density in fourteenth-fifteenth-century Greater Cumania was similar to that of the Árpád Period, with the inhabitants of one “*descensus*” (habitation area) having 25-30 km² at their disposal. He also suggested that by that time, available pastures must have been distributed and their borders fixed.²⁶⁹

Not much is known about the internal affairs of this region in the fourteenth century; most documents that mention Greater Cumania’s villages are donation charters. It is certain, however, that this region became part of the administrative unit of Kolbazszék when the seat (*sedes, székek*) system was established in the fifteenth century. “Kolbaz” was definitely a personal name.

²⁶⁵ Pálóczi Horváth, Hagyományok, kapcsolatok és hatások, 113-115; Selmeczi, Adatok és szempontok a kunok régészeti kutatásához Szolnok megyében, 105-107.

²⁶⁶ László Selmeczi, “Adatok és szempontok a kunok régészeti kutatásához Szolnok megyében” [Additonal data and notes on the archaeological research of Cumans in Szolnok County] in *Régészeti-néprajzi tanulmányok a jászokról és a kunokról* [Archaeological and Ethnographic Studies on the Iasians and Cumans] Folklór és etnográfia 64. (Debrecen: Kossuth Lajos Tudományegyetem Néprajzi Tanszék, 1992), 5-20: 9-12. (henceforth: Selmeczi, Adatok és szempontok)

²⁶⁷ Gyárfás, A jász-kunok, vol. 4., 132; Gyula Benedek (transl. and hrsg.), *Kunszentmárton város oklevelei és lefgontosabb iratai, 1333-1737*. [Charters and Documents from the Town of Kunyentm’rton, 1333-1737] (Szolnok: Jász-Nagykun-Szolnok Megyei Múzeumok Igazgatósága, 2002), 96-97.

²⁶⁸ Selmeczi, A Nagykunság és Karcag a középkorban, 26.

²⁶⁹ András Pálóczi Horváth, “A kunok megtelepedése Magyarországon” [Cuman settlement in Hungary.] *Archaeologai Értesítő* 101 (1974), 244-259: 257 (henceforth: Pálóczi Horváth, A kunok megtelepedése)

Based on analysis of a family tree, Gyárfás suggested that Kolbaz might have been the name of the leader of this particular Cuman community at the time of their arrival in Hungary, after whom the whole area was named.²⁷⁰ The first piece of data that reports on the existence of this seat derives from 1440,²⁷¹ however, a 1461 document on the reinforcement of the independent jurisdiction of the inhabitants suggests that Kolbazszék had existed long before.²⁷² Pálóczi Horváth argued that the predecessor of this administrative unit, a larger network of landed properties (ten villages) in the ownership of the Olas clan (or at least in the hands of two interrelated Cuman families around the village of Csunegyház), appears in the sources as early as in the late fourteenth century.²⁷³ László Hatházi identified 48 settlements in fourteenth-sixteenth century textual sources, which were associated with the Cumans of Kolbazszék. However, only 30-35 of these possessions were undoubtedly Cuman, while the remainder later came into Hungarian possession, or were only illegally used by Cumans.²⁷⁴ Not much is known about the internal affairs of this region in the fourteenth century; most documents that mention Greater Cumania's villages are donation charters. It is certain, however, that this region became part of the administrative unit of Kolbazszék when the seat (*sedes, székek*) system was established in the fifteenth century. "Kolbaz" was definitely a personal name. Based on analysis of a family tree, Gyárfás suggested that Kolbaz might have been the name of the leader of this particular Cuman community at the time of their arrival in Hungary, after whom the whole area was named.²⁷⁵ The first piece of data that reports on the existence of this seat derives from 1440,²⁷⁶ however, a 1461 document on the reinforcement of the independent jurisdiction of the inhabitants suggests that Kolbazszék had existed long before.²⁷⁷ Pálóczi Horváth argued that the predecessor of this administrative unit, a larger network of landed properties (ten villages) in the ownership of the

²⁷⁰ Gyárfás, A jász-kunok, vol 3, 272.

²⁷¹ Györffy, A magyarországi kun társadalom, 302.

²⁷² Gyárfás, A jász-kunok, vol. 3, 644. This interpretation is proposed by Györffy (Györffy, A magyarországi kun társadalom, 302.) The text reads: „Comanorum nostrorum in Sede *Kolbazzek* commorantium, quibus ipsi *ab antiquo* usi fuissent...” In my opinion, this rather refers to the presence of Cuman inhabitants in the region and not necessarily to the early existence of the administrative unit itself.

²⁷³ Pálóczi Horváth, Pechenegs, Cumans, Iasians 56-58., Pálóczi Horváth, A kunok megtérítése, 252.

²⁷⁴ Gábor Hatházi, “A kun és jász székközpontok kérdéséhez” [Notes on the Cuman and Iasian seat centers] *Studia Caroliensia* 3-4 (2006), 111-146: 129. (henceforth: Hatházi, A kun és jász székközpontok)

²⁷⁵ Gyárfás, A jász-kunok, vol 3, 272.

²⁷⁶ Györffy, A magyarországi kun társadalom, 302.

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²⁷⁸ Pálóczi Horváth, Pechenegs, Cumans, Iasians 56-58., Pálóczi Horváth, A kunok megttelepedése, 252.

²⁷⁹ Gábor Hatházi, "A kun és jász székközpontok kérdéséhez" [Notes on the Cuman and Iasian seat centers] *Studia Caroliensia* 3-4 (2006), 111-146: 129. (henceforth: Hatházi, A kun és jász székközpontok)

²⁸⁰ Gyárfás, A jász-kunok, vol 3, 272.

²⁸¹ Györffy, A magyarországi kun társadalom, 302.

²⁸² Gyárfás, A jász-kunok, vol. 3, 644. This interpretation is proposed by Györffy (Györffy, A magyarországi kun társadalom, 302.) The text reads: „Comanorum nostrorum in Sede *Kolbazzek* commorantium, quibus ipsi *ab antiquo* usi fuissent...” In my opinion, this rather refers to the presence of Cuman inhabitants in the region and not necessarily to the early existence of the administrative unit itself.

²⁸³ Pálóczi Horváth, Pechenegs, Cumans, Iasians 56-58., Pálóczi Horváth, A kunok megttelepedése, 252.

²⁸⁴ Gábor Hatházi, "A kun és jász székközpontok kérdéséhez" [Notes on the Cuman and Iasian seat centers] *Studia Caroliensia* 3-4 (2006), 111-146: 129. (henceforth: Hatházi, A kun és jász székközpontok)

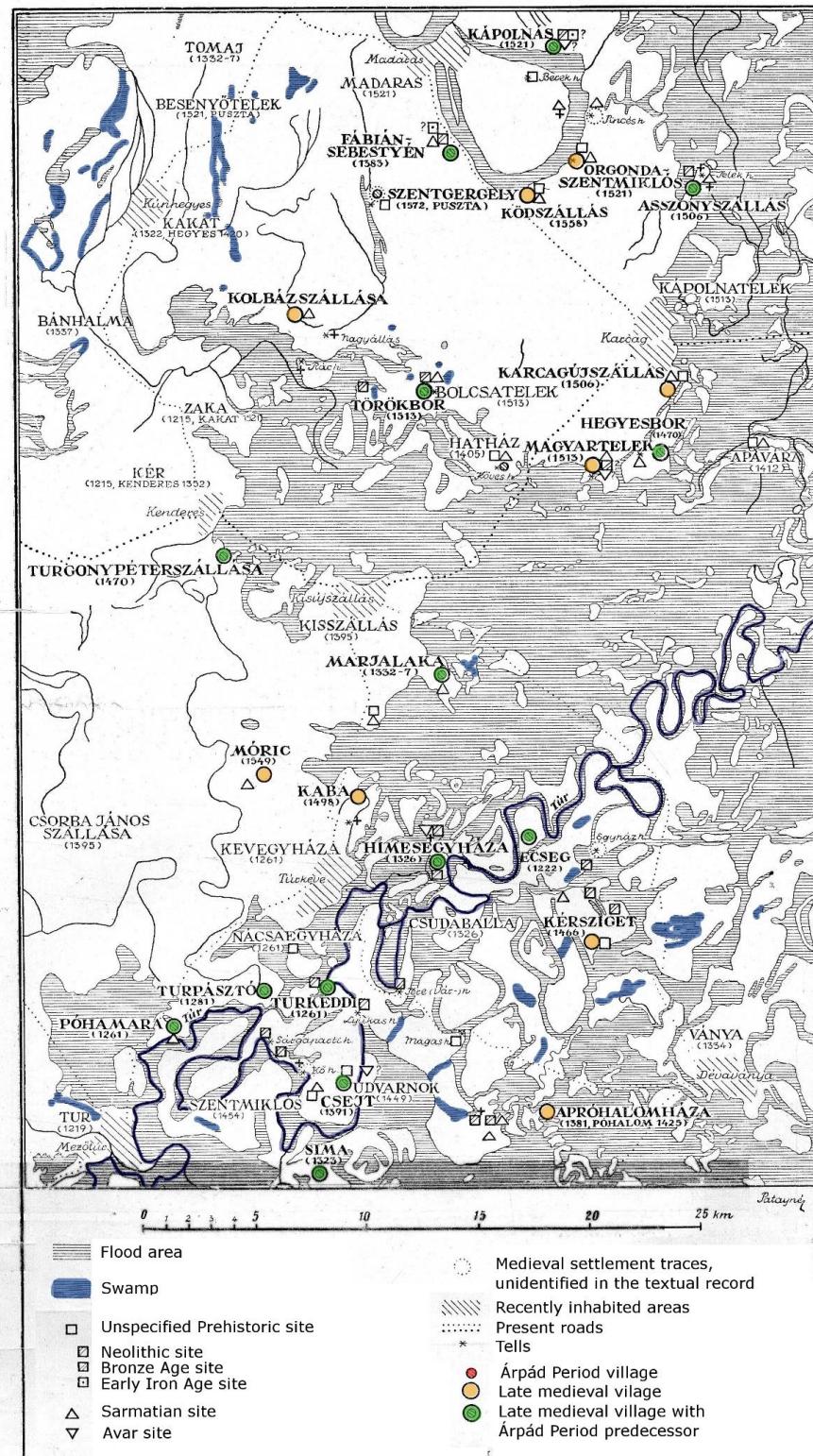


Fig. 3.2.1 Greater Cumania in the Middle Ages with bodies of water and identified settlements (after István Méri, "Beszámoló a Tiszalök-rázompuszta és Túrkeve-mórici ásatások eredményéről." [Report on the excavations in Tiszalök-Rázompuszta and Túrkeve-Mórici] Archaeologiai Értesítő 81 (1954) 138-154 (henceforth: Méri, Beszámoló)

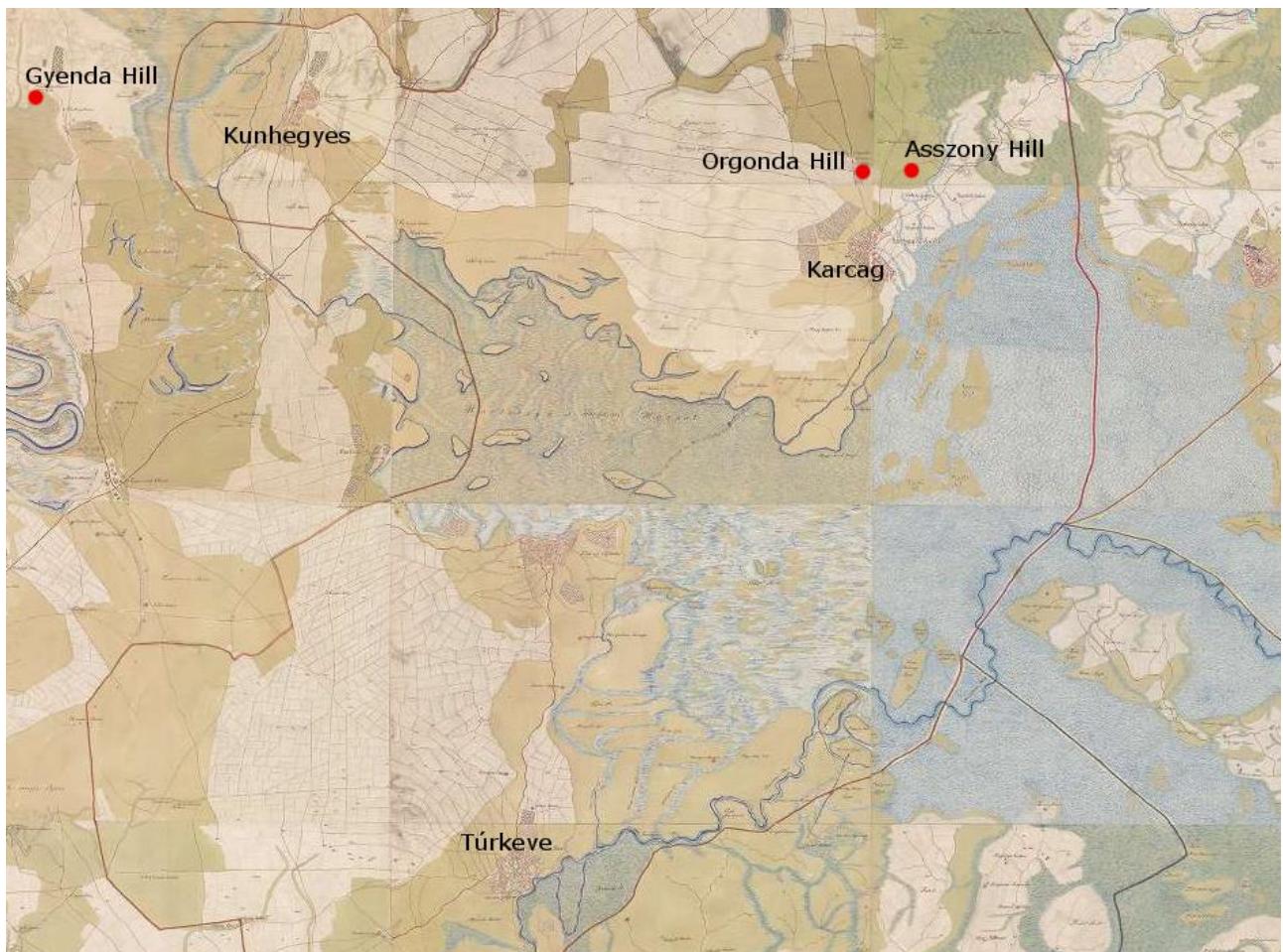


Fig 3.2.2 Greater Cumania on the map of the First Military Survey (late eighteenth century). The former villages of Orgondaszentmiklós, Asszonyszállás and Tiszagyenda (for the latter, see chapter 3.5.2) are marked with red dots. The village of Móric was situated next to Túrkeve, while Kolbazszállás next to Kunhegyes however, the names of these villages were not indicated in any form on the map. After the map of the First Military Survey, digital edition: <http://mapire.eu/hu/map/collection/firstsurvey/?zoom=11&lat=47.32739&lon=20.59681> (accessed 15.02.2015)

Tax rolls from 1494-1495 suggest that Kolbazszék had around 7,000-9,000 inhabitants, although it is not certain if this refers only to the “captains” (lower rank Cuman leaders) and their families or the whole population.²⁸⁵ Privileges were retained and regularly reinforced. In 1492, King Vladislaus II reaffirmed the privileges and the juridical independence of Cuman communities in Kolbazszék by re-issuing charters originally prepared by King Sigismund in 1412 and King Matthias in 1461 and 1478.²⁸⁶ By the late fifteenth century, ecclesiastical authorities, in the form of parish churches, were established in the region. Parish priests from

²⁸⁵ Bagi, A Nagykunság, 45.

²⁸⁶ Gyárfás, A jász-kunok, vol 3, 644, 660, 679, 702-706

Kolbazsállás and the nearby village Kakatszállás are first mentioned in 1470,²⁸⁷ but already in 1399, Cumans in the latter village had only Christian names.²⁸⁸

Kolbazsék was the most successful in the system of seats: this administrative unit was only abolished in the early eighteenth century when the area was sold to the Teutonic Order. It is challenging to say, however, how these landed properties looked in the fourteenth-fifteenth centuries. The first list of villages that belonged to Kolbazsék was issued in 1558 when 24 villages are mentioned.²⁸⁹ It is not clear, however, how the ownership of these changed in the previous two hundred years; there are examples when settlements originally inhabited by Cumans were abandoned, but in other cases areas originally owned by Hungarian landlords came into Cuman possession.²⁹⁰

Locals might have faced some financial problems as in 1505 the king had to abolish their obligation to feed royal officers and their horses,²⁹¹ and a charter of similar content was issued again a few years later, in 1508.²⁹² However, royal taxes increased again, and from 1506 one oxen per family had to be given to the king when an heir to the throne was born.²⁹³ Cases when Cumans fought for the ownership of landed estates in the area, both arable lands and pastures, are known from the early sixteenth century and signify economic as well as demographic expansion.²⁹⁴ Serious fights for the property rights to pastures, such as the one between the Cumans of Kolbazsék and the peasants of Kenderes in the first half of the sixteenth century which escalated into armed conflict in 1522. The fight was still not settled in the eighteenth century,²⁹⁵ and probably reflects the increasing importance of animal husbandry and the need to secure pasture and hay. In 1522, the Cumans of Kolbazsék not only attacked the Hungarian peasants of Kenderes, but also stole their livestock; witnesses claimed that the Cumans, in fact,

²⁸⁷ Gyárfás, A jász-kunok, vol. 3, 669.

²⁸⁸ Gyárfás, A jász-kunok, vol 3, 165.

²⁸⁹ Györffy, A Nagykunság és Karcag a középkorban, 310.

²⁹⁰ Györffy, A Nagykunság és Karcag a középkorban, 310-311.

²⁹¹ Gyárfás, A jász-kunok vol 3, 720-721.

²⁹² Gyárfás, A jász-kunok vol 3, 726.

²⁹³ Bagi, A Nagykunság, 46-47; Gyárfás, A jász-kunok, vol. 3, 348-349.

²⁹⁴ Pálóczi Horváth, Településtörténeti kutatások, 222; András Pálóczi Horváth, "Falupusztásodás a Nagykunságban" [Village desertion in Greater Cumania] in *A Jászkunság kutatása 2000. Tudományos konferencia a Kiskun Múzeumban* [Research of the Ias-Cuman Area. A Scholarly Conference Held in the Kiskun Museum] eds. Erzsébet Bánkiné Molnár, Edit Hortiné Bathó, Erika Kiss (Jászberény-Kiskunfélegyháza: Kiskun Múzeum. 2002), 47-55: 50 (henceforth: Pálóczi Horváth, Falupusztásodás)

²⁹⁵ Pálóczi Horváth, Településtörténeti kutatások, 223; Kormos, László. *Kenderes története, Oklevél tár 1728-ig*. A Szolnok Megyei Múzeumok Közleményei 41. Szolnok: Damjanich Múzeum, 1979. 26-29.

came especially for the cattle and sheep, whose meat was later cooked and sold in the marketplace of the Cuman village of Kolbazsállás.²⁹⁶ This, however, does not necessarily mean that Cumans intended to increase their own livestock by these means, but this was rather an act of retribution in a bitter conflict that had been ongoing for a while. Illegal land use must have been common here: another document from 1521 (which unsuccessfully tried to settle the conflict) emphasizes that the areas the Cumans had illegally occupied around Kenderes consisted of cultivated fields, arable lands and lands left uncultivated, as well as swamps, wetlands, fields for hay cultivation and fields where blackberries grew.²⁹⁷ This suggests a manifold, complex utilization of the occupied area. Pastures must have been of special importance, as this 1521 charter specifically states that the inhabitants of Kenderes should have the right to graze their cattle and horses around a hill called Ravaszlyuk.²⁹⁸

A growing need for pastures may signify an expanding animal production. Large-scale animal trade, however, is not clearly evidenced in Greater Cumania. The toll registers from 1560 and 1563-1564 from Vác testify to animal trading from this region to the northwest, although not in large quantities. Most animals in this record, however, came not from Greater Cumania but from the Iasian region, especially from Jászberény and Mezőtúr (sheep was only registered from the Jászberény area).²⁹⁹ These records, however, reveal information on large-scale traders and not the producers. Thus, these data may reflect the practice that villagers raised cattle and wealthier traders from market towns bought and drove them to the western markets. Traders from the Cuman settlements of Greater Cumania do not appear in the Vác tax rolls; it must be kept in mind, nevertheless, that the second half of the sixteenth century was a difficult period for the region and data from these decades do not necessarily reflect earlier realities.

After the battle of Mohács in 1526, the fate of Greater Cumania was severely affected by the Turkish-Ottoman invasion. The region first came under the rule of King John I (who tried to consolidate his power), then of the Hungarian statesman George Martinuzzi (the king's supporter). From the mid-sixteenth century, martial actions became more or less permanent. In

²⁹⁶ Kormos, Kenderes története, 28.

²⁹⁷ Kormos, Kenderes története, 23.

²⁹⁸ Kormos, Kenderes története, 25.

²⁹⁹ Gyula Kocsis, "Szolnok megyei települések állatkereskedelme és "szekerezése" a XVI. század második felében" [Animal trade and other forms of trading in Szolnok County in the second half of the 16th century] *Zounuk. A Szolnok Megyei Levéltár évkönyve* 1 (1986), 25-52: 27-28

1552, ca. 35,000 people were taken by the Turkish forces as prisoners of war.³⁰⁰ As a consequence, from 1522 onwards there was a continuous migration to the east, especially to the market town of Debrecen.³⁰¹ More than 200 houses were abandoned in the region in 1577 alone.³⁰² Both the Fifteen Years' War and the fights that ended with the withdrawal of the Ottoman Turks, had a devastating effect. Some families moved to Kunmadaras from the previously destroyed village of Kolbazszállás,³⁰³ although in 1577, 19 settlements were still inhabited.³⁰⁴ Greater Cumania was again repeatedly decimated and devastated in the seventeenth century: in 1683, 1691 and 1697, Crimean Tatar forces allied with the Turkish sultan burnt down a number of settlements, including Asszonyszállás, Móric and Orgondaszentmiklós; livestock was driven away and again; almost a thousand people were taken as prisoners of war.³⁰⁵ According to the 1699 conscription lists, only one settlement in Greater Cumania, Karcagújszállás, had permanent inhabitants (78 persons). It seems logical that these conditions favored animal husbandry more than land cultivation, as livestock could be driven away, hidden or sold if necessary, while crop production basically ruled out mobility on a larger scale.

Various authorities collected taxes in the Turkish-Ottoman period, and double taxation was widespread. According to the Turkish tax rolls of Szolnok in 1591, tax was collected after almost all livestock species; however, swine younger than one year were exempt from taxing, although using the forests for pannage on acorns had to be paid for.³⁰⁶ This definitely encouraged peasants to keep swine for their own consumption. However, taxation must have been a serious burden for the population, as also evidenced by complaints made to Eger castle.³⁰⁷ The

³⁰⁰ Bagi, A Nagykunság, 49-50.

³⁰¹ Gábor Bagi, "Megjegyzések a jász és kun népesség megmaradásához a török hódoltság korában" [Notes on the survival of the Iasian and Cuman population in the Turkish-Ottoman Period] in *Kunok és jászok 770 éve a Kárpát-medencében. A Jászkunság kutatása 2009* [Cumans and Iasians in the Carpathian Basin, 770 Years of History. Research on the Ias-Cuman Area, 2009] Ed. Júlia Bartha (Szolnok: Kun Összefogás Konzorcium and Jász-Nagykun-Szolnok Megyei Múzeumok Igazgatósága, 2011), 205-230: 213. (henceforth: Bagi, Megjegyzések)

³⁰² Bagi, Megjegyzések: 213.

³⁰³ Pálóczi Horváth, Településtörténeti kutatások, 222; Pálóczi Horváth, Falupusztásodás, 51.

³⁰⁴ József Kiss, *A Jászkun kerület parasztsága a Német Lovagrend földesírű hatósága idején (1702-1731)* [Peasants of the Ias-Cuman District under the Rule of th Teutonic Order, 1702-1731] (Budapest: Akadémiai Kiadó, 1979), 18. (henceforth: Kiss, A Jászkun kerület parasztsága)

³⁰⁵ Kiss, A Jászkun kerület parasztsága, 18.

³⁰⁶ Gábor Ágoston, "A szolnoki szandzsák 1591-1592. évi összeírása I." [The 1591-1592 conscription of the Sandjak of Szolnok] *Zounuk. A Szolnok Megyei Levéltár évkönyve* 3 (1988) 221-296: 233. (henceforth: Ágoston, A szolnoki szandzsák)

³⁰⁷ Botka, A Nagy- és Kiskunság, 214. The peasants of Mizse complained that they were required to perform a variety of agricultural labor as part of their tax, which meant an almost continuous work.

conscription lists from Eger castle in 1577-1579 mentions that inhabitants of the Cuman administrative unit of Kolbazszék paid their taxes in the form of money and labor, but also in the form of grain, butter, cheese, cottage cheese, fattened oxen and bacon for the castle (that is, the Hungarian royal authorities),³⁰⁸ while at the same time, they were obliged to provide fattened oxen, dairy cows, butter and cheese, occasionally also lambs and bees to the Turks as tax.³⁰⁹ This means that dairy cows, dairy sheep, fattened cattle and swine formed an important sustenance resource. Even though these settlements did not participate in the remunerative animal export, local trade connections may have been very lively.

The continuous fights between the Turkish-Ottoman and royal forces caused serious economic stress, and livestock must have often been injured or stolen. According to a 1686 report from the town of Mezőtúr, the Habsburg army drove away all the horses, slaughtered 50 draught oxen for their meat, took one to four draught oxen away from each household, and used the inhabitants' oxen to transport their wheat which often resulted in the death of these beasts.³¹⁰ Although such cases are not reported in the previous century, it is probably due to the sporadic nature of the sources. In 1699, at the end of the Turkish-Ottoman wars, János Kristóf Pentz conscripted the inhabitants of Karcagújszállás (the only remaining settlement) and their animals. The 78 inhabitants owned 103 horses, 617 cattle (207 oxen, 127 cows, 87 young oxen and 196 young cows), 345 sheep (89 of which were lambs), and 428 pigs (221 of which were piglets).³¹¹

Tibor Bellon's historical ethnographic studies on eighteenth-century Greater Cumania, based on written records, showed that the number of animals conscripted followed the market demand dynamically, especially for cattle kept for fattening, while the number of working animals kept close to the house did not change significantly.³¹² However, the number of the latter beasts is often unknown, and typically only animals raised for market purposes were conscripted. The availability of meadows was a major issue due to the extensive nature of the animal husbandry system based on livestock grazing on pastures. Early eighteenth-century conscriptions

³⁰⁸ Gyárfás, A jász-kunok, vol. 4, 132; Botka, A Nagy- és Kiskunság, 205-252.

³⁰⁹ Botka, A Nagy- és Kiskunság, 205-252.

³¹⁰ Gyula Benedek, "Iratok Szolnok megye történetéből 1686-1715." [Documents from the history of Szolnok County, 1686-1715.] Zounuk 4 (1989), 289-340: 292 (henceforth: Benedek, Iratok)

³¹¹ Tibor Bellon, *A nagykunsági mezővárosok állattartó gazdálkodása a XVIII-XIX. században* [Animal Husbandry in the Market Towns of Greater Cumania in the 18th-19th Century] Chapter: "Összeírások, állatszám a nyájakban." [Conscription and the size of herds.] Online edition: <http://terebess.hu/keletkultinfo/bellon3.html#5> (accessed 01.11.2014) (henceforth: Bellon, A nagykunsági mezővárosok)

³¹² Bellon, A nagykunsági mezővárosok, Chapter "Összeírások, állatszám a nyájakban"

from this region list draught horses, draught oxen, fattened cattle, dairy cows, “horses in the herd” and “cows in the herd” as separate categories. Interestingly, only a small number of animals were conscripted in 1713 as “kept in the herd”, probably due to the wartime situation that made livestock grazed on the open pastures more vulnerable to loss.³¹³ Political factors as well as economic necessities also had an impact on the conscription data.

The number of animals the region’s available pastures could sustain is mostly impossible to estimate – not only because the exact borders of pastures in a settlement’s possession are unknown, but also because some of these areas were temporarily covered with water now and then. In these seasons not all pastures could be used and their quality depended greatly on the weather and precipitation. The same was true even in the nineteenth century, when pasture borders changed dynamically so that the same area could be used for a variety of purposes (pasture, field cultivation, reed production etc.) depending on the immediate circumstances.³¹⁴ It may be assumed that a similar strategy was used to deal with the environmental difficulties presented by the region in previous periods, although no direct evidence exists for such practices in the Middle Ages. However, Matthias Bel’s *Notitia Hungariae novae Historico-geographica*, written in the mid-eighteenth century, refers to water problems in the region: although various watercourses meandered through Greater Cumania, serious draughts are not unknown in the summer.³¹⁵ Bel also mentions the good quality livestock comprising oxen, horses, swine and sheep; he adds, however, that large wild game is virtually absent and only hare and waterfowl is abundant in the region.³¹⁶

Written evidence from the late eighteenth century suggests that cattle and sheep were most often slaughtered at the butcher’s, however, sheep and swine was also regularly killed in households.³¹⁷ It seems that at least in the early modern period, meat quality in the butcher’s shops was monitored. In the second half of the eighteenth century, the town council of Karcag

³¹³ Kiss, A Jászkun kerület parasztsága, 88.

³¹⁴ Bellon, A nagykunsági mezővárosok, Chapter “Összeírások, állatszám a nyájakban”

³¹⁵ Bálint Illyés, Bálint and Rudolf Szöts, “Bél Mátyás: A kunok és jászok avagy filiszteusok kerületei.” [Matthias Bel’s description of the Cuman and Iasian districts] in *Bács-Kiskun megye múltjából* I. [From the History of Bács-Kiskun County. Vol. 1] Ed. Tibor Iványi-Szabó (Kecskemét, 1975), 7-52: 13. (henceforth: Illyés and Szöcs, Bél Mátyás)

³¹⁶ Illyés and Szöcs, Bél Mátyás, 13.

³¹⁷ György Elek, “Értünk Kunság mezején...” Táplálkozástörténeti adatok Karcag város 18. és 19. századi irataiból” [“For us in the meadows of Cumania...” Notes on dietary histories from the 18th and 19th-century town of Karcag] *Zounuk* 25 (2010), 125-158: 132, 134 (henceforth: Elek, Értünk Kunság mezején)

inspected the beast to be butchered and gave permission for it to be slaughtered and sold.³¹⁸ That horse meat was consumed is suggested by a document from Karcag from 1766, according to which a shepherd cut huge pieces of meat from a horse carcass and took it.³¹⁹ The document, however, does not reveal much about the everyday practice of horse consumption, which may have been continuous from the medieval times to the modern period.³²⁰

3.2.2 *The archaeological sites*

Four archaeological sites from this area were included in our study: Orgondaszentmiklós, Asszonyszállás, Kolbazszállás and Móric yielded altogether 3329 animal bones. All these settlements belonged to the Kolbazszék Cuman administrative unit according to a 1558 conscription,³²¹ and all of them were destroyed in the last phase of the Turkish-Ottoman wars. (Their inhabitants moved to the nearby settlements of Karcag and Kunhegyes, the former of which became the administrative center after that Kolbazszállás became deserted.) Thus, these sites provide an insight into a relatively short, although turbulent period, between the fourteenth and sixteenth centuries.

3.2.2.1 *Orgondaszentmiklós*

This village site probably had a predecessor, an Árpád Period settlement that was destroyed during the Mongol invasion. Both Méri and Selmeczi found pit-houses and dated them to this period;³²² the Cumans might have picked this location for settlement exactly because basic infrastructure was already available here. The settlement first appears in the textual record only

³¹⁸ Elek, Értünk Kunság mezején: 133.

³¹⁹ Elek, Értünk Kunság mezején: 136.

³²⁰ The issue of horse consumption is discussed in details in chapter 5.1.

³²¹ Györffy, A Nagykunság és Karcag a középkorban, 310.

³²² László Selmeczi, “Nomád települési struktúra a Nagykunságban” [Nomadic settlement structure in Greater Cumania] in *Régészeti-néprajzi tanulmányok a jászokról és a kunokról* [Archaeological and Ethnographic Studies on the Iasians and Cumans] Folklór és etnográfia 64. (Debrecen: Kossuth Lajos Tudományegyetem Néprajzi Tanszék, 1992), 49-59: 51 (henceforth: Selmeczi, Nomád települési struktúra)

late, in a 1521 *perambulum*.³²³ Here, however, nothing is said about the settlement itself. Only its name is mentioned and the document does not focus on this village but simply makes reference to the settlement in property rights conflicts between members of the Hungarian nobility and Cumans from Asszonyszállás under royal protection.³²⁴ Orgondaszentmiklós is mentioned as a village next to Asszonyszállás and Kunkápolnás, with the additional information that a road led from here to the market town of Nádudvar.³²⁵ According to one theory, the name Orgonda derives from the name Urkund, which might have been a Cuman or even a Pecheneg name (the tenth-century Pecheneg nobleman Tonuzoba had a son of this name).³²⁶ Another option is that the settlement's name, *Orgonda*, comes from the expression '*orqun day*', a hill where hay is harvested;³²⁷ this is probably connected with the Cuman word '*oraq*', meaning sickle.³²⁸ The second segment of the village's name definitely refers to the patron saint of its church, St. Nicolaus.³²⁹ The village belonged to the administrative unit of Kolbazszék from the fifteenth century onwards.³³⁰

Not much is known about the village's medieval population, except that it was situated on the territory of the Olas clan. The village's cemetery, excavated by László Selmeczi in 1971, presented early graves of commoners in which some pagan customs were still followed: the arms of a young man buried in the mid-fourteenth century were not crossed but straightened beside his body; although objects buried with him (jewelry with Christian symbols) already reflect

³²³ Gyárfás, A jász-kunok; vol. 3, 752

³²⁴ Gyárfás, A jász-kunok, vol. 3, 749-753.

³²⁵ László Selmeczi, "A karcag-orgondaszentmiklói kun szállástemető régészeti kutatásának néhány tanulsága" [Notes on the archaeological research on the Cuman cemetery of Karcag-Orgondaszentmiklós] In "Kun-kép". *A magyarországi kunok hagyatéka. Tanulmányok Horváth Ferenc 60. születésnapja tiszteletére* [Cuman Image. Heritage of the Cumans in Hungary. Studies in Honor of Ferenc Horváth's 60th Birthday] Ed by Szabolcs Rosta (Kiskunfélegyháza: Bács-Kiskun Megyei Önkormányzat Múzeumi Szervezete, Kiskun Múzeuma, 2009), 17-32: 19 (henceforth: Selmeczi, A karcag-orgondaszentmiklói kun szállástemető régészeti kutatása)

³²⁶ Gyárfás, A jász-kunok vol 3, 375-376. In Selmeczi's view, connecting the settlement's name to the Pecheneg nobility is not supported by the historical facts. Selmeczi, A karcag-orgondaszentmiklói kun szállástemető régészeti kutatása, 19, footnote 24.

³²⁷ Bagi, A Nagykunság, 75; Júlia Bartha, *A Kunság népi kultúrájának keleti elemei* [Eastern elements in the Folklore of Cumania] Studia folkloristica et ethnographica 44 (Debrecen: Kapitális BT, 2002), 38 (henceforth: Bartha, A Kunság népi kultúrájának keleti elemei)

³²⁸ Mándoky Kongur, A kun nyelv magyarországi emlékei, 142.

³²⁹ Gábor Bagi, "Adalékok a karcagi határ településeinek és birtokosainak történetéhez a tatárijárástól a török hódítás koráig" [Notes on the history of the settlements and their landlords around Karcag from the Mongol Invasion to the Turkish-Ottoman Period] in *A szülőföld szolgálatában. Tanulmányok a 60 éves Fazekas Mihály tiszteletére* [Serving the Fatherland. Studies for Mihály Fazekas' 60th Birthday] Eds. Kataléin Gulyás and Gábor Bagi. A Jász-Nagykun-Szolnok Megyei Múzeumok Közleményei, 49. (Szolnok: Jász-Nagykun-Szolnok Megyei Múzeumok, 1994), 75-93: 84 (henceforth: Bagi, Adalékok), Bagi, A Nagykunság, 75.

³³⁰ Selmeczi, A karcag-orgondaszentmiklói kun szállástemető régészeti kutatása, 19.

“official” religious values.³³¹ Reed mats placed under the body of the deceased were also discovered, similarly to the rites observed in the cemetery of Cuman Asszonyszállás. This practice was also interpreted as a remaining pagan custom with no precursors in Central Europe.³³² Grave no. 40 in the village cemetery contained the complete skeleton of a dog, placed under the head of the deceased and clearly evidence of some kind of a pagan ritual.³³³ Moreover, this is not a practice that can be performed in secret or that might escape the attention of church officials, so it is challenging to explain how this could have taken place in a cemetery that largely reflects Christian customs.

Textual records on the village are available from the sixteenth century only. The war situation in the second half of the century severely affected the village. In 1571, 29 houses were conscripted.³³⁴ However, in the 1577-79 tax roll, the population of Orgondaszentmiklós only consisted of seven peasants and one landless peasant (*pauper*); the fact that 15 or 18 houses were deserted suggests that only one third of the population remained and the others must have migrated out. According to this record they paid their tax in the form of grains, butter and cheese (on top of tax paid in money and in labor).³³⁵ Interestingly, the Turks collected tax after all pigs, which was unusual. According to this tax roll, Orgondaszentmiklós was the only village where this form of tax was collected,³³⁶ this means that swine keeping must have been of special importance here. The village’s situation only worsened and in 1587, only four peasants were found on the conscription list (the document says they formerly numbered 22 souls).³³⁷ The 1591-92 Turkish conscription counted five families in the village, who paid altogether 7,000 akçe,³³⁸ 650 of which was tax paid after sheep and 20 after damage to crops by grazing herds

³³¹ Selmeczi, A karcag-orgondaszentmiklósi kun szállástemető régészeti kutatása, 21-22. László Selmeczi, “A karcag-orgondaszentmiklósi kun szállástemető 1. sírjának lehetséges értelmezése.” [Possible interpretations of grave no.1 of the cemetery of Karcag-Orgondaszentmiklós] *Communicationes Archaeologicae Hungariae* 2006, 253-274: 265 (henceforth: Selmeczi, A karcag-orgondaszentmiklósi kun szállástemető 1. sírja)

³³² Selmeczi, A magyarországi kunok temetkezése, 36.

³³³ Selmeczi, A magyarországi kunok temetkezése, 40. This skeleton, however, has not been found in the museum's collection; it might have been lost.

³³⁴ Györffy, Adatok az Alföld törökkorai településtörténetéhez, 25.

³³⁵ Botka, A Nagy- és Kiskunság, 242.

³³⁶ Botka, A Nagy- és Kiskunság, 205-252.

³³⁷ György Elek, Elek, György. “Üllő, lapos és berek. Tájtörténeti áttekintés” [Meadow, plain and grove. A landscape historical overview] Zounuk 21 (2006), 25-55: 31 (henceforth: Elek, Üllő, lapos és berek); István Sugár, “Az egri várnak adózó jázsági, nagy- és kiskunsági települések urbáriális összeírása, 1587” [Conscription of tax payers of the Eger castle, 1587] *Tisicum* 10 (1997), 5-12: 10 (henceforth: Sugár, Az egri várnak adózó)

³³⁸ A silver coin, the main monetary unit used in the Ottoman Empire.

(while 2,100 akçe was paid after wheat and 1,500 after firewood and hay).³³⁹ At the end of the seventeenth century, the village was definitely destroyed; in 1594-95 it was recorded as a completely deserted settlement.³⁴⁰ It never revived; on the map of the second military survey the region is only denoted as “Nagy Orgonda Halom” (Greater Hill of Orgonda) and “Kis Orgonda Halom” (Lesser Hill of Orgonda).³⁴¹

The first excavations were carried out here by Lajos Bartucz and István Györffy in 1926. Unfortunately, their findings and documentation were not properly preserved. However, almost 20 years later, Magda Bárányné Oberschall wrote that Orgondaszentmiklós was definitely a Cuman settlement, not only based on the items of dress (“pártaövek”, ornamented belts) found in the graves, but because characteristic Cuman anthropological features were also observed on the skeletons.³⁴² The site was further researched in 1970-73 by László Selmeczi; the faunal material discussed in this subchapter was unearthed during this excavation. Unfortunately, only two plots and their features, not the whole village, were brought to light and documented, along with sections of the cemetery. On the surface, the traces of the settlement were observed along a 1 km long strip. Orgondaszentmiklós was a “one road” settlement: two straight rows of houses were separated by a road that led through the village.³⁴³ The settlement was situated on the bank of a cut-off of the Tisza River, so the contemporary environment must have been wet and rather swampy, just like the whole of the Greater Cumania area³⁴⁴ (as no archaeobotanical finds were collected and no soil analysis was carried out, the precise reconstruction of the medieval environment is not possible). Selmeczi dated the excavated archaeological features to the fourteenth-sixteenth century, although early graves with grave goods dated to the late thirteenth century were also found in the village’s cemetery.³⁴⁵

Based on the observations he made during the excavations, Selmeczi presented

³³⁹ Ágoston, A szolnoki szandzsák, 243.

³⁴⁰ Elek, Üllő, lapos és berek, 31.

³⁴¹ The second military survey of Hungary, Online resource:

http://archivportal.arcanum.hu/maps/html/katfelm2b_google.html accessed 01.15.2014.

³⁴² What these special characteristics are, however, is not discussed in the publications. Selmeczi, Régészeti kutatások a Nagykunságban, 59; Magda Bárányné Obershall, *A salgótarjáni, orgondaszentmiklósi és pakonyi középkori sírleletek* [Grave finds from Salgótarján, Orgondaszentmiklós and Pakony] Művelődéstörténeti füzetek 1. (Budapest: A Magyar Történeti Múzeum Történeti Tára, 1942), 7. Bárányné Oberschall mistakenly placed the site to Csanád County.

³⁴³ Selmeczi, Nomád települési struktúra, 50-51.

³⁴⁴ Pálóczi Horváth, Középkori településtörténeti kutatások, 11.

³⁴⁵ Selmeczi, A karcag-orgondaszemiklósi kun szállástemető régészeti kutatása, 20-21.

Orgondaszentmiklós as evidence for the structural similarities between Cuman and contemporary Hungarian settlements. In his view, the basic structure of the fourteenth-sixteenth century village did not significantly differ from what would have been usual for other coeval communities on the Great Hungarian Plain, apart from remains indicating the presence of a yurt in the backyard.³⁴⁶ However, the yurts, whose bases were unearthed on two separate plots next to a house and a pit-house, signify the presence of important cultural differences. Even more interesting is the fact that the same type of yurt base was found next to a pit-house and next to a house built above-ground, which suggests that yurts might have been used regardless of the financial position of a family.³⁴⁷ The use of these structures might also reflect the increasing necessity for mobility in the sixteenth century due to conflicts with Turkish-Ottoman forces. These yurts could easily have been dismantled and constructed again when danger threatened. This idea is also supported by the absence of burning traces on the place of one yurt while the contemporary house next to it seems to have burnt down.³⁴⁸ As mentioned in subchapter 1.3, written sources in fact mention Cumans living in tents (that is, yurts) as late as in the mid-fourteenth century.³⁴⁹ It cannot be excluded that this practice continued up to the early modern period, although it had nothing to do with nomadism. Selmeczi suggested that the yurt might have been occupied during the summer, as its entrance was on the coldest, northern side, while the entrance of the dwelling house opened in a southeastern direction.³⁵⁰ Structures related to animal keeping were also brought to light at this settlement: a 10 x 4 m fold or stable and a pit-stall were discovered.³⁵¹

A relatively large number of faunal remains (1654 pieces) were collected from this site. Given the archaeological methodology of the 1970s, precise methods (sieving, flotation) were not used, the bones were collected by hand, which is reflected in the average size of the finds (the smallest pieces are 3-4 cm long). This causes an unfortunate but unavoidable loss of information.

The species list from the site contains the expected domesticates: cattle, horse, sheep,

³⁴⁶ Selmeczi, Nomád települési struktúra, 49-59.

³⁴⁷ László Selmeczi, "A szállástól a faluig" [From campsites to villages] in *Régészeti-néprajzi tanulmányok a jászokról és a kunokról* [Archaeological and Ethnographic Studies on the Iasians and Cumans] Folklór és etnográfia 64. (Debrecen: Kossuth Lajos Tudományegyetem Néprajzi Tanszék, 1992), 61-85: 72 (henceforth: Selmeczi, A szállástól a faluig)

³⁴⁸ Selmeczi, A szállástól a faluig, 71.

³⁴⁹ 1347: "Comanos filtreas domus habentes..." Gyárfás, A jász-kunok vol 3., 484

³⁵⁰ Selmeczi, Nomád települési struktúra, 55.

³⁵¹ Selmeczi, Nomád települési struktúra, 51; Selmeczi, Régészeti kutatások a Nagykunságban, 65-66.

goat, swine, dog, cat, hen, goose, duck, and three types of wild game: red deer, hare and wild boar. Wild animals are represented by only four bones. Thus, hunted animals only very rarely contributed to the diet of the inhabitants. One red deer antler fragment testifies to the use of antler as a raw material; it is, however, impossible to say if the antler was collected or came from a hunted red deer. Most of the bones are badly damaged as they were broken up or cut up during the primary and secondary butchering process, and most had been gnawed by dogs. This increased the number of specimens which could not be identified to species, where only the skeletal element but not the taxon could be identified. Bones of rodents and hedgehogs probably represent secondary deposits and postdate the medieval period.

Species	Bones identified	% of all faunal remains	% of faunal remains identified to taxon	MNI	Butchering marks	Skinning marks	Worked pieces	Pathological bones
Cattle	456	27.75	39.21	13	42	1	1	2
Horse	223	13.57	19.17	7	9	4	7	4
Sheep and goat	228	13.88	19.60	7	5	-	-	-
Swine	195	11.87	16.77	11	10	-	-	-
Dog	31	1.89	2.67	2	-	-	-	-
Domestic cat	1	0.06	0.09	1	-	-	-	-
Domestic hen	11	0.67	0.95	2	-	-	-	-
Domestic goose	5	0.30	0.43	1	-	-	-	-
Domestic duck	1	0.06	0.09	1	-	-	-	-
Total domestic	1151	70.05	98.97		66	5	8	6
Red deer	1 + 1 antler fr. ³⁵²	0.06	0.09	1	-	-	-	-
Wild swine	1	0.06	0.09	1	-	-	-	-
European hare	1	0.06	0.09	1	-	-	-	-
Ground squirrel	1	0.06	0.09	1	-	-	-	-
European hamster	2	0.12	0.17	1	-	-	-	-
Northern white-breasted hedgehog	2	0.12	0.17	1	-	-	-	-

³⁵² The antler fragment was not included in the species ratio calculations as it does not represent kitchen refuse but possibly collected raw material/workshop debris. Similarly, 11 of the 12 carp bones probably derive from one individual and consequently these are counted as a single entity (1) in the calculations.

Common bream	2	0.12	0.17	1	-	-	-	-
Carp (Cyprinida sp.)	12	0.12	0.17	1	-	-	-	-
<i>Total fish</i>	<i>14</i>	<i>0.24</i>	<i>0.34</i>					
<i>Total wild game</i>	<i>23</i>	<i>0.73</i>	<i>1.03</i>	-	-	-	-	-
Total identified to taxon	1174	70.71	100	-	66	5	8	6
Large ungulate	441	26.91	-	-	11	-	-	1
Small ungulate	36	2.20	-	-	-	-	-	-
Total non-identified to taxon	477	29.1	-	-	11	0	0	1
Human remains	3	0.18	-	-	-	-	-	-
Total	1654	100	100	-	77	5	8	7

Table 3.2.1 The faunal remains unearthed at Orgondaszentmiklós

The relatively low number of fish remains is not necessarily due to a methodological flaw rooted in the excavation methods, but might also reflect medieval restrictions. The cut-off of the Tisza River called Üllő, which was used as a fishpond by István, the ban of Szörény in 1349, was in noble possession. Commoners were not allowed to use it for fishing. The 1349 document explicitly prohibits Cumans living around the nearby villages of Abád and Tomajmonostora to use the possessions of the abovementioned ban for their own purposes, including fishing in the Üllő pond.³⁵³ This suggests that the fourteenth-century Cuman inhabitants of the region must have at least tried to exploit these resources at times, and thus, formal prohibitions had to be made. Nevertheless, other bodies of water might have been legally used for fishing. On the map of the second military survey, the region is shown as abundant in watercourses; a larger body of water called “Aszonyszállás-fenek” (Lake of Asszonyszállás) is depicted in the village’s vicinity. (The latter probably belonged to the settlement of Asszonyszállás, the neighboring village.) The medieval legal standing of these bodies of water is, however, unknown.

As the dating of the excavated features spans three centuries with no internal chronology, differences between separate phases of integration are unavoidably eliminated in the record. This is an unfortunate loss of information; animal keeping practices in the fourteenth-century village

³⁵³ Gyárfás, A jász-kunok, vol. 3, 483.

were probably somewhat different sixteenth husbandry practices. Moreover, the ups and downs in the region's history definitely must have influenced the everyday realities of animal herds, their importance for the locals and their standing in the market. Thus, what we have is an 'average' value that includes evidence of early settlement, more-or-less, peaceful periods and times of serious disturbances alike.

The species list is not exceptional; the ratio, however, is definitely unusual in a late medieval Hungarian context. The most striking fact is the remarkably high ratio of horse bones; the ratio of horse bones actually exceeds swine (see *Table 3.2*). Even though at most medieval sites, horse bone fragments are not taken as evidence for horse consumption, this is not the case here. Butchered horse bones are available from the site, which indicates that their ratio in the kitchen garbage reflects their ratio in the meat consumed. The number of butchered horse bones is not high, but the number of butchered bones is low in general: cut marks were observed only on 77 pieces, of which 9 were identified as horse bones (at the same time, cut marks were seen on 42 cattle bones). Six pieces are also burnt. Butchered horse bones included femur, humerus, tibia and scapula: skeletal elements not associated with leather production in any way. The unambiguous butchering marks on bones that represent high quality meat leave no doubt that horses were eaten. Pieces with skinning marks (mostly phalanges) reflect the exploitation of horse hide. Horse bones were also used in bone tool production, as testified by the worked pieces (see subchapter 5.3).

The question of the special treatment of horses is raised in connection with two finds. One is a pelvic bone that shows signs of a dislocated fracture, an injury that could not have been healed without human intervention. This individual was definitely cared for, and such a find is quite unique in the Hungarian record (see chapter 6). The other find has unfortunately been lost. In his archaeological report 1974,³⁵⁴ Selmeczi noted that a horse skull was found in one of the pits, along with ash and potsherds. According to his interpretation, the skull was altered and had been used as a stool. It seems to me, however, that he misidentified the find, as on the attached photo it seems from the *suturae* of the incomplete skull that it comes from cattle and not a horse. The interpretation as a stool is not explained in detail in Selmeczi's article, nevertheless, I do not see any signs of bone working or deliberate alteration on the photo, and I am skeptical that such

³⁵⁴ Selmeczi, Nomád települési struktúra, 47-58.

a function could be reconstructed from the piece itself. As the skull is now lost, it is unfortunately impossible to examine it. It is worth mentioning here, however, that according to the ethnographer István Györffy, 18-19th century herders frequently used skulls of cattle and horses as stools in their *ad hoc* night huts made of reed.³⁵⁵

Another striking fact about the site is the high ratio of swine. As discussed above, the tax rolls reveal that swine keeping must have been especially important in this particular village, and Orgondaszentmiklós was the only settlement in Greater Cumania in the 1577-79 tax rolls where the Turks collected tax after every pig.³⁵⁶ Swine is usually considered a typical “backyard animal” of sedentary agriculturalists, which, although it may be grazed, is more tricky to keep in large herds simply due to their natural behavior, and that cannot be moved long distances. Therefore, their presence is not expected in abundance if traditional, nomadic pastoralist species preferences were still being followed. However, their keeping is remunerative and the wet environs must have provided reasonable fodder. It seems that Cumans adopted swine keeping relatively rapidly. In the 1521 perambulum that first mentions Orgondaszentmiklós, places called Disznósréth (a meadow used for grazing swine) and Disznóshalom (a hill where swine are kept or grazed) are mentioned in the vicinity of the village,³⁵⁷ also indicating that by that time the practice of swine keeping must have been so prevalent that natural places were named after this kind of land use. This also implies that the environmental conditions were favorable for the keeping of swine, typically for the rather swampy, wet areas of the plain. Even though Cumans on the steppe were definitely familiar with pigs,³⁵⁸ the everyday practice of swine keeping might have been adopted from the locals when the Cumans arrived and settled. (This is also supported by the observation of Ágnes Aszt in connection with Szentkirály, that structures related to swine keeping are identical with those seen in Hungarian settlements.³⁵⁹)

Only one horse bone was complete enough for withers height (height at the shoulder)

³⁵⁵ István Györffy, Nagykunsági krónika [A Chronicle of Greater Cumania] (Budapest: Szépirodalmi Kiadó, 1955), 1955, 35.

³⁵⁶ Botka, A Nagy- és Kiskunság, 243.

³⁵⁷ Gyárfás, A jász-kunok, vol.3, 752

³⁵⁸ A few expressions connected to swine are listed in the Cuman wordlist of the Codex Cumanicus, but only the name of the species is known, the names of age and sex groups within the species are not specified. Györffy, A kipcsaki kun társadalom, 244.

³⁵⁹ Ágnes Aszt, “Gödörőlak a középkori magyar falvakban, különös tekintettel a Szentkirályon feltártara” [Pit stalls in medieval Hungarian villages, with a special emphasis on those excavated at Szentkirály] *Arrabona - Múzeumi közlemények* 43/1 (2005), 37-66: 46-53 (henceforth: Aszt, Gödörőlak)

calculation. This metatarsal comes from an individual that measured 142 cm at the withers, which corresponds to the size of horses in Hungary in this period.³⁶⁰ Four cattle bones were preserved intact, one metacarpal and three metatarsals; based on the measurements all of them come from cows. Their withers heights are estimated to 113, 116, 130 and 143 cm, suggesting the presence of at least two size cohorts of cows.

Even though some fragments indicate the presence of larger individuals, there is no sign of animals the size of Hungarian gray cattle. Only one horn core fragment was found. This specimen certainly belongs to small, brachyceros-type cattle that typically have short horns and a deep forehead. Skeletal elements most suitable for identification, that is, the horn cores are virtually missing from the assemblage. If there was a horn-processing workshop in the village, such finds might have been accumulated there.

	Infantile		Juvenile		Subadult		Adult		Mature		Senile	
Cattle	-	-	35	7.7%	1	0.01%	165	36.2%	1	0.01%	-	-
Horse	-	-	7	3.1%	1	0.4%	77	34.5%	2	0.9%	-	-
Sheep and goat	-	-	12	5.3%	-	-	46	20.2%	-	-	-	-
Swine	-	-	23	11.8%	-	-	68	34.9%	-	-	-	-
Dog	-	-	-	-	-	-	16	51.6%	-	-	-	-

Table 3.2.2. Kill-off patterns at Orgondaszentmiklós. The percentages show the ratio of juvenile, subadult, adult etc. animals in all finds identified to the given species. The fragmentary condition of the finds did not allow a precise estimation of the age at death in most cases.

Kill-off patterns reveal a low ratio of young animals; even in case of swine, usually slaughtered in a young age when it reaches its ideal weight, bones from juvenile animals do not exceed 12% of the total number of swine remains. This ratio is especially low in sheep, suggesting an emphasis on secondary exploitation, that is, wool and dairy products. Mature individuals were exclusively cattle and horses.

Although Orgondaszentmiklós was not mentioned in our sporadic documents in connection with animal trading, villagers probably tried to maintain herds that could be sold if necessary. It is worth mentioning here that Robert Cribb noted in his ethnographic work that

³⁶⁰ Bökönyi gives the average withers' height as between 135 and 140 cm. Sándor Bökönyi, *History of Domestic Mammals in Central and Eastern Europe* (Budapest: Akadémiai Kiadó, 1974), 294. (henceforth: Bökönyi, History of Domestic Mammals)

nomads often maintain different herds of animals and the commercial herd (animals bought as youngsters and sold as adults), the juvenile herd (young males to be sold at the meat market as yearlings) and the subsistence herd were kept separately.³⁶¹ According to ethnographic studies by Tibor Bellon, cattle bred for market purposes in the area of Greater Cumania in the early modern period, the so-called *sőre* or *göböly*, whose fattening was the most remunerative form of animal keeping, was also grazed separately and provided with the best quality pastures.³⁶² Of course, resemblances in practicalities caused by similar economic activities do not imply an organic continuation of some sort of nomadic heritage. However, it is important to keep in mind that if a similar practice was followed here, then animals from the commercial herd and the juvenile herd would not appear in the assemblage (those animals being sold, slaughtered and deposited elsewhere), even though there must have been some inflow of animals from the trade herds to the subsistence herd in order to maintain the ideal age/sex ratio of the latter. Thus, animal trade, even on a larger scale, might leave very little material evidence even though the general financial standing of the inhabitants should reflect the presence of wealthy livestock traders. Since only a small part of the whole settlement was excavated, this question remains unresolved. The tax paid by the village's remaining families at the end of the sixteenth century, however, is not at all exceptional in the region. Most villages paid 5-8,000 akçe altogether, with alternating emphasis on various taxation items. However, in Orgondaszentmiklós only five families paid this amount, while in other settlements similar amounts were collected from 10-20 families.³⁶³ This might signify a concentration of wealth in this village. However, the taxes paid after the livestock was not high, and therefore, it is not likely that the villagers possessed huge animal herds – at least not in the period of Turkish taxation. It would be interesting to know if the relatively high amount paid after firewood and hay was collected mostly after the former or the latter (the latter may indicate a need for fodder to maintain larger herds), but these two items were recorded in one sum and, thus, it is impossible to decipher the relative importance of hay.

It is worthwhile taking a look at the bones unearthed from the buildings and their connected features to see if there are differences in the material associated with features identified as belonging to two separate households. (Unfortunately, ca. 150 fragments come from

³⁶¹ Cribb, Nomads in Archaeology, 117

³⁶² Bellon, A nagykunsági mezővárosok, Chapter “Sőre, göböly, gulya”

³⁶³ Ágoston, A szolnoki szandzsák, 241-277.

a rubbish pit whose documentation was partly lost and it is not sure if it belonged to the first or the second household.) These plots were situated 50 m from each other, and they seem to represent households with different financial (and probably social) status. On the first plot, a 6 m x 14 m tripartite dwelling house was brought to light with connected features (pits, trenches) behind it.³⁶⁴ This type of dwelling is characteristic of houses of this period on the Great Plain, not only in Cuman territories but in general,³⁶⁵ and signifies a high level of acculturation in terms of architectural style. In the immediate vicinity of the house there were pits, working areas where the cereals were ground, and a phenomenon identified as the base of a yurt was found. The refuse from this first household is represented by 1268 bone fragments. The second plot yielded significantly fewer pieces, only 215, in which only the main domesticates are represented. Two pit houses were discovered, one of which was fully excavated; these structures suggest far less wealthy inhabitants on this plot. An interesting find from one of the pit houses is a stove tile which, according to Selmeczi, must have been re-used as a cup or bowl.³⁶⁶ The ratio of domesticates from the two plots are almost identical in the unearthed material; the only difference is that there were significantly more swine bones in the refuse from the second household, while there were more remains of sheep in kitchen refuse of the first, presumably wealthier household. Characteristic spiral breaks suggest that the bones were fresh when broken. Almost all the domestic fowl remains (10 hen and 1 goose bone) were recovered from the first plot, while there was no domestic fowl found on the plot with the pit houses. Similarly, most wild game remains (1 wild swine, 2 red deer and 1 hare bone) were found on the plot belonging to the wealthier household, while the other plot yielded no wild game remains. (This, however, may be explained, not only by different meat preferences and status, but also by the difference in sample size where the expectation is that the larger the sample the more variability will characterize it.) The pathological horse pelvis that testifies to some form of veterinary treatment (see chapter 6) was also associated with the wealthier household. There are almost no pieces with cut marks from the pit houses (only 3 were found), while there are 46 of them in the above ground dwelling. This suggests that in household slaughters, the inhabitants of the tripartite house had access to quality metal tools and could use them when they processed the carcass,

³⁶⁴ Selmeczi, Nomád települési struktúra, 52-55.

³⁶⁵ Selmeczi, Nomád települési struktúra, 55.

³⁶⁶ Selmeczi, Nomád települési struktúra, 57.

while people in the second household did not have such expensive items and tended to break up the bones using simple percussion instead. However, spirally broken pieces are also present in the first household in a relatively high number (48 pieces). Altogether 110 fragments were gnawed by dogs in the first household, and 23 pieces in the second household, suggesting that some butchering marks may have been eliminated by gnawing. This also means that rubbish was either disposed of in an open area where dogs had access to it, or that it was deliberately given to the dog(s). As these finds were unearthed either in the houses themselves or in their immediate vicinity, it is logical that the gnawing marks must come from animals kept in these same households.

3.2.2.2 Asszonyszállás³⁶⁷

Asszonyszállás was a Cuman village located northeast of present-day Karcag, in the close vicinity of Orgondaszentmiklós, the previously discussed settlement. The village appears first in a charter from 1506 where there is a report that Cumans from Asszonyszállás and Karcagújszállás were involved in a fight over interconnected landed properties in the immediate region.³⁶⁸ (This was, in fact, a long discussion that lasted for at least 15 years.) Asszonyszállás was again mentioned in a 1521 document in which Cuman nobles from this settlement were again engaged in legal procedures over a piece of land in Szabolcs County; this is the same document that mentions Orgondaszentmiklós for the first time.³⁶⁹ In the 1521 charter, “Cumans of the king” are mentioned in connection with the village.³⁷⁰ These perambulation documents and legal charters from the first half of the sixteenth century aimed to settle fights over landed

³⁶⁷ There are two Cuman sites called Asszonyszállás: one in southern Hungary, in the vicinity of present-day Kiskunmajsa; the other one lies in the eastern region of the Great Hungarian Plain, next to the town of Karcag. The latter village is discussed here.

³⁶⁸ Gyárfás, A jász-kunok, vol. 3, 722-725; György Elek, “A Gergely-halomtól a Karajános-gátig: Tájörténeti áttekintés, II.” [From the Gergely Hill to the Dam of Karajános. An overview of landscape history] Zounuk 22 (2007), 9-54: 9.

³⁶⁹ Gyárfás, A jász-kuno, vol.3, 374-375; 750-753.

³⁷⁰ “Cumanorum Regiae Mattis in possessione seu descensu Asszonyszállása nuncupata residentium...” Gyárfás, A jász-kunok, vol. 3, 750

properties³⁷¹ and indicate the value of available lands in the region as well as perhaps reflect a need for extended pastures.

Otherwise, not much textual data has been preserved on the medieval history of this settlement. It fell within the territory of the Olas clan, and later to Kolbazszék. In the second half of the sixteenth century, the settlement is listed as a village,³⁷² which suggests it held a position of minor importance in the economic network. The 1577-79 tax roll reports 24 peasants and 12 (or 13) deserted houses in the village; they paid their tax to Eger castle and the Turkish authorities in the form of money, labor, cereals, butter and cheese. Fattened oxen also had to be provided to the Turks.³⁷³ Ten peasants were registered in the 1587 conscription (the same document claims that their number used to be 39, so migration took place here too).³⁷⁴ The 1591-92 Turkish defter again counted ten families in Asszonyszállás, who paid altogether 7,000 akçe, 700 of which was tax paid after sheep, 250 after swine and 10 after the agricultural damage caused by grazing herds (while 2,870 akçe was paid after wheat and only 400 after firewood and hay).³⁷⁵ Based on this piece of data, Asszonyszállás seems to have occupied a place in the settlement hierarchy similar to that of Orgondaszentmiklós, although here the concentration of wealth in the hands of a few families by the end of the sixteenth century is not evident.

Most of the archaeological remains of the medieval Cuman village of Asszonyszállás were destroyed by modern-day plowing; therefore, a comprehensive excavation was not possible and only exploratory trenches were opened up. The collected faunal material comes, however, not from this explanatory trench but from the cemetery excavation carried out by Selmeczi in the beginning of the 1970s. The cemetery surrounded the village church that was situated on the highest elevation of the immediate region;³⁷⁶ the animal bone material comes from the trench surrounding the cemetery. Thus, this assemblage accumulated in a different way than the one that came to light in the refuse pits of Orgondaszentmiklós. The animal bones collected at Asszonyszállás must have been refuse material deposited in the area of the church, garbage that was mixed with the soil in the trench. As a deliberate, accumulative deposition of rubbish in the church area is not likely, *ad hoc* deposition, even accumulation connected to dogs or other

³⁷¹ Gyárfás, A jász-kunok, vol.3, 371-375

³⁷² Bagi, Adalékok, 79.

³⁷³ Botka, A Nagy- és Kiskunság, 241-242.

³⁷⁴ Sugár, Az egri várnak adózó, 9.

³⁷⁵ Ágoston, A szolnoki szandzsák, 243.

³⁷⁶ Selmeczi, Adatok és szempontok, 13.

scavengers must be considered. (However, clear gnawing marks were only observed in 38 cases. This, by the way, also implies that a number of pieces must have been taken away and dispersed by dogs, a factor beyond reconstruction that might have influenced the composition of the rubbish.)

The fourteenth-sixteenth-century cemetery reveals intriguing details on the level of integration of the region's Cuman population into indigenous society of the Árpád Period. Although all the dead were buried in coffins and according to proper Christian custom, a number of phenomena that might be classified as popular pagan customs were discovered. Archaeobotanical examination revealed that all bodies, irrespective of the status of the deceased, were wrapped in a reed mat before they were put into the coffin.³⁷⁷ This practice was previously unknown in the Carpathian Basin, and only appeared with the migration of the Cumans; it has analogies with practices present in the Donets region in the eleventh-thirteenth centuries.³⁷⁸ Interestingly, all reed mat remains had a purple color, suggesting that purple may have been the color of mourning in the Cuman cultural heritage (which might have survived in the form of "Cuman blue" (*kunkék*) color known from ethnographic observations).³⁷⁹ Remains of *Claviceps purpurea*, a toxic fungus that grows typically on rye and was used for medicinal purposes and *Artemisia* plants, species associated with mourning, were unearthed in a couple of graves, placed around or under the head of the deceased.³⁸⁰ Horse teeth were found in two graves; Selmeczi interprets these finds as being part of a symbolic horse burial.³⁸¹ This is an interesting suggestion, as horse burials (even symbolic ones when only parts of the horse's body or only its harness is buried) are typically associated with graves of the early Cuman nobility, from which commoners' graves were always differentiated. It seems that at Asszonyszállás, just as at Orgondaszentmiklós, Cuman acculturation at the local village level was not yet completed in the fourteenth-sixteenth century, but some (although only minor) elements of their specific cultural background were still preserved. However insignificant these elements might be, they may have constituted an important aspect of the community's identity.

The graves also yielded some animal bone fragments at Asszonyszállás. Selmeczi

³⁷⁷ Selmeczi, Adatok és szempontok, 14.

³⁷⁸ Selmeczi, A magyarországi kunok temetkezése, 36.

³⁷⁹ Selmeczi, Adatok és szempontok, 18.

³⁸⁰ Selmeczi, Adatok és szempontok, 15; Selmeczi, A magyarországi kunok temetkezése, 40-41.

³⁸¹ Selmeczi, Adatok és szempontok, 16.

mentions two horse teeth,³⁸² brought to light in three different graves.

The animal bones from the trench were hand-collected. With this method the site yielded altogether 208 bone fragments.

Species	Bones identified	% of all faunal remains	% of faunal remains identified to taxon	MNI	Butchering marks	Skinning marks	Worked pieces	Pathological bones
Cattle	64	30.77	38.1	5	5	-	1	-
Horse	36	18.31	21.43	2	-	-	1	-
Sheep and goat	35	16.83	20.83	4	2	-	-	-
Swine	29	13.94	17.26	5	3	-	-	-
Dog	4	1.92	2.38	1	-	-	-	-
Total domestic	168	80.77	100	-	10	-	2	-
Total wild	-	-	-	-	-	-	-	-
Total identified to taxon	168	80.77	100	-	10	-	2	-
Large ungulate	39	18.75	-	-	-	-	-	-
Small ungulate	1	0.48	-	-	-	-	-	-
Total non-identified to taxon	40	19.23	-	-	-	-	-	-
Total	208	100	100	-	10	-	2	-

Table 3.2.3 Animal remains from Asszonyszállás.

The assemblage is quite small, however, a similar ratio of cattle and horses is seen here as in Orgondaszentmiklós, proportions that might be rooted in identical phenomena or preferences. Here, however, no unambiguously butchered horse bone was found. Three horse bones, one metacarpal and two metatarsals, were suitable for withers height estimation; these come from individuals of 134, 143 and 144 cm, respectively. Otherwise the assemblage is pretty fragmented; although the precise origin of the finds is unknown, it probably consists of kitchen refuse from the nearby households. Wild animals as well as poultry and fish are absent. One goat horn core was relatively well preserved, this is sabre-shaped with a slight outward curve; this type is

³⁸² Selmeczi, Adatok és szempontok, 16; Selmeczi, A magyarországi kunok temetkezése, 42.

generally known from the Árpád Period and the Late Middle Ages alike.³⁸³

	Infantile	Juvenile		Subadult		Adult		Mature		Senile	
Cattle	-	-	17	25.56%	-	-	20	31.25%	-	-	-
Horse	-	-	5	13.9%	-	-	16	44.4%	-	-	-
Sheep and goat	-	-	4	11.43%	-	-	5	14.29%	-	-	-
Swine	-	-	4	13.79%	-	-	9	31.03%	-	-	-
Dog	-	-	-	-	-	-	2	50%	-	-	-

Table 3.2.4. Kill-off patterns at Asszonyszállás. The percentages show the ratio of juvenile, subadult, adult etc. animals in all finds identified to the given species. The fragmentary condition of the finds did not allow a precise estimation of the age at death in most cases.

Kill-off patterns are not of much use at Asszonyszállás due to the small sample size; the surprisingly high ratio of juvenile cattle is probably rooted in sampling issues rather than in medieval customs of culling. Infantile, mature and senile individuals are missing.

The finds do not provide hints of butchering methods, although cuts made with cleavers appear in four or five cases, and most of the bones are spirally broken. The connection between cut marks and spiral breaks, however, is not clear in this case, or only in two cases. Interestingly, both pieces, where cut marks and spiral break appear together, come from small ruminants, whose thin cortical bone tissue could have been easily cut with a good quality metal knife. The anatomical distribution of the finds here also suggests household slaughter, as every skeletal element is present. An unfinished, broken and discarded bone skate made from a horse metatarsal reflects local household production of bone tools.

³⁸³ István Vörös, “Adatok az Árpád-kori állattartás történetéhez.” [Notes on animal keeping in Hungary in the Period of the Árpád Dynasty] In *A középkori magyar agrárium. Tudományos ülésszak Ópusztaszeren*. [Medieval Hungarian Agriculture. Scientific Congress in Ópusztaszer] eds. Lívia Bende, and Gábor Lőrinczy (Ópusztaszer: Csongrád Megyei Múzeumok Igazgatósága, 2000), 71-120: 91 (henceforth: Vörös, Adatok az Árpád-kori állattartás történetéhez); Bökonyi, History of Domestic Mammals, 198; László Bartosiewicz, *Animals in the Urban Landscape in the Wake of the Middle Ages. A case study from Vác, Hungary*. British Archaeological Reports International Series 609. (Oxford: Tempus Reparatum, 1995), 54-55 (henceforth: Bartosiewicz, Animals in the Urban Landscape)

3.2.2.3 Kolbazszállás

The former settlement of Kolbazszállás was situated southeast of present-day Kunhegyes. Although the settlement's location was already identified by István Méri in 1948-49, it was László Selmeczi who conducted a short excavation here.

The name of this settlement is known from a relatively early document. It is mentioned in 1395 under the name *Kolbazzalasa* in a charter that settles a legal debate over the ownership of this and a couple of other villages.³⁸⁴ As already mentioned, around 1300 this settlement may have been the campsite of a Cuman leader named Kolbaz after whom the later settlement was named. In a legal debate over landed properties in 1459, a Cuman referred to Kolbaz as his ancestor.³⁸⁵ The later administrative unit also bears this name and had this settlement as its center. Kolbazszállás definitely had a church in 1470,³⁸⁶ as the village's parish priest was asked to excommunicate a person called Balázs Kenderesy who stole a large amount of hay from fields around the nearby village of Kenderes.³⁸⁷ This charter not only testifies to the presence of a parish, but also shows the importance of hay – and consequently, animal herds – in the immediate region.

Despite its central position in the region's administration, not much is revealed about life in this settlement. It seems, however, that Cumans from Kolbazszállás actively participated in the armed conflict with the Hungarian peasants of Kenderes in 1522, during which the Cumans stole the other village's livestock, slaughtered it and sold the meat on the market of Kolbazszállás. It is also revealed in the document that Kolbazszállás had its own butcher's shop at that time, because according to the witnesses it was the butcher who took away sheepskins from the inhabitants of Kenderes.³⁸⁸ As mentioned earlier, this conflict may again reflect an increased need for pastures and agricultural fields. As the immediate environment was rather swampy, the size of fields available for cultivation must have been limited. Locals had access to fishponds: a charter from 1401 mentions Cumans from Kolbazszállás taking over landed properties in the village of Kakat,

³⁸⁴ Gyárfás, A jász-kunok, vol.3., 525-526.

³⁸⁵ Gyárfás, A jász-kunok, vol. 3, 271-272; Györfy, A Nagykunság és Karcag a középkorban, 308.

³⁸⁶ However, László Selmeczi, who excavated the church, suggested that it must have been built around 1440. Selmeczi, Régészeti kutatások a Nagykunságban, 63.

³⁸⁷ Gyárfás, A jász-kunok, vol.3, 290.

³⁸⁸ Kormos, Kenderes története, 26-29.

including three fishponds named Kázelmérkő, Sebesér and Kárászos³⁸⁹ (the latter name means ‘a place where crucian carps live’).

As in the case of the other settlements discussed here, the Turkish-Ottoman wars had a devastating impact on this village, too. In 1567, 33 plots were still in use and 28 were already abandoned, while 9 landless peasants and 3 “captains” were conscripted.³⁹⁰ In the 1577-79 tax roll of Eger castle, Kolbazszállás is mentioned as having 25 peasants and 6 landless peasants (*pauper*), while the number of deserted houses was 25 according to the official estimate although the locals claimed that 44 houses had been deserted. Similarly to nearby villages, on top of money and labor, grain, butter and cheese was paid by Kolbazszállás as tax to Eger castle, while the Turks demanded grain, money, butter, cottage cheese and fattened oxen.³⁹¹ In the 1587 conscription, the village is represented by 19 peasants only, although it is noted that there had been 57 of them.³⁹² Thus, similar migration patterns may be hypothesized here as in Orgondaszenmiklós and Asszonyszállás. It seems, nevertheless, that in spite of all difficulties people tried to return to Kolbazszállás, probably due to its more central status in the state’s administrative (and presumably economic) network. The 1591-92 Turkish conscription again counted 40 families, who paid altogether 12,000 akçe, 200 of which was tax paid after sheep, and 110 after agricultural damage caused by the grazing livestock (while 2,520 was paid after wheat and 2,115 after firewood and hay).³⁹³ This tax is almost twice as much as what was paid by the inhabitants of Orgondaszentmiklós or Asszonyszállás. However, the precise standing of this village in the settlement network is not clear. Although it was definitely an administrative center, and Gyárfás categorized it as a town, neither its church, nor the size of its population seems to suggest particular wealth or significant status. This contradiction has yet to be explained. Kolbazszállás definitely had a marketplace, but the scale and schedule of markets held there are unknown; according to Hatházi, the settlement was probably not much different than any simple village in the region.³⁹⁴ After 1683, Kolbazszálás’ administrative role was taken over by Karcag, a significantly larger town (in fact, both Karcag and Marialaka had more inhabitants than

³⁸⁹ Gyárfás, A jász-kunok vol 3, 184.

³⁹⁰ Gyárfás, A jász-kunok, vol. 4, 118.

³⁹¹ Botka, A Nagy- és Kiskunság , 236-237.

³⁹² Sugár, Az egri várnak adózó, 9.

³⁹³ Ágoston, A szolnoki szandzsák, 287.

³⁹⁴ Hatházi, A kun és jász székközpontok, 131-132.

Kolbazszállás in the 1567 conscription³⁹⁵); how these settlements related to each other in terms of inhabitants and accumulated wealth in the previous centuries is, nevertheless, unknown.

Most of the archaeological remains of Kolbazszállás were destroyed by continuous habitation. Therefore, proper excavation of the sites was not possible and only an exploratory trench was established during a rescue excavation by László Selmeczi in 1967.³⁹⁶ The results of this short excavation are yet to be published and only fragmentary details have been revealed. The village church was superimposed over a former, pagan cemetery that commoners used in the thirteenth-fourteenth century. The fact that the church was erected in the mid-fifteenth century might be connected to the settlement's role in the newly established system of seats, but it also fits within a broader trend of church building in the region.³⁹⁷

Unfortunately, the animal bone material was not collected and preserved; only one piece, a fragmented cattle skull, was stored in the Szolnok museum. This comes from an adult, brachyceros-type individual with a deep forehead; the teeth have not been preserved and the horns broke off. The skull was cut from the body with a cleaver or axe, something testified to by a heavy chop mark on the occipital condyles. Two holes on the animal's forehead may be evidence of how the animal was slaughtered, however, it is not possible to differentiate them from post-mortem or even post-depositonal fragmentation. The find circumstances are unfortunately not clear. Thus, the other archaeological data is not sufficient to say anything for sure about animal husbandry in this particular village. However, the written data that reveals conflicts over hay and pastures, the theft of another village's livestock and the selling of meat at the village's marketplace suggest that Kolbazszállás must have had a profile similar to other settlements in the immediate region.

3.2.2.4 Móric

The former village of Móric was situated ca. 4-5 km northwest of present-day Túrkeve, in the southern part of Greater Cumania. The village appears only late in the written sources, it is

³⁹⁵ Gyárfás, A jász-kunok, vol. 4, 118.

³⁹⁶ Selmeczi, Adatok és szempontok, 19.

³⁹⁷ Hatházi, A kun és jász székközpontok, 131.

first mentioned in a yet unpublished document from 1544³⁹⁸ and then in a tax roll in 1549. In the latter it is listed as a village in royal possession.³⁹⁹ In the second half of the sixteenth century it is regularly mentioned as a settlement that belongs to the administrative unit of Kolbazszék.⁴⁰⁰ In 1571 the village had 30 houses with 31 inhabitants, and a church.⁴⁰¹ According to a 1577 document, Móric, like other villages in the region, had to pay taxes to the Hungarian king and the Turkish-Ottoman authorities alike.⁴⁰² In 1587, the villagers paid tax to the bishopric of Eger in the form of money, grain, butter and cheese,⁴⁰³ as usual in the region. In the 1587 conscription, the village had 9 peasants although their number had formerly been 26,⁴⁰⁴ so the population loss is evident in this village, too. Similarly to Kolbazszállás, people may have tried to move back, as the 1591-92 Turkish conscription again counted 22 families in the village, who paid altogether 5,000 akçe, 120 of which was tax paid after sheep and 64 after the agricultural damage caused by grazing herds (while 1,400 was paid after wheat and 1,750 after firewood and hay).⁴⁰⁵ Compared to the families in Orgondaszentmiklós, this settlement paid much less tax per capita to the Turks. The continuous movement of the population had an impact on the ethnic composition of the village; according to Pálóczi Horváth up to half of the population may have been exchanged. Interestingly, inhabitants with clearly Hungarian names appear as locals who did not leave the village in spite of all difficulties, while Cuman names are listed among those who left.⁴⁰⁶ The continuous wars devastated this village, too: in 1618 it is already recorded as a deserted settlement,⁴⁰⁷ but the area was still in use, as inhabitants of other villages utilized the fields that

³⁹⁸ Gyula Benedek, *Túrkeve város oklevelei és iratai, 1261-1703* [Charters and Documents from the Town of Túrkeve, 1261-1703] Documentatio Historica VIII. Szolnok: A Jász-Nagykun-Szolnok Megyei Múzeumok Igazgatósága, 2004, 9. (henceforth: Benedek, Túrkeve oklevelei) According to Benedek, the charter informs us about the tax paid by an inhabitant of the village, but it is hardly interpretable and therefore he decided not to publish it.

³⁹⁹ Gyárfás, A jász-kunok, vol. 4, 16.

⁴⁰⁰ István Méri, “Beszámoló a Tiszalök-rázompusztai és Túrkeve-mórói ásatások eredményéről.” [Report on the excavations in Tiszalök-Rázompuszta and Túrkeve-Móric.] Archaeologiai Értesítő 81 (1954) 138-154: 139 (henceforth: Méri, Beszámoló)

⁴⁰¹ Benedek, Túrkeve oklevelei, 156.

⁴⁰² Benedek, Túrkeve oklevelei, 172-173.

⁴⁰³ Benedek, Túrkeve oklevelei, 189.

⁴⁰⁴ Sugár, Az egri várna adózó, 9; Kabos Kandra, *Adatok az egri egyházmegye történelméhez* [Notes on the Church History of Eger] Vol. 3. *Az egri főegyház Szent János könyve*. [The “St John's Book” of the Church of Eger] (Eger: Egri Egyházmegyei Irodalmi Egylet, 1886), 536

⁴⁰⁵ Ágoston, A szolnoki szandzsák, 273; Benedek, Túrkeve oklevelei, 195.

⁴⁰⁶ Pálóczi Horváth, “Túrkeve története a honfoglalástól a török idők végéig.” In: *Túrkeve földje és népe*. Ed. Örsi, Julianna. Vol. 1. 49-112. Túrkeve: Túrkeve Város Képviselőtestülete, 1992. 70.

⁴⁰⁷ Gyárfás, A jász-kunok, vol. 4, 197

formerly belonged to Móric.⁴⁰⁸ In the 1699 conscription by Pentz it is stated that the stone church was still standing but the whole area was only a swampy wetland overgrown with reed; he added, however, that the soil is very much suitable for plowing and hay cultivation,⁴⁰⁹ which must have been true in the previous periods as well.

The village of Móric was, in fact, the first Cuman village in Hungary that was excavated with conscious attention paid to its settlement structure. In 1948, the leading archaeologist István Méri, after a meticulous field walk over Greater Cumania, unearthed parts of the former village that was built on the banks of the Túr stream. Although the settlement area was not located right next to the watercourse the environment was swampy. This, on the one hand, meant that the village must have been somewhat cut off during large floods,⁴¹⁰ but on the other hand, fish, waterfowl, and wetlands for grazing swine must have been abundant.

As customary on the Great Plain, the houses were situated along a line, although this main road was L-shaped; the houses were located at an average distance of 70 m from each other, a greater distance than would normally be expected.⁴¹¹ A possible explanation is that this village had no earlier predecessor from the time of the Árpád Dynasty that Cumans could have utilized and inhabited, but rather developed into a permanent settlement from an early Cuman winter camp.⁴¹² However, it is not certain how large the individual plots were, although it is tempting to say that the more spacious settlement structure must reflect the need for space for structures connected to animal husbandry. Horseshoes, tethers, horse bits, a spur and a couple of cart parts speak to the everyday use of animals.⁴¹³ Although Méri admitted that the village's area was probably inhabited in the fourteenth century, he concluded that Cumans must have led a mobile, nomadic lifestyle here until the Late Middle Ages, even until the sixteenth century.⁴¹⁴ Nevertheless, this claim is not really supported by anything other than the absence of earlier written evidence and earlier archaeological layers, which may be explained in a number of

⁴⁰⁸ András Pálóczi Horváth, "Túrkeve története a honfoglalástól a török idők végéig" [The History of Túrkeve from the Conquest to the End of the Turkish Period] in *Túrkeve földje és népe* vol. 1. [The Land and People of Túrkeve] Ed. Julianna Örsi, Julianna (Túrkeve: Túrkeve Város Képviselőtestülete, 1992), 49-112: 70 (henceforth: Pálóczi Horváth, Túrkeve története)

⁴⁰⁹ Benedek, Túrkeve oklevelei, 280.

⁴¹⁰ Méri, Beszámoló..., 140.

⁴¹¹ Méri, Beszámoló..., 140.

⁴¹² Selmeczi, A szállástól a faluig, 77.

⁴¹³ Méri, Beszámoló..., 147.

⁴¹⁴ Méri, Beszámoló..., 139.

alternative ways.

The animal bone material from this site comprised up to 1466 pieces.⁴¹⁵ It was analyzed by Sándor Bökönyi, who published it only in a very concise form in his monograph, *The History of Domestic Mammals in Central and Eastern Europe*.⁴¹⁶ Despite the restricted form of publication, this well-preserved bone material provided valuable measurements that cast light on the size and individual phenotype of the animals kept by the Cumans.

Species	Bones identified	% of all faunal remains	% of faunal remains identified to taxon	MNI	Butchering marks	Skinning marks	Worked pieces	Pathological bones
Cattle	441	34.78	35.94	56	N/A	N/A	N/A	N/A
Horse	209	16.48	17.03	40	N/A	N/A	N/A	N/A
Sheep and goat	320	25.24	26.08	48	N/A	N/A	N/A	N/A
Swine	221	17.43	18.01	21	N/A	N/A	N/A	N/A
Dog	30	2.37	2.44	4	N/A	N/A	N/A	N/A
Domestic cat	200	0.16	0.16	2	N/A	N/A	N/A	N/A
Total domestic	1421	96.46	99.68	-	N/A	N/A	N/A	N/A
Great bustard	1	0.08	0.08	1	N/A	N/A	N/A	N/A
White stork	1	0.08	0.08	1	N/A	N/A	N/A	N/A
Brown hare	1	0.08	0.08	1	N/A	N/A	N/A	N/A
European pond tortoise	1	0.08	0.08	1	N/A	N/A	N/A	N/A
Total wild game	4	0.32	0.32	-	N/A	N/A	N/A	N/A
Total identified to taxon	1425	96.78	100	-	N/A	N/A	N/A	N/A
Bird	41	3.22	-	-	N/A	N/A	N/A	N/A
Total non-identified to taxon	41	3.22	-	-	N/A	N/A	N/A	N/A
Total	1466	100	100	-	-	-	-	-

Table 3.2.5. Animal remains from Móric. The 200 cat bones come from two individuals. Therefore, in the calculations it is counted as two specimens in order not to distort results. Butchering marks and traces of skinning are not discussed in Bökönyi's report; worked pieces and pathological specimens have not been published either.

⁴¹⁵ Although Bökönyi writes that a total amount of 1536 bone fragments were analyzed, this is probably a mistake. The detailed table of finds he published contained only 1466 pieces.

⁴¹⁶ Bökönyi, History of Domestic Mammals, 420.

Kill-off patterns at the site have not been published, so this information is not available.

Well preserved bones suitable for withers height calculations, however, were found in relatively large numbers at Móric. Nine cattle metacarpals and nine metatarsals, all of them from cows, present a sample with an average withers height of 116.6 cm within a 106.7 – 130.6 cm range. This corresponds to the size of cows observed at Orgondaszentmiklós. Plotting metapodia measurements from Móric and Orgondaszentmiklós in one graph reveals the presence of two size groups of cows, the smaller of which was present in larger numbers. Possibly the two size groups were used differently; the larger type may have occasionally been used for plowing and other agricultural work, while the smaller, more gracile animals served mainly as dairy cows (Diagram 3.1) Although cows of smaller size (95-110 cm at the withers) are usually found in the Carpathian Basin in the Árpád Period, larger cows of 125-135 cm at the withers are also sporadically present.⁴¹⁷ It seems that the Cumans either settled with livestock similar to the one already present in the Carpathian Basin, or they simply continued using animals they found locally; it is certain, however, that they did not raise phenotypes that were radically different from the rest of the local animal population. Horn cores show a somewhat greater variability in the Cuman material: the measurements form a continuum in which the two sexes cannot be unambiguously distinguished (Diagram 3.2). Their length varies from 90 to 185 cm, signifying a varied livestock. Horn cores, however, also testify to the dominance of smaller individuals, probably cows. A horn core fragment of a similarly small-sized individual was discovered at Orgondaszentmiklós as well. However, only the site of Móric yielded horn core fragments in large numbers, while they are virtually absent at Asszonyszállás and Orgondaszentmiklós. It may be explained by the presence of specialized workshops at the latter two sites where these skeletal ornaments could have been collected, processed for the horny sheath, and the unused boney cores disposed of; there is, however, no written evidence for these workshops so their presence is purely hypothetical.

⁴¹⁷ Vörös, Adatok az Árpád-kori állattartás történetéhez, 87-88.

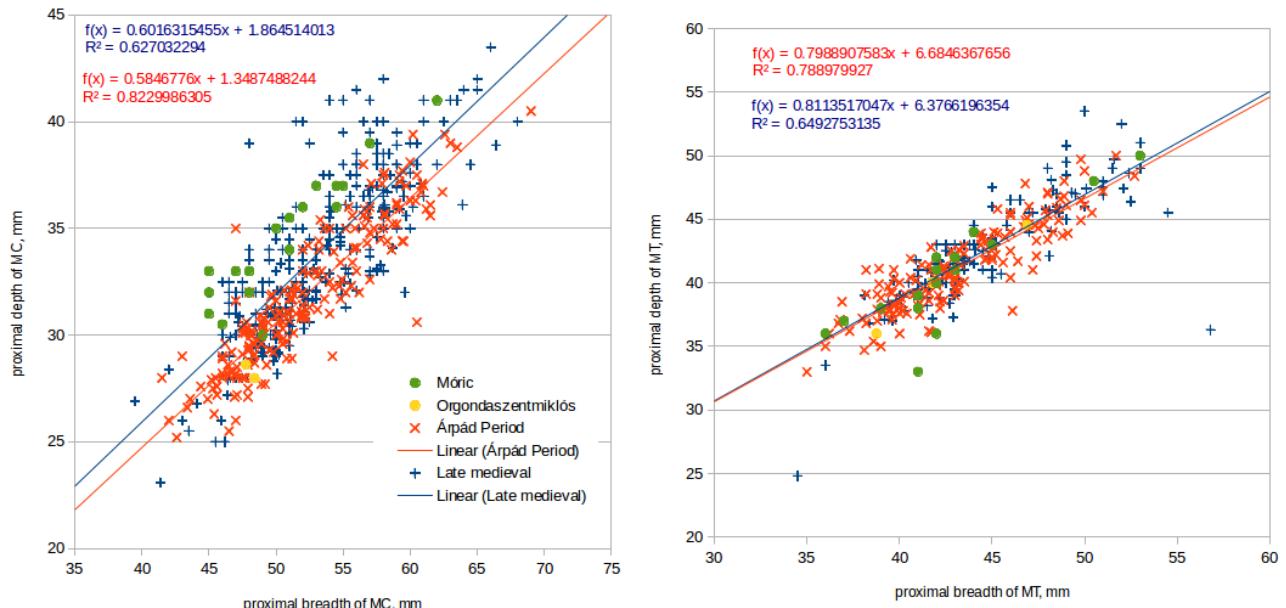


Diagram 3.2.1 A and B. Metapodia measurements of cattle. Sites included: Kána, Muhi, Orgondaszentmikós, Túrkeve-Móic, Tiszagyenda, Gorza, Vác, Dobozi-Hajdúirtás, Hanta, Szentkirály, Gyula Castle, Kardoskút-Hatablak, Tiszalök-Rázom, Kőszeg Castle, Hajdúnánás-Fürjhalmi dűlő, Endrőd 6, Szolnok Castle, Kiskuhalas-MOL5, Buda Caste, Perkáta, Visegrád, Murga-Schanz, Újhartyán, Nagyvázsony-Csepely, Tiszaszólős-Csákányszeg, Fonyód. n(MC)=540 ; n(MT)=330

Although Bökönyi did not write about horse consumption or evidence of butchering, well-preserved horse bones are few in number, and horse bones from Móric are as fragmented as the cattle bones. This suggests that these animals were also culled and processed. Four metatarsals and three metacarpals were suitable for withers height calculation. These bones come from horses that were 134.5-148.3 cm at the withers, which corresponds to the size of horses in the Carpathian Basin in the Árpád Period.⁴¹⁸ The slenderness indices⁴¹⁹ suggest these were gracile animals: one metacarpal from Móric comes from a horse that classifies as “very slender legged” (probably a mare), while the two others belong to “slender legged” individuals (see Table 3.2.6 in the Appendix). The one well preserved horse metacarpal from Asszonyszállás also classifies as slightly slender legged. Although the sample is small, it seems that Cumans in this region had relatively gracile horses that were, nevertheless, somewhat taller at the withers than

⁴¹⁸ Vörös, Adatok az Árpád-kori állattartás történetéhez, 93.

⁴¹⁹ Aleksandr Brauner, *Materiali k poznaniyu domashnikh zhivotnykh Rossii I. Loshad kurgannikh pogrebenij Tiraspol'skogo uyezda, Gershon'skoy gubernii, Equus goschkewitschi, Mihi* [Materials to the knowledge of domestic animals in Russia I. Horse in the kurgan burials of Tiraspol'ski district] Zapiski Imperialnovo Obshchestva Sel'skogo Hoziyastva Yuzhnui Rossii 86/1 (Odessa, 1916)

the average Árpád Period and coeval horse population.⁴²⁰ This corresponds somewhat to the general concept of horses of “Eastern” origin. It is worth mentioning here that the well-preserved horse skeleton found in the thirteenth-century grave of a Cuman nobleman at Csengele was classified as a possible Arab stallion (this find is discussed in detail in chapter 3.3).⁴²¹ Horses, as animals of status representation, may have been more consciously bred than other domesticates; the importance of horses in the Cuman-Kipchak cultural complex is evident. However, horses used by the military elite and horses available for Cuman commoners living in villages probably did not represent the same animal population, and it is not likely that peasants in these settlements had horses imported from afar or bred separately. However, the concept of the ideal military horse used in the steppe warfare might have influenced the preferences of the commoners for particular body types as well; the Greater Cumanian sample is still too small to say anything conclusive about this issue.

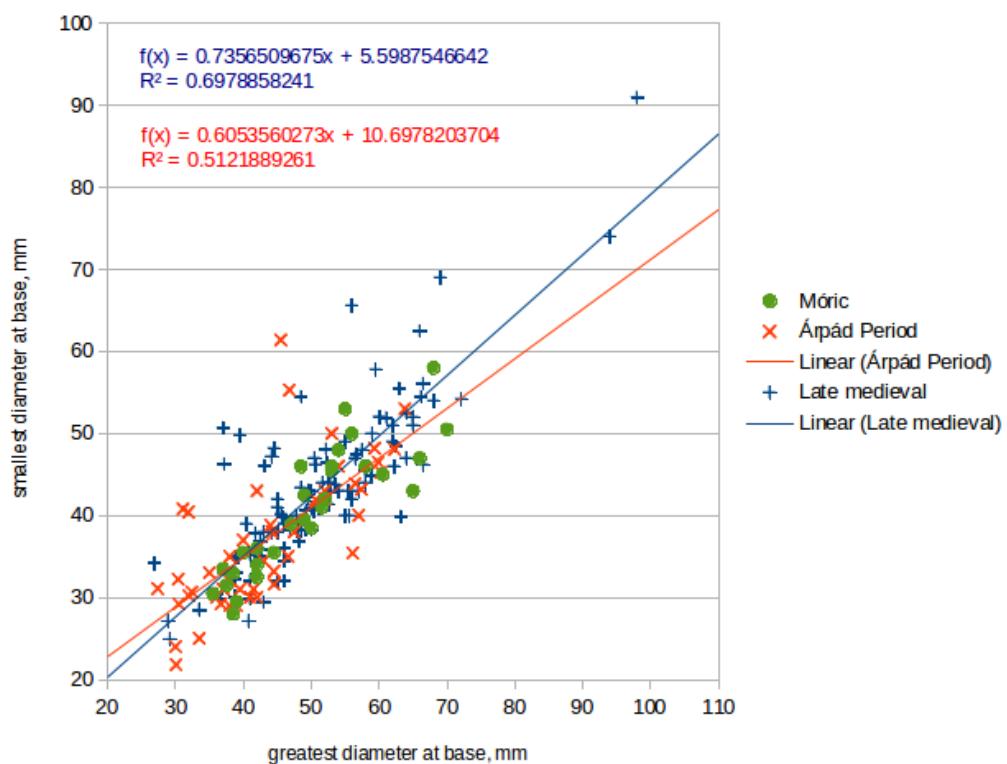


Diagram 3.2.2 Cattle horn core measurements. Sites included: Gorza, Csatalja-Vágóthegy, Csatár-TSZ istálló,

⁴²⁰ Vörös, Adatok az Árpád-kori állattartás történetéhez, 93; Bökonyi, History of Domestic Mammals, 294.

⁴²¹ István Vörös, “Egy arab ló a középkori Magyarországon” [An Arab horse in medieval Hungary] in Ferenc Horváth, *A csengelei kunok ura és népe* [The Lord and People of the Cumans in Csengele] (Budapest: Archeolingua, 2001), 341–347 (henceforth: Vörös, Egy arab ló)

Doboz-Hajdúirtás, Tiszaeszlár-Basahalom, Tiszalök-Rázom, Buda Castle, Fonyód, Gyula Castle, Kecskemét-Bocskai utca, Kőszeg Castle, Nagyvázsony-Csepely, Sárospatak Castle, Szolnok Castle, Mende, Óbuda, Sarud, Szabolcs, Szarvas-Rózsás, Szarvas-132, Vác, Ugod, Sarvaly, Hajdúnánás-Fürjhalmi dűlő, Kána, Hanta, Tiszagyenda., n=225

The withers height of two pigs from this village could be calculated as well; both animals were 71.3 cm high, indicating average-sized individuals compared to other pigs in the period.⁴²² Bökönyi suggested the presence of two pig types in medieval Hungary, a bigger one that regularly interbred with wild swine and a smaller, more improved one with emphatic signs of domestication (shortening of the skull, crowded teeth row).⁴²³ Hankó also mentions an “ancient” type of pig generally present in the Great Hungarian Plain, and a “meadow type” swine especially in the Middle Tisza Region,⁴²⁴ although the existence of the breeds described by Hankó could not be demonstrated in the archaeozoological record.⁴²⁵

Interestingly, no intact sheep or goat bone was preserved either at Móric or at the other sites. This indicates that all body parts were processed and probably even the metapodia were broken up in order to extract the marrow. Horn cores are virtually absent from the material which may again indicate horn processing workshops and the presence of hornless sheep alike.⁴²⁶ One horn core fragment from Móric suggests it came from a relatively small individual. Plotting the measurements of this fragment other late medieval individuals, sexual dimorphism is observed (with males having similarly shaped but significantly larger horn cores); the fragment from Móric probably belonged to a small female (Diagram 3.3.3). Sheep from the region, excavated from the Szolnok castle were described by Bökönyi as individuals of the “Hungarian breed”; sheep of the *racka* type (Zackelschaf, with corkscrew-shaped horn cores in a V-shaped form)

⁴²² Vörös calculated the average size of Árpád Period pigs to be around 70 cm at the withers (Vörös, Adatok az Árpád-kori állattartás történetéhez, 92), based on 13 individuals. Bökönyi published measurement data of bones of a 75.5 cm individual from Szarvas-Rózsás (tenth-twelfth c.), as well as those of a 60.8 cm, a 63.5 and 68 cm tall pig from. Tiszalök-Rázom (eleventh-thirteenth c.) (Bökönyi, History of Domestic Mammals). Swine from this period seem pretty uniform in size, however, as swine bones were butchered and processed in almost all cases, there are only very few finds suitable for size calculation, and thus, the sample is not big enough to draw general conclusions about pig sizes in the period.

⁴²³ Bökönyi, History of Domestic Mammals, 222-223.

⁴²⁴ Béla Hankó, A magyar háziállatok története [The History of Hungarian Domestic Animals] (Budapest: Müvelt Nép, 1940), 101; János Matolcsi, Állattartás őseink korában [Animal Husbandry in the Age of Our Ancestors] *Budapest: Gondolat, 1982), 272

⁴²⁵ Bökönyi, History of Domestic Mammals, 222.

⁴²⁶ Vörös, Adatok az Árpád-kori állattartás történetéhez, 90, Bökönyi, History of Domestic Mammals, 183. Hornless individuals are known from the Carpathian Basin in the Árpád Period and the Late Middle Ages alike.

were not found.⁴²⁷

Dogs from Móric were varied in size as shown by the three individuals whose withers height could be calculated as 41.4 cm (tibia), 44.2 (femur), and 55.4 cm (tibia) respectively. One almost complete dog skull was also discovered at Móric. It comes from a robust individual with a strong sagittal crest and an elongated snout.⁴²⁸

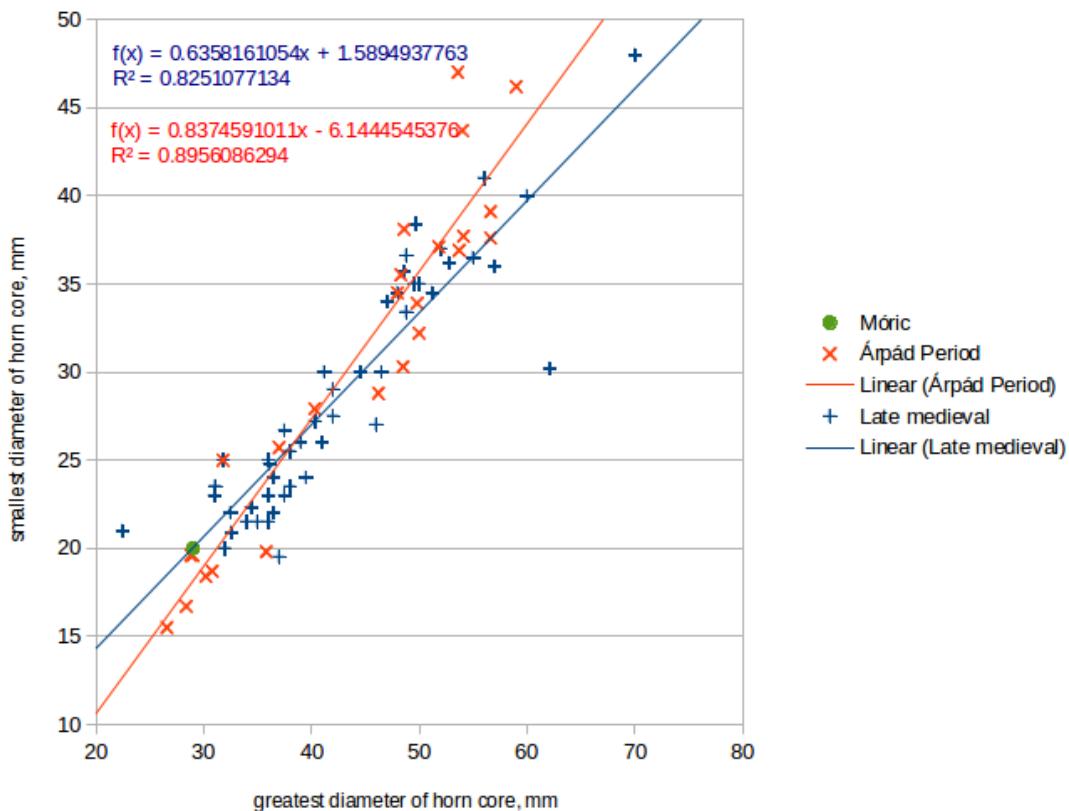


Diagram 3.2.3. Sheep horn core measurements. Sites included: Kána, Vác, Visegrád, Gorzsa, Tiszagyenda, Szolnok Castle, Gyula Castle. n=77

⁴²⁷ Bökonyi, History of Domestic Mammals, 183-184.

⁴²⁸ Bökonyi, History of Domestic Mammals, 332, 556-557.

3.2.3 Summary

As we have seen, the picture emerging from written data and archaeological sites does not significantly differ from what is known from medieval Hungarian settlements. The species ratios revealed by the discussed sites are surprisingly uniform, with a clear dominance of cattle, while horse, small ruminants and swine are represented in almost identical ratios; only at Móric were sheep and goat significantly more abundant than horses. Wild animals only occasionally appear. The region of the Tisza River Middle Tisza Region) was, according to István Vörös, characterized by a high ratio of horse and sheep remains during the Árpád Period, with a very small contribution of swine bones.⁴²⁹ Interestingly, this earlier Hungarian picture seems to resemble steppe heritage and nomadic species preferences more closely than the one that emerges from the Cuman sites. It seems that Cumans, instead of continuing an economic strategy focused on sheep and horse keeping that was previously practiced here in the Árpád Period, saw an opportunity in cattle breeding and also started exploiting the wet environment for raising swine. The ratio of cattle doubled, while the number of swine bones is three times greater than in settlements from the Árpád Period. It is worth mentioning, however, that this region is very atypical for Árpád Period Hungary: in other regions the ratio of cattle is around 40-50%, while horses are represented by ca. 10%; only in the Middle Tisza region and in southern Hungary were horses found in such large numbers.⁴³⁰ The immediate environment, however, did not change much in the course of these centuries. Cumans were presented with the same environmental factors as the ones that allowed previous inhabitants to raise horses and sheep in high ratios. The fact that by the fourteenth-sixteenth century their animal keeping did not significantly differ from the rest of the country signifies a shift in the economic strategy followed in this particular region.

The Turkish-Ottoman Era material from the castle of Szolnok yielded bones of cattle of

⁴²⁹ Unfortunately, not many sites have been published in this area, and the assemblages available often comprise selectively collected material. István Vörös in his synthesis used data from four 11th-thirteenth century sites: Sarud-Póctölös, Tiszafüred-Majoros, Tiszaszöllös-Csákányszeg-Gyep and Kunhegyes-Jajhalom, yielding altogether 543 animal bones. This, however, is a summarized value that blurs taphonomic factors and special circumstances observed at individual sites. (Vörös, Adatok az Árpád-kori állattartás történetéhez, 80.) Bones from the Turkish Period Szolnok Castle are less than 150 and, thus, this assemblage is not included in ratio comparisons.

⁴³⁰ Vörös, Adatok az Árpád-kori állattartás történetéhez, 78-80.

size cohorts⁴³¹ similar to those animals found at Cuman sites in the region. The fact that only bones of cows could be identified at the sites suggests that males were fattened and sold, while cows used for dairy production were kept in the households and eventually slaughtered at a more mature age (probably when milk production was no longer sufficient). Although charters are silent on the animal trade in this particular region, Greater Cumania definitely belonged to the catchment area of the medieval cattle trade, even if not to the most remunerative region. According to a mid-sixteenth century report of Sigismund von Herberstein, the plains east of the Tisza River were especially abundant in cattle.⁴³²

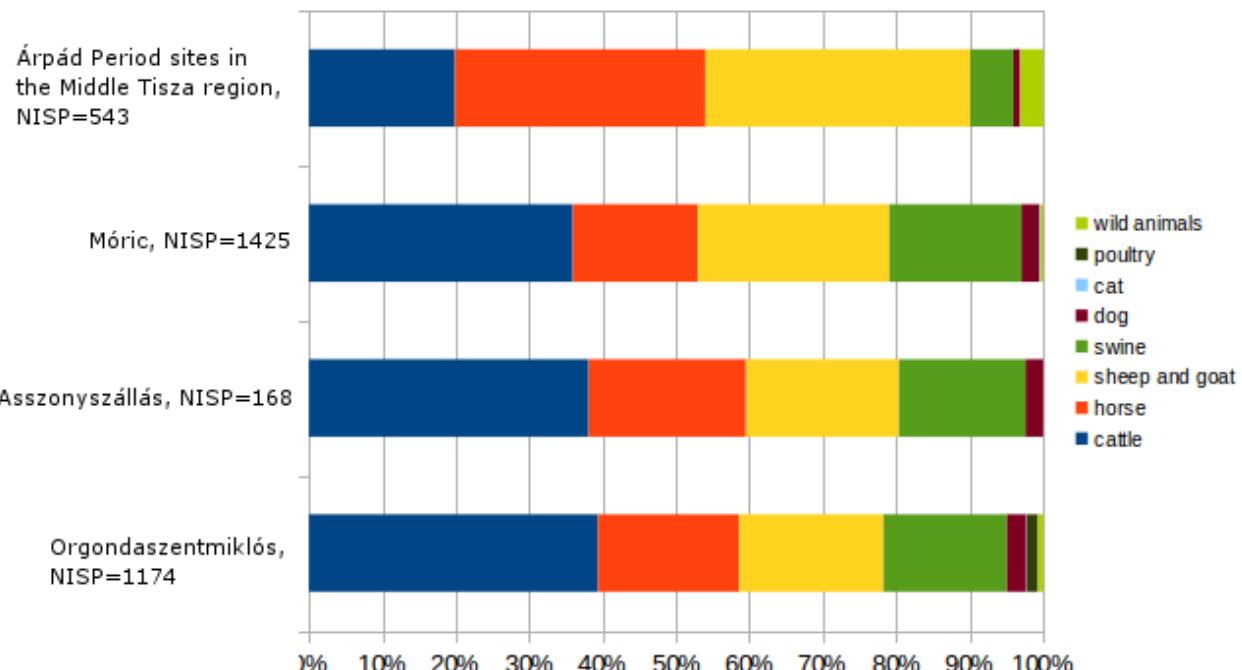


Diagram 3.2.4. The ratios of species at sites in Greater Cumania, dated to the Árpád Period in the region and at 14–16th century Cuman sites. The data on Árpád Period sites are based on Vörös, Adatok az Árpád-kori állattartás történetéhez; Móric is based on Bökönyi, History of Domestic Mammals. The ratios show a shift in species preferences in the Middle Tisza region.

Based on measurements on the proximal metatarsals, sheep from the Cuman sites of Greater Cumania were smaller than the, more-or-less, uniformly proportioned animals from Szolnok Castle, and their size displays a relatively large variation (although the role of sexual

⁴³¹ Calculations based on the data published by Bökönyi (Bökönyi, History of Domestic Mammals, 471, 500.)

⁴³² Bartosiewicz, Animals in the Urban Landscape, 82, László Zolnay, *Fény és árnyék a középkori Magyarországon* [Light and Shadow in Medieval Hungary] (Budapest: Kozmosz, 1983), 306.

dimorphism is not clear; Diagram 3.2.5). One explanation is that individuals from Turkish Period Szolnok may well have come from an upgraded stock of sheep due to the generally increased market demand for this species in the Turkish-Ottoman Period, while animals whose remains were deposited in the Cuman villages were raised for local subsistence purposes and not to be sold to the military.

As discussed above, the practice of swine keeping is most evident at Orgondaszentmiklós, where names of nearby places testify to the grazing of pigs or feeding them on fish in the wetlands, and where tax was collected after all swine. As swampy areas that were ideal for pig keeping could be found throughout this region, these areas must have been utilized at other settlements as well. Bodies of water supplied not only the people but also swine with fish. Georg Wernher wrote in his 1551 travel account that fish trapped in the swampy areas after the floods of the Tisza River were fed to pigs, but that there was so many of them that most of the fish were left to rot in the meadows even after the pigs fed on them.⁴³³

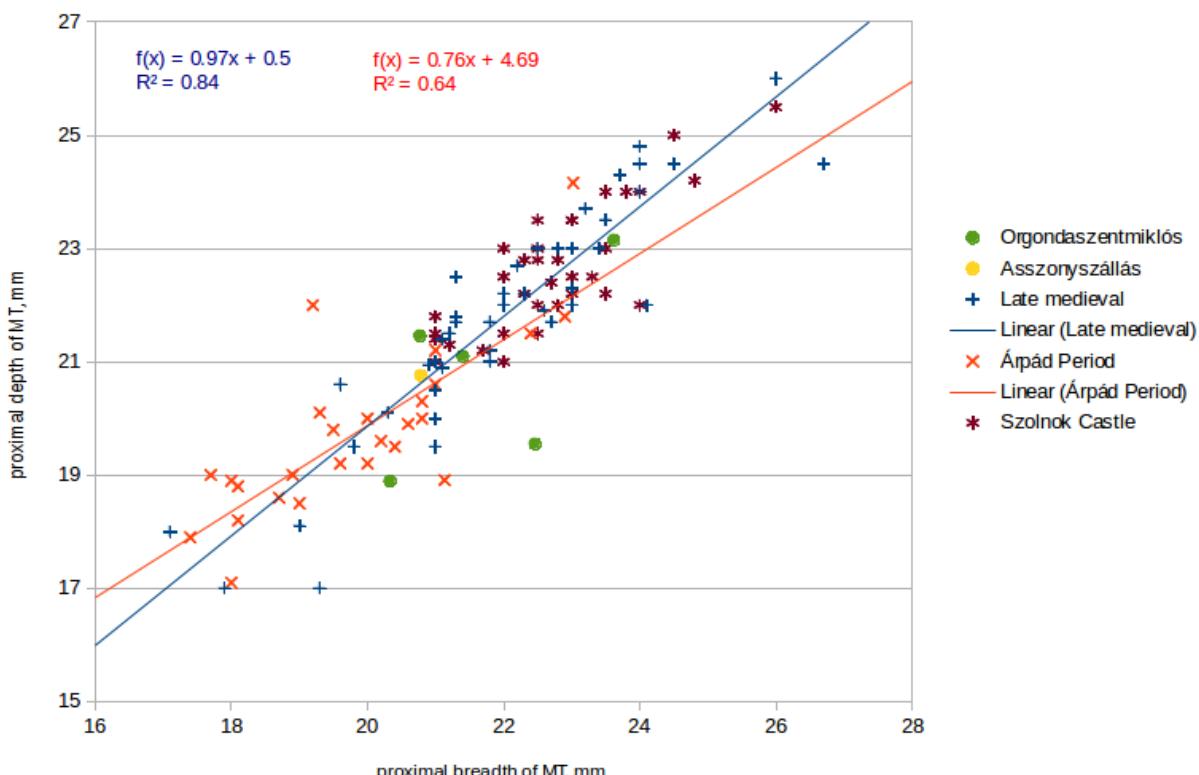


Diagram 3.2.5 Metatarsal bones of sheep. Sites included: Orgondaszentmiklós, Asszonyszállás, Szolnok Castle, Kána, Muhi, Felsőtárkány, Kiskunhalas-MOL5, Szentkirály, Buda Castle. n=116

⁴³³ Laura Erdösi, "Wernher: De admirandis Hungariae aquis", *Communicationes de Historia Artis Medicinae* 29 (1963), 103–146: 139–140. (henceforth: Erdösi, Wernher)

Fish remains were only found at Orgondaszentmiklós; this, however, is probably due to methodological issues (hand collected material as opposed to screened material), as bodies of water were definitely available to all these settlements. According to Georg Wernher's account, the Tisza River was especially abundant in fish. He specifically mentions carp and the pike which were caught in large numbers and sold cheap without even selecting them; there was actually so much fish available that some of it was simply left at the marketplace to rot (the authorities issued fines to stop this practice in order to avoid the horrible smell).⁴³⁴ Indeed, more recent excavations in the Tisza area brought to light a large number of fish remains (see subchapter 3.5 on Gorzsa and Tiszagyenda). Fish probably played a much more pivotal role in the diet in Greater Cumania than reflected in the hand-collected archaeological material.

3.3 The Cumans in Lesser Cumania

3.3.1 *Textual evidence: a short history of Cumans in the region*

The area known today as Lesser Cumania is situated in the Danube-Tisza Interfluve in the Great Hungarian Plain, south of present-day Budapest and north of present-day Szeged. When Master Roger wrote in his account of the Mongol Invasions that King Bela IV deputized some of his men to lead the Cumans to “the middle of the country” (*ad mediculum terre sue*⁴³⁵), he was probably referring to this area between the two great rivers of the kingdom. In fact, sources on this part of the Great Plain are abundant in references to Cuman habitation, although identifying their archaeological heritage is somewhat challenging (due to factors discussed in the chapter on methodology). The area known today as Lesser Cumania consists of three historical Cuman seats: the Seats of Halas, Mizse (or Kara) and Kecskemét.

This region was severely impacted by the Mongol Invasion,⁴³⁶ which made it an ideal

⁴³⁴ Erdösi, Wernher., 140.

⁴³⁵ Master Roger ed. Bak and Rády, 140.

⁴³⁶ Systematic field walks and archaeological studies showed that in the small region of Kiskunfélegyháza, at least

place for migration. Thus, Cuman territories in this area were interspersed to a much lower degree with lands in Hungarian possession than those in Greater Cumania. In fact, the late medieval settlement structure of Lesser Cumania was rather defined by the thirteenth-century Cuman newcomers than former settlements of the Árpád Period.⁴³⁷ After their second wave of migration in 1246, Cumans appear early in the region, as evidenced by the few thirteenth-century burials of Cuman nobility excavated in the region. In fact, almost half of the burials in this category were found here, especially around the medieval oppidum of Halas (present-day Kiskunhalas), the late medieval center of the Seat of Halas. Such burials have been excavated at Balotaszállás, Kunfehérvártó-Inoka, Kunfehérvártó-Debeák, Csólyospuszta, Kígyóspuszta, Felsőszentkirály and Csengele. They were identified as Cuman on the basis of their location and grave goods as well as analogies with earlier Cuman territories.⁴³⁸ Ferenc Horváth discovered that Kunfehérvártó-Inoka, Kunfehérvártó-Debeák, Balota, Kígyós, Csólyos and Csengele are situated in a regular circle that embraces the area of Tázlár, Bodoglár and Kötöny villages.⁴³⁹ In his view, these burials in Lesser Cumania designate the areas different tribal fragments occupied and thus, at least in part, these graves reflect an early settlement pattern associated with a strict tribal/military organization..⁴⁴⁰

The region's (Cuman) history was marked by several waves of settlement desertion. The

11 out of 16 Árpád Period villages that had stone churches were destroyed and depopulated. Rosta, Új eredmények, 191.

⁴³⁷ Rosta, Új eredmények, 197.

⁴³⁸ Pálóczi Horváth, Hagyományok, kapcsolatok és hatások, 139-169; István Éri, "Adatok a kígyóspusztai csat értékeléséhez" [Notes on the evaluation of the buckle found at Kígyóspuszta] *Folia Archaeologica* 8 (1956), 137 (henceforth: Éri, Adatok a kígyóspusztai csat értékeléséhez); András Pálóczi Horváth, "A csólyosi kun sírlelet" [The Cuman grave finds from Csólyos] *Folia Archaeologica* 20 (1969) 104-134 (henceforth: Pálóczi Horváth, A csólyosi kun sírlelet); András Pálóczi Horváth, "A csólyosi kun sírlelet hadtörténeti vonatkozásai" [Military historical aspects of the Cuman grave finds from Csólyos] *A Móra Ferenc Múzeum Évkönyve* 1969/I. 115-121 (henceforth: Pálóczi Horváth, A csólyosi kun sírlelet hadtörténeti vonatkozásai); András Pálóczi Horváth, "A Balota pusztai középkori sírlelet" [The medieval grave findings from Balota pusztai] *Cumania* 11 (1989), 95-148 (henceforth: Pálóczi Horváth, A Balota pusztai középkori sírlelet); András Pálóczi Horváth, "A felsőszentkirályi kun sírlelet" [The Cuman grave finds from Felsőszentkirály] *Cumania* 1 (1972), 177-202; Pálóczi Horváth, A magyarországi kunok, 242; Horváth, A csengelei kunok, 153-184.

⁴³⁹ Horváth, A csengelei kunok, 219-220. In Hatházi's view the name of the village of Kötöny is not connected to the first leader of the Hungarian Cumans, Kuthen, but rather derives from the name of a fifteenth century captain; however, Horváth does not exclude the possibility that the village was in fact named after Kuthen who led the Cumans to Hungary in the mid-thirteenth century. Horváth, A csengelei kunok, 220, footnote 159; Hatházi, Halas kun székközpont, 240. Mándoky Kongur identified the name Bodoglár with a Cuman family name Budaqlar ('branches') (Mándoky Kongur, A kun nyelv magyarországi emlékei, 135-136.) József Torma suggested a connection between the village name Tázlár and the Turkish plural suffix *-lar*. He discovered a village called Tadlar in Bashkiria. (Torma, Bérem bélő, 50.)

⁴⁴⁰ Horváth, A csengelei kunok, 222-224.

first wave impacted early Cuman dwelling places that were deserted before 1500 (such as Zomokszállás, Köncsög or Bugac), while a second, huge wave of abandonment was brought on by the Turkish-Ottoman occupation, typically in the early or mid-sixteenth century. However, there were no long breaks or intermissions in the cultivation of these village lands, as they were then typically rented by citizens from larger towns, especially Kecskemét.⁴⁴¹ The third wave of mass desertion is associated with the Fifteen Years' War, during which extensive destruction was documented in the Danube-Tisza Interfluve area.⁴⁴²

The medieval settlement and road network in the region, and especially around present-day Kiskunfélegyháza has been explored by Szabolcs Rosta in his recent PhD thesis.⁴⁴³ There was a dense network of routes in Lesser Cumania. In the fifteenth-sixteenth century, these mainly served as a means of reaching the larger market hubs, especially Kecskemét, Félegyháza, Halas, and Majosszállás (the latter worked as a connection further on to Szeged). The course of the main roads was usually defined by the shortest possible route. Rosta identified seven main roads that crossed the region and connected important (market) towns.⁴⁴⁴ In addition, he counted 30 smaller roads that led from villages to towns and connected villages to each other. For the smaller roads, the main goal was not only to provide the shortest possible way to reach another settlement, but also to interconnect as many villages as possible.⁴⁴⁵ This kind of dense network must have contributed to the opportunities for selling agricultural goods at bigger markets, which, as we will see, was a major factor impacting economic development in the region. Moreover, as Sárosi argued, settlement location was a key factor in the survival of villages in the

⁴⁴¹ Sárosi raised the possibility that this form of settlement abandonment was not so much of an economic necessity but a conscious, planned form of evacuation. Sárosi Edit, *Landscapes and Settlements in the Kecskemét Region, 1300-1700*. PhD Thesis, defended at the Medieval Studies Department, Central European University, Budapest, 2013, 46. (henceforth: Sárosi, Landscapes and Settlements in the Kecskemét Region)

⁴⁴² Sárosi, Landscapes and Settlements in the Kecskemét Region, 34-36, 40-47.

⁴⁴³ To be defended at Eötvös Loránd University in 2015.

⁴⁴⁴ These led from Buda to Szeged; from Szeged to Pest through Nagykörös and Félegyháza; from Győr to Szeged; from Szeged to Szolnok; one route followed the course of the Danube in a north-south direction; one led from Bial to Akasztó and Halas; and the seventh one, the so-called "Cuman Road" (Via Kunuth – 'kun út' means Cuman Road in Hungarian), which led through the swampy areas in the floodplains of the Danube, from Bugyi to Izsák. This latter road followed natural geographical features, espacially the sandy hills. Szabolcs Rosta, "A Kiskunsági Homokhátság középkori település- és úthálózata" [The medieval settlement and road network of the Homokhátság area in Lesser Cumania] in *Középkori mozaik. Az ELTE BTK Történelemtudományok Doktori Iskola doktoranduszainak tanulmányai* [A Medieval Mosaic. Studies by the PhD Students of the Doctoral School of History at Eötvös Lorand University], ed. Balázs Nagy (Budapest: ELTE BTK Történelemtudományok Doktori Iskola, 2010), 101-148: 132-136, 147. (henceforth: Rosta, A Kiskunsági Homokhátság középkori település- és úthálózata)

⁴⁴⁵ Rosta, A Kiskunsági Homokhátság középkori település- és úthálózata, 136-148.

late medieval period. Those sites located along roads carrying major traffic proved to be more viable on the long run and had better chances of surviving settlement desertion caused.⁴⁴⁶

3.3.1.1 The Cuman presence

A number of settlements were identified as part of the region's Cuman seats,⁴⁴⁷ although it is not always clear which seat a particular settlement belonged to or whether its population was indeed of Cuman origin. Even though the early Cuman presence is clear, most of their settlements only appear in the written record much later, in the fifteenth century. This was previously explained in the scholarship as resulting from their thirteenth- and even fourteenth-century mobility.⁴⁴⁸ This theory has recently been revised however: it seems that permanent settlements emerged here relatively early, at least in the form of fixed winter camps.⁴⁴⁹ As no sources are available on the internal organization of the Cumans, the density of their settlement pattern can mainly be assessed by archaeological means. Nevertheless, lands frequently changed owners, with Cumans sometimes occupying or acquiring new pieces of land in the region making property boundaries volatile. This situation changed only in the fifteenth century, when the system of administrative seats was set up while epidemics transformed the demographic conditions in the area. Finally, the Turkish-Ottoman conquest had a devastating impact and its consequences profoundly transformed Lesser Cumania both from a demographic and an

⁴⁴⁶ Sárosi, Landscapes and Settlements in the Kecskemét Region, 198.

⁴⁴⁷ István Tálas listed the following settlements: Seat of Chertan, later Seat of Halas (1418): Halas (1407, 1451), Öttömös-szállása, Jamanelek-szállása (1436), Kalas-szállása, Borbásszállása, Jakabszállása (1452), Majosszállása (1436, 1457, 1493), Kaskantyúszállása (1456-1469), Csólyósszállása, Fehértó, Péteri, Kömpöcszállása (1473), Törtelszállása, Bócsaszállása (1475), Kazalháza, Kötönyszállása, Vadkert, Kecel, Tetélen, Jakabháza, Zomokszállása, Ellésföld, Aßzonyszállása, Balotaszállása, Átokszállása (1493); probably belonged here: Dorozsma, Bánfalva, Gyékénytő, Szentkirály, Orbogánszállása (1436, 1509), Harka, Bugacháza, Szankszállása (1451). The Seat of Kara (1430, 1440), that is, the Seat of Mizse: Zombat (Szabad)-szállás, Tatár(Kun)Szentmiklós, Mindszent, Bozgánszállása, Bódogasszonyegyháza, Csengele-telke, Csókáshegyeharasztja, Homyma, Belcherhorchan, Kunjakabchorchan, Weteuch, Mámahomoka, Zombathkutha, Csödörhomoka, Bösztörszállása (1462), Pákaszállás (1472), Félegyháza (1389, 1424). The Seat of Kecskemét (1472): Othasylis-szállás (1472), Könçögszállás (1509), Szentkirályszállása (1488, 1490), Lajos (1491), Bene (1424). István Tálaši, *Kiskunság* [Lesser Cumania] (Budapest: Gondolat, 1977), 17-19 (henceforth: Tálaši, *Kiskunság*)

⁴⁴⁸ Kring, Kun és jász társadalomelemek a középkorban, 45; Bálint Illyés, *Kiskunsági krónika. A Fölső-Kiskunság vázlatos története 1745-ig* [A Chronicle of Lesser Cumania. The Short History of Upper Lesser Cumania Until 1745] (Kunszentmiklós, 1975), 12-13 (henceforth: Illyés, *Kiskunsági krónika*); Györffy, A magyarországi kun társadalom, 289-290

⁴⁴⁹ Rosta, Új eredmények, 197-201.

economic point of view.⁴⁵⁰

The region around Kiskunhalas, which later formed the Seat of Halas, is traditionally associated with the Cuman Chertan clan; in fact, the direct connection between a region and a specific clan is best documented and accepted in the case of the Chertans.⁴⁵¹ This clan first appears in the charters in the fourteenth century, in 1347 and 1367, respectively.⁴⁵² Their name is in all probability closely related to the Qipchaq name Čurtan,⁴⁵³ meaning “pike” (fish).⁴⁵⁴ The clan had an extensive settlement area in the Great Plain, including parts of Fejér, Pest, Csongrád, Szolnok and Bodrog counties.⁴⁵⁵ In this case, it seems sure that these groups were really tribal fragments brought together by the necessity of escaping the Mongol forces: this clan name is known from fourteenth-century Arab sources (in the form of Čartan) as a clan that was subjugated by the Mongols. Hatházi concluded that the main tribe must have remained on the Qipchaq steppe with only a small fragment migrating to the Carpathian Basin.⁴⁵⁶ Some members of this group may even have sunk to the level of serfdom: in 1341 a servant called János Csorityán is mentioned. According to Györffy, this name is identical to Chertan.⁴⁵⁷ However, in 1418, the seat was still referred to as *Csorityán-szék* in a document.⁴⁵⁸ Köncsög, the early

⁴⁵⁰ Rosta, Új eredmények, 188

⁴⁵¹ László Blazovich, “A kunság útja a széki autonómia meghozatalához” [The way of the Cumans to the autonomy of seats] In *Autonóm közösségek a magyar történelemben. A Kiskun Múzeumban rendezett konferencia előadásai* (2003 május 22-23) [Minorities with Autonomy in the Hungarian History. Presentations on the Conference held in Kiskun Museum, 22-23rd May 2003] Bibliotheca Cumanica 4. Ed. Erzsébet Bánkiné Molnár (Kiskunfélegyháza, 2003), 61-77: 67 (henceforth: Balzovich, A kunság útja); Györffy, Az Árpád-kori Magyarország történeti földrajza, vol.3, 530.

⁴⁵² Györffy, A magyarországi kun társadalom, 275., Gyárfás, A jász-kunok, vol. 3. 503.

⁴⁵³ Györffy, A magyarországi kun társadalom... in A magyarság keleti elemei, 275; Pálóczi Horváth, Pechenegs, Cumans, Iasiens, 56

⁴⁵⁴ Györffy, A kipcsaki kun társadalom, 258. Györffy adds that for this particular tribe the pike may have been a totem animal, and cites examples for similar practices from Siberia. However, he admits that in the case of the Cumans this is mere speculation as there is no evidence for a totemistic cult. Taking into consideration the sporadic nature of ritualistic phenomena in the Cuman areas and the speed of their cultural assimilation, it is very unlikely that they would have preserved such customs very long.

⁴⁵⁵ Pálóczi Horváth, Pechenegs, Cumans, Iasiens, 56.

⁴⁵⁶ Hatházi, Halas kun székközpont, 175.

⁴⁵⁷ Györffy, A magyarországi kunok, 281, 299, footnote 194; Hatházi, Halas kun székközpont, 175.

⁴⁵⁸ András Pálóczi Horváth, “Nomád népek a keleti-európai sztyeppén és Magyarországon” [Nomadic peoples in the Eastern European Steppe and in Hungary] in *Zúduló sasok. Új honfoglalók – besenyők, kunok, jászok – a középkori Alföldön és a Mezőföldön* [Flying Eagles. New Conquerors – Pechenegs, Cumans, Iasiens – in the Great Plain and Mezőföld in the Middle Ages] Ed. Péter Havassy, Gyulai Katalógusok 2 (Gyula: Erkel Ferenc Múzeum, 1996), 7-36: 27 (henceforth: Pálóczi Horváth, Nomád népek) Pálóczi does not specify the charter in which he found this piece of data; however, he probably refers to a document Györffy also mentions in which a certain Cuman man is described as “Cumanus regius de sede Chortyan” (Cuman of the king, from the seat of Chertan). Györffy, Az Árpád-kori Magyarország történeti földrajza, vol.3, 530.

fourteenth-century chieftain of the Chertan clan and his family are regularly mentioned in documents that deal with landed properties in the region. It seems that they were extremely wealthy and controlled income from at least four market towns (Halas, Madaras, Szabadka and Tavankut) as well as a number of villages.⁴⁵⁹ Györffy cites examples when larger, more diverse communities were named after families of special importance or political and economic position;⁴⁶⁰ this may have been the case with the Chertan clan as well. Interestingly, Horváth argued that the settlements of Bodoglár and Tázlár may come from the family names or tribal fragments, and he concluded that Lesser Cumania must have been inhabited by tribal communities of diverse background, of whom the Chertan clan was the most powerful – or the luckiest in achieving economic power.⁴⁶¹

From the point of view of social diversity it is worth mentioning that an often cited document describing Cumans using tents refers to Cumans belonging to the Chertan clan. As touched upon in Chapter 1, Köncsög, the chieftain of the Chertans, issued a charter in 1347 in which he allowed a Hungarian aristocrat, Töttös, to have ownership of 12 Cumans (or Cuman families⁴⁶²) who had originally belonged under his authority but escaped from his territory to the lands of Töttös. They are described as living in “felt houses”.⁴⁶³ In 1349, 25 Cumans living in tents were again bequeathed by Töttös to Köncsög.⁴⁶⁴ In this case, living in tents was definitely not the same as being mobile because these people were prohibited from moving around freely. (As we have seen earlier, in fourteenth to sixteenth century Orgondaszentmiklós, setting up a yurt in the backyard seems to have been a normal practice both for wealthy households and ones of more modest means that has little to do with mobility.) These people were probably servants who had no right to move from one place to the other (the document mentions that they had run away from Köncsög’s lands a couple of times), and they signify that a social diversity existed in Cuman society in this region. The descendants of Cumans who lost their families and properties and were forced to join the Chertan clan in a wave of migration a hundred years earlier, must

⁴⁵⁹ Györffy, A magyarországi kunok, 296-297.

⁴⁶⁰ Györffy, A kipcsaki kun társadalom, 258.

⁴⁶¹ Horváth, A csengelei kunok, 221.

⁴⁶² It has been questioned whether the charter is referring to 12 men or 12 families. In fact, the term “yurt” is used not only to mean ‘tent’ but also to mean ‘household’ in the *Codex Cumanicus*. Györffy, A kipcsaki kun társadalom, 258; Hatházi, Halas kun székközpont, 228.

⁴⁶³ Gyárfás, A jász-kunok, vol.3, 72-73.

⁴⁶⁴ Györffy, A magyarországi kun társadalom, 290.

have been subjugated, especially after most of the Christian slaves used in agricultural production and around the households had to be set free, which obviously meant a reduction of available manpower.⁴⁶⁵

The region encompassed by the later Seat of Kecskemét and Seat of Mizse (Kara) are more problematic in terms of identifying the background of its settlers so that they cannot be associated unambiguously with one particular clan.⁴⁶⁶ Another, somewhat mysterious tribal name, the *Ilonchuk* (meaning “little snake”;⁴⁶⁷ sometimes misread as Nonuchuk⁴⁶⁸) also appears in the documents. This family or kinship lineage may also have played a political role in the region, however, it is still uncertain whether this name designates a clan that really existed or was rather a personal or ancestral name that has been misinterpreted.⁴⁶⁹ Russian chronicles mention a Cuman clan called *Eltukoviči* from the region of the Don and Dnyeper Rivers,⁴⁷⁰ however, their relation to the Ilonchuk clan or family lineage from the Carpathian Basin is still unknown. In 1342-43, a Cuman leader named Buthemer of the Ilonchuk clan or family (*comes Buthemer de genere Ilunchuck*) attempted to extricate himself and his people from the jurisdiction of other captains or chieftains.⁴⁷¹ Gábor Hatházi argued that as Buthemer’s descendants lived in Köncsögszállás in the area of the later Halas Seat (that is, the territory of the Chertan clan), the captain from whose authority they wanted to escape was probably Köncsög, the leader of the Chertan clan at that time. Thus, this act may signify that a smaller tribal fragment that, in fact, did not organically belong to the Chertan clan but was forced to join them in the turbulent period of the thirteenth-century migration, tried to regain its relative independence in the mid-fourteenth century.⁴⁷² If this was really so it suggests either a strong tribal identity or serious conflicts with the Chertan elite on unknown (cultural, political or economic) grounds. A systematic linguistic study of geographical and personal names in this area that may be connected to the Ilonchuk family could contribute to the solution of what this tribal

⁴⁶⁵ Hatházi, Halas kun székközpont, 216-217.

⁴⁶⁶ Pálóczi Horváth, Nomák népek, 27.

⁴⁶⁷ Pálóczi Horváth, Pechenegs, Cumans, Iasians, 59.

⁴⁶⁸ Gyárfás, A jász-kunok, vol. 3, 65.

⁴⁶⁹ Györffy, A magyarországi kun társadalom, 276; Hatházi, Halas kun székközpont, 175-176.; Pálóczi Horváth, Pechenegs, Cumans, Iasians, 59.

⁴⁷⁰ Hatházi, Halas kun székközpont, 176; Pálóczi Horváth, Hagyományok, kapcsolatok és hatások, 35.

⁴⁷¹ Gyárfás, A jász-kunok, vol. 3. 64-65; 482-483.

⁴⁷² Hatházi, Halas kun székközpont, 176.

fragment really represented,⁴⁷³ however, this research still awaits completion. In Pálóczi Horváth's view, the name Ilonchuk is rather an ancestral name rather than the name of a real clan; in fact, the name Buthemer was also used as an ancestral name by his own grandchildren.⁴⁷⁴ Thus, a similar practice on Buthemer's part would not be surprising, which would then make Ilonchuk one of the family's ancestors.

Gyárfás, however, wrote that the Ilonchuk clan did in fact exist and later split into two branches, the Buthemer and Eremeen, respectively (and he even added that the name Buthemer may have been of Hungarian origin).⁴⁷⁵ Györffy suggested that Buthemer lived in the area of Jakabszállás, close to Kecskemét in 1343, which may signify the connection between the Ilonchuk clan or family lineage and the later Seat of Kecskemét.⁴⁷⁶ As our sources are silent on the Cumans' internal issues, it is impossible to unambiguously reconstruct the relationship between the Ilonchuk family lineage and the Chertan clan, but it seems nevertheless that groups of possibly different backgrounds, sometimes in conflict with each other, co-inhabited Lesser Cumania following the thirteenth-century Cuman migration. All this data suggest that a socially differentiated group of immigrants settled in Lesser Cumania, and consequently, the levels and forms of their integration into the host society must have been manifold, depending on the status of the given family grouping.

It is not always clear how a given settlement was established and who its inhabitants were; in many cases, even if we know that a settlement was Cuman, it is not sure at all which Cuman seat it belonged to. Kistelek, e.g., appears sporadically in fifteenth-century charters, and in 1511 it was designated an abandoned Cuman possession that became the property of a well-off inhabitant of Szeged and was used as pasture. However, only very few medieval archaeological finds have been found in the immediate area, and these may not even be sufficient to localize the medieval settlement. In the eighteenth century, the settlement was re-populated by order of the state and developed a significantly different demographic profile than previously.⁴⁷⁷ In fact, the

⁴⁷³ Hatházi, Halas kun székközpont, 176.

⁴⁷⁴ Pálóczi Horváth, Pechenegs, Cumans, Iasians, 59.

⁴⁷⁵ Gyárfás, A jász-kunok, vol.3, 65.

⁴⁷⁶ Györffy, Az Árpád-kori Magyarország történeti földrajza, vol.3, 531.

⁴⁷⁷ Ferenc Oltvai, "Kistelek története a telepítéstől 1848-ig" [The History of Kistelek from Settlement to 1848] in *Tanulmányok Kistelek történetéből és népeletéből* [Studies on the History and Folklore of Kistelek] ed. Antal Juhász (Kistelek: Kistelek Nagyközség Tanácsa, 1976) 31-110: 31-32; László Blazovich – Ferenc Horváth, "A honfoglalástól a telepítésig" [From the period of conquest to settlement] in *Kistelek története* [The History of Kistelek] Ed. László Blazovich (Szeged: Kistelek Város Önkormányzata, 1991), 57-72: 60-61.

region was constantly changing from a demographic point of view. The arrival of the Cumans coincided with a natural settlement concentration process that was accelerated by the Mongol Invasion and later by growing trade opportunities in market towns that attracted an influx of villagers from outside the area. Continuous competition for the abandoned lands resulted in frequent changes of ownership and a slight fluctuation of the quantity of available pastures held by a single settlement, which again affected market opportunities in terms of animal production. Changes in ownership may have been documented and available for study, however, demographic changes are particularly challenging to track; occasional epidemics also decimated the communities. The general change in the legal standing of the Cumans at the turn of the fifteenth and sixteenth centuries (discussed in Chapter 2) caused a weakening of the administrative power and autonomy of the seats and also resulted in waves of out-migration from the region.⁴⁷⁸ This process coincided with the economically driven process of settlement concentration during which inhabitants of small villages that were not self-sufficient moved to bigger market towns where the range of earning opportunities was much wider. Lesser Cumania was also heavily impacted by the Turkish-Ottoman Wars that accelerated settlement concentration and out-migration. The second half of the sixteenth century was a particularly difficult period: after an unsuccessful attempt to re-conquer the town of Szeged in 1550-52, the town of Szolnok also fell and the whole Danube-Tisza Interfluve was occupied by Ottoman forces. This again accelerated out-migration from the region and settlement desertion, although some settlements were nevertheless able to profit from the intensifying animal husbandry and trade. In 1570, most lands in Lesser Cumania were controlled by the towns of Szeged and Kecskemét as the villages that originally used them became depopulated and their inhabitants moved.⁴⁷⁹ Cumans and Hungarians were similarly affected by this turbulent period, and differences between the fates of given communities were not defined along ethnic lines. In addition, the self-defined ethnic ratios in these communities are not always known. Both for the seats of Halas and Kecskemét, the central market town itself was not a Cuman possession but was rather in the hands of Hungarian landlords.⁴⁸⁰ Economic control, of course, does not say

⁴⁷⁸ Hatházi, Halas kun székközpont, 253.

⁴⁷⁹ László Fenyvesi, “A Kiskunság a török időkben” [Lesser Cumania in the Turkish-Ottoman Period] in *A Jászkunság kutatása 1985. [Studies on the Ias-Cuman Area, 1985]* Eds. István Fazekas, László Szabó and István Sztrinkó (Kecskemét-Szolnok, 1987), 235-236. (henceforth: Fenyvesi, A Kiskunság a török időkben)

⁴⁸⁰ István Nagy Szeder, *Kiskun-Halas város története* [The History of the Town of Kiskunhalas] (Kiskunhalas,

much about the actual ethnic background of these settlements. Kiskunfélegyháza is another example: it was situated in the middle of the Cuman area, surrounded by Cuman villages (Csengele, Bugac, Kígyós, Csólyos), and it was already mentioned in a charter in 1389. The town however has not so far yielded any archaeological material that could be identified as specifically Cuman. In fact, no fourteenth-fifteenth century settlement has yet been discovered here.⁴⁸¹ Thus, it is challenging to only discuss the Cumans without discussing the rest of the population living in Lesser Cumania. The data gathered here and any conclusions that can be drawn only represent preliminary results of a wider study that has yet to be carried out.

Before turning to the zooarchaeological investigation of the sites, I will summarize here the economic history of the three Cuman regions that later became administrative units (that is, the seats of Kecskemét, Halas and Mizse), based on the available written evidence with a special emphasis on animal husbandry and trade. I will discuss the different seats for the sake of studying the region on a smaller geographical level; however, in some cases it is not clear if a certain village was connected to one seat or the other.

3.3.1.2 The Seat of Halas

Halas was the largest and most influential of the three seats; according to Gyárfás, this settlement was also one of the earliest Cuman centers.⁴⁸² There are few traces of early settlements in the area around present-day Kiskunhalas and those that are known are small. The low density of early Cuman settlements can be explained by unfavorable soil conditions and insufficient water resources (the period between 800 and 1200 was very warm and dry) making both animal grazing and land cultivation difficult here before the Árpád Period. These dry conditions meant the area could not provide a living for large populations.⁴⁸³ Most tenth to

1926), 47. (henceforth: Nagy Szeder, Kiskun-Halas város története)

⁴⁸¹ Ágnes Somogyvári, “Vidékünk lakói az őskortól a XVI. század végéig” [Inhabitants of the region from Prehistory to the late 16th century] in *Kiskunfélegyháza helyismereti könyve* [The Monography of Kiskunfélegyháza] ed. Erzsébet Bánkiné Molnár (Kiskunfélegyháza: Kiskunfélegyháza Város Önkormányzata, 1999), 40-43.

⁴⁸² Gyárfás, A jász-kunok, vol.3, 184.

⁴⁸³ Zsolt Gallina and Sándor Varga, “Újabb adatok a középkori Halasról. A településszerkezet alakulása” [New data on medieval Halas. The development of settlement structure] in *Halasi Múzeum 3. Emlékkönyv a Thorma János Múzeum 135. évfordulójára*. [The Museum of Halas vol. 3. Collected Studies on the Occasion of the 135th Anniversary of the Thorma János Museum.] Ed. Aurél Szakál (Kiskunhalas: Thorma János Múzeum, 2009), 35-

eleventh-century settlements in the region are therefore located alongside the Danube and Tisza Rivers. However, in the twelfth century, a colder period with more precipitation began that resulted in a rise in the water table and a more stable hydrological system where swampy areas and small lakes developed. Thus, the area became more favorable for cultivation as well as habitation. Small villages and farmsteads in the region were, nevertheless, mostly short-lived and eventually destroyed (and not re-built) by the Mongol Invasion;⁴⁸⁴ thus, late medieval settlement structure was heavily impacted by the Cuman migration.

Burials of the Cuman nobility in the region testify to an early Cuman presence. These graves were excavated at Balotaszállás, Kunfehértó-Inoka, Kunfehértó-Debeák, Csolyospuszta and Kígyóspuszta (beside the hypothetical circle of burials identified by Horváth⁴⁸⁵). According to Hatházi, the Chertan clan tried to expand their territories in this region and imposed their authority on some surviving Hungarian settlements and their inhabitants in the early fourteenth century.⁴⁸⁶ Right after the Mongol Invasion it was easy to occupy pieces of lands that were not only depopulated but where a legislative vacuum existed. Not only the Cumans but also Hungarian landlords and simple commoners tried to exploit this opportunity,⁴⁸⁷ creating competition for the available resources. In fact, manpower must have been a crucial factor in terms of agricultural work after the region was severely decimated. It is not surprising that Cumans tried to supplement the supply of laborers for land cultivation through the subjugation or integration of nearby Hungarian communities, especially when the military campaigns which provided their main supply of serfs were terminated. Although they were allowed to keep those laborers captured during military campaigns outside Hungary, their numbers were not sufficiently large to maintain an economic model built on a slave-based agricultural production.⁴⁸⁸

Changes in the late thirteenth, early fourteenth-century settlement structure, that is, the re-population of former villages in Lesser Cumania, suggest that Cumans used the existing infrastructure to organize their own settlements.⁴⁸⁹ This area was particularly important as the

44: 37 (henceforth: Gallina and Varga, Új adatok a középkori Halasról)

⁴⁸⁴ Gallina and Varga, Új adatok a középkori Halasról, 36-37.

⁴⁸⁵ Horváth, A csengelei kunok, 218-220.

⁴⁸⁶ Hatházi, Halas kun székközpont, 182-187.

⁴⁸⁷ Szűcs, Az utolsó Árpádok, 62-63.

⁴⁸⁸ Szűcs, Az utolsó Árpádok, 304; Hatházi, Halas kun székközpont, 182.

⁴⁸⁹ Hatházi, Halas kun székközpont, 184-185.

center of the Chertan clan Köncsög. The chieftain of the clan is called *comes Kuncheq de Halas* in 1366.⁴⁹⁰ The 1347 charter discussed earlier (in which Köncsög gave 12 of his Cuman servants to a Hungarian nobleman) mentions Köncsög's camp or land (*descensu nostro*), which Hatházi identifies with Halas, the center of the later seat. He suggests that the clan's center around Halas must already have existed at that time.⁴⁹¹ In fact, the settlement name of Halas (in Hungarian 'related to or associated with fish') probably goes back to the name Chertan meaning pike in the Cuman tongue (although it cannot be excluded that the settlement was named after its fishing lake).⁴⁹² A coat-of-arms found in Kelebia on the territory of the Chertan clan features the image of a pike, just as the seventeenth-century seal of the town which probably reflects its fifteenth-century predecessor.⁴⁹³

As mentioned earlier, this administrative unit was first mentioned as the Chertan seat in 1418, which suggests the pivotal role the Chertan clan played in the area. From the 1450s onwards, the seat was called the Seat of Halas.⁴⁹⁴ Building the system of seats signified the final stage in the integration process, at least from an administrative point of view. However, the precise date of the establishment of the Seat of Halas is not known and the written evidence is somewhat inconsistent. In 1439, Halas is called only a village in the king's possession,⁴⁹⁵ but in 1440, the seat definitely had its headquarters in Halas.⁴⁹⁶ Another charter from 1451 in which Halas appears as a legislative seat (*in Sede judiciaria in Oppido Halas*) reports on a case when wood was stolen.⁴⁹⁷ A few years later in 1456 a charter mentions "captains and peasants of the seat of Halas".⁴⁹⁸ Most interestingly, Halas itself was not a Cuman possession but changed

⁴⁹⁰ Györffy, A magyarországi kun társadalom, 299; Györffy, Az Árpád-kori Magyarország történeti földrajza, vol.3, 530.

⁴⁹¹ Hatházi, Halas kun székközpont, 185.

⁴⁹² Hatházi, Halas kun székközpont, 185; Horváth, A csengelei kunok, 221.

⁴⁹³ Hatházi, Halas kun székközpont, 185; Hatházi, A kun és jász székközpontok, 120.

⁴⁹⁴ 1451: "in Sede judiciaria in Oppido Halas cum Capitaneis et cum Comitibus, et duodecim Juratibus ac cum aliis simplicibus Comanys totalium..."; 1452: "pretextu Capitaneatus in eadem Jakabzallasa in pertinentia Sedis Halaszek existente..."; 1456: „universi Capitanei et rurales Comani ipsius Sedis Halas...”, “praeterea ipsi Capitanei ac rurales Comani Sedis Halas...” Györffy, Az Árpád-kori Magyarország történeti földrajza, vol.3, 530; Gyárfás, A jász-kunok, vol.3, 626, 627, 632.

⁴⁹⁵ 1439: "...possessiones nostra Madaras, Towankwth, Zabathka et Halas appellatas" István Nagy Szeder, *Oklevélkötő Kiskun-Halas város történetéhez* [Charters on the History of Kiskunhalas] (Kiskunhalas, 1926), 13 (henceforth: Nagy Szeder, Oklevélkötő); Gyárfás, A jász-kunok, vol.3, 610.

⁴⁹⁶ 1440: "capitaneis Cumanorum regalium ad sedes Halas et Karazeek..." Györffy, A magyarországi kun társadalom, , 304, footnote 215; Hatházi, Halas kun székközpont, 225.

⁴⁹⁷ Nagy Szeder, Oklevélkötő, 14. In fact, it is often mentioned about Lesser Cumania that there is always a shortage of wood and water; Already In the mid-fifteenth century it already seems to have been the case fifteen.

⁴⁹⁸ 1456: "universos Capitaneos ac rurales Comanos Sedis Halas..." Nagy Szeder, Oklevélkötő, 15.

owners a number of times, sometimes belonging to Hungarian nobles and sometimes to the king.⁴⁹⁹ King Sigismund ordered an investigation in 1404 in order to clarify the grounds upon which Cuman captains claimed ownership over their lands and as a result, he more-or-less confiscated the market towns of Halas, Szabadka, Madaras and Tavankút and made them royal possessions.⁵⁰⁰ Thus, although Halas still remained the political and economic center of the region inhabited by Cumans and most of its inhabitants claimed to have Cuman ancestors,⁵⁰¹ the town itself was not in Cuman hands from the early fifteenth century onwards. This may have been a first act towards the establishment of the seat, which was, after all, an administrative unit set up by the state representing royal authority as opposed to the local power of Cuman lords.

So far, 25 settlements have been identified as Cuman villages that belonged to the seat of Halas in the Late Middle Ages, to which 11 other settlements may be added where Cuman presence is supposed but debated.⁵⁰² Hatházi notes that at the turn of the fourteenth and fifteenth centuries, when the Seat of Halas was probably established, sometimes partial or even whole Cuman communities were moved from one place to another in order to keep them in Cuman hands and under Cuman authority.⁵⁰³

There was an interesting change in the situation of the Seat of Halas in the late fifteenth century. In 1490, the town of Halas was donated by the king to John Corvinus as a “normal” market town without any specific legal standing, a clear offence against the Cuman seat’s rights. This suggests a significant weakening in the seat’s position. Hatházi associates the frequent arbitrary orders issued by royal officials in Halas in these years to this weakening of Cuman self-governing authority.⁵⁰⁴ In fact, the king had to forbid his own officials from forcing the Cumans in the seat of Halas to feed and supply them at their own expense.⁵⁰⁵ This change was probably connected to the already discussed general shift in the Cumans’ legal standing at the end of the fifteenth and beginning of the sixteenth century (see Chapters 1 and 2).

⁴⁹⁹ Hatházi, Halas kun székközpont, 191-196; Nagy Szeder, Kiskun-Halas város története, 47.

⁵⁰⁰ Ákos Janó, *Kiskunhalas. Helytörténeti monográfia* [Kiskuhalas. A Local History] Vol.1. (Kiskunhalas: Városi Tanács, 1965), 40. (henceforth: Janó, Kiskunhalas)

⁵⁰¹ László Blazovich, “Az alföldi mezővárosok etnikai képe a 14-16. században” [Ethnic ratios in the market towns in the Great Hungarian Plain in the 14th-16th Centuries] *Acta Universitatis Szegediensis de Attila József Nominatae, Acta Juridica et Politica*, Tom. LV fasc.4 (1999), 31-41: 34. (henceforth: Blazovich, Az alföldi mezővárosok etnikai képe)

⁵⁰² Hatházi, Halas kun székközpont, 240-249.

⁵⁰³ Hatházi, Halas kun székközpont, 225.

⁵⁰⁴ Hatházi, Halas kun székközpont, 252-253.

⁵⁰⁵ Gyárfás, A jász-kunok, vol.3, 726.

Due to its geographical position, Halas was the most important connection between the big market towns of Kalocsa and Szeged in the Middle Ages.⁵⁰⁶ As Halas was situated on the route of cattle trade from Szeged to Fehérvár, a toll was collected after the number of animals (although it is first mentioned only late, in 1561).⁵⁰⁷ Even though nothing is known about the local markets held here, as an administrative and financial center (the taxes paid by the Cumans were collected here), this oppidum must have played a key role in trade activities and the distribution of goods.⁵⁰⁸ The sandy soil was less favorable for land cultivation than for animal husbandry, and Halas probably also contributed to the cattle trade in the form of breeding stock, although little is certain about what it looked like in practice Nevertheless, both Nicolaus Olahus (1536) and Matthias Bel (1723) describe Halas as a rather rural settlement. Olahus' report on Hungary describes the area of Halas as an agriculturally less favorable region where squash cultivation is most successful, people focus on animal keeping (especially cattle and horses), while there is a shortage of water and wood and the water the wells can provide is only suitable for animals.⁵⁰⁹ Matthias Bel also writes that the soil is only fertile in parts of Lesser Cumania located close to the Danube, but the farther one goes from the river the sandier the soil becomes; some areas are completely useless both for agriculture and grazing. According to his report the area was only sparsely inhabited and the lands were mainly used for grazing huge herds of cattle, horse, sheep and swine.⁵¹⁰ This situation, however, reflects a phase after the big wave of settlement concentration and devastation in the Turkish-Ottoman wars, and, thus, this demographic description cannot be projected back to the Middle Ages. He adds that Halas is a particularly rich oppidum in spite of its sandy soil and the shortage of. Halas borrowed pastures from other settlements in the vicinity,⁵¹¹ which signifies the importance of extensive animal keeping. He mentions that in the early eighteenth century (during Rákóczi's War of Independence) altogether 1817 oxen, 929 horses, 5303 cows, 477 young bulls and cows, 1544 sheep and 629

⁵⁰⁶ Hatházi, Halas kun székközpont, 197.

⁵⁰⁷ Fehérvár was a hub in the cattle trade to the Adriatic Sea region. 48,000 akče was collected as tax after exported cattle in 1574, which rose to 52,600 akče in 1582/1583. Some of these beasts must have originated in the Cuman regions. Anna Sz. Horváth, "Istolni Beográg gazdaságtörténeti kérdései" [Economic Historical Questions Concerning the Turkish Administrative Unit Istolni Beograd] *Székesfehérvár Évszázadai* 3 (1977), 77-83: 79-80; Horváth, Hatházi, Halas kun székközpont, 197.

⁵⁰⁸ Hatházi, Halas kun székközpont, 196-197.

⁵⁰⁹ Nicolaus Olahus, *Hungaria*, chap. 11. Béla Németh ed. *Oláh Miklós - Hungária. Athila* [Hungaria and Athila of Nicolaus Olahus] Budapest: Osiris, 2000, 34. (henceforth: Nicolaus Olahus ed. Németh)

⁵¹⁰ Illyés and Szőcs, Bél Mátyás, 14, 35.

⁵¹¹ Illyés and Szőcs, Bél Mátyás, 30.

swine were noted as being stolen from the people of Halas.⁵¹²

The big market town of Szeged had an enormous impact on the economic life of the Cumans living in the seat of Halas. They had, on the one hand, intensive connections with Szeged which presented great opportunities for animal trading, but on the other hand, they seem to have competed with the town for the available resources. Some Cumans migrated to Szeged. The first Cuman documented in the town was an individual by the name Mizser (“*Stephanus dictus Miser de Zeghed*”) in 1423; this name is in all probability of Cuman origin.⁵¹³ The movement of Cumans into the town may have started earlier; the 1411 charter in which the king ordered an investigation in order to see who the rightful Cuman captains were, was issued on an occasion when the Cumans asked for council from the king when he came to Szeged.⁵¹⁴ A considerable number of Cumans lived in the town in 1522. This is also testified to by a street called Kun utca (Cuman Street)⁵¹⁵ where 27 families lived in 1570.⁵¹⁶ There was a slight fluctuation in the number of families living here: in 1546, 50 family heads and 41 other family members (sons and brothers) and individual men were listed in tax rolls; this number decreased somewhat in the second half of the sixteenth century.⁵¹⁷ Some family names in the town at that

⁵¹² Illyés and Szőcs, Bél Mátyás, 34.

⁵¹³ István Petrovics, “Az egységesülés útján (1242 – kb. 1440)” [On the way to unison (1242-ca. 1440)] In *Szeged története. Vol.1. A kezdetektől 1686-ig* [The History of Szeged. Vol.1. From the Beginnings to 1686] Ed. Gyula Kristó, 345-423. Szeged, 1983, 385. (henceforth: Petrovics, Az egységesülés útján) The name was previously interpreted as a Latin form of “poor” but this seems to be a mistake. Sándor Bálint, *Az 1522. évi tizedlajstrom szegedi vezetéknévei* [Family names in the 1522 tax roll] A Magyar Nyelvudományi Társaság Kiadványai 105. (Budapest: Magyar Nyelvudományi Társaság, 1963), 18. (henceforth: Bálint, Az 1522. évi tizedlajstrom)

⁵¹⁴ Petrovics, Az egységesülés útján, 386.

⁵¹⁵ Although Péter Kulcsár connected the street name with one particular family named Kun, László Blazovich interpreted it as a sign of migration to Szeged, similarly to the Kun utca (street) in Kecskemét, because other family names associated with the same street (Mizsér and Majsa) also suggest the Cuman origin of these families. Thus, the street was probably named not after one family but a small ethnicity. László Blazovich, *Városok az Alföldön a 14-16. században* [Towns in the Great Hungarian Plain in the 14th-16th Centuries] Dél-alföldi évszázadok 17. (Szeged: Csongrád Megyei Levéltár, 2002), 80 (henceforth: Blazovich, Városok az Alföldön); Blazovich, Az alföldi mezővárosok etnikai képe, 32-33; Péter Kulcsár, “Az 1522-es szegedi tizedjegyzék mint történeti forrás” [The 1522 decima roll from Szeged, as a historical source] *Tanulmányok Csongrád Megye Történetéből* 8 (1984), 5-27. (henceforth: Kulcsár, Az 1522-es szegedi tizedjegyzék)

⁵¹⁶ Gyula Káldy-Nagy, *A szegedi szandzsák települései, lakosai és török birtokosai 1570-ben* [The Settlements, People and Turkish Lords of the Sandjak of Szeged in 1570] Dél-Alföldi Évszázadok 24. (Szeged: Csongrád Megyei Levéltár, 2008), 17 (henceforth: Káldy-Nagy, A szegedi szandzsák) Most personal names do not indicate profession, although one family has the surname *Tehenes* (in Hungarian: “Cow herder” or “one who keeps cows”).

⁵¹⁷ Péter Kulcsár, “A szabad királyi város (1498-1543)” [The Free Royal Town (1498-1543)] In *Szeged története. Vol.1. A kezdetektől 1686-ig* [The History of Szeged. Vol.1. From the Beginnings to 1686] Ed. Gyula Kristó (Szeged: Somogyi Könyvtár, 1983), 546-547 (henceforth: Kulcsár, A szabad királyi város) These conscriptions, however, cannot be taken at face value. They do not include female members of the family. Moreover, a comparison of different tax rolls and conscriptions reveals that some people are always missing from one or the

time (such as Mízsér, Nyögér, Tatár, Törtel, Kara, Csartán) testify to Cuman origin⁵¹⁸ although these names are not concentrated on “Cuman Street”. In 1522, only one person had a Cuman name (Mízser) among the people living there;⁵¹⁹ another person by the family name Massa may have been of Cuman origin (Massa – Majsa). Interestingly, there was even a marketplace called Kwn (Kun, Cuman) in Szeged. However, people mainly involved in sheep breeding lived in a different part of the town: “Cuman Street” was situated downtown or in the eastern part of the settlement (its location is not clear), while sheep breeders concentrated in the western part of the town.⁵²⁰ This, of course, does not mean that Cumans were not involved in the trade and distribution of these animals and their products. The presence of “Cuman Streets” in Szeged and Kecskemét may also indicate that the first migrating Cumans tried to stick together in the new environment and preferred to settle in one place, although on the basis of the listed family names these streets were ethnically mixed by the sixteenth century.⁵²¹

In some cases, it is possible to trace individual merchants with Cuman names in the tax rolls and charters. Usually, however, it is impossible to say how many of the wealthy cattle traders claimed Cuman ancestors or family ties. A merchant in Szeged going by the Cuman name of Pape Miser (Mízser) had interests in the salt trade. One of his relatives, János Mízser, who also happened to be a judge in Szeged, was the partial owner of the Cuman pastures at Asszonyszállás,⁵²² which was definitely used for animal keeping (the charter names places such as *campus* and *fenetum*, which means places for grazing and harvesting hay).⁵²³ A certain Mihály

other, and not the same ones; this suggests that many tried to escape conscription in order to avoid paying taxes. Gyula Káldy-Nagy proposed that roughly 20% should be added to the numbers in such conscriptions. (Gyula Káldy-Nagy, *Magyarországi török adóösszeírások* [Turkish Tax Rolls of Hungary.] Értekezések a történeti tudományok köréből. Új sorozat 52. (Budapest: Akadémiai Kiadó, 1970), 99-100. (henceforth: Káldy-Nagy, Magyarországi török adóösszeírások)

⁵¹⁸ Kulcsár, Az szabad királyi város, 450.

⁵¹⁹ Bálint, Az 1522. évi tizedlajstrom, 31.

⁵²⁰ Kulcsár, Az 1522-es szegedi tizedjegyzék, 15.

⁵²¹ Blazovich, Az alföldi mezővárosok etnikai képe, 34. István Petrovics argues that people who had come from Slavonia and Lesser Cumania probably formed more-or-less closed communities at the beginning, living in a separate street. By the early sixteenth century, however, there was only one ethnic Cuman living in the “Cuman street”. He identified the family name Dékán as a remnant of the social organization according to which people from Slavonia and Cumania were divided into units of ten families, with the so-called Decanus as the unit’s head. István Petrovics, “Foreign Ethnic Groups in the Towns of Southern Hungary in the Middle Ages”, in Segregation-Integration-Assimilation. Religious and Ethnic Groups in the Medieval Towns of Central and Eastern Europe, eds. Derek Keene, Balázs Nagy, and Katalin Szende. Historical Urban Studies Series (Farnham: Ashgate, 2009), 67-88: 78.

⁵²² This village is not identical to the one by the same name in Greater Cumania.

⁵²³ Blazovich, Városok az Alföldön, 106-107; “..universis in descensus comanicoli Azzonzallasa vocato ez eius

Mizse, probably from the same family, appears in a 1511 charter issued by the chaplain of Buda, as a Skinner or furrier. Interestingly, one of his business partners, Pál Szegedi, seems to have been involved in the animal trade, because he purchased pastures in 1518 and 1520.⁵²⁴ It may well be that the Mizser family had widespread contacts with other traders and also exploited animal products other than meat. Other members of what was probably the same family, Franciscus Myseer and Matthias Miser appear in the 1522 *decima* roll in Szeged; they payed decima after grains and hay.⁵²⁵ The latter may reflect this family's continuous involvement in animal husbandry.

The 1522 decima roll of Szeged and its nearby villages is interesting for a number of reasons. It seems that a lot of people with the family name Kwn (Kun, Cuman) lived throughout Szeged; in addition, a few people with unambiguously Cuman names are also found among the tax payers. In some cases, the document reveals that these people were, in fact, involved in animal husbandry. Johannes Kwn, Jacobus Kwn, Stephanus Kwn and Andreas Kwn (the latter lived in the village of Szentmihály) were listed as being "*habet oves*", that is, sheep keepers. Benedictus Nýger (Nyöger), and Michael Therteel (Törtel), similarly to Franciscus and Matthias Myseer, payed *decima* in grains and hay; while Franciscus Nýger and a widow called Luce Thathar (Tatár) had interests in wine production ("*habet vineas*").⁵²⁶ It must be kept in mind, however, that by this time Cumans and Hungarians were certainly inter-mingled, and family names, although they may have signified ancestry, do not necessarily reflect the ethnic identity of individuals. These families perhaps moved to Szeged from the villages in the seat of Halas a couple of generations before, and although they still retained their family name testifying to their Cuman ancestors, they were fully integrated into the society of the town. Most of these individuals paid their taxes in cash.⁵²⁷

pertinencys ac utilitatibus, campis quoque et feneris, illum havere valeant usumquem hactenus habuerunt..." János Reizner, *Szeged története. IV. Oklevélár* [The History of Szeged. Vol. 4. Charters] Szeged, 1900, 57 (henceforth: Reizner, Szeged története, Oklevélár)

⁵²⁴ Blazovich, Az alföldi mezővárosok etnikai képe, 33; Géza Érszegi, "Adatok Szeged középkori történetéhez" [Notes on the medieval history of Szeged] *Tanulmányok Csongrád Megye Történetéből* 6 (1982), 13-51: 37, 45.

⁵²⁵ Bálint, Az 1522. évi tizedlajstrom, 31, 32.

⁵²⁶ Bálint, Az 1522. évi tizedlajstrom, 27-46.

⁵²⁷ The amount of money most people payed was six denars, which was also called "Christian money". In other parts of Hungary it was usually the landless peasants who payed this, but in case of Szeged it was certainly a wider stratum of society that was obliged to contribute in this form. Reizner suggested that these taxpayers were members of an early middle class who were not involved in large-scale agricultural production. János Reizner, *Szeged története III.* [The History of Szeged, Vol.3.] (Szeged, 1900), 422, see also footnote 1. (henceforth: Reizner, Szeged története III.)

Although there was migration into market towns from villages, towns frequently raided by the Turkish army also lost inhabitants. This seems to be the case with Szeged, too: there were families that migrated to other market towns with similar economic profiles (such as Kecskemét, Makó, Nagyszombat or Debrecen). A certain Ferenc Pap and his brothers, wealthy cattle traders in Szeged, left for Debrecen in the mid-sixteenth century and more interestingly, took their whole animal stock with themselves comprising 150 dairy cows, 100 oxen, and “a herd of horses”.⁵²⁸ In fact, some part of the population was constantly on the move in the Great Plain during the Turkish-Ottoman occupation, and thus, it is even more difficult to trace the way the fate of individual Cuman families was shaped. These repeated waves of in and out-migration probably accelerated the integration / assimilation process with the surrounding Hungarian majority even in Cuman communities that had been, more or less, closed or isolated before.

The inhabitants of Szeged definitely had conflicts with the population of nearby (including Cuman) villages especially when large-scale animal production started and pastures became more and more valuable. According to a 1462 charter, the people of Szeged had maintained grazing rights for their animals on pastures in Cuman possession in the Danube-Tisza Interfluve.⁵²⁹ In the second half of the fifteenth century, King Matthias issued charters in which he again allowed the inhabitants of Szeged to use the pastures of the Cuman settlement of Homok and Asszonyszállás.⁵³⁰ There was a natural process of abandonment in the late fifteenth century making new lands available for grazing. Pastures of abandoned settlements that had formerly belonged to Halas, that is, Csolyósszállása, Fejértó, Majosszállása and Kömpöcszállása, were not given to the people of Szeged but rather to the Cuman captains of Majosszállás in 1473.⁵³¹ (This piece of data also reveals that Cuman captains whose lands were abandoned and their people probably lost in epidemics or out-migration could still increase their wealth and use newly acquired lands for animal production.)

As we have seen, the lands of abandoned villages were extensively used by the town of

Reizner, Szeged története vol.3)

⁵²⁸ Ferenc Szakály, “Török megszállás alatt (1543-1686)” [Under Turkish-Ottoman occupation (1543-1686)] in *Szeged története. Vol. I. A kezdetektől 1686-ig* [The History of Szeged. Vol.1. From the Beginnings to 1686] Ed. Gyula Kristó (Szeged: Somogyi Könyvtár, 1983), 535-738: 559. (henceforth: Szakály, Török megszállás alatt)

⁵²⁹ Reizner, Szeged története, Oklevélár, 57-58; Blazovich, Városok az Alföldön, 109.

⁵³⁰ Reizner, Szeged története, Oklevélár, 72; Gyárfás, A jász-kunok, vol.3, 276. This Asszonyszállás is not identical to the one in Greater Cumania, discussed in the previous subchapter.

⁵³¹ Reizner, Szeged története, Oklevélár, 71-72.

Szeged for grazing cattle while former Cuman lands were also exploited in this manner. The name of these pastures, “szállás”, may come from the Cuman naming practice of settlements, suggesting the key role of these lands in acquiring grazing fields.⁵³² In Kulcsár’s view, the livestock owners who kept their cattle on these pastures were almost exclusively inhabitants of Szeged.⁵³³ The number of cattle was, in all probability, not properly counted, only estimated (hence the even numbers), and so there were most likely more animals than actually listed. Kulcsár estimated the number of cattle in the hands of people from Szeged as 50,000 head in the 1570s.⁵³⁴ Szeged was in a privileged position compared to other big market towns, as it had access to a lot more unused / abandoned pieces of land than, e.g. Kecskemét or Nagykőrös, towns surrounded by a dense village network even in the mid-sixteenth century.

Settlement	Number of pastures ("szállás")	Number of cattle	Average number of cattles per pasture
Szeged	118	15,000	119
Tajó and Bodoglár	4	600	150
Csólyos	2	2,000	333
Átokháza	15	1,600	107
Asszonyszállása and Üllés	22	2,600	118
Alsócsengele	8	1,600	200
Felsőcsengele	8	1,500	187
Szank	8	1,200	150
Majsa	15	4,000	267
Móricgáttya	47	8,200	162
Móra	11	1,400	127
Móka	9	1,130	125
Szentlászló	20	5,250	262
Horgos	8	1,500	187
Horog	11	1,800	164

Table 3.3.1. The number of pastures used and cattle kept on landed properties used by the town of Szeged in 1570.

⁵³² László Makkai, “Adatok és kérdések Debrecen törökkorai agrártörténetéhez.” [Notes and questions on the agricultural history of Debrecen in the Turkish-Ottoman Period] Tanulmányok Csongrád Megye Múltjából (1976), 25-40: 32-33. In Makkai’s view, these later pastures resembled earlier Cuman camps where pastoralism was widely practiced, hence their name.

⁵³³ Szakály, Török megszállás alatt, 599.

⁵³⁴ Szakály, Török megszállás alatt, 600.

Abandoned Cuman lands are in italics. The varying number of cattle kept on one “szállás” (pasture, grazing field) may not only signify the size of these lands but also the quality of the pastures. (After Szakály, Török megszállás alatt, 599.)

Markets were held in Szeged more than once a week (markets on Mondays are evidenced by a document from 1407, Tuesday markets are already mentioned in 1328, while markets on Thursdays were permitted from 1431 on). These were, however, only weekly markets that attracted villagers in the immediate region in the fifteenth century.⁵³⁵ By the sixteenth century, nevertheless, Szeged became an important hub not only in the regional, but also in long distance trade; cattle driven to the west from east of the Tisza River crossed the river at Szeged.⁵³⁶

Horse keeping must also have been a common enterprise in the Szeged region, although cattle trade was undoubtedly dominant. Bertrandon de la Brocquiére mentions the abundance of marvelous horses he saw in the markets of Szeged in 1432. They were mostly untrained and very cheap.⁵³⁷ István Zákány, a Szeged judge reports in 1542 that he purchased the horse of the previous judge for 1,000 pieces of salt.⁵³⁸ There are, however, only few data on horse keeping in the region, as horses usually do not appear in tax rolls. Only 46 horses were recorded in 1857/88 in the toll register of Szeged, and none in the previous years, while at the same time, thousands of cattle were registered.⁵³⁹ The fact that horse herds were especially sensitive to military raids (soldiers continuously needed a supply of horses and thus, these animals must have been driven off as often as the opportunity arose) perhaps had a discouraging impact on horse breeding in some places. It is highly unlikely that the inhabitants of the Seat of Halas, who had huge pastures at their disposal, were not engaged in large-scale horse keeping throughout the whole medieval period. In fact, in the neighboring Seat of Kecskemét there is abundant evidence for horse breeding.

Halas as well as Szeged, participated in the long distance animal trade. Cattle were driven from Halas to the markets of Győr where they were bought up by German and Bohemian traders; in 1590, a cattle trader from Halas by the name György Kovács, along with other traders

⁵³⁵ Petrovics, Az egységesülés útján, 408-409.

⁵³⁶ Szakály, Török megszállás alatt, 572-573.

⁵³⁷ He calculated that up to 2,000 horses could have been bought in the market of Pest. Thomas Johnes (tr. and ed.) *The Travels of La Brocquiére* (Hafod, 1807), 310-312 (henceforth: Brocquiére, ed. Johnes)

⁵³⁸ Reizner, Szeged története, vol.3, 421.

⁵³⁹ Szakály, Török megszállás alatt, 583.

from Kecskemét, asked the king to allow them to use the land of Szentiván near Győr so that their cattle would have enough pasture when they arrived.⁵⁴⁰

Providing complementary fodder for the herds was a rare practice that probably only wealthier herd owners could afford. An inhabitant of Halas, János Farkas, possessed according to the Pentz-list from 1699, 40 horses, 100 cattle and 300 sheep, but only 12 wagons of hay,⁵⁴¹ which could only be sufficient if extra fodder was occasionally provided and the herds were fed almost exclusively on the pastures, forests and wetlands they encountered on the way to market. In all probability, the utilization of these resources was locally regulated. Although there is no data for this from the medieval period, regulations were issued in Kunszentmiklós in 1774 to keep shepherds from permitting their sheep destroy new spring growth in the forest of Orgovány.⁵⁴²

Swine keeping must have been practiced by the inhabitants of Szeged: a tax of 4,000 akče was collected after swine in 1546, although Turks only taxed pigs older than one year (and pigs were typically slaughtered before this age).⁵⁴³ The names Disznóverő (someone who neuters swine) and Makkos (acorn) in the 1522 tax roll of the town reflect swine keeping practices.⁵⁴⁴ Swine only appears in the 1699 conscription of Halas in relatively small numbers (typically two to four swine in the hands of one family),⁵⁴⁵ suggesting that pig keeping did not serve commercial purposes as opposed to Greater Cumania but were usually kept for the population's own consumption. This was perhaps rooted in environmental factors: although forests, wetlands and meadows were available for grazing swine, the environment was much drier and the frequent shortages of water, reported on both by Nicolaus Olahus and Matthias Bel, had a negative impact on swine keeping prospects. The lack of water and the poor soil conditions were also recorded by Pentz at the end of the seventeenth century. According to his account, there were deserted

⁵⁴⁰ István Nagy Szeder, *Kiskun-Halas város gazdaságtörténete* [The Economic History of the Town of Kiskunhalas] (Kiskunhalas, 1935), 5 (henceforth: Nagy Szeder, *Kiskun-Halas város gazdaságtörténete*)

⁵⁴¹ István Tálasi, *A kiskunsági pásztorkodás* [Extensive Animal Husbandry in Lesser Cumania] (Budapest, 1936), 5 (henceforth: Tálasi, *A kiskunsági pásztorkodás*); István Nagy Szeder, *Adatok Kiskun-Halas város történetéhez* [Additional Data on the History of Kiskunhalas] (Kiskunhalas, 1923), 45 (henceforth: Nagy Szeder, *Adatok Kiskun-Halas város történetéhez*)

⁵⁴² Tálasi, *A kiskunsági pásztorkodás*, 40.

⁵⁴³ Szakály, *Török megszállás alatt*, 603.

⁵⁴⁴ Bálint, *Az 1522. évi tizedlajstrom*, 21.

⁵⁴⁵ Nagy Szeder, *Adatok Kiskun-Halas város történetéhez*, 40-48.

villages where there was no natural water at all except when it rains.⁵⁴⁶ However, swine keeping flourished in some villages connected to the seat of Kecskemét in the sixteenth century, and thus, it seems that swine keeping largely depended on the immediate environment, the availability of water and proximity of oak forests or wetlands.

Animal manure must have been an important product that was used for heating instead of wood which was barely available in the region. Matthias Bel mentions that in parts of Lesser Cumania where reeds were insufficiently available, animal dung was frequently utilized this way.⁵⁴⁷ The use of dung is, unfortunately, not documented anywhere.

Fishing and hunting practices in the seat of Halas are difficult to reconstruct as written sources are mostly silent on these matters. Nicolaus Istvánffy writes that around 1514 ca. 3,000 fishermen lived in Szeged. These estimates must be exaggerated or a synonym for “many”.⁵⁴⁸ Istvánffy himself estimates the same number as being around 700 souls in 1552.⁵⁴⁹ Nevertheless, the Tisza River was abundant in fish and this resource was definitely utilized. In 1585-88, the number of fishermen listed for Szeged rose from 56 to 102. As tax was only collected after fish if it was sold, it is clearly revealed by the tax rolls that fish caught in the Tisza at Szeged not only served consumption in the town but was marketed and eaten by people in nearby settlements.⁵⁵⁰ Interestingly, fish was not sold by the fishermen themselves but by merchants who were sometimes also specialized in cattle trade.⁵⁵¹ The importance of environmental exploitation in terms of water habitats is also testified to by family names in Szeged: according to the 1522 listing, families by the names Halász (fisher), Varsás (someone who has fishing nets), Gémes (heron hunter), Fürjekes (quail hunter), Varjas (crow hunter), Madarász (fowler), Rákos (crab catcher), Kerepes (one who handles vessels that are pulled by horses).⁵⁵² The traveler Bertrandon de la Brocquiére also mentions the herons, bustards and an abundance of fish he saw in the Szeged market.⁵⁵³ In the 1585/1588 tolls register of Szeged, a growing number of fish were registered with their value almost tripling in three years’ time.⁵⁵⁴ Even the Turkish forces used

⁵⁴⁶ Nagy Szeder, Adatok Kiskun-Halas város történetéhez, 51.

⁵⁴⁷ Illyés and Szőcs, Bél Mátyás, 37.

⁵⁴⁸ Kulcsár, A szabad királyi város, 448.

⁵⁴⁹ Reizner, Szeged története, vol.3, Szeged, 1900: 138.

⁵⁵⁰ Szakály, Török megszállás alatt, 605-606.

⁵⁵¹ Szakály, Török megszállás alatt, 593.

⁵⁵² Bálint, Az 1522. évi tizedlajstrom, 22

⁵⁵³ Brocquiére, ed. Jones, 308.

⁵⁵⁴ Szakály, Török megszállás alatt, 583.

the fishermen of Szeged and obliged them to supply the military with fish.⁵⁵⁵ Halas also had a small lake where fishing was an everyday practice. However, according to the 1699 report of Pentz, the pike and tench caught here was not even enough to feed the locals so that fish was brought here from Szeged as well.⁵⁵⁶ Bodies of water supplied the population not only with fish and waterfowl but also with reeds, which was probably used as building material as well instead of wood. There are, however, data on reed distribution and use from the eighteenth-nineteenth centuries at which time this practice was already well-organized and centralized.⁵⁵⁷ (This information, nevertheless, comes from a period following the redemption that created a new legal situation for the Cumans and thus, cannot be projected back to the Middle Ages, although reed must have been utilized then as well. There is no physical evidence for reed use archaeologically, except from the already discussed reed mats used in cemeteries in Greater Cumania.)

Sources reveal almost nothing on hunting and wild game. However, two family names in Szeged, Hőgye and Hőgyes are, according to Kulcsár, connected to the stoat (called *hölgy* or *hölgymenyét* in old Hungarian)⁵⁵⁸ and possibly the processing of its fur or its use in catching rabbits. Fur is found as a recorded ware in the toll register of Szeged from 1585/1588, along with hides of cattle and sheep as well as sheep wool.⁵⁵⁹

It was not the Turkish-Ottoman wars that first had a devastating impact on the region. By that time, the area was already seriously decimated by a plague and years of starvation in the mid-fifteenth century.⁵⁶⁰ The precise dates for this catastrophe are unknown. Nevertheless, in 1475, Cuman captains ask the king to allow them to bring peasants to their lands because they need manpower.⁵⁶¹ A number of settlements seem to have been depopulated in these years; the charters on the grazing rights in the area of the former village of Asszonyszállás (in Lesser

⁵⁵⁵ Szakály, Török megszállás alatt, 692.

⁵⁵⁶ Nagy Szeder, Adatok Kiskun-Halas város történetéhez, 48.

⁵⁵⁷ Erzsébet Bánkiné Molnár, "Vízi haszonvételek a Kiskunságban" [The use of water in Lesser Cumania] *Etnica* 4/1 (2002) 46-49.

⁵⁵⁸ Kulcsár, A szabad királyi város, 462. Bálint, however, lists this family name among those he could not explain etymologically. Bálint, Az 1522. évi tizedlajstrom, 25.

⁵⁵⁹ Szakály, Török megszállás alatt, 583.

⁵⁶⁰ Hatházi, Halas kun székközpont, 250; Nagy Szeder, Kiskun-Halas város története, 53-54.

⁵⁶¹ In 1473, King Matthias allows the Cuman captains of Csólyosszállása, Fejértó, Majosszállása and Kempecszállása in the Seat of Halas to bring inhabitants onto their lands; he issues a similar permission for the Cuman captains of Törtelszállása, Köncsög- és Bócsaszállása (also in the Seat of Halas) in 1475. Gyárfás, A jász-kunok, vol.3, 675-677; Janó, Kiskunhalas, 40.

Cumania) also date to this period. Hatházi associated these epidemics with the plague that struck Hungary, Croatia and Serbia in 1456; in fact, there is a 11 years' gap in the diet assemblies that were held every second or third year in the town of Szeged: no diet was held between 1452 and 1463.⁵⁶² Occurrence of plague plausibly explains why these meetings of the legislative assembly had to be canceled. The fighting and epidemics heavily impacted villages around Halas, too. The Turkish *nahije* of Kalocsa listed a number of Cuman settlements in the vicinity in 1560 as deserted villages.⁵⁶³ Some of the survivors probably migrated to Halas,⁵⁶⁴ others may have ended up in more distant places. (A person by the name Demeter Csortán, whose family most probably came from the territory of the Chertan clan – that is, the Seat of Halas – appeared on the other side of the Tisza River, in Csomorkány in 1469, and his descendants lived in Hódvásárhely in the early sixteenth century.⁵⁶⁵) This meant that again new areas could be utilized as pastures. The Turkish-Ottoman wars in the second half of the sixteenth century again negatively impacted the region. The town of Halas itself was completely destroyed in 1566. It was repopulated three years later but the wars caused a serious trauma that must have transformed the settlement both from a demographic and economic point of view.⁵⁶⁶

Surprisingly, almost no data survived on cattle trade in Szeged in the seventeenth century. That there was some kind of a major setback can be suspected as some of the pastures previously exploited by the people of Szeged were rented out to other settlements. At the same time, it seems that the number of sheep in the hands of the town's people significantly increased to almost 19,000 head around 1670, and all in the hands of 66 owners.⁵⁶⁷

A lot of data have been preserved from the end of the seventeenth century concerning livestock numbers in the Seat of Halas. In 1682, a Hungarian landlord called András Jármí had 900 horses driven away from pastures around Halas; three years later another landlord stole 450

⁵⁶² Hatházi, Halas kun székközpont, 250.

⁵⁶³ These are: Bócsa (Bocsaszállás), Boroth (Borod), Csőszapa, Fejértó, Harka, Ivánka, Karapál, Szentkáta, Kéles, Kaskantyú, Kisszállás, Kötöny, Pokárd, Tázlár and Zside. Once they were depopulated, the lands that belonged to these villages were either used by nearby other villages or bigger market towns. From 1570, the lands of Bócsa, Fejértó and Karapál were used by Halas, while the lands of former Kötöny and Tázlár were used by Kecskemét. Hatházi, Halas kun székközpont, 214; Előd Vass, *Kalocsa környékének török-kori adóösszeírásai* [Turkish Period Tax Rolls From Kalocsa and Its Immediate Region] (Kalocsa: Városi Tanács, 1980), 160-176. Ágasegyház, Alsócsengele, Felsőcsengele, Asszonszállás, Balota, Csólyos, Harka, Kaskantyú, and Bodoglár were also conscripted as deserted lands in 1570. Káldy-Nagy, A szegedi szandzsák, 369-387.

⁵⁶⁴ Hatházi, Halas kun székközpont, 214.

⁵⁶⁵ Blazovich, Városok az Alföldön , 107-108.

⁵⁶⁶ Fenyvesi, A Kiskunság a török időkben, 245.

⁵⁶⁷ Szakály, Török megszállás alatt, 683.

cattle kept in an extensive manner on pasture lands.⁵⁶⁸ The 1699 list by Pentz provides us with a detailed record of the inhabitants of Halas and their possessions after the Turkish-Ottoman wars ended. All recorded families possessed animals, typically 1-5 horses, 6-10 cattle, and 3-6 swine. Not everyone kept sheep but those who were involved in sheep keeping could have large numbers of animals, sometimes 2-300 head. Most people seem to have kept the animals only for their own consumption purposes, although there were some who, despite all the turbulence and economic losses of the seventeenth century, were able to maintain huge herds that were clearly intended for market purposes. A certain Mihály Kovács, for example possessed 10 horses, 9 foals, 10 oxen, 20 cows, 13 young oxen, 23 milk calves, 200 sheep, 100 lambs, 18 pigs and 4 beehives, as well as twenty wagons of hay;⁵⁶⁹ János Farkas possessed 20 horses, 20 foals, 10 oxen, 40 cows, 10 young oxen, 40 milk calves, 200 sheep, 100 lambs, 20 swine, 12 piglets, 4 beehives, and 6 wagons of hay; Mihály Szabó had 8 horses, 10 foals, 8 oxen, 15 cows, 8 young oxen, 20 milk calves, 15 sheep, 100 lambs, 8 pigs and 4 beehives.⁵⁷⁰ The richest family in Halas was that of János Nemes Tegzes and his son: altogether they possessed 35 horses, 104 cattle, 780 sheep and 21 swine.⁵⁷¹ There were, however, only a few of these wealthy livestock owners; others possessed significantly smaller herds (although livestock owners most probably did not report the numbers of animals in their possession precisely either).⁵⁷² These data show a strong concentration of livestock and the economic success with only a couple of families; epidemics as well as the Turkish-Ottoman Wars must have profoundly transformed economic opportunities and familial relationships in the area in an almost random manner. However, animal husbandry remained the most important branch of agriculture, something also evidenced by the fact that the seat of Halas exploited the pastures of the former villages of Bodoglár, Tajó, Sána and Füzes where “the surplus of cattle are kept”.⁵⁷³

⁵⁶⁸ Janó, Kiskunhalas, 75.

⁵⁶⁹ Nagy Szeder, Adatok Kiskun-Halas város történetéhez, 40.

⁵⁷⁰ Nagy Szeder, Adatok Kiskun-Halas város történetéhez, 45.

⁵⁷¹ Nagy Szeder, Adatok Kiskun-Halas város történetéhez, 46-47.

⁵⁷² In 1703-1705, 14,000 sheep, 1400 oxen, 800 horses, and 5,000 cows were stolen from Halas, which represents a much larger animal stock than the one recorded a few years earlier by Pentz, and it is hard to explain this in terms of natural fluctuations of the stock. (Janó, Kiskunhalas, 75) This, however, does not necessarily mean that the relative ratio of animals was also falsely recorded by Pentz.

⁵⁷³ Nagy Szeder, Adatok Kiskun-Halas város történetéhez, 49-52.

3.3.1.3 The Seat of Kecskemét

The town of Kecskemét represented a unique form of urban settlement development in the region. Until the mid-fourteenth century it had the same potentials as any other village in the region. The growth started when surrounding landed properties were donated to landowners in Kecskemét, and partly to members of the Cuman élite. This paved the way for an economic boom, and from the mid-fifteenth century Kecskemét was one of the major economic hubs in the Danube-Tisza Interfluve. In this case, however, it was not crafts or industries that boosted urban development but rather animal husbandry and trade.⁵⁷⁴ Village desertion also supported this process, as newly available pastures could be rented and used for animal raising purposes.

Cumans appear in the region of Kecskemét in the fourteenth century according to written records. In 1354, Louis I donated the village of Ágasegyház (in the vicinity of Kecskemét) to a Cuman captain.⁵⁷⁵ In 1423, the king ordered the landlords of Körös as well as the town of Kecskemét not to obstruct the Cumans of Szombatszállás and Buzgánszállás from using their pastures or to try them in court by force.⁵⁷⁶ Cumans living around the town of Kecskemét appear again in a charter in 1424.⁵⁷⁷ The seat of Kecskemét itself, however, is first mentioned only in 1452.⁵⁷⁸ A 1465 charter mentions the Cumans of the Seat of Kecskemét as being under the authority of the queen.⁵⁷⁹

Kecskemét, one of the most significant market towns in the region, definitely had at least some Cuman inhabitants although it was not a Cuman settlement from a legal point of view.⁵⁸⁰ One of its streets, the so-called Új utca (“New Street”) with 26 families dwelling on it in

⁵⁷⁴ Sárosi, Landscapes and Settlements in the Kecskemét Region, 152-155.

⁵⁷⁵ 1354: *Quod Johannes filius Stephani filii Karla Cumanus fidelis noster ad Serenitatis nostre accedens presenciam exhibuit nobis quasdam duas litteras; unam scilicet patentem nostram super collacione cuiusdam terre seu possessionis Agaseghaz vocate prope possessionem Kechkemeth nuncupatam existentis sibi pro suis obsequiosis meritis per nos facta.* Gyárfás, A jász-kunok, vol.3, 492.

⁵⁷⁶ Gyárfás, A jász-kunok, vol.3, 578.

⁵⁷⁷ 1424: ...unacum Comanis Reginalibus, prope eandem Kechkemeth ac circa civitatem Bechee commorantibus... Gyárfás, A jász-kunok, vol.3, 580

⁵⁷⁸ 1452: *Descensum Othasylyszallas vocatum, nunc habitatoribus destitutum in Comitatu Pestiensi et ad Sedem Kechkemeth pertinentem...* Gyárfás, A jász-kunok, vol.3, 671; Györfy, Az Árpád-kori Magyarország történeti földrajza, vol.3, 531.

⁵⁷⁹ Gyárfás, A jász-kunok, vol.3, 281.

⁵⁸⁰ Blazovich, Az alföldi mezővárosok etnikai képe, 34.

1559, was called Kun utca (“Cuman Street”) in 1562 when 59 families already lived there.⁵⁸¹ This signifies a slight influx of Cumans into this market town, probably in connection with the Turkish-Ottoman wars, a process similar to Cuman migration into the town of Szeged in the Seat of Halas.

Animal husbandry played a pivotal role in the economic life of Kecskemét. A large amount of data is available on animal keeping in this market town in the Late Middle Ages; Kecskemét was one of the key settlements participating in the sixteenth-century animal export. This town and its vicinity were particularly important for the Turks in terms of tax payment as the result of the remunerative animal production and trade.⁵⁸²

Intensive animal production is evidenced by a vast amount of written data, although cattle were not listed by the Turkish authorities. Scarcely any data survived on cattle bred for non-commercial purposes, and thus, it is difficult to estimate how the number of exported cattle and those used for everyday purposes were connected to each other. Mészáros estimated the number of cattle kept by Kecskemét itself in the mid-sixteenth century at 8-15,000 head.⁵⁸³ Toll registers from Érsekújvár show a dramatic increase in the number of cattle exported from Kecskemét. While in the 1560s Kecskemét was only the fifth largest exporter of cattle in the Kingdom, by 1587-88 the town exported the most head of cattle, almost 18,000.⁵⁸⁴ A similarly dramatic increase is observed in the records for several settlements. It seems that more and more people tried to join this business, and cattle raised by locals were bought up by wealthy traders in these market towns. These middlemen had the cattle driven to markets and sold. The apparent decrease in the number of animals driven from Cegléd and Heves suggests this practice: although the number of head of animals in the vicinity from a given settlement may have been the same, they were purchased by well-off traders so that these animals were recorded under the name of the settlement the trader was from. It seems that traders from Kecskemét, Hódmezővásárhely,

⁵⁸¹ Gyula Káldy-Nagy, *A budai szandzsák 1546-1590 évi összeírásai. Demográfiai és gazdaságtörténeti adatok* [The 1546-1590 Conscription of the Sandjak of Buda. Demographic and Economic Historical Data] (Budapest: Pest Megyei Levéltár, 1985), 347 (henceforth: Káldy-Nagy, *A budai szandzsák 1546-1590 évi összeírásai*); Blazovich, *Városok az Alföldön*, 80.

⁵⁸² László Mészáros, “Kecskemét gazdasági élete és népe a 16. sz közepén” [Economy in Kecskemét in the Mid-16th Century] *Bács-Kiskun Megye Múltjából* 2 (1979), 58-286: 65. (henceforth: Mészáros, *Kecskemét gazdasági élete*)

⁵⁸³ Mészáros, *Kecskemét gazdasági élete*, 93.

⁵⁸⁴ Gyula Kocsis, “Az érsekújvári hídvámjegyzék. Adatok a 16. század végi élőállat kivitelről” [Toll rolls of Érsekújvár. Notes on the 16th-century animal trade] *Bács-Kiskun Megye Múltjából* 12 (1993), 287-359: 294. (henceforth: Kocsis, *Az érsekújvári hídvámjegyzék*)

Debrecen and Mezőtúr bought up increasing numbers of animals from the Great Plain. The extent to which the Cuman population participated in this activity is not known, but in all probability animals raised in Cuman villages also regularly ended up in these herds. (Unfortunately, the names of the traders have never been analyzed from the point of view of their possible ethnic affiliations and without knowledge of Turkic linguistics, it is not possible to draw any conclusions on this matter. However, there are one or two people in the list going by the family name Kun (in the form *Kwn*),⁵⁸⁵ which in Hungarian means ‘Cuman’.)

	Number of cattle exported, 1563-1564	Number of cattle exported, 1586	Number of cattle exported, 1587-1588
Kecskemét	1661	1750	17881
Mezőtúr	1479	2434	5017
Hódmezővásárhely	204	460	2453
Debrecen	2132	4211	12918
Jászberény	2212	417	1750
Szeged	1718	474	1142
Cegléd	1718	-	145
Heves	1302	129	-

Table 3.3.2. The number of cattle exported from the market towns of Lesser Cumania and its surroundings, as recorded in the toll registers of Érsekújvár.⁵⁸⁶

Toll registers from Dunaföldvár / Ráckeve and Vác also testify to an intensive export of cattle from Kecskemét. In June and August 1562, around 70% of all cattle driven to the ferry at Dunaföldvár / Ráckeve lay in the hands of traders from Kecskemét, the second biggest exporter registered in the document, with 3,200 animals driven there over a single year. A similar number of cattle were driven to Vác as well.⁵⁸⁷ Interestingly, the Kecskemét traders drove smaller herds of cattle, but one third of the traders, nevertheless, came from this town.⁵⁸⁸ Thus, a lot of people were involved in middle-level cattle trade and animals stocks were not densely concentrated.⁵⁸⁹ One of the wealthier traders of the town, Máté Kajtár, a man also involved in the horse trade,

⁵⁸⁵ Kocsis, Az érsekújvári hídvámjegyzék, 349, 353

⁵⁸⁶ Kocsis, Az érsekújvári hídvámjegyzék, 294-295.

⁵⁸⁷ Mészáros, Kecskemét gazdasági élete, 127-136.

⁵⁸⁸ Mészáros, Kecskemét gazdasági élete, 138.

⁵⁸⁹ Mészáros, Kecskemét gazdasági élete, 141.

probably came from a Cuman family (based, at least, on his name).⁵⁹⁰

Sheep keeping was also of pivotal importance in the market town of Kecskemét, and the Turkish tax rolls meticulously recorded the number of sheep brought there. In 1546, 3,759 ewes and 1,000 lambs were listed, which increased to 10,693 ewes and 800 lambs in 1562. Thus, Kecskemét became one of the most significant sheep raising towns in Turkish hands. It is suspicious, however, that in the latter year the number of lambs is too low compared to the number of ewes, so it may be the case that the official was bribed not to record the whole animal stock.⁵⁹¹ Sheep owners are known by name; these remain, more or less, the same persons in 1546 and 1559. Six of those recorded in 1559 had moved to Kecskemét only in the previous years; two of them came from Szeged, another important market hub where sheep were concentrated in large numbers.⁵⁹² The number of sheep owners dramatically increased. In 1559, only 17 people were involved in this business, while already in 1562 there were 41 of them. Interestingly, the wealthiest sheep owner in 1562, a person by the name of Dimitri Süveg, was a newcomer in the town: in 1559 he was not yet recorded among the sheep owners of Kecskemét.⁵⁹³ It seems that the remunerative nature of sheep keeping attracted many different people, and while these newcomers were able to establish profitable businesses, old sheep keepers at the settlement were also able to retain their wealth.⁵⁹⁴ As a consequence of this success, skinners and furriers appeared in the town. While there was only one person (one workshop) engaged in this profession in 1542, their number increased to 11 by the end of the century⁵⁹⁵ meaning that not only people directly involved in animal husbandry were attracted by these large hubs of animal production but also those whose profession was somehow connected to animal products. The guild of the Kecskemét skinners and furriers was especially strong. They held a privileged position in terms of buying sheepskins since foreigners were only allowed to buy those

⁵⁹⁰ András Pálóczi Horváth, “A Lászlófalván 1969-1974-ben végzett régészeti ásatások eredményei” (Results of the excavations at Lászlófalva in 1969-1974) *Cumania* 4 (1976), 275-309: 278 (henceforth: Pálóczi Horváth, A Lászlófalván 1969-1974-ben végzett régészeti ásatások)

⁵⁹¹ Mészáros estimates that at least 3-4,000 lambs must have been kept in 1562. Mészáros, Kecskemét gazdasági élete, 84-87.

⁵⁹² Mészáros, Kecskemét gazdasági élete, 86-87.

⁵⁹³ Mészáros, Kecskemét gazdasági élete, 88.

⁵⁹⁴ A good example is Imre Kocka, who was recorded in all sixteenth-century tax rolls as a sheep owner. In 1542, he was the wealthiest of all the owners with 617 animals; in 1559, his stock was significantly smaller, he held only 300 sheep, but in 1562, he again had 542 sheep. Mészáros, Kecskemét gazdasági élete, 86-88.

⁵⁹⁵ Mészáros, Kecskemét gazdasági élete, 108-110.

sheepskins the town's skinners did not need.⁵⁹⁶

Kecskemét was one market town where the basis of production was not socage tenure⁵⁹⁷ but the peasant's own "garden" and pasture, which gave them a certain economic autonomy. This meant that one owner could possess more than one piece of land and in some cases agricultural production, including the raising of animals, was not carried out by the owner himself but by hired professionals. This fact contributed significantly to the growing importance of animal husbandry; livestock owners bought or rented lands according to their financial capacity.⁵⁹⁸ "Gardens" had already been used for hay production and pasture in the eleventh century; however, on the Great Hungarian Plain, this system of agriculture was given special emphasis due to the upswing in animal production.⁵⁹⁹

Villages around Kecskemét must have participated in this business in their own way, even if they do not appear in the toll registers since their livestock was bought up by the Kecskemét traders. The settlements in Lesser Cumania are recorded in the tax rolls of the Eger castle, as being obliged to pay tax only after the cattle they bred for slaughter. In the 1587 tax rolls, 14 villages are listed as being part of the seat of Kecskemét, paying 6 to 12 forints per head of cattle.⁶⁰⁰

An intensification in animal husbandry is evidenced in tax records of small settlements as well in the Kecskemét region. Ferencszállás, for example, had only 3-5 sheep owners in the second half of the sixteenth century, but the number of sheep in the hands of four owners increased and reached almost 2,000 in number by 1562. At the same time, the taxes they paid after pastures and hay were high.⁶⁰¹ Another village in Kecskemét's vicinity, Kisszállás, produced 1,100 sheep in 1546 and 900 in 1559.⁶⁰² Villages like these provided animals for wealthy traders in the market towns, and sometimes they themselves drove their animals to the

⁵⁹⁶ Mészáros, Kecskemét gazdasági élete, 112.

⁵⁹⁷ A form of land tenure when the tenant lived on the lord's land and in return owed to the lord a certain agricultural service or money rent.

⁵⁹⁸ Mészáros, Kecskemét gazdasági élete, 73-74.

⁵⁹⁹ László Blazovich, "A "kert" a rideg állattartás üzemhelye a középkorban" [The "garden" and extensive animal keeping in the Middle Ages] In *Alkotás a társadalomtudományok határán. Emlékkötet a 80 éves Kovacsics József tiszteletére* [Creation on the Boundaries of Social Sciences. Festschrift in the Honor of József Kovacsics' 80th Birthday.] Ed. Imre Horváth, Attila Kígyósi and Lucia Vass (Budapest: ELTE Állam- és Jogtudományi Kar, 1999), 99-104 (henceforth: Blazovich, A kert)

⁶⁰⁰ Sugár, Az egri várnak adózó, 11-12.

⁶⁰¹ Káldy-Nagy, A budai szandzsák 1546-1590 évi összeírásai, 249-251.

⁶⁰² Káldy-Nagy, A budai szandzsák 1546-1590 évi összeírásai, 372.

markets such as in August 1563 when 81 cattle were driven from the village of Félegyháza (present-day Kiskunfélegyháza) to Vác.⁶⁰³ Nevertheless, there were settlements where the number of animals in one owner's hand was never high (or at least it was not recorded anywhere); in Mizse (north of Kecskemét, present-day Lajosmizse), for example, the number of sheep in one family's possession never rose above 350 head and was typically more like 150 or 200.⁶⁰⁴ Such herds were probably not large enough to support significant trading activity but rather served as maintained capital, a source of meat and "pocket money". The inhabitants of Szentlőrinc village near Kecskemét, e.g., kept only as many sheep and swine as they needed for their own purposes.⁶⁰⁵ These preferences must have depended on the settlement's position in the market network and the size and quality of the available pastures.

The Cuman villages of Szabadszállás and Kerekegyháza are interesting examples. Szabadszállás is first mentioned in 1423, in a charter in which King Sigismund forbids the inhabitants of Kecskemét and Nagykörös to harass the Cumans of Szabadszállás (then called Zombathsallas).⁶⁰⁶ Not much was recorded about the settlement's life in the fifteenth century; however, in 1559 it was listed as a village that had been abandoned and re-populated. At that time, the number of inhabitants grew, from 11 to 48 families, from 15 to 73 persons in 30 years. The number of sheep also significantly grew from 250 in 1559 (in the hands of two owners) to 1,100 in 1562 (owned by four people) and 650 in 1580 (owned by five),⁶⁰⁷ which definitely signifies there was a system of animal production for profit in place that probably fluctuated according to immediate market demand and / or available lands for grazing. The *decima* levied on lamb decreased, but at the same time, the amount of tax locals paid to the Turks in grains, lentils and beans remained almost the same, suggesting that agricultural plant production per capita must have decreased. The number of beehives, on the other hand, increased from 75 to 175. The number of swine, however, did not grow throughout these decades of demographic boom, meaning that pork consumption per capita decreased.⁶⁰⁸ Kerekegyháza, another Cuman village at a ca. 20 km distance from Szabadszállás, one of the most densely populated villages in

⁶⁰³ Káldy-Nagy, A budai szandzsák 1546-1590 évi összeírásai, 240.

⁶⁰⁴ Káldy-Nagy, A budai szandzsák 1546-1590 évi összeírásai, 434.

⁶⁰⁵ Káldy-Nagy, A budai szandzsák 1546-1590 évi összeírásai, 577.

⁶⁰⁶ 1423: "Cumanus posteas in Zombathsallas commorans..." Sándor Tóth, *Szabadszállás múltjából* [On the History of Szabadszállás] (Szabadszállás: Szabadszállás Város Önkormányzata, 2001), 9.

⁶⁰⁷ Káldy-Nagy, A budai szandzsák 1546-1590 évi összeírásai, 539-540

⁶⁰⁸ Káldy-Nagy, A budai szandzsák 1546-1590 évi összeírásai, 539-540.

the immediate region in 1572,⁶⁰⁹ shows a similar profile in terms of agricultural specialization. In 1559, five owners had altogether 1,100 head of sheep. In 1562, these numbers fell back to fall back to 455 head, while in 1580 again 1,590 sheep were listed as being held in the hands of six owners. Interestingly, this fluctuation does not follow the one observed in Szabadszállás: there the number of sheep increased in 1562 and decreased in 1580, while in Kerekegyháza it is the other way round.⁶¹⁰ This may be explained by a number of things, such as differences in the sizes of available pastures or in the methods of listing heads of animals. This shows that such fluctuations in a given area are not necessarily connected directly to natural or environmental causes. On the other hand, the *decima* paid in lamb increased from 45 to 150 head in contrast to Szabadszállás, which suggests there was competitive pressure with the nearby settlements that also specialized in raising sheep. Another interesting fact is the strikingly high number of swine listed for 1562, when the number of sheep dramatically decreased (while in 1546 only 25 pigs were kept, there were already 128 of them in 1562). Perhaps the people of Kerekegyháza tried to change emphasis in the animal husbandry they practiced and became engaged in raising swine which was less competitive. However, it seems that this enterprise was neither sufficiently remunerative nor successful (possibly due to environmental limitations) as the number of pigs subject to taxation again decreased to 50 in 1580, which was certainly not enough to target markets, while sheep keeping regained and even strengthened its former position.⁶¹¹ All this signifies a growing emphasis on animal exploitation specifically for market purposes; these two villages are good examples of the way locally defined niches in the economic and trade nexus could be found and filled by small communities. This success lasted for more than a hundred years in some cases. Szabadszállása, in fact, quarreled with the nearby village of Szentmiklós even at the end of the seventeenth century over lands where among other products, oats and hay were cultivated.⁶¹²

Ferencszállása, another Cuman village, practiced intensive animal husbandry with a probable shift from raising sheep to cattle. In 1542, three livestock owners possessed 1,000 head of sheep, which increased to 1,200 in 1559 (in the hands of – probably the same – three people)

⁶⁰⁹ Gyárfás, A jász-kunok, vol.4, 132.

⁶¹⁰ Káldy-Nagy, A budai szandzsák 1546-1590 évi összeírásai, 351-352.

⁶¹¹ Káldy-Nagy, A budai szandzsák 1546-1590 évi összeírásai, 351-352.

⁶¹² Bálint Illyés, *A Fölső-Kiskunság a XVI-XVII. században* [Upper Lesser Cumania in the 16th-17th c.] Levéltári Füzetek VII. (Kecskemét: A Bács-Kiskun Megyei Önkormányzat Levéltára, 1992), 52 (henceforth: Illyés, A Fölső-Kiskunság)

and to 1,950 in 1562 (owned by four farmers). This decreased to 1,100 head in 1580, when only two people still kept sheep, although in larger herds (600 and 500 animals, respectively). At the same time, the Peder pasture,⁶¹³ recorded in 1559 was utilized by the inhabitants of Ferencszállása, who paid 147 akče to the Turks for the use of this land. As Turks charged 1 akče for every cattle grazed on a given property, something equivalent to ca. 150 head of cattle was in the possession of the village. As only 29 families (55 people listed) lived in the village in those years, this herd of cattle was definitely kept for market purposes as well. Moreover, hay production dramatically increased in the late sixteenth century. In 1559, 50 wagons of hay were paid as *decima*, and the amount of tax the village paid after firewood and hay grew to 1,100 akče in 1590 (while 10 years earlier it was still only 300 akče).⁶¹⁴ This tax situation hints at intensification in animal husbandry and probably a shift in animal husbandry strategies: sheep keeping was still at least middle-scale but it concentrated in the hands of one or two owners, while supposedly more people became involved in cattle keeping.

The village of Adacs, a settlement with a Cuman name displays a different pattern. It was probably repopulated by Cumans in the thirteenth century after its predecessor was destroyed during the Mongol Invasion,⁶¹⁵ the village belonged to the Turkish *nahije* of Kecskemét in the sixteenth century just like Szabadszállás and Kerekegyháza. Adacs however, does not seem to have specialized in animal keeping at all. Only one person raised sheep according to the sixteenth-century tax roll lists and this individual possessed 50 head of sheep in 1562 and 80 in 1580. However, the village must have been involved in some form of animal husbandry, possibly herding cattle, as two-thirds of their taxes were paid after hay production. The number of swine and beehives also increased by the end of the sixteenth century and the population also rapidly grew.⁶¹⁶

In all probability, villages like these discussed above produced the large numbers of cattle bought up and sold by the wealthy cattle traders in the region's market towns. Economic success, however, was not always insured. The Cuman village of Törtel displays a significantly different profile. In the mid-sixteenth century its people were clearly interested in raising sheep

⁶¹³ Interestingly, this piece of land may itself be identified with an abandoned Cuman possession: the pasture of Peder, or the land of Pedör Kalos, is possibly identical to the former village of Kalasszállása, although this point is still debated. Hatházi, Halas kun székközpont, 245; Rosta, Új eredmények, 192.

⁶¹⁴ Káldy-Nagy, A budai szandzsák 1546-1590 évi összeírásai, 249-251.

⁶¹⁵ Rosta, Új eredmények, 192.

⁶¹⁶ Káldy-Nagy, A budai szandzsák 1546-1590 évi összeírásai, 59-60.

(altogether 2,085 head of sheep were listed in 1546 and their numbers remained static at ca. 1,300-1,400 in 1562 and 1580) while the number of stock decreased by a factor of ten (250 head of sheep) by the end of the century. At the same time, inhabitants started to leave the village with almost half the families having left by 1590.⁶¹⁷ It seems that these small village communities either quickly adapted to new opportunities, the competition for pasture and markets, as well as the continuously changing demographic and political situation, or their villages became depopulated with the inhabitants migrating into market towns or other villages.⁶¹⁸ The fate of individual communities must have been largely dependent on the immediate environment, both from an economic and political point of view.

Extensive horse keeping is also evidenced in the area of late medieval Kecskemét. The traveler Bertrandon de la Brocquière, who also happened to be the horse master of Philip the Duke of Burgundy, wrote about the huge herds of horses he saw in 1433 on his way from Szeged to another market town, probably Kecskemét in Lesser Cumania.⁶¹⁹ Indeed, the area around Kecskemét, a royal possession until 1439, seriously decimated in the Mongol Invasion, must have provided an ideal environment for animal herding as new pasturing opportunities opened up on depopulated lands. In a 1423 charter issued by King Sigismund, a place called Chederhamka (interpreted by János Hornyik as “Csödörhomoka”, a sandy place where stallions are kept) reflects the presence of horse herds.⁶²⁰ The charter reinforces royal protection over the Cumans from Szabadszállás and Buzgánszállás and forbids the owners and inhabitants of Körös and Kecskemét to harass these Cumans, steal their animals and crops, or graze their own herds on the pastures in Cuman possession. This signifies close co-habitation on the one hand and a competition for animal herds and pastures on the other. Horses exported from Kecskemét appear in the toll registers of Érsekújvár as well. In 1586, 828 head of horses were driven here by traders

⁶¹⁷ Káldy-Nagy, A budai szandzsák 1546-1590 évi összeírásai, 658-659.

⁶¹⁸ Migration did not necessarily target large market towns, although there is no doubt that these were the main attractions for those who left their former place of habitation. There are examples when Cumans moved from one Cuman village to another. E.g. one former inhabitant of the village of Mizse was recorded as having moved to Szabadszállás in 1559, when 61% of the village's inhabitants left for some unknown reason. (Káldy-Nagy, A budai szandzsák 1546-1590 évi összeírásai, 433.) The available demographic data is definitely not sufficient to draw conclusions about general trends, however it is worthwhile keeping in mind that it was not only economic factors, but also family ties and perhaps also cultural preferences (not detectable in the archaeological or historical record) that may have had an impact on the target settlements for individual migration.

⁶¹⁹ Brocquière, ed. Johnes, 308.

⁶²⁰ János Hornyik, *Kecskemét város története oklevéltárral* [The History and Collected Charters of the Town of Kenderes] Vol. 1. (Kecskemét, 1860), 204.

from the town, while in 1587-88 this number rose to 1,474.⁶²¹ However, horse herds in the possession of Kecskemét itself are first mentioned explicitly only in 1677,⁶²² although these herds had probably existed long before. Mentions of “tame” (*kezes*) horses in the market town (probably animals that were regularly used as opposed to a semi-wild stock used for breeding purposes) appear in the charters in 1614.⁶²³ The Turkish-Ottoman presence must have contributed to a market demand for these beasts; horses from the Kecskemét area often appear in seventeenth-eighteenth century documents as high value gifts.⁶²⁴

Areas of abandoned villages were used by Kecskemét’s inhabitants for raising their own animals. Although this was practiced earlier, this kind of reutilization intensified after 1596 when again many villages were deserted.⁶²⁵ A number of Cuman villages shared this fate including Ágasegyház,⁶²⁶ Borbásszállás,⁶²⁷ Köncsög,⁶²⁸ or Zomokszállás⁶²⁹ that were already listed as abandoned and used by Kecskemét as pasture in the late sixteenth century. Just as for Halas, this settlement concentration and desertion process resulted in the creation of huge available grazing lands that Kecskemét could rent and exploit. The lands of some other Cuman villages, e.g. Bugac,⁶³⁰ were also abandoned, but it is not known who used them. Interestingly, the amount of money Kecskemét had to pay to the Turks for using these lands dramatically increased in the second half of the sixteenth century. Use of the lands of Ágasegyháza, for example, cost 280 akče in 1559, while Kecskemét was charged 1,750 akče in 1562 and 2,500 akče in 1580 for the same piece of land. Mészáros says that the price increases are connected to devaluation in Turkish money and by a more realistic estimation of the market town’s economic potential in later years.⁶³¹ However, increased rents may also signify the growing value of pastures, especially if the number of animals increased and pasture quality was affected by continuous overgrazing.

⁶²¹ Kocsis, Az érsekújvári hídvámjegyzék, 300-334.

⁶²² Kálmán Rusvay, “Kecskemét város ménese” [The horse herds of Kecskemét] *Bács-Kiskun Megye Múltjából* 1 (1975), 53-80: 54. (henceforth: Rusvay, Kecskemét város ménese)

⁶²³ Rusvay, Kecskemét város ménese , 55.

⁶²⁴ Rusvay, Kecskemét város ménese, 60.

⁶²⁵ Sándor Lipótzy, *Kecskemét város birtokszerzése és a szabad királyi városság kérdése* [Land Acquirement of Kecskemét and the Question of the Free Royal Town] (Szeged, 1935), 43.

⁶²⁶ Káldy-Nagy, A budai szandzsák 1546-1590 évi összeírásai, 66.

⁶²⁷ Káldy-Nagy, A budai szandzsák 1546-1590 évi összeírásai, 144.

⁶²⁸ Káldy-Nagy, A budai szandzsák 1546-1590 évi összeírásai, 387.

⁶²⁹ Káldy-Nagy, A budai szandzsák 1546-1590 évi összeírásai, 711.

⁶³⁰ Káldy-Nagy, A budai szandzsák 1546-1590 évi összeírásai, 159.

⁶³¹ Mészáros, Kecskemét gazdasági élete, 60-61.

Even though not much is known about what herding looked like in everyday medieval practice, early modern data suggest that this form of extensive animal keeping was not an easy enterprise and only animals raised this way from a young age were able to survive the often harsh winter conditions. In a letter from 1741, written by the *magistratus* of the town of Kecskemét to Count Kosáry, he explains that horses used for pulling the nobleman's carriage cannot be kept on the pastures where the town's semi-wild herd is kept, because there is a regular shortage of fodder and permanent danger from predators. Only beasts that were accustomed to grazing during the night in high snows could survive under these conditions.⁶³² Provisioning of winter fodder was further complicated, not only by adverse weather conditions, but also by military movement in the Turkish-Ottoman Period. Larger market towns such as Kecskemét, as well as smaller villages, were obliged to provide animal fodder for the military so that at times there was no fodder remaining to feed local livestocks. Moreover, harvesting and collecting hay was sometimes impossible due to the presence of and harassment by military troops.⁶³³ In the fourteenth-sixteenth centuries, even if military troops were not present locally, providing fodder for the winter must have been similarly challenging. Thus, although extensive animal keeping did not require well-built stables and workforce to maintain them, one harsh winter could easily result in a serious decimation in the numbers of livestock and those animals that did survive until the spring were often in poor condition. This, again, must have caused damage to the immune system of animals, opening the door to occasional spread of epidemics in the stock. In fact, there are several cases of such epidemics, with the death of hundreds or even thousands of animals, documented in the eighteenth century.⁶³⁴ Despite all these problems, animal trade overall remained a profitable business and the income from the sale of animals must have compensated for these regular economic losses.

Ethnographic literature from modern Hungary emphasizes that in some parts of Lesser Cumania where wetlands were available for grazing, foddering was less of a problem as the herds were able to survive on marshy reeds and weeds and even ate the branches of trees with

⁶³² Rusvay, Kecskemét város ménese, 59.

⁶³³ Tibor Iványosi-Szabó, *Állattartásunk a Homokhátság közepén a XVII. században*. [Our animal husbandry in the Homokhátság area in the 17th c.] Bács-Kiskun Megye Múltjából 22. (Kecskemét: Bács-Kiskun Megyei Önkormányzat Levéltára, 2007), 33. (henceforth: Iványosi-Szabó, Állattartásunk)

⁶³⁴ Tibor Iványosi-Szabó, "Adatok a Homokhátság XVIII. századi állatjárványaihoz" [Notes on the animal epidemics in the Homokhátság area in the 18th c.] *Bács-Kiskun Megye Múltjából* 17 (2001), 185-229.

straw, chaff and corn-cobs only brought to the herds as fodder when necessary⁶³⁵ (this was the so-called *féliszilaj*, semi-extensive animal keeping, when some complementary fodder was provided).⁶³⁶ This system, nevertheless, was definitely insufficient in the case of large-scale animal production for export.

Interestingly, pigs also appear in the tax toll register of Érsekújvár as animals exported from the Kecskemét region; in January 1588, toll was collected after 153 swine driven to Érsekújvár from Kecskemét.⁶³⁷ Thus, swine keeping indeed sometimes served commercial purposes. Similar evidence is available from the market town of Szentkirály where the number of swine kept grew ten times in number (from 25 to 255 animals) between 1546 and 1562.⁶³⁸ In Nagykörös, an oppidum located northeast of Kecskemét, the number of swine increased from 50 in 1546 to 1,250 animals (!) in 1562,⁶³⁹ which is even more interesting in the light of demographic data that shows that the number of inhabitants fluctuated but rather in a negative than in a positive direction. At the same time, in 1562 seven owners held almost 2,000 head of sheep in Nagykörös, and in 1563 altogether 64,948 head of cattle and 92 horses were driven to the markets of Vienna from here through Vác.⁶⁴⁰ A similar process can be observed in the village of Orgovány (southwest of Kecskemét), where no swine were listed in the 1546 tax rolls although 20 years later there were 50 swine held in the hands of 13 families and the number of sheep held by a single owner also increased to 800 from 200-400 head.⁶⁴¹ In the Village of Tas (west of Kecskemét), the number of swine rose from 5 to 117 individuals between 1546 and 1590, while the number of head of sheep significantly decreased.⁶⁴² In 1546, only 8 pigs were kept in the village of Szentmiklós (present-day Kunszentmiklós, northwest of Kecskemét), while their numbers increased to 155 in 1562 and to 100 in 1580-1590 all the while the number of inhabitants decreased.⁶⁴³ It seems that although cattle, sheep and horse keeping was remunerative, people felt the need to raise increasing numbers of swine irrespective of their participation in the animal trade, probably as the result of the favorable taxation system and an

⁶³⁵ Szabadváry, Nomád típusú teleltetési rendszer, 52-53.

⁶³⁶ Tálasi, A kiskunsági pásztorkodás, 5.

⁶³⁷ Kocsis, Az érsekújvári hídvámjegyzék, 314.

⁶³⁸ Káldy-Nagy, A budai szandzsák 1546-1590 évi összeírásai, 571.

⁶³⁹ Káldy-Nagy, A budai szandzsák 1546-1590 évi összeírásai, 389.

⁶⁴⁰ Káldy-Nagy, A budai szandzsák 1546-1590 évi összeírásai, 390.

⁶⁴¹ Káldy-Nagy, A budai szandzsák 1546-1590 évi összeírásai, 467-468.

⁶⁴² Káldy-Nagy, A budai szandzsák 1546-1590 évi összeírásai, 631.

⁶⁴³ Káldy-Nagy, A budai szandzsák 1546-1590 évi összeírásai, 591.

environment that provided reasonable foddering possibilities. These data are especially interesting in the light of the late seventeenth century tax roll lists from the seat of Halas, where swine was definitely kept for local consumption purposes only. This suggests either a significant difference in micro-regional environmental factors, or a shift in animal husbandry strategies, perhaps as a consequence of the Turkish-Ottoman wars.

Like Greater Cumania, Lesser Cumania also suffered serious economic losses at the end of the seventeenth century due to the negative impact of military campaigns through their territories. A long list from 1686 names the items stolen from the inhabitants of Kecskemét where mostly animals and servants are listed as “driven away”. In some cases, whole herds of 60-70 head of animals were stolen, and some people listed here had more than 20-30 head of cattle or 400 head of sheep in their possession (although most of them only lost 4-6 horses or cattle).⁶⁴⁴ As such lists only include what was lost and not what remained it is not possible to estimate the original number of animals. It is telling, however, that in the late seventeenth century, more and more people commissioned professional cattle herders to care for their herds, which sometimes included more than 700 animals.⁶⁴⁵ This signifies a concentration in raising the livestock. Logically, wealthier peasants who had pastures and fields for hay cultivation were able to provide fodder on their own for huge herds even in the wintertime.⁶⁴⁶

3.3.1.4 The Seat of Kara / Mizse

Even though written data are abundant for the seats of Halas and Kecskemét, very little is known about this Cuman administrative unit and its history. It is also a question why there was a need for this seat when the market town of Kecskemét, the center of another seat was very close and the size of Mizse itself did not really justify the establishment of an individual seat. However, as very little is known about Mizse and its neighboring villages before the fifteenth century, it may at one time have been an economically or politically significant micro-region on its own that later lost its former importance.

⁶⁴⁴ Iványosi-Szabó, Állattartásunk, 20-22.

⁶⁴⁵ Iványosi-Szabó, Állattartásunk, 39.

⁶⁴⁶ Iványosi-Szabó, Állattartásunk, 40.

The Seat of Mizse, in the form of “the Seat of Kara” is first mentioned in 1439 and 1440 as *Karazek*; then in 1450, a Cuman called György Misse from Carazallasa is mentioned.⁶⁴⁷ In 1465, again two Cumans with the family name Mizse, living in Kara, appear in a charter.⁶⁴⁸ This suggests that the Seat of Mizse, appearing in the written record a few years later in 1469,⁶⁴⁹ is actually identical with the Seat of Kara, although it is not clear why and how the name was changed. As György Misse was a captain, that is, probably a member of the local Cuman élite, the seat may have changed its name after his family. Erzsébet Bánkiné Molnár, in fact, sees the change in naming this seat as evidence for the disintegration of the former tribal ties.⁶⁵⁰ The 1469 charter freed the Cumans of the seat of Mizse from the obligation of paying several forms of taxes because their ancestors were also exempt from paying taxes.⁶⁵¹ (Although it has been suggested in the literature, there is no evidence that the village of Mizse and later the seat would have been named after a palatine called Mizse from the reign of Ladislaus the Cuman.⁶⁵²)

It is difficult to say in what proportions Cumans were present in this area. A literate Cuman is mentioned as an inhabitant of Beneszállása in 1462 (*Anthonius Literatus comanus in Benezallasa commorans*);⁶⁵³ the above-mentioned charters clearly refer to Cumans living in Kara and Mizse. As data on this particular seat are scarce, it is unclear exactly which villages belonged here; however, those in the immediate vicinity – that is, Lajos or Lajosülése, Kara and Bene – must certainly have been under this seat’s authority. The end of the seat’s history is also in doubt; in 1577, Mizse and Lajos are already mentioned as villages belonging to the Seat of

⁶⁴⁷ Györffy, A magyarországi kun társadalom, 304.

⁶⁴⁸ 1465: *Georgio et Martino dictis Misce Comanis de kara...; Georgium et Martinum dictos Myse Comanos de Karain eadem Kara...* Gyula Benedek and László Kürti, *Bene, Lajos és Mizse oklevelei, történeti dokumentumai (1385-1877)* [Charters and Historical Documents of Bene, Lajos and Mizse. 1385-1877] (Kecskemét: Bács-Kiskun Megyei Önkormányzat Múzeumi Szervezete, 2004), 21 (henceforth: Benedek and Kürti, Bene, Lajos és Mizse); Gyárfás, A jász-kunok, vol.3, 653

⁶⁴⁹ 1469: *”universorum Comanorum ad sedem Myse pertinentium...”* Györffy, Az Árpád-kori Magyarország történeti földrajza, vol.3, 532; Gyárfás, A jász-kunok, vol.3, 666.

⁶⁵⁰ Erzsébet Bánkiné Molnár, *A jászkun autonómia* [The Autonomy of the Ias-Cuman Areas] Dél-Alföldi Évszázadok 22. (Szeged: Bács-Kiskun Megye Önkormányzata, 2005), 28. (henceforth: Bánkiné Molnár, A jászkun autonómia)

⁶⁵¹ The charter specifically mentions the tax paid to the royal chamber. „*Quod nos ad nonnullorum fidelium nostrorum humillime supplicationis instanciam, per eos pro parte fidelium nostrorum universorum Comanorum ad Sedem Myse pertinentium, nostre propterea porrecte Maiestati, eosdem presentes et futuros a salucione lucri camere nostre, ac quarumcunque contribucionum onere generaliter super regnicolas nostros imponendarum presertim cum se ipsi dicant, ab antiquo superinde esse supportatos.*” The tax the had to pay directly to the king was also decreased. Gyárfás, A jász-kunok, vol.3,

⁶⁵² Benedek and Kürti, Bene, Lajos és Mizse, 6.

⁶⁵³ Benedek and Kürti, Bene, Lajos és Mizse, 19.

Kecskemét,⁶⁵⁴ and from this time on they appeared in tax rolls in this form.⁶⁵⁵ The Turkish-Ottoman occupation overwrote previous administrative systems although the seats appear here and there in the sources as units officials referred to.

Although Mizse was an administrative center, the economic center of the region was undoubtedly Kecskemét, and when settlement desertion accelerated, most inhabitants of the villages of the Seat of Mizse must have migrated to this market town. However, the villages of Bene, Kara, Lajos and Mizse were still very much alive in the second half of the sixteenth century. Both the villages of Mizse and Lajos (in the immediate vicinity of Mizse) show a slight increase in the number of family heads in 1562-1580.⁶⁵⁶ It seems that these two decades were, more or less, peaceful in the region, although the mid- and late sixteenth century was set to be a very difficult period.

Mizse itself is first mentioned in 1469 as the seat's center. Consequently, all written data on the former life of the village must have been lost, although by the mid-fifteenth century, Mizse's central role must have been justified by economic success. A 1521 perambulum between Mizse and its neighboring village of Vacs, refers to the Cuman population living here.⁶⁵⁷ This document reveals that the Cumans of Mizse illegally used lands in the possession of Vacs village. This means that the people in Mizse needed agricultural lands to support their own business and there was competition with nearby settlements – in this case, with a village inhabited by Hungarians. Although it is not clear what kind of possessions they quarreled over, the charter mentions meadows, wetlands, pastures, plow lands, fields for hay production as well as forests.⁶⁵⁸

Despite its supposed central role, Mizse was never a large settlement compared to the nearby market towns. In the sixteenth century, it was regularly listed as a village with a maximum population of 62 souls. Grain production was low and animal production dominated in the mid-sixteenth century. In 1546, nine owners kept 1,950 head of sheep, but one family possessed only 47 *kile*⁶⁵⁹ of wheat. Middle-scale sheep keeping with herds not exceeding 400 animals were usual in Mizse in the sixteenth century. In the 1549 records from the bishopric of

⁶⁵⁴ Benedek and Kürti, Bene, Lajos és Mizse, 72.

⁶⁵⁵ In 1587: Sugár, Az egri várnak adózó), 5-12.

⁶⁵⁶ Káldy-Nagy, A budai szandzsák 1546-1590 évi összeírásai, 397, 433.

⁶⁵⁷ 1521: praetacti cumani in dicta Possessione Mise residenti Benedek and Kürti, Bene, Lajos és Mizse, 39

⁶⁵⁸ Benedek and Kürti, Bene, Lajos és Mizse, 38-42.

⁶⁵⁹ One *kile* was approximately equivalent to 0.037 cubic meters.

Eger, Mizse is listed as the fifth largest tax contributor after Kecskemét, Nagykörös, Cegléd and Abony (Kecskemét paid 102, Mizse 30 Forints).⁶⁶⁰ The 1550s must have been really difficult and turbulent times for Mizse. In 1550, this settlement was listed as having 26 households and 6 deserted lots;⁶⁶¹ in 1552 it still possessed 28 households.⁶⁶² However, by 1559 only 300 head of sheep was left in the hands of two owners. (These years were problematic for the nearby village of Kara as well as will be seen later). The 1559 tax roll list shows that some people left for Szabadszállás and 38 of the 59 previously listed inhabitants had died.⁶⁶³ However, the economic potential is clearly evidenced by the speed with which the village regained its former stocks of animals. By 1562, there were again 1,750 sheep in the hands of seven owners and the number of swine also increased from 25 animals to 200. Grain production had also tripled by 1562.⁶⁶⁴ After this date, the village's agricultural production was not recorded in detail as flat taxes were assessed. Mizse was destroyed in the Fifteen Years' War and its inhabitants migrated to Nagykörös, Kecskemét and Szabadszállás.⁶⁶⁵

The village of Lajos or Lajosszállása is well documented compared to other settlements in the region. It was first mentioned in 1444 as Lajosülése when King Vladislaus donated the abandoned lands of Lajosülése, Feldeák, Csengőd, Pálos, Kormányos, Vasad and Csósz to his officials.⁶⁶⁶ This means two things: the settlement had a name that reflected the usual Cuman naming practice and it was already depopulated in the mid-fifteenth century although it was repopulated later. In fact, the village is called Kwnlayos ("Cuman Lajos") a number of times.⁶⁶⁷ In 1491, King Vladislaus orders the Cumans of the Seat of Kecskemét not to harass the brothers Nicholaus and Franciscus of Lajosszállása.⁶⁶⁸ This naming is again revealing as it shows that different Cuman naming practices (the suffixes *-ülése* and *-szállása*) were used for the same settlement. Interestingly, the royal order is not directed to the Seat of Mizse but to the Seat of Kecskemét. This means that the latter (which was undoubtedly bigger and more influential both

⁶⁶⁰ Benedek and Kürti, Bene, Lajos és Mizse, 48.

⁶⁶¹ Benedek and Kürti, Bene, Lajos és Mizse, 50.

⁶⁶² Benedek and Kürti, Bene, Lajos és Mizse, 54.

⁶⁶³ Benedek and Kürti, Bene, Lajos és Mizse, 62-63.

⁶⁶⁴ Káldy-Nagy, A budai szandzsák 1546-1590 évi összeírásai, 433-434.

⁶⁶⁵ Benedek and Kürti, Bene, Lajos és Mizse, 7

⁶⁶⁶ Benedek and Kürti, Bene, Lajos és Mizse, 14

⁶⁶⁷ Benedek and Kürti, Bene, Lajos és Mizse, 5.

⁶⁶⁸ 1491: *Nicolaum Gererth de Laywszalasa, ac Franciscum fratrem suum.* Gyárfás, A jász-kunok, vol.3, 702; Benedek and Kürti, Bene, Lajos és Mizse, 33.

in political and economic terms) had influence in this region.

There is, in fact, no data revealing the economic profile of the village of Lajos before the 1540s. In the second half of the sixteenth century Lajos was, according to the tax rolls, a village where many were involved in middle-scale sheep keeping. While grain production was low, the villagers kept 1,400 head of sheep in 1546 (six owners), numbers which increased to ca. 2,000 head in 1580. In the 1562 roll, it was also added that six sheep owners employed three professional shepherds, suggesting some organized, specialized, and probably market-oriented animal production. Nevertheless, a setback similar to that seen in Mizse can be observed in Lajosszállása in the 1550s. An 1550 list revealing that that Lajosszállása had 10 households and 11 abandoned lots suggesting that the turbulence of the mid-sixteenth-century affected Lajos very negatively.⁶⁶⁹ In 1559, the Turks recorded that 17 of the formerly listed 29 inhabitants had died and that only 9 new people had moved into the village.⁶⁷⁰ However, the fact that by 1562 agricultural production is again in an upswing shows some still remaining economic potentials of Lajosszállása. This success was also recognized by various authorities who tried to extract some income from this region. In 1549, Lajosszállása paid taxes to both the bishoprics of Eger and Vác.⁶⁷¹ Something must have happened to the village's economic profile, however, because in 1590 only 200 head of sheep were listed while at the same time, grain production and the number of swine increased. The amount of tax paid after firewood and hay also increased dramatically by 1590 which may signify there was a shift in Lajosszállása from sheep to cattle keeping⁶⁷² (similarly to the village of Ferencszállása in the Seat of Kecskemét, discussed above).

The village of Bene had only a few inhabitants; the maximum number of people listed here in 1562 was 19 (meaning three families). By 1590, only one man with two unmarried sons lived in Bene. The recorded economic data suggest the abandonment process was a rapid one. Around 1546, economic conditions were still favorable and two of the three families had a relatively abundant yield of grain, while the third family was involved in sheep keeping (with a herd of 200 animals). The sheep owner seems to have left the village and was no longer mentioned in the 1559 tax rolls. However, the remainder of the inhabitants still produced 12 wagons of hay, which suggests that they probably kept cattle. The number of swine steeply

⁶⁶⁹ Benedek and Kürti, Bene, Lajos és Mizse, 51.

⁶⁷⁰ Benedek and Kürti, Bene, Lajos és Mizse, 64-65.

⁶⁷¹ Benedek and Kürti, Bene, Lajos és Mizse, 48.

⁶⁷² Káldy-Nagy, A budai szandzsák 1546-1590 évi összeírásai, 397-398.

increased in Bene in 1559 with only 10 pigs being kept by five families, while in 1562, nine families kept 72 swine. This modest economic success probably encouraged Turkish authorities to assess high taxes in Bene so that in 1580, all remaining five family heads were obliged to pay 1,200 akče to the authorities.⁶⁷³ This financial burden must have contributed to migration out of the village.

Taxation was also a factor in the depopulation of the village of Kara. Half of those listed in 1546 ran away or had died by 1559, although there was some minimal inflow of new inhabitants. Although the village still had 20 taxpayers who paid 140 akče after swine in 1548,⁶⁷⁴ the 1559 conscription includes a note that the villagers had to abandon their homes twice between 1546 and 1559. Thus, agricultural production was probably very difficult due to repeated disturbances, raids or extremely high taxes. It is not surprising that grain production was not high but that people rather tried to turn to sheep keeping for a living. By 1562, five livestock owners possessed 800 head of sheep while 87 swine lay in the hands of 23 families. In 1570, 21 families paid high taxes to the Turks, although the precise numbers of the livestock involved is not known.⁶⁷⁵ Later, the number of sheep decreased but more swine were kept so that in 1580 there were only 400 head of sheep but 128 pigs in 28 households.⁶⁷⁶ These changing livestock numbers may be explained by the urge to escape high taxation rates. Kara was completely destroyed in 1595/96 and disappeared from the written records.⁶⁷⁷

3.3.1.5 Summary

As we have seen, abundant written data exists on the Cumans of Lesser Cumania from the sixteenth century, which is relatively late; not much is known, however, about the first stages of Cuman settlement in the area. The surviving textual data reveals that villages in Lesser Cumania were involved in animal husbandry to a varying scale. Traders from the region's big market towns, such as Nagykörös or Kecskemét, bought up livestock produced by smaller

⁶⁷³ Káldy-Nagy, A budai szandzsák 1546-1590 évi összeírásai, 114-115.

⁶⁷⁴ Előd Vass, “A kalocsai náhije 1548. évi török adóösszeírása” [Turkish tax rolls from the Nahiyah of Kalocsa from 1548] *Cumania* 6 (1979), 7-62: 33.

⁶⁷⁵ The village payed 6768 akce, including 334 akce after sheep and 96 after swine. Káldy-Nagy, A szegedi szandzsák, 94-95.

⁶⁷⁶ Káldy-Nagy, A budai szandzsák 1546-1590 évi összeírásai, 339-340.

⁶⁷⁷ Fenyvesi, A Kiskunság a török időkben, 248.

villages, and it was typically these traders who show up in toll registers. Local tax rolls, however, reveal that even in smaller villages livestock was sometimes strongly concentrated, and market-oriented sheep, cattle or swine raising was an important economic factor. However, the fate of these different villages and their agricultural activities largely depended on their immediate exposure to the disturbances of war, high taxes and, consequently, out migration. The larger market towns presented a more viable opportunity and many of the Cuman families in the region moved to these economic hubs, leaving behind large pieces of land, which then could be used either by economically more successful villages, or the market towns, typically as pastures.

In the next section I turn to the archaeological evidence and in the following subchapter I will discuss the sites identified as Cuman in the region.

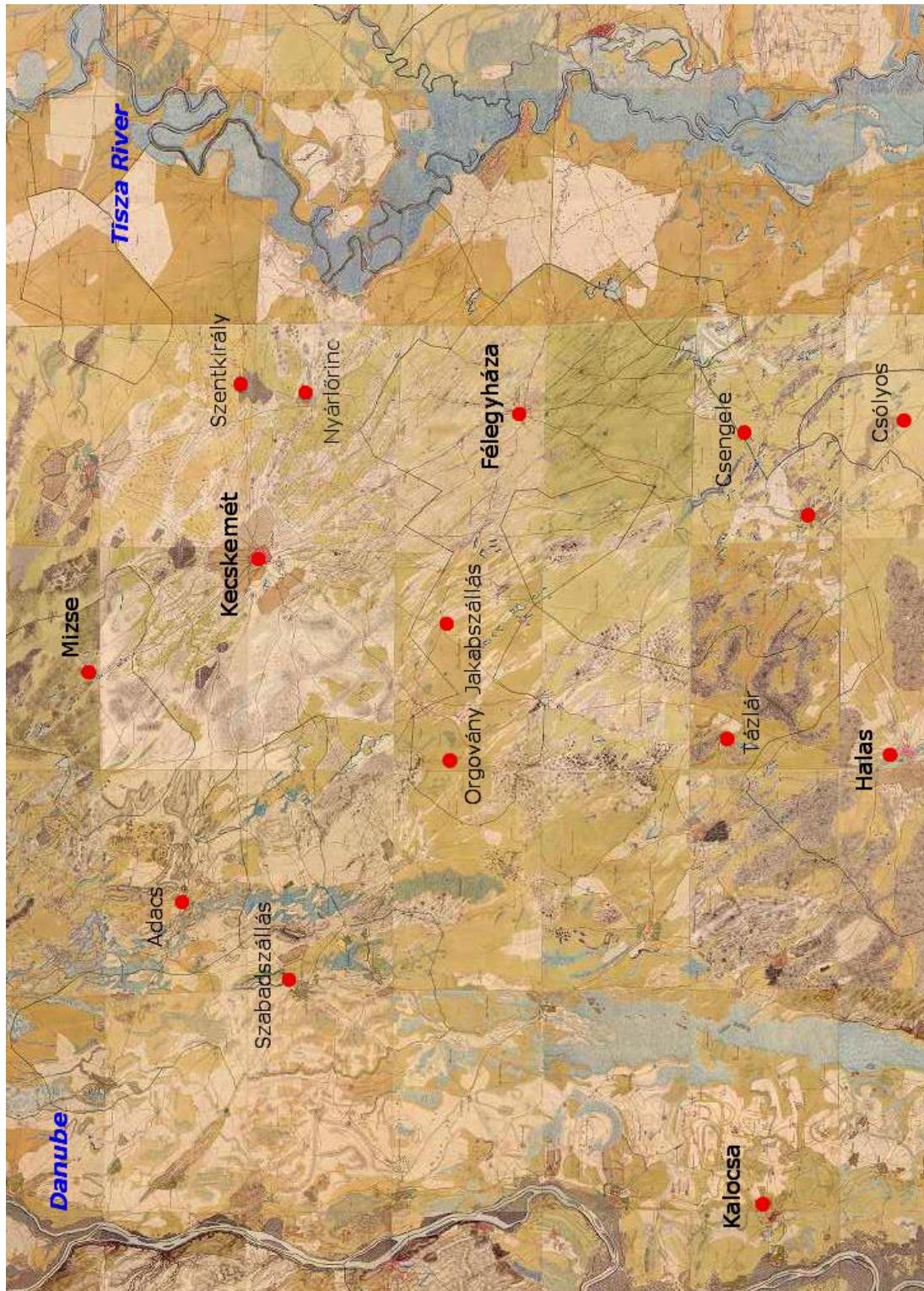


Fig. 3.3.1 The region of Kecskemét, Félegyháza and Halás with the location of some of the Cuman villages, projected on the map of the First Military Survey. Most of the villages marked here were deserted by the time the survey was carried out (late eighteenth century).

3.3.2 The archaeological material

Lesser Cumania is not the most favorable region for archaeological study: although a large number of medieval villages were abandoned during the Turkish-Ottoman wars and are suitable for research, there has not yet been large-scale medieval excavations conducted in this area (except perhaps for the excavations at Szentkirály and Csengele), although much attention has been focused on archaeological topography and field walks. Thus, a large number of sites are known but only some of them have been extensively excavated.⁶⁷⁸ Identification of these archaeological phenomena with the sporadic written evidence is again challenging. Observations made and objects collected during field walks were, in most cases, not sufficient to identify specifically Cuman villages. The discussed archaeological results are partly based on field walks and short surveys, and so excavated faunal material is, unfortunately, only rarely available from these sites, and almost none of them were properly studied from this point of view.

The excavation of medieval churches, cemeteries and settlements by Kálmán Szabó and László Papp around Kecskemét in the first half of the twentieth century were a major contribution to the archaeology of the region, however, these finds and their documentation were lost during World War II and only some of the notes and publications of Kálmán Szabó are still available now.⁶⁷⁹ Research by Ferenc Móra, János Reizner and Márta Széll has been published

⁶⁷⁸ Erika Wicker, Rozália Kustár, Attila Horváth, “Régészeti kutatások Bács-Kiskun megyében (1990-1995)” [Archaeological research in Bács-Kiskun County, 1990-1995] *Cumania* 17 (2001), 33-126; Szabolcs Rosta, “Pusztatemplomok Kiskunfélegyháza környékén” [Deserted churches around Kiskunfélegyháza] *Cumania* 20 (2004), 113-172 (henceforth: Rosta, Pusztatemplomok); István Knipl, “Császártöltés régészeti topográfiája” [The archaeological topography of Császártöltés] *Cumania* 20 (2004), 173-204; Elvira H. Tóth, “Négy évtized régészeti kutatásai Bács-Kiskun megyében (1949-1989)” [Archaeological investigations of four decades in Bács-Kiskun County (1949-1989)] *Cumania* 12 (1990), 81-233 (medieval sites: 172-222); Zsolt Gallina, “A történeti Halas régészeti lelőhelyei” [Archaeological sites of historical Halas] in *Kiskunhalas története* [The History of Kiskunhalas] Eds. József Ö. Kovács and Aurél Szakál (Kiskunhalas: Kiskunhalas Város Önkormányzata, 2000), 31-42; György V. Székely, “Árpád-kori települések a történeti Halas határában” [Árpád Period settlements around the historical Halas] in *Kiskunhalas története* [The History of Kiskunhalas] Eds. József Ö. Kovács and Aurél Szakál (Kiskunhalas: Kiskunhalas Város Önkormányzata, 2000), 129-168; Hatházi, Halas kun székközpont, 204-214.

⁶⁷⁹ Kálmán Szabó, *Az alföldi magyar nép művelődéstörténeti emlékei* [The Cultural Historical Heritage of the Hungarian People of the Great Hungarian Plain] (Budapest: Országos Magyar Történeti Múzeum, 1938) (henceforth: Szabó, Az alföldi magyar nép); István Sztrinkó (ed), *Szabó Kálmán válogatott írásai. Megjelent Szabó Kálmán születésének 100. évfordulójára* [Selected Writings of Kálmán Szabó. Published on the 100th Anniversary of Kálmán Szabó's Birth] (A Kecskeméti Katona József Múzeum Közleményei 2. Kecskemét: Bács-Kiskun Megye Tanácsa, 1986); László Papp, “Ásatások a 16. században elpusztult Kecskemét környéki falvakban” [Excavations in villages around Kecskemét that were destroyed in the 16th century] *Néprajzi Értesítő*

and preserved; however, more attention was later focused on the archaeology of Greater Cumania in academic circles. More recently, Ferenc Horváth, Szabolcs Rosta, László Hatházi and Zsolt Gallina carried out extensive research in Lesser Cumania.

Recent systematic field walks showed that in Lesser Cumania – although Cumans still tried to exploit existing infrastructures of formerly destroyed villages – there are settlements that have no predecessor in the Árpád Period but were established only after the Cuman migration, and their location remained fixed.⁶⁸⁰ This means that an early settlement process must have taken place instead of any attempt to preserve a mobile lifestyle for generations. A few villages with Cuman names where archaeological investigations dated the earliest habitation layers to the second half of the thirteenth century were identified as early Cuman settlements (e.g. Orgovány, Csábor, Szank, Csólyos, Bugacháza, Bócsa, and perhaps Harka). These villages were then continuously inhabited, appearing in the written record only later.⁶⁸¹

It is often difficult to say to what extent it is possible that some of the earlier Hungarian residents returned settlements that existed before the Mongol Invasion and were repopulated under a Cuman name. Therefore the ethnic profile of these villages was not “pure Cuman” from the beginning. In most cases, however, such a profile is impossible to establish. Acculturation must have been a bilateral process depending on the demographic conditions of a given micro-region as well as the forms of contact with the outside world: people living in settlements that served as larger market hubs and had more intensive contacts with their neighbors must have integrated much faster than individuals living in smaller, self-sufficient villages that did not participate in intensive trade. In Rosta’s view, it was rather the periphery of the Cuman areas where the Hungarian population moved back after the Mongol Invasion;⁶⁸² acculturation must have been fastest in these areas. Hoarded treasures (mostly jewelry) from the fourteenth-fifteenth century exhibiting strong Balkan and Byzantine influences were found at Bodoglár, Kelebia and Fehértó on the former territory of the Chertan clan; these testify to the relative wealth of the Cuman lower nobility in the region in the later centuries.⁶⁸³

23/4 (1931), 137-152.

⁶⁸⁰ Rosta, Új eredmények, 199.

⁶⁸¹ Rosta, Új eredmények, 192. The medieval village of Csábor was identified by Piroska Biczó. Piroska Biczó, “A keceli határ régészeti emlékei” [Archaeological remains from Kecel] In *Kecel története és néprajza* [The History and Ethnography of Kecel], Ed. János Báth (Kecel: Kecel Nagyközség Tanácsa, 1984), 19-62: 53.

⁶⁸² Rosta, Új eredmények, 191.

⁶⁸³ Hatházi suggested the Cuman connection; he associates the finds with Cuman noble families that gradually lost

Interestingly, Rosta's observations – in accordance with the theory of Ferenc Horváth on a hypothetical circle of noble graves mentioned earlier – suggest that the Cuman settlement area in Lesser Cumania was more closed than previously thought (at least in the thirteenth-fourteenth century), while permanent settlements appeared earlier than suggested in scholarship.⁶⁸⁴ Szabó observed that medieval (mostly Cuman) villages around Kecskemét were built at spots that were easy to defend due to the natural watercourses and swampy areas that surrounded them.⁶⁸⁵ However, even if early Cuman settlements were not interspersed among lands in Hungarian possession, and some of them were naturally isolated, they must have established trade contacts with the Hungarian population, at latest in the period when market-oriented animal keeping became dominant in the area. Intensive contacts with the rest of the Plain are also evidenced by the architectural and structural similarities of Cuman villages to other, Hungarian settlements.

Kálmán Szabó carried out excavations in villages that were destroyed during the sixteenth century and where Cuman presence was certain. Although his reports are concise and summarizing, his research yields interesting data on animal husbandry as well. He observed at Mizse, Baracs, Bene, Jakabszállás and Kerekegyháza that the inhabitants used two-room adobe houses (one room and one kitchen of the same size), with a stove situated in the kitchen or between the two rooms. In some cases, a third room that Szabó identified as a stable was added to the house. This was not built in adobe but usually in wood. This part of the lot often yielded remains of bits, horseshoes or horse grooming tools, suggesting that these parts of the settlement may have served to accommodate a couple of trained animals used in everyday work⁶⁸⁶ (as opposed to those animals left in the herd). In some cases, an outer cellar was also added. In Mizse, Szabó discovered a dove's skeleton in a cooking pot in a cellar and concluded that the cellar was probably used for storing food.⁶⁸⁷ His excavations also yielded a number of fifteenth-sixteenth-century objects associated with animal husbandry: fragments of branding irons (from

their positions. The jewelry had been used for a long time before it was buried; the value of these treasures was not high, only enough to buy a couple of horses or oxen. Gábor Hatházi, "A Dél-Kiskunság 14-15. századi kincsleletei és azok lehetséges kun vonatkozásai" [Treasure finds from 14th-15th-century Southern Lesser Cumania and their possible Cuman connections] in "*Kun-kép*". *A magyarországi kunok hagyatéka. Tanulmányok Horváth Ferenc 60. születésnapja tiszteletére* [Cuman Image. Heritage of the Cumans in Hungary. Studies in Honor of Ferenc Horváth's 60th Birthday] Ed. Szabolcs Rosta (Kiskunfélegyháza: Bács-Kiskun Megyei Önkormányzat Múzeumi Szervezete, Kiskun Múzeuma, 2009), 67-112.

⁶⁸⁴ Rosta, Új eredmények, 200-201; 216.

⁶⁸⁵ Szabó, Az alföldi magyar nép, 12.

⁶⁸⁶ Szabó, Az alföldi magyar nép, 81-86.

⁶⁸⁷ Szabó, Az alföldi magyar nép, 86.

Bene, Lakitelek and Baracs;⁶⁸⁸ these also testify that individual livestock was identified this way), horseshoes, simple snaffle bits and curry-combs for horses,⁶⁸⁹ a tether,⁶⁹⁰ and even an iron tool he interpreted as a tool for drawing blood from cattle.⁶⁹¹ Late medieval houses in Lakitelek, a village lying east of Kecskemét, yielded a large number of objects associated with fishing, among other things animal long bones used as floats for fishing nets; in some houses there were six to eight specimens of these floats. On the basis of the published photos the floats could either have been made of horse or cattle metatarsals while bones broken in half were also used as proper net weights. Occasionally net weights made of stones and burnt adobe were also used.⁶⁹² The material culture he discovered does not differ from what can be found on the rest of the Plain; such similarities between Cuman and Hungarian settlements were also observed by Selmeczi in Greater Cumania.⁶⁹³

Although a lot of written data are available, and meticulous archaeological field walks and surveys were conducted in the past few years in Lesser Cumania, this region is neglected in terms of zooarchaeological studies. Five sites were included in this study. Nevertheless, this material is clearly not sufficient to provide a comprehensive picture of animal husbandry in the region. The problem, however, will only be resolved if new, extensive and well-documented settlement excavations will bring larger animal bone assemblages to light.

The identification of these sites as Cuman is not always clear. This problem is inherent in the limitations of archaeological identification: Cuman material culture has only a few elements and phenomena that are considered good ethnic markers. (This problem has been discussed in Chapter 2.)

⁶⁸⁸ Szabó, Az alföldi magyar nép, 117

⁶⁸⁹ Szabó, Az alföldi magyar nép, 118.

⁶⁹⁰ Szabó, Az alföldi magyar nép, 119-120.

⁶⁹¹ Szabó, Az alföldi magyar nép, 120.

⁶⁹² Szabó, Az alföldi magyar nép, 127-128; figs. 606-610; Kálmán Szabó, "Kecskeméti Múzeum halászati gyűjteménye" [Fishing Collection of the Kecskemét Museum] in Szabó Kálmán válogatott írásai. Megjelent Szabó Kálmán születésének 100. évfordulójára [Selected Writings of Kálmán Szabó. Published on the 100th Anniversary of Kálmán Szabó's Birth] ed. István Sztrinkó (A Kecskeméti Katona József Múzeum Közleményei 2. Kecskemét: Bács-Kiskun Megye Tanácsa, 1986), 261-308: 306-307, fig. 27.

⁶⁹³ Selmeczi, Nomád települési struktúra, 58.

3.3.2.1 Csengele

The village of Csengele is situated northeast of present-day Kiskunhalas and South of present-day Kiskunfélegyháza. This area has a special significance for Cuman research because the best documented noble burial came to light here.

János Reizner already carried out a small excavation here in 1892 (at a place called Templomhalom, that is, “church hill”), during which a church with an ossuary and 15-20 graves were unearthed.⁶⁹⁴ Excavations started again in 1975, when another Árpád Period church (6 km west of the previously excavated one) and 37 graves surrounding it and dated to the late thirteenth to the sixteenth century, were excavated at Csengele-Bogárhát.⁶⁹⁵ Complete and partial dog skeletons and bones deposited as grave goods were found in these features. The latter (along with remains of attire) played a role in identifying the graves as Cuman.⁶⁹⁶

The name of the Árpád Period village is not known. It was certainly destroyed during the Mongol Invasion. That times were turbulent is also suggested by the circular fortification excavated by Horváth, probably made in order to defend the church from a military attack (although much of the population must have already fled to the castle of Csongrád).⁶⁹⁷ Horváth suggested that the geographical name of a nearby hill, the *Gellén dűlő*, may have preserved the name of this original settlement.⁶⁹⁸ The Cumans who arrived here renovated this church and rebuilt one of the ditches surrounding it.

Csengele itself is first mentioned only in 1493 in a charter in which a dispute over the ownership of Ellésföld, Asszonyszállás and Kömpök was settled.⁶⁹⁹ The village is only mentioned as a settlement in the vicinity and nothing is said about its ownership or inhabitants. However, not only its geographical location but also its name suggests it has a Cuman origin. Rásonyi analyzed the name and found that it goes back to the Cuman word *cängälli*, which

⁶⁹⁴ Reizner does not specify the number of graves. János Reizner, “Ásatások Csengelén” [Excavations at Csengele] *Archeologiai Értesítő* 12 (1892), 235-240: 237.

⁶⁹⁵ Ferenc Horváth, “Csengele középkori temploma” [The medieval church of Csengele] *Móra Ferenc Múzeum Évkönyve* 1976-77/1 (1978): 91-125 (henceforth: Horváth, Csengele középkori temploma); Horváth, A csengelei kunok, 57-85.

⁶⁹⁶ Horváth, Csengele középkori temploma, 118; Horváth, A csengelei kunok, 71-75.

⁶⁹⁷ Horváth, A csengelei kunok, 80-85

⁶⁹⁸ Horváth, Csengele középkori temploma, 120.

⁶⁹⁹ Gyárfás, A jász-kunok vol3, 708-710.

means a lightly forested, bushy area or thorny bush land.⁷⁰⁰ These meanings correspond to the natural environment around Csengele. Pálóczi Horváth, however, lists Csengele among the Cuman geographical names that refer back to personal names.⁷⁰¹ In Horváth's view, the meaning of the name suggests that it referred to a larger area and not only a settlement, and thus, it received its name before actual settlement took place.⁷⁰² It seems that both excavated churches stood somewhat isolated, away from their respective settlements with only scattered, hamlet-like dwellings surrounding them in a considerable distances from each other.⁷⁰³ The 1493 charter, however, mentions Cuman peasants in the vicinity,⁷⁰⁴ who were certainly settled and involved in agricultural production. Blown sand movements have been documented from the fourteenth century, but not from the Árpád Period. This probably testifies to an intensification of agriculture, especially overgrazing, when the Cumans settle in the area.⁷⁰⁵

The area was affected by epidemics a number of times, and King Matthias allowed settlers in 1475 to be brought to the neighboring villages of Csolyossalás, Fejértó,

⁷⁰⁰ László Rásonyi, "Les noms toponymiques Comans du Kiskunság" *Acta Linguistica Academiae Scientiarum Hungaricae* 7 (1957), 73-146: 122—129. This explanation was accepted by Mándoky Kogur and Torma as well; a village of presumably the same name (Sengelde) still exists in present-day Kazakhstan. Mándoky Kongur, A kun nyelv magyarországi emlékei, 152; Torma, bérém bélő, 51.

⁷⁰¹ Pálóczi Horváth, A kunok megtételepedése, 256. In fact, the name Chengel still exists among the Kipchaks as a personal name. Horváth, A csengelei kunok, 211.

⁷⁰² Horváth, Csengele középkori temploma, 122.

⁷⁰³ Horváth, Csengele középkori temploma, 124.

⁷⁰⁴ Alias vero utilitates ipsius terrae communi usui Cumanorum ruralium comisimus, Ecclesiam vero in Choloyos existentem consimiliter indivisam relinquimus... Gyárfás, A jász-kunok, vol.3, 709-710.

⁷⁰⁵ Tímea Kiss, Diána Nyári, and György Sipos, "Homokmozgások vizsgálata a történelmi időben Csengele területén" [A study of sand movements in historical times in the area of Csengele] in *Táj, környezet és társadalom. Ünnepi tanulmányok Keveiné Bárány Ilona professzor asszony tiszteletére* [Landscape, Environment and Society. Studies in Honour of Professor Ilona Bárány-Kevei on the Occasion of Her Birthday] Eds. Andrea Kiss, Gábor Mezősi, Zoltán Sümeghy (Szeged: SZTE Éghajlattani és Tájföldrajzi Tanszék, 2006), 373-382: 379-380. (henceforth: Kiss, Nyári and Sipos, Homokmozgások) Similar antropogenic layers have been identified in the Tiszazug area from the twelfth and eighteenth centuries (Gyula Gábris and Zoltán Túri, "Homokmozgás a történelmi időkben a Tiszazug területén / Sand-moving periods in historic times near the Tisza river", *Földrajzi Közlemények* 132/3 (2008), 241-250). It must be added that the method used in these studies (luminescent dating of sediments) has been debated, and a number of methodological problems have been raised (see e.g. J.R. Prescott and G. B. Robertson, "Sediment dating by luminescence: A review", *Radiation Measurements* 27/5-6 (1997), 893-922; Richard G. Roberts, "Luminiscence dating in archaeology: from origins to optical", *Radiation Measurements* 27/5-6 (1997), 819-892; Andrew S. Murray and Jon M. Olley, "Precision and accuracy in the optically stimulated luminescence dating of sedimentary quartz: A status review", *Geochronometria* 21 (2002), 1-16; James K. Feathers, "Use of luminescence dating in archaeology", *Measurement Science and Technology* 14 (2003), 1493-1509; A.T. Madsen and Andrew S. Murray, "Optically stimulated luminescence dating of young sediments: A review", *Geomorphology* 109/1-2 (2008), 3-16.) It is, however, beyond my competence to comment on this issue, and therefore I accept the interpretation of Kiss et al. as a possibility.

Majosszállása and Kömpöcszállása that had suffered great population losses.⁷⁰⁶

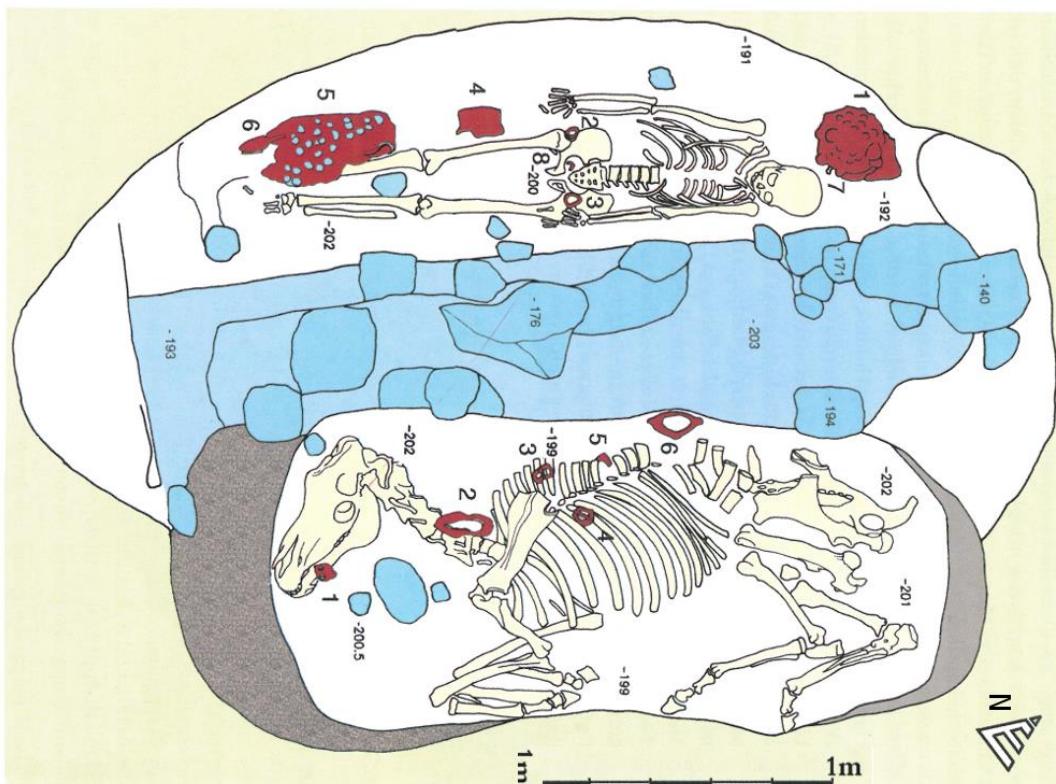


Fig. 3.3.2. The grave of the Csengele warrior and his horse. After Horváth, *A csengelei kunok*, 101.

Excavations in 1998 cast a different light on the area: the grave of a Cuman warrior and nobleman, buried together with his horse and dated to the mid-thirteenth century, was found. Two late thirteenth-century houses were also brought to light in the immediate vicinity, which were, however, not used as dwellings. Whole and partial dog skeletons were deposited in them, which pointed to some ritual use. Horváth suggested that these had ritual purposes as “dwellings of the dead”, associated with a cult of ancestors. In his view, the whole grave complex, which was later encircled with a high fence, served as a kind of sanctuary for those still practicing the old religion.⁷⁰⁷

Household garbage was not found at these sites, and therefore an analysis of the microregion’s animal husbandry strategies is not possible here. The above mentioned archaeological phenomena will be discussed in detail in the subchapter on animals in rituals (in

⁷⁰⁶ Gyárfás, *A jász-kunok*, vol.3, 677.

⁷⁰⁷ Horváth, *A csengelei kunok*, 146-152.

chapter 5); here only a zoological evaluation of these finds will be made.

Remains of the Cuman warrior's stallion were analyzed by István Vörös of the Hungarian National Museum.⁷⁰⁸ The 7.5 year-old animal measured 143 cm at the withers, and was about 300 kg.⁷⁰⁹ Vörös compared the bone measurements to those of a modern Arab and two modern English thoroughbreds and concluded that the specimen was very close to the Arab in phenotype.⁷¹⁰ His view that this horse must have belonged to the valued, "Arabian type" military horses was later also confirmed by the DNA analysis, which revealed a genetic connection to Arab horses. Haplogroup A4, to which this individual belongs, is typically widespread in the Arabian and Caspian populations. Moreover, the DNA sequence proves a connection with the Seglawi Arab bloodline, which is one of the oldest and well-documented Arab horse lineages.⁷¹¹ This bloodline is nowadays known for refinement and almost feminine elegance, and horses of this strain are more likely to be fast rather than having great endurance, which makes them perfect animals for representation. They usually measure 14.2 hands (that is, around 144 cm), which is in fact the size of the Csengele individual. This type has a fine bone structure and longer face and neck.⁷¹² The proven genetic connection between this bloodline and the Csengele horse suggests that this animal resembled the modern standard, although not necessarily to the extent present-day breeding would expect. Modern descriptions of the Seglawi strain Arab horses present animals that are more useful as a means of representation for their beauty or as means of quick transport because of their speed. The Csengele animal had a short lumbar region (the sacrum consisted of only four segments instead of the usual five) which results in a shorter back with a distinctive shape and high tail carriage (typical for Arab horses, usually due to a decreased number of not the sacral but the lumbar vertebrae).⁷¹³ Some pathologies were observed on the bones: an osteosarcoma on the right mandible, and spondylosis and spondylarthrosis on the lumbar vertebrae (the transversal processes of the 4th and 5th lumbar vertebrae meet forming a

⁷⁰⁸ The detailed description of the animal's skeleton is published in: István Vörös, "Ló az Árpád-kori Magyarországon" [The horse in Árpád Period Hungary] *Folia Archaeologica* 52 (2006), 163-216 (henceforth: Vörös, Ló az Árpád-kori Magyarországon)

⁷⁰⁹ László Sótónyi's estimation. Vörös, Ló az Árpád-kori Magyarországon 167.

⁷¹⁰ Vörös, Egy arab ló, 343.

⁷¹¹ Katalin Priskin, "A csengelei kun vezér lovának genetikai vizsgálata" [The genetic investigation of the Cuman nobleman's horse from Csengele] *Folia Archaeologica* 52 (2006), 217-219.

⁷¹² Fran Lynghaug, ed. *The Official Horse Breeds Standards Guide: The Complete Guide to the Standards of All North American Equine Breed Associations* (Minneapolis: Voyageur Press, 2009), 181. (henceforth: Lynghaug, The Official Horse Breeds Standards Guide)

⁷¹³ Vörös, Ló az Árpád-kori Magyarországon, 170.

pseudo-joint, and the 6th vertebra is fused with the sacrum).⁷¹⁴ The latter must have made the animal's back more rigid which probably affected its abilities to turn quickly.⁷¹⁵ This also suggests that this individual was rather used for representation than for everyday military tasks where agility is a crucial factor.

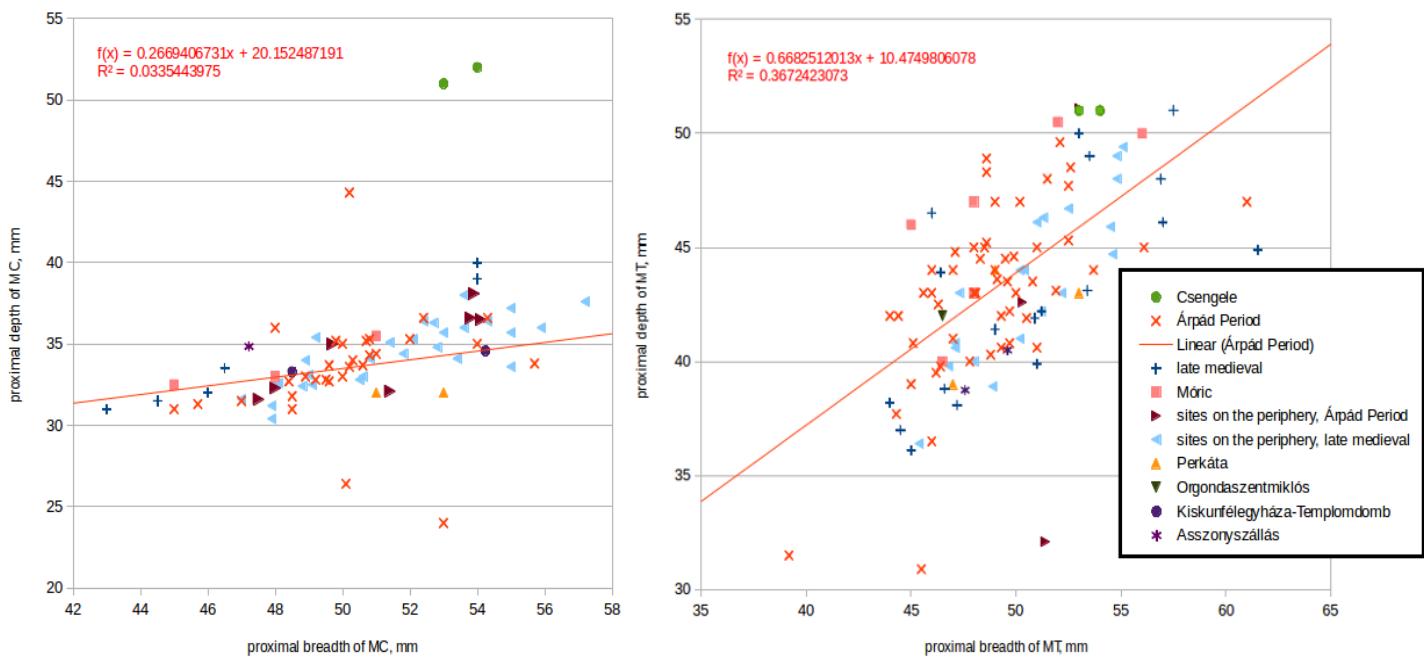


Diagram 3.3.1 A and B. Proximal metacarpal and metatarsal proportions of horses from Csengele, fourteenth-sixteenth-century Cuman Móric, Asszonyszállás, Perkáta and Orgondaszentmiklós, two sites on the periphery of the Cuman habitation areas (Gorzsá and Tiszagyenda), and Hungarian Árpád Period and late medieval sites. (Sites included: Kardoskút-Hatablak, Szolnok Castle, Muhi, Kunhegyes-Jajhalom, Kecskemét-Bocskai utca, Kána, Hanta, Gyula Castle, Doboz-Hajdúirtás, Csátalja-Vágóthegy.)

When compared to other individuals from Cuman as well as Hungarian sites, it is clear that the Csengele individual stands out both from the Árpád Period and the late medieval trends in horse types (Diagram 3.3.1 A and B). In fact, no parallel cluster of animals exists in the Cuman material either. The large proximal depth of the metacarpals is especially conspicuous, although it is obviously influenced by the fusion of the fourth and fifth metacarpals (splint

⁷¹⁴ László Mojzes, "Rendellenességek a csengelei ló csontvázán" [Pathologies on the skeleton of the Csengele horse] in Horváth, A csengelei kunok, 348-349 (henceforth: Mojzes, Rendellenességek); Vörös, Ló az Árpád-kori Monn, 168-170.

⁷¹⁵ This kind of pathology was considered a serious problem in military horses in the nineteenth century; it must also have been the case in the medieval period, especially if the military strategy was based on quick and agile movements of the cavalry. Béla Kovácsy and Károly Monostori, *A ló és tenyésztséje* [Horses and Horse Breeding] (Budapest, 1892), 95.

bones) to the main, third one (which is more pronounced on the medial than on the lateral side; a newly formed bone tissue connects mc2 and mc3 in a 48-50 mm long section⁷¹⁶). Metacarpal fusion is a pretty common condition in horses that correlates with age and occupation; the latter is more influenced by workload and is seen as a functional adaptation of the bone to increased or changed loading conditions.⁷¹⁷

Even if the sample of well prepared horse metacarpals from Cuman sites is small, it shows an interesting distribution in terms of slenderness, which differs both from the Árpád Period and the rest of the late medieval material, revealing a possible preference among Cumans for horses that were more slender legged (Diagram 3.3.2). It goes without saying that on the basis of such a small sample it is only possible to raise questions and not draw any firm conclusions. Interestingly though, the Csengele individual belonged to the medium slender legged category. Although slenderness index has been criticized as an unreliable indicator of horse breeds or even Equid species,⁷¹⁸ Johnstone observed an interesting correlation between type and metapodial diaphysal depth. Modern Arab horses, when plotted against the feral Przewalskii as a standard, indeed tended to have significantly smaller proximal depths and smallest diameter measurements.⁷¹⁹ This is, of course, a result of long-term breeding, and does not necessarily have anything to do with medieval types. The medieval Central European group of horses labelled as “Eastern” was heterogenous and included autochthonous European animals, sometimes crossbred with imported individuals;⁷²⁰ therefore, the term “Eastern type horse” in a medieval context remains quite vague and obscure. To conclude if a kind of preference for more gracile, slender legged horses was indeed a characteristic preference in Cuman communities, will be a task for future studies.

⁷¹⁶ Vörös, Ló az Árpád-kori Magyarországon, 170.

⁷¹⁷ Les, Stover and Willits investigated 200 metacarpal bones from modern horses and concluded that 78% of all horses that were two years or older had fusions at least on two spots. Horses in performance careers such as racing or race training had an earlier development of these fusions. C.M. Les, S.M. Stover, and N.H. Willits, “Necropsy survey of metacarpal fusion in the horse” *American Journal of Veterinary Research* 56/11 (1995), 1421-1432.

⁷¹⁸ Slenderness index of the long bones was used in the investigation of the Caspian “mini horses” of Iran but this method proved insufficient to differentiate between very small sized horses, donkeys and onagers. Sándor Bökonyi, “Once more on the osteological differences of the horse, the half-ass and the ass,” in L. Firouz, *The Caspian Miniature Horse of Iran*. Field Research Projects (Miami, Florida. 1972), 12-23: 16; Bonnie L. Hendricks, “Caspian”, in *International Encyclopedia of Horse Breeds* (Norman, OK: University of Oklahoma Press, 1995), 113-114.

⁷¹⁹ Cluny Jane Johnstone, *A Biometric Study of Equids in the Roman World*. PhD thesis submitted to the Department of Archaeology, University of York, 2004, 188. Fig. 4.18.

⁷²⁰ Vörös, Ló az Árpád-kori Magyarországon, 201.

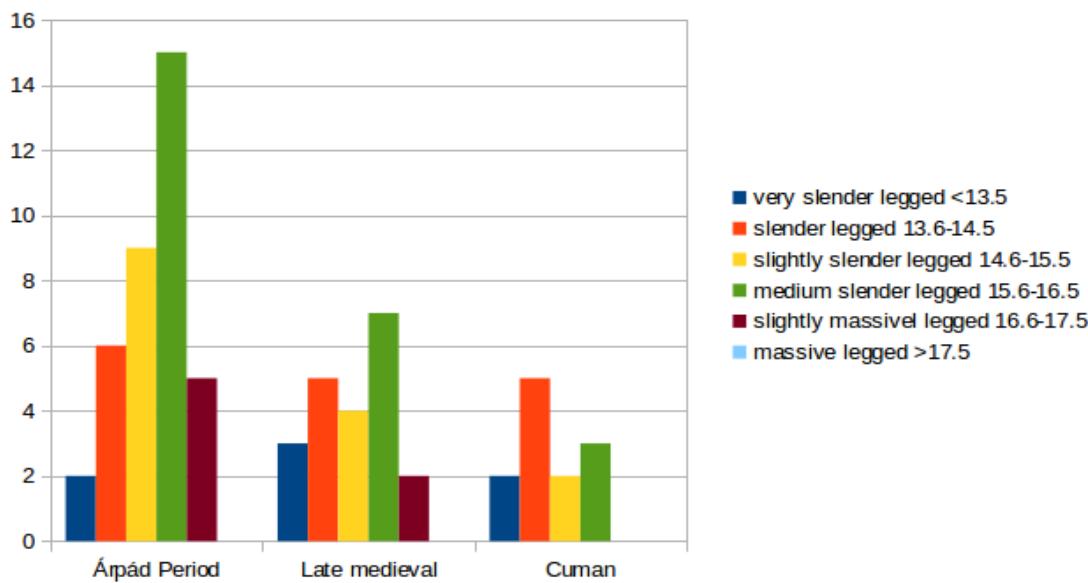


Diagram 3.3.2. Metacarpal slenderness indices in medieval horses from the Carpathian Basin. Sites included: Csengele, the Cuman sites of Móric, Asszonyiszállás, Perkáta, Kiskunfélegyháza-Templomdomb and Orgondaszentmiklós; Kardoskút-Hatablak, Szolnok Castle, Muhi, Kunhegyes-Jajhalom, Kána, Dobozi-Hajdúirtás, Csátalja-Vágógotthegy, Tiszalök-Rázom, Szarvas-Rózsás, Tiszagyenda, Gorza, Röszke-Nagyszéksós, Nagyvázsony-Csepely, Kőszeg Castle.

The Csengele stallion has a big, triangular head, which is slightly asymmetrical. The forehead has a somewhat convex shape, and the cheek bone (*crista facialis*) is strong and pronounced. (This in fact does not completely correspond to modern Arab breed standards where a short skull and a concave, dished profile, with a small protrusion on the forehead and a slight depression towards the muzzle is preferred.⁷²¹) Craniometric measurements of the Csengele horse were compared to horses dated to the Period of the Hungarian Conquest, that is, animals that were brought from the steppe region, somewhat similarly to the livestock brought to the Carpathian Basin by the Cumans. The measurements on these horses reveal a characteristically long and narrow skull (Diagram 3.3.3 A and B), with a conspicuously long brain case in relation to the facial bones (the neurocranium to viscerocranum length is 47% to 53%, as opposed to the average 32:68 ratio observed in the Conquest Period sample, Diagram 3.3.4). The large brain case and small muzzle is again a standard feature of modern Arab horses.⁷²² The 3.5 year-old Cuman horse from Szentkirály resembles the Csengele individual in terms of its long and

⁷²¹ Lynghaug, The Official Horse Breeds Standards Guide, 186.

⁷²² Lynghaug, The Official Horse Breeds Standards Guide, 186.

relatively narrow skull, but the facial skull to brain case ratio is different. In fact, no horse skull has yet been found in Hungary that would represent the same type as the Csengele stallion.⁷²³

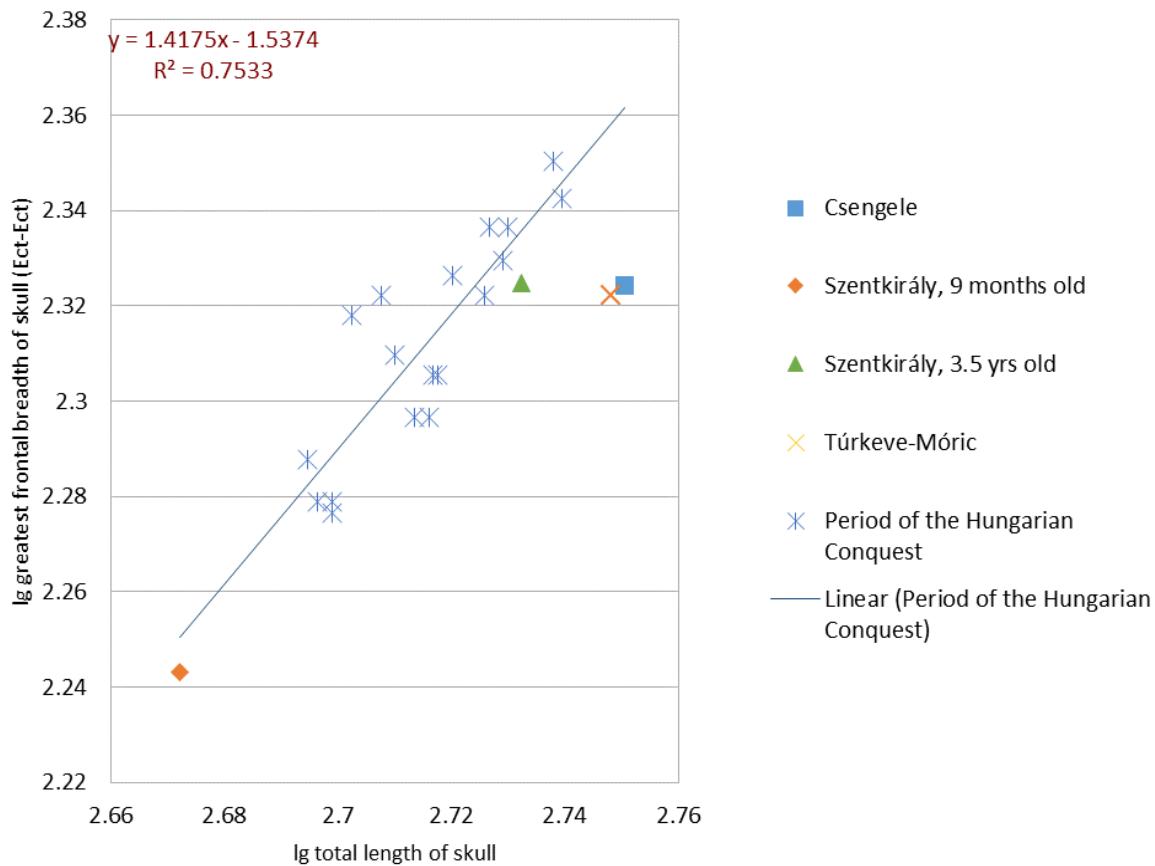


Diagram 3.3.3 Craniometric measurements on the Csengele individual and other horses from Cuman sites and sites dated to the Period of the Hungarian Conquest (9th c.) Sites included: the same as listed in diagram 3.3.4.

⁷²³ It is worthwhile adding here that craniometric measurements, although they preserve invaluable information on past horse populations, are not always sufficient to differentiate between these. Bartosiewicz investigated horse skulls from Avar and Hungarian Conquest Period sites, and demonstrated statistically that their crania represented individuals with phenotypical similarity, with high correlations between their measured proportions. This, of course, does not signify direct or genetic continuation of animal populations, but rather signals that the available sets of data focus on measurements that are not distinctive for these groups of animals. László Bartosiewicz, "Phenotype and Age in Protohistoric Horses: a Comparison Between Avar and Early Hungarian Crania", in Recent Advances in Ageing and Sexing Animal Bones, ed. Deborah Rusillo (Oxford: Oxbow, 2006), 204–215.

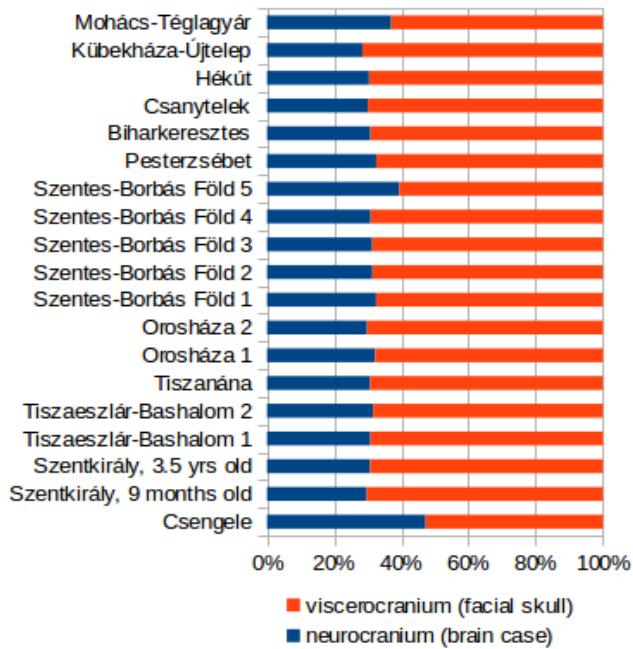


Diagram 3.3.4 Cranial proportions of the Csengele individual and other horses from Cuman sites and sites dated to the Period of the Hungarian Conquest (9th c.). Viscerocranum and neurocranum length is compared.

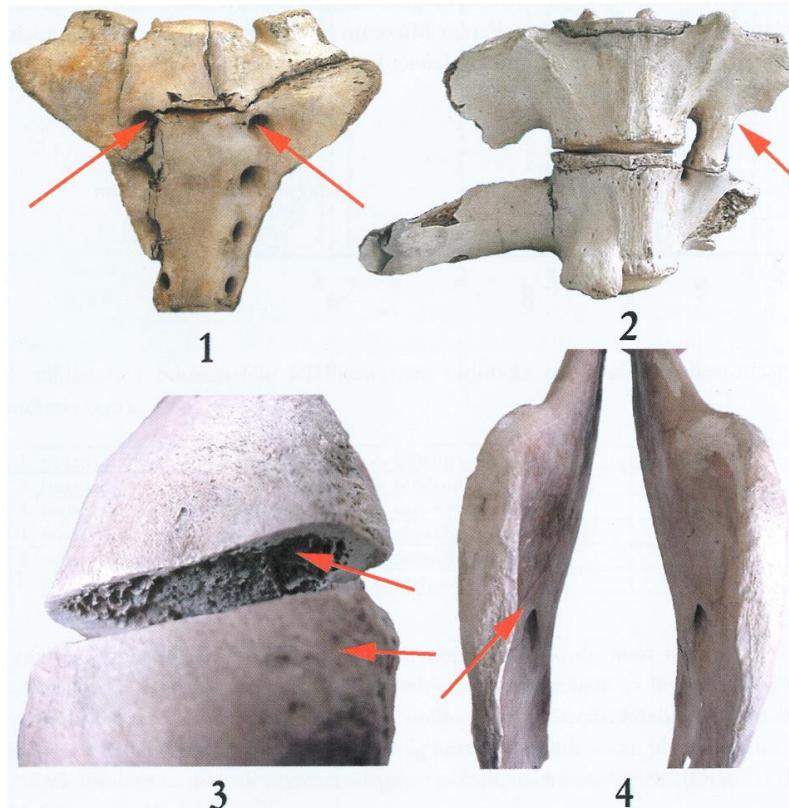


Fig 3.3.3. Pathologies on the bones of the Csengele stallion. 1 – callous tissue on the sacrum, 2 – newly formed bone tissue between two lumbar vertebrae, 3-4 – osteosarcoma on the left mandible. After Mojzes, Rendellenességek, 348.

It seems that the Csengele individual is unique, and no such individuals turn up in the archaeological settlement material. Although the possible preference for more gracile individuals was raised earlier here, the Cuman livestock of horses was not fundamentally different from the rest of the horse population of the Hungarian Kingdom, and horses like the Csengele stallion were certainly not brought to the country in large numbers. It would be tempting to say that the Cuman military troops, which certainly needed quick and agile horses suitable for steppe type warfare, must have required such Eastern type horses; however, the extent to which these highly valued abilities depended on origin (physical form), on choice of particular phenotypes from a variety of body forms, or on training, is uncertain. If horses of this particular Arab type had been used exclusively, a continuous supply of such animals would have been needed. Such a large-scale (and expensive) animal import would show up in our written records; the same is true if Cumans bred such horses themselves based on a population brought from the steppe. Even though there are no records on the Cumans' internal affairs, such large-scale breeding practice of élite horses could not have been gone unnoticed. According to Gyárfás, Cuman warriors usually took two or three horses with them on military missions, to which the horses used as beasts of burden must be added. In 1260, they constituted an army of 40,000 soldiers, which means that at least 100,000 horses would have been needed to furnish the Cuman army.⁷²⁴ Even if only half of these were Arabs similar to the Csengele individual, such a population would have had an impact on local horse trade and genotype and would regularly turn up in the sources, even as animals sold or given as gifts to Hungarian nobles (especially in the period when new aristocratic ties were being formed). This is not the case, however. Therefore, it is more likely that the horse population already present in the Carpathian Basin, mixed with horses the Cumans brought with them from the steppe and took home as booty from their military campaigns, were perfectly suitable for serving as light cavalry horses if properly trained. On the other hand, although it is not likely that late medieval Cuman commoners – who were sometimes pretty poor – possessed expensive Eastern type horses in great numbers, their virtual absence does not necessarily mean at all that they were not present at all in these villages. Another possible explanation is that the attitude toward them was different because they were associated with high status, and as valued individuals, they were less likely to be slaughtered, consumed and end up in the kitchen refuse.

⁷²⁴ Gyárfás, A jászkunok vol. 2, 154

In fact, a proper analysis of Cuman military horses could only be carried out if medieval battlefields, where these animals died in great numbers, would be excavated (assuming their remains were even preserved).

The Csengele individual, chosen for a burial that served not only in a religious ritual but was also a form of status display, certainly belonged to a horse type highly valued by the Cuman nobility. In fact, the term “*equus Cumanicus*” turns up a couple of times in charters from the thirteenth century onwards. It is, however, unclear if this name referred to the animals’ origin, or it designated a horse type viewed as being distinct. In a 1220 testament, a *comes* called Behich of the Hungarian Csák family donated (among other valuables) his horses to various members of his family. A “Cuman horse” is specified here (*equum Cumanicum*), which he gave to his wife, along with a mare and a foal. Other horses were donated to his brothers, sons and daughters.⁷²⁵ Although nothing is said explicitly about the horse itself, the mere fact that it was explicitly mentioned and given to the person probably closest to the testator, speaks to the high value placed on it. This also means that “Cuman horses” - that is, probably slender, “Eastern type” horses mainly associated with agility and steppe warfare – had been known and present in Hungary well before the Cumans actually migrated there. The military campaigns against – and later, supported by – the Cumans must have provided an opportunity to get hold of horses of the “Cuman” type. In fact, after the battle of Dürnkrut in 1278 (in which the Cumans participated as auxiliary troops in Ladislaus IV’s army, supporting Rudolf I of Habsburg against Ottokar II), the Germans took as many Cuman horses with them as possible (for which the Cumans brought them to the courts in Feldkirchen, although in vain).⁷²⁶ Although written records are not abundant, the term “*equus Cumanicus*” is typically used along with other descriptive elements such as the color and markings and seems to have served as a piece of information that helped in identifying a certain animal. Therefore, this term must have rather designated a type of stature or general appearance rather than the animal’s origin, the latter certainly being unknown in a lot of cases. A 1270 document from Bárca mentions three Cuman horses and one “*equum Olacorum*” (probably *oláh*, Wallachian horse) that belonged to the local noble family. Their colors and markings are described in detail.⁷²⁷ A chestnut (*suegus pey*, szög pej, a light chestnut color), a

⁷²⁵ Györffy, Az Árpád kori Magyarország történeti földrajza, vol. 2, 355.

⁷²⁶ Kristó, Kun László emlékezete, 110-111.

⁷²⁷ “...in estimatione dando eidem pro 7 M-is pannos, pro 8 M-is 4 equos, 3 Cumanicos, quartum Olacorum, quorum

dark brown (*feketeupey*, fekete pej, blackish-brown) and a dark grey (*ruh*)⁷²⁸ Cuman horse is mentioned. Interestingly, the markings described in the text seem to refer not to the natural face and leg markings genetically inherited as part of the animal's coat color, but to other types of markings located on the neck, the side and the ear. These may have been discolorations of the coat due to old injuries⁷²⁹ or markings deliberately made by a branding iron. One of the Cuman horses seems to have had been injured, as its left ear were "missing" or "cut off" (*evacuatam*), and its right eye was "white" (perhaps also due to an old injury⁷³⁰). However, the shapes of markings described (double-toothed fork, twig, branch) may just as likely refer to branding signs used to identify the animal's ownership; a small incision made on the ear may have served the same purpose (in fact, the Wallachian horse had its marking on the ear, which probably refers to this practice of ear branding). Although nothing is known about the origin and use of these horses, the description targeting an unambiguous identification again pinpoints the value of these beasts, not only among the Cuman, but also among the Hungarian aristocrats.

This is the period when the Cuman élite's influence reached its peak, and even their attire became fashionable in the upper stratum of Hungarian society. The steppe-type saddle, the reflex bow, the leather armor, the kaftan, the belt and the tall felt cap appear again and again on wall paintings and miniatures from this period; elements of the typical attire were found in high status Cuman graves as well as in cemeteries of commoners.⁷³¹ Their horse type, certainly closely associated with the concept of a Cuman warrior (the Cumans served as cavalry in the royal army), may have been seen as part of a Cuman nobleman's "costume". On the other hand, animals such as the Csengele stallion were more associated with status than with ethnicity, and Hungarian nobles were more likely to have possessed such horses than simple peasants with a

unus est Suegus pey coloris habens dextrum oculum album et aurem sinistram evacuatam, quod vulgo waiut dicitur et signum in scapula in parte sinistra per modum furce. Item aliis est Feketeupey coloris habens signum in sinistra parte in latere admodum virguale. Item tertius Ruh coloris habens signum in parte dextra in collo admodum virge. Quartus zius zeu coloris habens signum in aure sinistra." Györffy, Az Árpád-kori Magyarország történeti földrajza, vol.1, 67.

⁷²⁸ István Vörös identifies the term "ruh" as a dark grey color. Vörös, Ló az Árpád-kori Magyarországon, 191.

⁷²⁹ After a wound heals, the hair covering the scar tissue sometimes loses pigmentation and turns white instead of the original coat color.

⁷³⁰ In some horses, the iris of the eye has a light blue color, which is perfectly natural and inherited. A white stain on the eye, however, usually signifies an old injury (perforating wounds) or an illness such as glaucoma, a corneal tumor or an ulcer. (Charles L. Martin, *Ophthalmic Disease in Veterinary Medicine* (London: Manson Publishing, 2010), 266-288.)

⁷³¹ Pálóczi Horváth, Steppe traditions; Pálóczi-Horváth, Le costume coman au moyen âge, 408-409, see also footnote 38; Pálóczi Horváth, Régészeti adatok a kunok viseletéhez, 89-107; Zichy, A Képes Krónika miniatűrjei viselettörténeti szempontból, 59-70.

Cuman cultural background.

Horses of this kind also caught the attention of medieval chroniclers and travelers. Cumans and Hungarians are sometimes not differentiated by the authors, as the light cavalry of the Hungarian king consisted mainly of Cuman mounted archery.⁷³² Matteo Villani's chronicle, dated to the mid-fourteenth century, dedicates a few passages to the horses of Hungarians who participated in Louis the Great's military campaigns. Even though he refers to these troops as Hungarians, he writes about the light cavalry, who were in all probability not Hungarians but Cumans. He mentions that these animals are small and sturdy, are fed on grass, hay and straw alone, and many of them are castrated because then they become more docile and steady.⁷³³ The *Descriptio Europae Orientalis*, an anonymous account of Hungary and other lands, dated to 1308, mentions that the Hungarians particularly excel in archery, their horses are small, strong and speedy. Horses of the chiefs and nobles are large and beautiful.⁷³⁴ This implies that horses used by the élite were selected from a horse type different from those used by common soldiers. Ibn Battuta, a fourteenth-century traveler, describes the horses he saw in the Crimea and the land of the Kipchaks in his account. These horses were kept in large herds and pastured like sheep. They were exported to India, where they were sold for 100 to 500 denars each. However, they were mostly not purchased for their speed but rather for their strength and the length of their stride. The best horses were worth 500 denars or even more.⁷³⁵ The differences in price may be associated with different horse types, the most expensive ones being those preferred by the élite. In Robert of Clari's account, even the everyday Cuman soldier's horse is praised: he wrote that all Cuman warriors possessed ten to twelve horses that were so well trained that they followed their master like dogs. These were used in shifts, were fed by hanging fodder bags on the nose without even having to stop, and were able to cover a six to eight days' journey in a single day

⁷³² András Borosy, "A XI-XIV. századi magyar lovasságról" [On the eleventh-fourteenth-century Hungarian cavalry] *Hadtörténelmi Közlemények*, Új folyam (New Series) 9/2 (1962), 119-174: 133. (henceforth: Borosy, A XI-XIV. századi magyar lovasságról)

⁷³³ Alajos Miskulin, *Magyar művelődéstörténeti mozzanatok Giovanni és Matteo Villani krónikái alapján* [Bits and Pieces of Hungarian Cultural History in the Chronicles of Giovanni and Matteo Villani] (Budapest: Stephaneum, 1905), 70-72.

⁷³⁴ *Parvos habent equos communiter, licet alias multum fortes et agiles, principes tamen et nobiles habent equos magnos et pulchros.* Deér emphasizes that these remarks were probably made due to the Cuman presence in the army. The cuman style of warfare must have been alien and conspicuous to people of the West. Josef Deér, "Ungarn in der *Descriptio Europae Orientalis*" *Mitteilungen des Österreichischen Instituts für Geschichtsforschung* 45 (1931), 1-22: 20; Borosy, A XI-XIV. századi magyar lovasságról, 154.

⁷³⁵ Ibn Battuta ed. Boga, 188-189.

and night.⁷³⁶ The Csengele individual probably represents this horse type, whose appearance and elegance caught the eyes of contemporaries. An appreciation for horses used by the élite is also evident in the 1402 testament of the Hungarian nobleman Péter Gezti, an important source for medieval Hungarian horse husbandry. He donated most of his horses to relatives and *familiaries*, and the best ones used for riding are mentioned in the text by name, as opposed to horses left in the herd for breeding purposes, which are only mentioned by their age or sometimes their coat color.⁷³⁷



Fig 3.3.4. Skeleton of a dog excavated at Csengele. Most skeletons were partial, with some of the limbs or the head missing. After Horváth, A csengelei kunok, 141.

The Csengele excavations yielded not only this horse skeleton, but also dogs. The nine dogs whose remains were found in and around the possibly ritual buildings were analyzed and published by Annamária Bárány. Three skeletons were complete, the others only partial, and two of them were damaged by the excavator machine during the primary soil removal. Interestingly, most of these animals were juveniles or young adults: one was 8-12 months old, while four were between 1.5-2 years of age. The other dogs were also adults. Their calculated withers height

⁷³⁶ Edgar Holmes McNeal (ed and tr) *Robert of Clari's The Conquest of Constantinople* (New York: W.W. Norton – Columbia University Press, 1964), 88. (henceforth: Robert of Clari ed. Holmes McNeal)

⁷³⁷ Márta Belényesy, “A lóbecse a középkorban. Egy XV. századi végrendelet tanulságai” [The value of horses in the Middle Ages. Conclusions based on a fifteenth-century last will] *Ethnographia* 68 (1957), 337-341.

varies between 44.2 and 58.9 cm, with a standard deviation of 4.6, and thus they represent the typical size of medieval “pariah dogs” in the region (Diagram 3.3.5).⁷³⁸

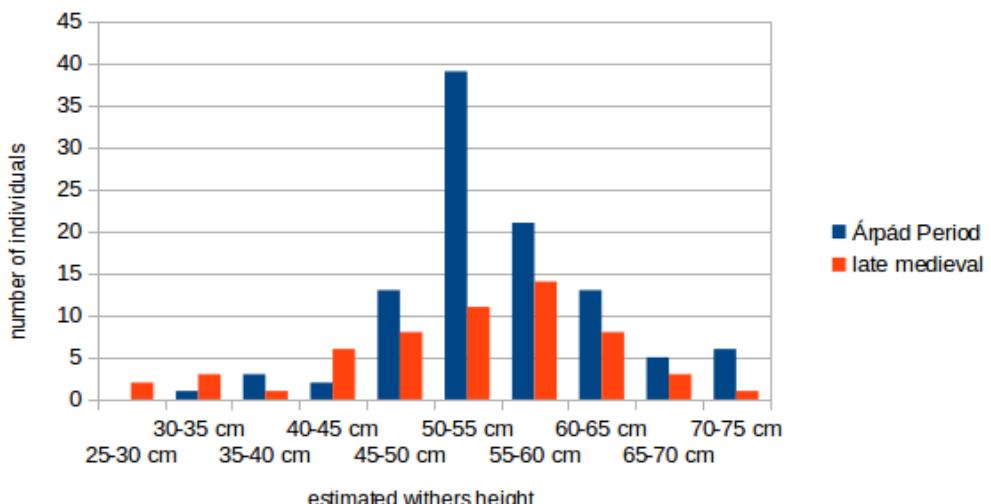


Diagram 3.3.5 Withers height distribution of medieval dogs. Based on 160 individuals from the following sites: Kána, Visegrád-Várkert, Bóly, Kardoskút-Hatablak, Szarvas-Rózsás, Szabolcs, Csongrád-Felgyő, Mende-Leányvár, Buda – Teleki Palace, Márianosztra – Toronyalja, Térkeve-Móric, Muhi, Gorza, Csengele.

These animals had elongated, somewhat gracile skulls which fit into the Árpád Period sample, although their jaw was narrower than the average (Diagram 3.3.6 A and B). Their proportions somewhat resemble modern greyhounds (which, of course, does not reflect a genetic connection; the modern examples are used here for the sake of phenotype comparison alone). Although on the basis of bone measurements Bárány described three of them as belonging to the *Canis familiaris intermedius*, and one to the *Canis familiaris matris opitimae* subtype, one should be cautious with associating archaeological remains with such modern ideas of phenotype.⁷³⁹ As seen on the diagram, skull proportions represented by the ratio of total length to palatinum width were quite varied throughout the Middle Ages ($r^2=0.62$ for the Árpád Period and 0.63 for the Late Middle Ages, respectively). The ratio of total length to neurocranial width shows a decreasing variability in the late medieval period, while the correlation is not very close

⁷³⁸ A similar normal distribution was observed on medieval dog withers heights by Márta Daróczi-Szabó. (Márta Daróczi-Szabó, Az Árpád-kori Kána falu állatcsonjainak vizsgálata [The Archaeozoological Examination of the Árpád Period Village of Kána] PhD thesis, defended in 2014 at Eötvös Lorand University of Budapest. 135, diagram 17. (henceforth: Daróczi-Szabó, Az Árpád-kori Kána falu)

⁷³⁹ Juliet Clutton-Brock advised against using such categories for archaeological specimens. Juliet Clutton-Brock, A Natural History of Domesticated Mammals, Second edition (Cambridge: Cambridge University Press, 1999), 45-47.

in the Árpád Period ($r^2=0.6$ for the Árpád Period and 0.85 for the Late Middle Ages). The measurements signify a certain but not very close correlation between skull length and the width, and thus a high variability in shapes. A similar variability is revealed by the slenderness diagram of the radius and tibia in medieval dogs (Diagram 3.3.7 A and B). Despite their narrow and small heads, the dogs from Csengele were not particularly slender legged or gracile in their limbs, but fit into the (quite varied) Árpád Period trend. Interestingly, these diagrams also suggest that the variability in fact decreased in later periods as the correlation coefficients show a more significant correlation in the Late Middle Ages in both cases; this amount of data is, however, far from sufficient to make general conclusions on the medieval dog population of the region. The Csengele individuals, nevertheless, were in the middle range of the coeval dog population, and thus, they were probably not consciously bred along lines concerning stature and phenotype, although they may have been used as guard or herding dogs.

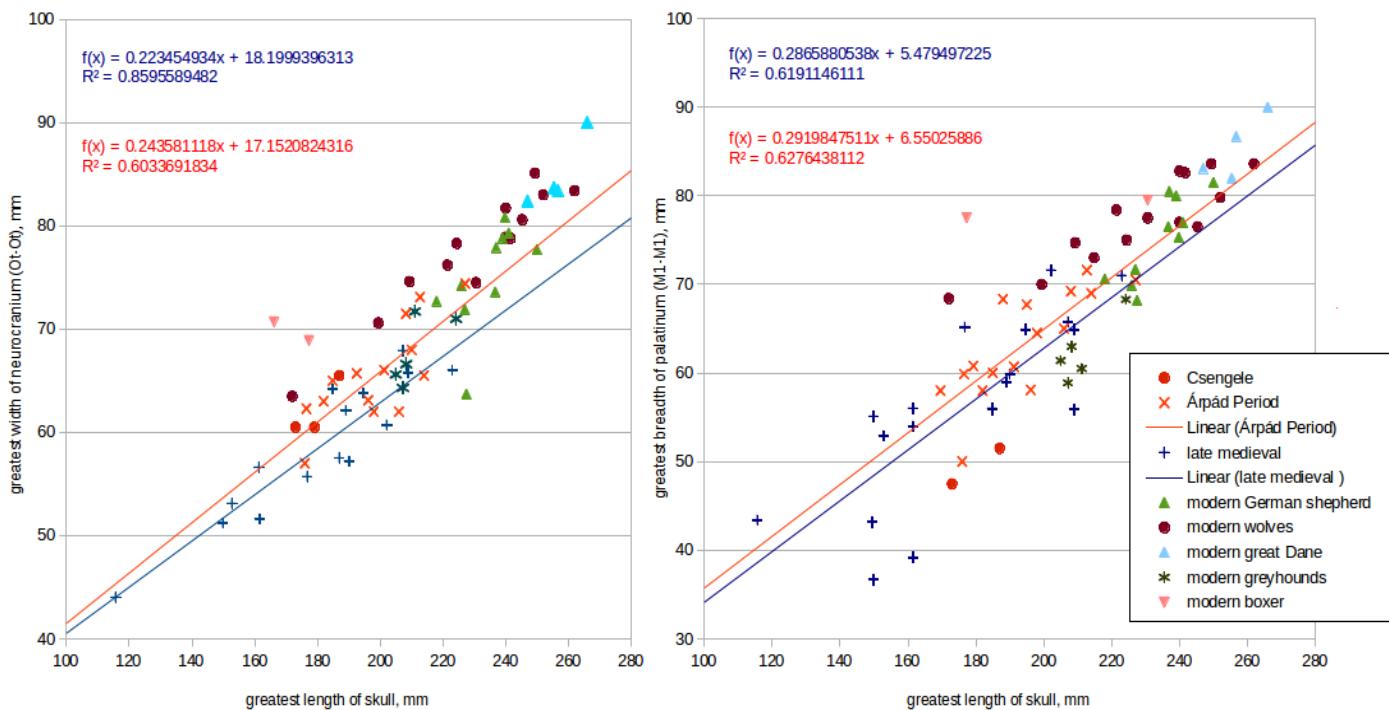


Diagram 3.3.6 A and B. Dog skull proportions. Sites included: Kardoskút, Zalavár, Térkeve-Móric, Tiszaeszlár-Basahalom, Kána, Vác, Maglód, Fancsika, Jánosszállás, Tiszagyenda, Márrianosztra – Toronyalja, Buda Castle, Csengele. Modern specimens were measured by Márta Daróczi-Szabó in the Hungarian History of Agriculture, for her MA thesis. The red line shows the Árpád Period trendline, while the blue one stands for the trendline for the later medieval period.

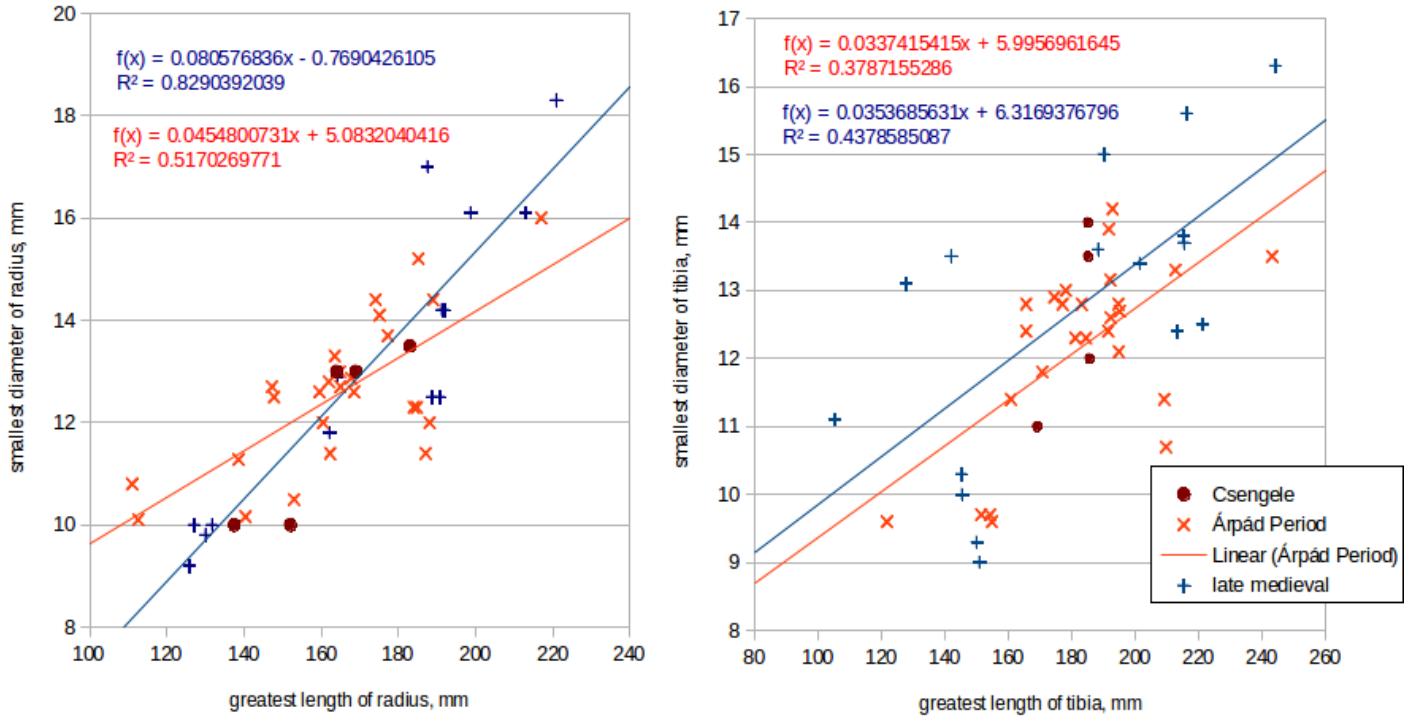


Diagram 3.3.7 A and B. The slenderness of the radius and the tibia in medieval dogs. Sites included: Kána, Vác, Muhi, Kardoskút-Hatablak, Szarvas-Rózsás, Tiszagyenda, Gorzsa. The red line shows the Árpád Period trendline, while the blue one stands for the trendline for the later medieval period.

3.3.2.2 Kiskunhalas – Dong ér (stream), MOL

A short excavation that lasted only for 38 days was carried out in 2006 in the close vicinity of present-day Kiskunhalas, ca. four km to the north from the modern town. An area of 3480 m² was excavated. So far, the site recovered there could not be associated with a particular medieval settlement, but it was certainly inhabited at the turn of the thirteenth and fourteenth centuries, as testified by anthropogenic layers preserved under a later layer of sand. In this period, Cumans already appear in the region and thus, this habitation layer is thought to be associated with the Cuman presence. The site revealed a plowland dated to the early period of the Árpád Dynasty, preserved under a layer of sand. The area was plowed only once in the thirteenth century and then was left uncultivated. Somewhat later, at the turn of the thirteenth and fourteenth century it was inhabited for a short time; thus, a well defined anthropogenic layer, consisting of a floor level and some features (including a dwelling), was formed on top of the

former agricultural land. The land was never plowed again but was covered with a sandy layer formed from movements of blown sand, probably connected to intensive animal husbandry and overgrazing,⁷⁴⁰ similar to the sand movements documented at Csengele.⁷⁴¹ Matthias Bel mentions the Dong-stream (Dong-ér) in his account. It was a watercourse that meandered in the vicinity of the site. He observed that this stream was used for watering animal herds.⁷⁴² So far, only a short report has been published on this site.

The animal bone material was collected from the habitation layer and is dated to the turn of the thirteenth and fourteenth centuries. Unfortunately, only a few animal bones were brought to light and the small sample is not suitable for proper statistical evaluation. On the other hand, all expected species and all skeletal elements are present, suggesting that this accumulation is similar to what is usually found in settlement waste at this time. What is striking about this material is the almost equal ratio of cattle and sheep/goat, and the unusually low number of swine. Although sample size is certainly a factor that distorts these ratios, a preference for small ruminants instead of swine may represent a realistic strategy here.

Species	Bones identified	% of all faunal remains	% of faunal remains identified to taxon	MNI	Butchering marks	Skinning marks	Worked pieces	Pathological bones
Cattle	111	31.81	39.22	4	-	1	1	-
Horse	29	8.31	10.25	2	-	1	-	-
Sheep and goat	102	29.23	36.04	8	4	1	-	1
Swine	25	7.16	8.83	4	-	-	-	-
Dog	8	2.29	2.83	1	-	-	-	-
Domestic hen	8	2.29	2.83	2	1	-	-	-
<i>Total domestic</i>	283	81.09	100		5	3	1	1
Total identified to	283	81.09	100					

⁷⁴⁰ Szabolcs Rosta and Diána Nyíri, “Középkori szántás a homok alatt. Előzetes jelentés Kiskunhalas határából. Kiskunhalas-Dong ér ÉK, MOL 5. lelőhely” [Medieval plowland under the sand. A preliminary report on the site of Kiskunhalas-Dong ér, northeast, MOL5] *Halasi Múzeum 3. Emlékkönyv a Thorma János Múzeum 135. évfordulójára* [The Museum of Halas vol. 3. Collected Studies on the Occasion of the 135th Anniversary of the Thorma János Museum] Ed. Aurél Szakál (Kiskunhalas: Thorma János Múzeum, 2009), 27-34: 33; Diána Nyíri and T. Kiss, “Blow sand movements at Kiskunhalas on the Danube-Tisza Interfluve, Hungary.” *Journal of Environmental Geography* 2/34 (2009), 31-36.

⁷⁴¹ Kiss, Nyári and Sipos, Homokmozgások, 379-380.

⁷⁴² István Zombori (ed and tr) “Bél Mátyás: Csongrád és Csanád megye leírása” [Matthias Bel’s Description of Csongrád and Csanád Counties] *Móra Ferenc Múzeum Évkönyve* 1980-81/2, 9-82: 13.

taxon								
Large ungulate	57	16.33	-	-	-	-	-	1
Small ungulate	9	2.58	-	-	-	-	-	-
Total non-identified to taxon	66	18.91	-	-	-	-	-	1
Total	349	100	100		5	3	1	2

Table 3.3.3 Animal remains recovered from the excavations at Kiskunhalas – Dong ér, MOL5.

Only a few measurements could be taken on the very fragmented material. Two sheep bones were well preserved and appropriate for calculating the withers height of these two individuals: these bones belonged to animals of 56.5 cm (based on a metacarpal) and 71.2 cm (based on a radius) at the shoulder. The former was probably from an ewe, while the latter was probably from a ram. Metatarsal proportions also reveal the presence of large sheep (Diagram 3.3.8): the one measurement from Kiskunhalas (probably a ram) falls into the larger size group of late medieval measurements and stands out in the Árpád Period sample. Only one, very small horn core was preserved from a juvenile animal.

The altogether 29 horse bones are very fragmented. One horse metatarsal could be measured; this bone came from an individual of ca. 140 cm at the withers,⁷⁴³ and thus, this animal was somewhat taller at the withers than the Árpád Period average.

The kill-off patterns reveal a surprisingly high ratio of juvenile sheep and cattle. This is, however, probably connected to biases in the small sample size and not to some conscious herd management strategy. Interestingly, all hen remains came from juveniles. These birds certainly came at least from two individuals, but probably from more, as the different fragments were found scattered throughout the excavated area.

⁷⁴³ 140.1 cm calculated withers height using Kiesewalter's method, and 140.3 cm calculated with Vitt's method.

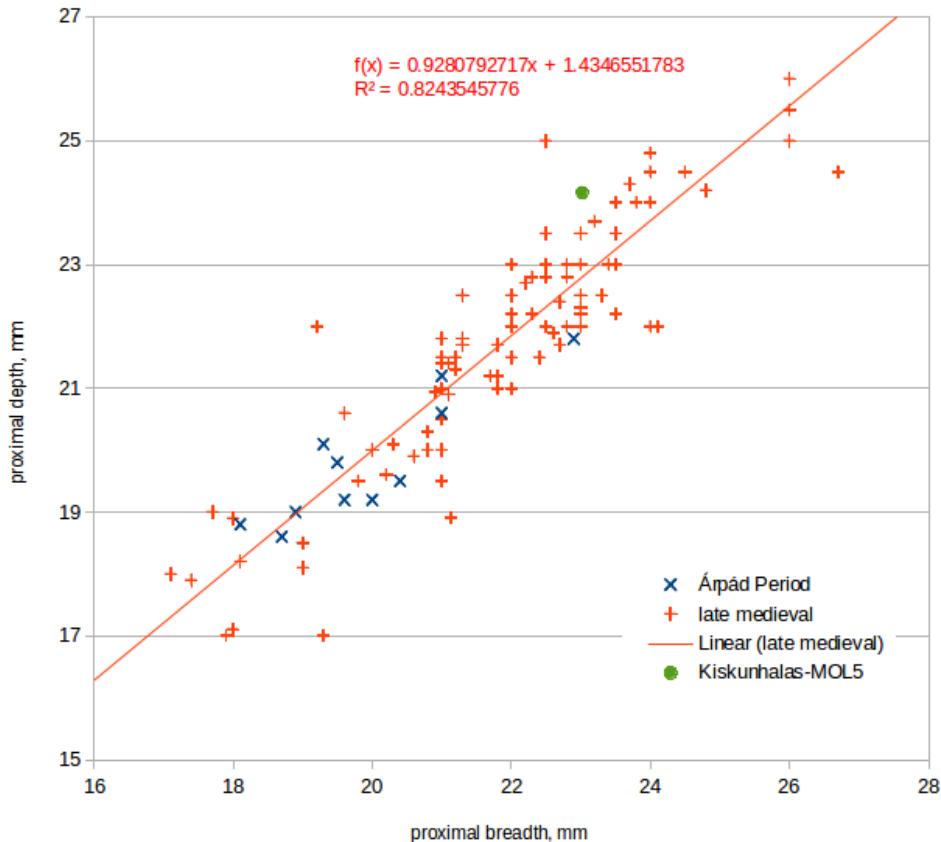


Diagram 3.3.8 Ratios of proximal sheep metatarsals. Sites included: Kána, Szolnok Castle, Szentkirály, Felsőtárkány-Várhegy, Gyula Castle, Buda Castle - Pasha's Palace, Muhi.

	Infantile	Juvenile		Subadult	Adult		Mature	Senile	
		30	27%		20	18%		-	-
Cattle	-	-		-			-	-	-
Horse	-	-	4	-		8	-	-	-
Sheep and goat	-	-	15	14.7%	-	25	24.%	-	-
Swine	-	-	6	-		6	-	-	-
Dog	-	-	3	-	-	3	-	-	-

Table 3.3.4 Kill-off patterns at Kiskunhalas-MOL5. The percentages show the ratio of juvenile, subadult, adult etc. animals in all finds identified to the given species (including those not identified to age). Percentages were only calculated for species which are represented with at least 100 bones in the sample. The condition of the finds in most cases did not permit precise estimation of the age at death. Whole or partial skeletons were not found at the site.

As we have seen in the previous subchapter, Halas became one of the most important market hubs in the region in later centuries. Not much is known, however, about how this area looked at the turn of the thirteenth and fourteenth century. This was the period when Cumans utilized the already existing Árpád Period infrastructure to form their own settlements, and the

successive habitation layers observed at this site perfectly exemplify this process. Although the sample excavated at Kiskunhalas-MOL5 is small and clearly not representative enough to draw general conclusions, the species ratio and the distribution of skeletal elements resembles small, coeval Hungarian villages, where household slaughter took place and all animal-related material was processed within the settlement itself. The high ratio of caprines may be explained as a remnant of the meat preferences Cumans brought with them from the steppe; however, this can only be formulated as a statement if large samples from the same period will also yield similar results and remains a task for future research. It is clear, however, that there is no great difference between the material excavated from this relatively early Cuman habitation layer and other Árpád Period settlements. It seems from the preliminary results that a similar economic strategy must have been followed here to practices in other contemporary villages.

It is unknown why habitation ended at this particular settlement. One plausible explanation is that the population moved to the town of Halas, which had begun to grow into a seat center and must have been an attractive alternative for people living in the region's small villages and farmsteads. Although it is not clear exactly when the sandy layer that covered the Cuman habitation area was formed, overgrazing may already have been a factor already in the fourteenth century and again must have pushed the villagers to leave for other places where agricultural conditions were better.

3.3.2.3 Kiskunfélegyháza-Templomdomb

The Cuman presence at the site of Church Hill (Templomdomb or Templomhalom), in the Northeastern part of the modern town of Kiskunfélegyháza has been debated over the past decades. The village of medieval Félegyháza was situated on the outskirts of the Cuman habitation area, where – it now seems – the medieval population was probably mixed.

In the eleventh-thirteenth century the area of present-day Kiskunfélegyháza was interspersed with small villages that consisted of 20-30 households and were situated only a few kms distance from each other. The Mongol Invasion impacted this region particularly severely: 75% of the villages in Csongrád county disappeared,⁷⁴⁴ and thus, this area must have been ideal

⁷⁴⁴ András Pálóczi Horváth, "A kun betelepedés Kiskunfélegyháza környékén és a város korai története" [Cuman

for occupation by the Cuman migrants. The village of Félegyháza was probably a similarly small village with 20-30 families. It was destroyed and later repopulated (at least partly) by Cumans.⁷⁴⁵ Félegyháza first appears in the sources only in 1389, when King Sigismund forbade the feudal lord of Szer to harass or tax the people of Szeged as they traveled to Buda and Félegyháza.⁷⁴⁶ The village must have been a noted geographical point along the trade route that led from Szeged to Buda. Pálóczi Horváth goes as far as calling Félegyháza an important station along this road.⁷⁴⁷ There is, however, no data whatsoever on markets held here.

Initially, Félegyháza was in the possession of the king. In 1424, the village was donated to Queen Borbála along with other villages and the oppidum of Kecskemét,⁷⁴⁸ which suggests that these settlements, including Félegyháza, belonged to Kecskemét in terms of their economic and market orientation. Written records do not reveal anything on Cuman presence specifically in the settlement itself, although Cumans living around Kecskemét are mentioned even in the above mentioned donation charter.⁷⁴⁹ The grave goods recovered from the village's cemetery speak for a local population characterized by a mixed ethnic background.⁷⁵⁰ Kecskemét in the relative vicinity (ca. 20 km) certainly had an impact on economic growth in the region, probably also in terms of buying up livestock for markets held there. There is, however, almost no record on the medieval village's economic life.

The village was destroyed early in the Turkish-Ottoman Wars, in 1526, and was not repopulated until the eighteenth century. In the 1559 Turkish tax rolls it is listed as an abandoned place.⁷⁵¹

Given the scarcity of written evidence, archaeology has the potential to clarify some points in Félegyháza's medieval history. Extensive research, however, is yet to be carried out.

settlement around Kiskunfélegyháza and the early history of the town] in *Múzeumi kutatások Bács-Kiskun megyében 1995-1996*, ed. Ilona Székelyné Körösi (Kecskemét: A Bács-Kiskun Megyei Önkormányzat Múzeumi Szervezete, 1997), 25-33: 26. (henceforth: Pálóczi Horváth, A kun betelepedés)

⁷⁴⁵ Pálóczi Horváth, A kun betelepedés, 26.

⁷⁴⁶ Gyárfás, A jász-kunok, vol.3, 510.

⁷⁴⁷ Pálóczi Horváth, A kun betelepedés, 27.

⁷⁴⁸ Gyárfás, A jász-kunok, vol.3, 580; Pálóczi Horváth, A kun betelepedés, 26

⁷⁴⁹ Gyárfás, A jász-kunok, vol.3, 580. "...item oppidi seu civitatis Kechkemeth, cum tributo in eadem habito, ac unacum Comanis Reginalibus, prope eandem Kechkemeth ac circa civitatem Bechee commorantibus, necnon possessione Feleghaz vocata, etiam prope ipsam civitatem Kechkemeth existenti..."

⁷⁵⁰ Rosta, Pusztatemplomok, 138.

⁷⁵¹ Gyula Káldy-Nagy, *A budai szandzsák 1559. évi összeírása* [The 1559 Conscription of the Sandjak of Buda] Pest Megye Múltjából 3. (Budapest: Pest Megyei Levéltár, 1977), 201. (henceforth: Káldy-Nagy, A budai szandzsák 1559. évi összeírása)

First, Alajos Bálint carried out a rescue excavation in 1951 of the fourteenth-fifteenth century cemetery surrounding the destroyed church. Altogether 167 graves were brought to light at that time, which was only a smaller part of the entire cemetery.⁷⁵² Although Bálint did not interpret any of the grave goods as being specifically of Cuman origin, Szabolcs Rosta argued that some of the finds had analogies from other sites identified as Cuman. These finds included a trapezoidal coffin, a type also discovered at Szeged-Öttömös; 28 coffins made of tree bark, also unearthed at Csengele-Bogárhát; and more importantly, 17 pieces of female headgear (similar to pieces recovered at Balotapuszta, Bugac-Felsőmonostor, Szer and Kerekegyháza-Kápolnahalom), the phenomenon of throwing charcoal and ash into the grave, rings with representations of lillies and animal figures, and an earring from grave no. 44 of a type that had its roots in Byzantium and was brought to the Carpathian Basin by the Cumans.⁷⁵³ It seems that although Félegyháza itself was not considered a Cuman village, there were at least some Cuman inhabitants here; Rosta explained this by the attractive effect of the market town of Kecskemét as a regional center.⁷⁵⁴ Likely, those Cumans buried here were migrants from the more closed, internal Cuman areas.

New excavations of the village's medieval cemetery and other features started in 2008, and the finds are presently being analyzed by Gergely Rákóczi. The graves date to two main periods: the Árpád Period (up to the fourteenth century) and the late medieval period (fourteenth-sixteenth centuries). There are graves in this cemetery that may possibly be Cuman and date to the later period. Rákóczi's preliminary conclusions suggest that the village had a predominantly Hungarian ethnic background, although people with a Cuman identity may have sporadically been present; however, their material culture displays no clear distinctive elements and, thus, it is difficult to grasp their presence or absence. Finds from the 2008 excavation that were identified as objects of Cuman origin (a mace with 12 spikes, hollow-globe earrings) came, in fact, from mixed contexts; otherwise, the pottery and other small finds do not differ from what is generally expected in a fourteenth-fifteenth-century Hungarian village.⁷⁵⁵ Thus, Kiskunfélegyháza-Templomdomb presents a strange example of a settlement with a questionable, or perhaps even

⁷⁵² Alajos Bálint, "A Kiskunfélegyháza-templomhalmi temető." [The cemetery of Kiskunfélegyháza – Church Hill.] A Móra Ferenc Múzeum Évkönyve 1956, 55-83.

⁷⁵³ Rosta, Puszta templomok, 137-138

⁷⁵⁴ Rosta, Új eredmények, 193-194.

⁷⁵⁵ Gergely Rákóczi, personal communication.

blurred, cultural background: a Cuman presence is suspected but cannot be unambiguously demonstrated, although the village was situated in a region traditionally viewed as a Cuman habitation area.

Species	Bones identified	% of all faunal remains	% of faunal remains identified to taxon	MNI	Butchering marks	Skinning marks	Worked pieces	Pathological bones
Cattle	49	45.79	N/A	N/A	4	-	-	1
Horse	30	28.04	N/A	N/A	-	-	1	2
Sheep and goat	5	4.67	N/A	N/A	-	-	-	-
Swine	5	4.67	N/A	N/A	-	-	-	-
Dog	1	0.93	N/A	N/A	-	-	-	-
<i>Total domestic</i>	90	84.11	N/A	N/A	4	-	1	3
Total identified to taxon	90	84.11	N/A	N/A	4	-	1	3
Large ungulate	17	15.89	N/A	N/A	1	-	-	-
Total non-identified to taxon	17	15.89	N/A	N/A	1	-	-	-
Total	107	100	N/A	N/A	5	-	1	3

Table 3.3.5. Animal remains recovered from the 2008 excavations at Kiskunfélegyháza - Templomhalom. Neither percentages of faunal remains identified to taxon nor the minimum number of individuals were calculated because of the small sample size. Skinning marks were not observed.

A small number of animal bones recovered during the 2008 excavations were available for study. This small number of finds does not represent a reliable sample in terms of species ratios. The extremely high proportion of horse bones and the small number of sheep is certainly an artifact of sample size (and probably also taphonomy and/or excavation methods that meant that bigger and more resistant bones of large domesticates were more likely to produce more identifiable fragments and end up in the assemblage). Kill-off patterns were not studied due to the small sample size (only one sheep and four horse bones came from young individuals). However, this dataset still yielded some interesting details.

One cattle and three horse metacarpals proved suitable for calculating withers heights. One horse was 137.6 cm (using Kiesewalter's method) or 135.9 cm (using Vitt's method) at the withers. The other two must have been beasts of larger size in coeval terms: they measured 142.5

cm (by Kiesewalter's method) or 140 cm (using Vitt's method), and 148.8 cm (using Kiesewalter's method) or 145.2 cm (using Vitt's method). The metacarpals slenderness indices reveal that these were slender legged and medium slender legged animals (the indices are 13.6, 15.9 and 16, respectively). The cattle bone came from a cow that measured 121.2 cm at the withers. One cattle horn core fragment suggested that this was a very small-horned animal, but otherwise no horn cores were found (which might be due to the a practice of collecting them and processing them for their horn sheath).

Cattle bones, probably from the same, ca. 4 years old individual, were also discovered in the fill of one of the graves (feature no.1, grave no.1, of an adult woman). The partial skeleton consists of a fragmented skull, vertebrae, some rib fragments, and fragments of the left forelimb (scapula, humerus, ulna and radius). A well preserved, intact horse metacarpal was also found in this context (this belonged to the largest of the three individuals whose withers height could be calculated). Interestingly, this is one of the graves Rákóczi identified as being probably Cuman. It was dated to the early fifteenth century. Traces of throwing ash into the pit were discovered, a practice associated with Cuman pagan customs. A clay bead found next to the head was also interpreted as a sign of a possible Cuman ethnicity; no remains of a headgear to which it could have been attached were found.⁷⁵⁶ It would be tempting to identify the animal bone remains as grave goods or food offerings, however, they were not properly placed in the grave – something which may have been connected to prohibition by the church (see chapter 5 *Processing the animal body*, subchapter 5.2 *Animals in rituals*). These bones are, however, simply too large. Food offering was mostly symbolic (even the Csengele warrior was only equipped with a small piece of mutton), and animal remains of this size would have obviously been impossible to hide under the body or clothing. Moreover, food offerings properly placed in the pit would have been unearthed and documented as part of the grave context. On the other hand, it is strange that bones of this size ended up in the fill, as garbage was obviously kept away from the graves. It is dubious that this was a deliberate deposition; however, cattle remains of this type have not been recorded elsewhere from Cuman graves and so it is difficult to really interpret this deposit.

Another woman's grave which was theoretically identified as probably Cuman, grave no. 3, yielded animal bones that may be considered grave goods: one proximal phalanx of a horse

⁷⁵⁶ Gergely Rákóczi, personal communication.

and another epistropheus (second cervic vertebra) of a large mammal, probably cattle. Although a phalanx of cattle has been documented from a Cuman grave before (from Csengele-Bogárhát, grave no. 31, see chapter 5.2), and the role of horse phalanges in Cuman superstitions has been raised,⁷⁵⁷ amulets discovered in Cuman graves so far are typically canine teeth or astragali. This grave dates to the late fourteenth century and was probably one of the first burials in the cemetery, newly opened after the Mongol Invasion. A Saracen head type denar issued by Louis I dates the deposit to the 1350s.⁷⁵⁸

Two further graves (no. 4 and 5) in whose fill animal bone fragments were found did not characterize any sign of a specific ethnic background. These burials, however, included only one carpal bone from a large mammal and a fragment of a cattle proximal phalanx. Thus, it is possible that these finds were only accidentally deposited in the fill as the grave was re-filled.

3.3.2.4 Szentkirály

The village of Szentkirály (known now as Lászlófalva) has been located in the northeastern part of Lesser Cumania, east of the market town of Kecskemét. The first archaeological survey of the village was made when Elek Kada, mayor of Kecskemét, launched excavations at the medieval church ruin of Szentkirály in 1901. The Árpád Period cemetery of Felsőszentkirály was explored by Kálmán Szabó, the director of the Kecskemét Museum in 1933.⁷⁵⁹ The grave of a Cuman nobleman, dated to the 1350s, was excavated at Felsőszentkirály in 1934 also by Szabó; a detailed report on this find, however, has never been written.⁷⁶⁰ Later, in the 1960s, András Pálóczi Horváth started systematic field walks and a long excavation project on the late medieval village of Szentkirály.

⁷⁵⁷ Especially in connection with the village of Szentkirály. István Takács, “Szentkirály középkori falu zoológiai leletei” [Zoological findings from Szentkirály, a medieval village.] *Magyar Mezőgazdasági Múzeum Közleményei* 1986 (1987), 95-110: 102. (henceforth: Takács, Szentkirály középkori falu zoológiai leletei)

⁷⁵⁸ Gergely Rákóczi, personal communication.

⁷⁵⁹ Szabó, Az alföldi magyar nép, 29.

⁷⁶⁰ András Pálóczi Horváth localized this site near the school of Felsőszentkirálys in a vineyard. The documentation of this site, however, is now lost. Szabó only discusses the belt buckle found in the grave, but the exact circumstances in which the grave was found are not provided. Pálóczi Horváth tried to locate the documentation of these excavations, but the only document concerning this piece of research had been deleted from the museum's archive. Szabó, Az alföldi magyar nép, 72-78; András Pálóczi Horváth, “A felsőszentkirályi kun sírlelet” [The Cuman grave finds from Felsőszentkirály] *Cumania* 1 (1972), 177-202: 177 (henceforth: Pálóczi Horváth, A felsőszentkirályi kun sírlelet)

The nobleman's grave found in this area represents the customs of the thirteenth century Cuman elite, similarly to the graves excavated at Kígyóspuszta and Csólyospálos.⁷⁶¹ No horse remains were found here, although noble burials that involved horses (as a whole or partial animal or symbolically in the form of a harness or hide) were discovered at Csengele, Csólyos, Kunszentmárton, Homok-Óvirághegy and Bánkút. However, the circumstances under which the grave at Felsőszentkirály was discovered are not entirely clear: according to Kálmán Szabó's report, it was a peasant who found the burial place and later took some of the finds to the local museum, after which Szabó carried out a short excavation.⁷⁶² Horse bones are not mentioned anywhere, but the lack of proper documentation means that the possibility cannot be excluded that Felsőszentkirály was a horse burial similar to those associated with other Cuman graves mentioned above. Unfortunately, only a belt has been preserved from among the grave finds. Other finds as well as the original documentation were lost.

The grave is a clear indication of the Cuman presence in the area in the late thirteenth - early fourteenth century. In fact, two geographical names in the vicinity, Lake Árboc and the village of *Törtel* respectively, may be traced back to the names of two Cuman noblemen, Arbuz and Turtel, from the late thirteenth century.⁷⁶³ The village of Szentkirály itself appears in a charter first in 1354, when a Cuman named Peter, son of Bewchwr asked the king to donate this piece of land to him and his relatives on the condition that they would lead a decent Christian life here.⁷⁶⁴ Interestingly, he refers to his service for the king as a basis for his claim, which means he may have served as a mercenary in the royal army, as usual for Cumans in the fourteenth century. The charter describes the area as uninhabited ("...terras nostras vacuas et habitatoribus a tempore cuius non extat memoria") and names two settlements, Szentkirály (*Zenthkyral*) and Mindszent (*Mendzenth*). Cumans themselves probably picked this area because there were abandoned Árpád Period villages there that provided the necessary infrastructure (traces of a previous settlement were found by Pálóczi Horváth);⁷⁶⁵ as Pálóczi Horváth pointed out, Szentkirály is a good example of the way Cumans repopulated and rebuilt the destroyed

⁷⁶¹ Pálóczi Horváth, A felsőszentkirályi kun sírlelet, 177.

⁷⁶² Szabó, Az alföldi magyar nép, 72-78; Éri, Adatok a kígyóspusztai csat értékeléséhez, 149.

⁷⁶³ Pálóczi Horváth, A felsőszentkirályi kun sírlelet, 202.

⁷⁶⁴ Gyárfás, A jász-kunok, vol. 3, 489-490.

⁷⁶⁵ Pálóczi Horváth, A felsőszentkirályi kun sírlelet, 202.

settlement structure of the Great Hungarian Plain in the later Middle Ages.⁷⁶⁶ He argues that Cumans must have inhabited this area well before the actual donation, and the charter only made a *de facto* ownership into a legal one.⁷⁶⁷ The exact chronological relation between the nobleman's grave and this donation charter is not clear. However, in all probability the grave dates from one or two generations earlier.⁷⁶⁸ The belt found in the grave dates to the second half of the thirteenth century.⁷⁶⁹ Although attempts were made to identify the nobleman buried here with the Cumans mentioned in the donation charter,⁷⁷⁰ Pálóczi Horváth argues that the promise to observe Christian customs had to be kept and, thus, it is unlikely that any of the Cumans who received a royal donation would have had a pagan burial; however, it cannot be excluded that Cumans who owned this land in the mid-fourteenth century were descendants of those who were here in the thirteenth century and to whose community the buried nobleman belonged.⁷⁷¹ It is interesting that some of the Cumans mentioned in the charter as new owners already had Christian names: Peter, son of Bewchwr (Böcsör) must have been a Christian, and his two sons, Nicholas and Johannes were also named in a Christian way, while their father, Böcsör still had a traditional Cuman name, just as one of Peter's cousins, Baramuk, son of Kabak. His other cousin Gál, son of Weztek, is again named in a Christian manner, while his father also had a Christian (Hungarian) name.⁷⁷² It seems that – at least in case of this particular family – the mid-fourteenth century was a key period in the transition from the traditional Cuman cultural sphere to a new, Christian identity. The belt buckle was decorated with eleven different coats of arms, which signifies an adaptation to the feudal chivalry ideals, while the traditional attire to which the belt belonged, was still retained.⁷⁷³ Peter, who had a Christian name and named his own sons according to the Christian custom, still had close relatives with pagan names. It seems that in this case, acculturation was more voluntary than forced, but the degree to which this affected everyday life and household activities is unknown. As the new owners of the area, this family definitely belonged to the group of wealthier Cumans, and in their case, changing naming

⁷⁶⁶ Pálóczi Horváth, A Lászlófalfán 1969-1974-ben végzett régészeti ásatások, 275.

⁷⁶⁷ Pálóczi Horváth, A felsőszentkirályi kun sírlelet, 202.

⁷⁶⁸ Pálóczi Horváth, A felsőszentkirályi kun sírlelet, 202

⁷⁶⁹ Pálóczi Horváth, A felsőszentkirályi kun sírlelet, 201.

⁷⁷⁰ Éri, Adatok a kígyóspuszta csat értékeléséhez, 149.

⁷⁷¹ Pálóczi Horváth, A felsőszentkirályi kun sírlelet, 202; Pálóczi Horváth, A Lászlófalfán 1969-74-ben végzett régészeti ásatások, 276.

⁷⁷² Gyárfás, A jász-kunok, vol. 3, 78-81, 489.

⁷⁷³ Pálóczi Horváth, A felsőszentkirályi kun sírlelet, 196-201.

practices and the attempt to integrate chivalric heraldry into their costume might have served as part of a strategy to adapt to the host society's élite.

It is uncertain to which Cuman seat the town belonged;⁷⁷⁴ however, as Szentkirály was in the close vicinity of the centre of the Seat of Kecskemét, in all probability it belonged to this administrative unit. It is also possible that Szentkirály, even though a Cuman settlement, did not belong to any of the Cuman seats; in 1490 it was donated to the Bychak and Gáspár families, who in 1492 were accepted as members of the Hungarian nobility by King Vladislaus II, so the village may have been considered more Hungarian than Cuman from an administrative point of view.

The village became one of the small market hubs in the area during the fifteenth and sixteenth centuries, partly due to its favorable geographical position. Intensive contacts were built with the towns of Kecskemét and Nagykőrös.⁷⁷⁵ The road that led from Szeged to Buda crossed the lands of the village; this road also represented that there were connections to Csongrád County as well as Kiskunfélegyháza and Nagykőrös. The road from Csongrád to Szolnok also lead through this micro-region.⁷⁷⁶ It must be added, however, that Szentkirály's position can by no means be compared to that of Kecskemét or Halas; in fact, in the settlement hierarchy it would classify only in the seventh stratum (Kecskemét itself belonging also only to the fourth hierarchical subgroup).⁷⁷⁷

Szentkirály appears on the map of Dean Lazarus in 1528 (under the Latin name *S. Rex* north of an area named *Cumanorum Campus*; beside Szentkirály, only Alpárfelső, Alpárlásó, Szentlőrinc and Kecskemét are depicted in the immediate region), as well as on the maps of Lazius (1570) and Mercator (1585), as Z.Kyral or S.Kyral.⁷⁷⁸ After 1541, the Cuman owners of

⁷⁷⁴ Pálóczi Horváth, A Lászlófalfán 1969-74-ben végzett régészeti ásatások, 276.

⁷⁷⁵ András Pálóczi Horváth, "Agrártörténeti emlékek a középkori Szentkirály faluban. Gazdasági épületek a 4-4a ház beltelkén." [Remains of material culture associated with agriculture in the medieval village of Szentkirály. Structures connected to animal husbandry and land cultivation in plot 4-4a.] *A Magyar Mezőgazdasági Múzeum Közleményei* 1988-1989 (Budapest, 1990), 69-94: 70. (henceforth: Pálóczi Horváth, Agrártörténeti emlékek)

⁷⁷⁶ András Pálóczi Horváth, "Régészeti és településtörténeti adatok a kunok letelepedéséhez. (Egy középkori kun falu, Szentkirály feltárásnak eredményei.)" [Archaeological and settlement historical data on Cuman settlement. Results from the excavation of a medieval Cuman village, Szentkirály.] In *Falvak, mezővárosok az Alföldön* [Villages and Market Towns in the Great Hungarian Plain] Az Arany János Múzeum Közleményei IV. Eds. László Novák and László Selmeczi.(Nagykőrös: Arany János Múzeum, 1986), 215-236: 221.

⁷⁷⁷ Edit Sárosi, "The development of a market town and its market places in the Hungarian Great Plain. Kecskemét, a case study", *Historia Urbana* 21 (2013), 139-161: 144. Sárosi used the categories of settlement hierarchy established by András Kubinyi.

⁷⁷⁸ András Pálóczi Horváth, "Lakóház és telek rekonstrukciója Szentkirályon, egy alföldi késő középkori faluban I."

the village probably moved to Transdanubia which was still ruled by the Hungarian king, and the village fell into the hands of the rich Palicskó and Szegedi families of Kecskemét.⁷⁷⁹ Even though there was double taxation in the village (Turkish authorities also collected taxes), documents reflect continuous growth in the number of inhabitants. Szentkirály was one of the biggest villages of the area in the second half of the sixteenth century: Turkish tax rolls count 41 families in 1546, 52 families in 1562, and 66 families in 1590, which approximately means 300-400 inhabitants.⁷⁸⁰ Szentkirály was abandoned during the Fifteen Years' War when in 1594-1599 the whole area between the Danube and the Tisza Rivers was devastated by military campaigns. During the seventeenth century Szentkirály lost its economic importance and its remaining population moved to Kecskemét in 1692.⁷⁸¹

Parts of the village were excavated between 1969-1990 under the guidance of leading excavator András Pálóczi-Horváth. During this long period, 50 buildings (including 21 dwelling houses and 29 agricultural structures) were excavated fully and a few others partially.⁷⁸² Due to the thorough methods of excavation, environmental archaeological questions could be addressed, a unique contribution to the archaeological database of the region. This excavation was later continued by Edit Sárosi in another part of the past village, northeast of the spot where the medieval church was situated. This excavation was much smaller than the one carried out by Pálóczi Horváth, and provided information on the settlement's road (parts of which were already

[Reconstruction of a dwelling house and a plot in Szentkirály, a late medieval village. Pt.1.] In: Bende, Lívia – Lőrinczy, Gábor. (eds.) *A középkori magyar agrárium. Tudományos ülésszak Ópusztaszeren* [Medieval Hungarian Agriculture. Academic Conference in Ópusztaszer] (Ópusztaszer: Csongrád Megyei Múzeumok Igazgatósága, 2000), 121-149: 122. (henceforth: Pálóczi Horváth, Lakóház és telek rekonstrukciója)

⁷⁷⁹ András Pálóczi Horváth, "Élet egy középkori faluban. Szentkirály régészeti kutatásának eredményei" [Life in a medieval village. Results of the archaeological research of Szentkirály] In *Élet egy középkori faluban. 25 év régészeti kutatása a 900 éves Szentkirályon. Life in a Medieval Village. 25 Years Archaeological Research in the 900 Years Old Szentkirály*, ed. András Pálóczi Horváth (Budapest: Mezőgazdasági Múzeum, 1996), 7-27: 11 (henceforth: Pálóczi Horváth, Élet egy középkori faluban); Éva Kovácsné Nyerges, "A középkori Szentkirály állattartása az állatcsontleletek és a történelmi-környezeti adottságok függvényében" [Animal keeping in medieval Szentkirály as reflected in the faunal remains and depending on historical and environmental factors] in *Az Alföld gazdálkodása. Állattenyésztés* [Agriculture in the Great Hungarian Plain. Animal Husbandry] Ed. Ferenc Novák (Nagykörös: Arany János Múzeum, 2004), 249-274: 251 (henceforth: Kovácsné Nyerges, A középkori Szentkirály állattartása)

⁷⁸⁰ Pálóczi Horváth, Lakóház és telek rekonstrukciója 123.

⁷⁸¹ Pálóczi Horváth, Lakóház és telek rekonstrukciója 123.

⁷⁸² András Pálóczi Horváth, "Szentkirály középkori háztartásai és a régészeti leletanyag feldolgozásának szempontjai" [Medieval households in Szentkirály and aspects of the archaeological analysis] in "In terra quondam Avarorum..." *Ünnepi tanulmányok H. Tóth Elvira 80. születésnapjára* ["In terra quondam Avarorum..." Studies in Honor of Elvira H. Tóth's 80th Birthday] *Archaeologica Cumanica* 2. Eds. Ágnes Somogyvári and György V. Székely (Kecskemét: Katona József Múzeum, 2009), 215-224, 216, footnote 7 (henceforth: Pálóczi Horváth, Szentkirály középkori háztartásai)

brought to light by Pálóczi Horváth) and two dwelling houses situated on one plot. Unfortunately, agricultural cultivation and the high water table both damaged the site and made the excavation difficult.⁷⁸³ The small number of animal remains recovered here are yet to be analyzed.

Szentkirály's archaeological situation is complex: it seems that there are eight sites dating back to the Árpád Period in the village's territory, associated with three major settlement cores with parish churches.⁷⁸⁴ These were abandoned during the Mongol Invasion. The site selection of the migrating Cumans was clearly influenced by former patterns of habitation: they chose one deserted village core and church, around which they established their own permanent settlement in the first half of the fifteenth century at the latest. The first permanent houses were built and the system of plots laid out in this period, and the street network was consolidated.⁷⁸⁵

I only sum up the aspects here crucial for the understanding of animal keeping practices as these results have been extensively published in the past decades. Only those contexts will be discussed from where animal bones were brought to light and analyzed.

Animal husbandry priorities are reflected even in the settlement structure of Szentkirály. Dwelling buildings are situated relatively far from each other: their distance varied between 35 and 105 m.⁷⁸⁶ The plots are broad and the backyards are of considerable size, which is a characteristic for those villages in the Great Hungarian Plain where animal keeping was the leading branch of the local economy. In every excavated backyard (on plots 4, 5 and 6), remains of folds were brought to light (probably connected to sheep keeping), as well as molded clay structures identified as stables.⁷⁸⁷ While folds were found in every backyard, stable stall structures

⁷⁸³ Edit Sárosi, "Újabb kutatások a középkori Szentkirály faluban" [New research in the village of Szentkirály] in "Kun-kép". *A magyarországi kunok hagyatéka. Tanulmányok Horváth Ferenc 60. születésnapja tiszteletére* [Cuman Image. Heritage of the Cumans in Hungary. Studies in Honor of Ferenc Horváth's 60th Birthday] Ed. Szabolcs Rosta (Kiskunfélegyháza: Bács-Kiskun Megyei Önkormányzat Múzeumi Szervezete, Kiskun Múzeuma, 2009), 233-242; Sárosi, Landscapes and Settlements in the Kecskemét Region, 88-99.

⁷⁸⁴ Sárosi, Landscapes and Settlements in the Kecskemét Region, 92.

⁷⁸⁵ Sárosi, Landscapes and Settlements in the Kecskemét Region, 93; Pálóczi Horváth, Élet egy középkori faluban, 13.

⁷⁸⁶ Pálóczi Horváth, Lakóház és telek rekonstrukciója, 129.

⁷⁸⁷ András Pálóczi Horváth, "A késő középkori Szentkirály határhásználata és gazdálkodása" [Land use and agriculture in late medieval Szentkirály] in *Gazdálkodás az Alföldön. Földművelés. Gazdálkodás az Alföldön, földművelés című interdiszciplináris konferencia (2002. május 19-21.) anyaga* [Agriculture in the Great Hungarian Plain. Land cultivation. Proceedings of the Conference held May 19-21, 2002.] Ed. László Novák, Acta Musei de János Arany Nominati 9. (Nagykörös: Arany János Múzeum, 2002), 53-68: 64-64 (henceforth: Pálóczi Horváth, A késő középkori Szentkirály határhásználata és gazdálkodása); Pálóczi Horváth, Szentkirály középkori háztartásai, 216.

were not brought to light everywhere, suggesting that structures connected to extensive animal husbandry were dominant.⁷⁸⁸ Pálóczi Horváth associated the size of these structures and the fact that these were situated beside the dwelling houses with Cuman animal keeping traditions.⁷⁸⁹ Such constructions are known from other Cuman and Iasian settlements as well (Iasian Négyszállás and Cuman Orgondaszentmiklós, both excavated by László Selmeczi⁷⁹⁰). Similar sheepfolds have been recorded in the ethnographic literature on Lesser Cumania as well. Pálóczi Horváth adds that the Hungarian word used for sheepfold, *karám*, is probably a Cuman or Pecheneg loanword, and its parallels are found in the words *qoram*, ‘a yard where animals are kept’, and *koram*, ‘encircled yard’, in the Turkish-Tatar languages.⁷⁹¹

The immediate area of the village must have been varied, with a dominance of cultivated fields. A forest west of the village provided building material and, supposedly, also firewood.⁷⁹² Seeds, insects and small bone chips were brought to light from a well. A wide range of plants were found in this deposit, including wheat, barley, rye, millet, hemp, lime, plum, sour cherry, apricot, peach, walnuts, hazelnut, elder, acorn, sloe, watermelon and muskmelon. Not only remains of cultivated plants but also weed remains were preserved in the sample, represented by species characteristic both for spring and autumn planting and included pigweed, goosefoot, knotweed, cattail grass, hedge bedstraw and corn gromwell.⁷⁹³ The presence of weeds, on the one hand, suggest the cultivated area was highly infested with weed, while on the other hand, these

⁷⁸⁸ Kovácsné Nyerges, A középkori Szentkirály állattartása, 253; András Pálóczi Horváth, “Egy középkori kun falu” [A medieval Cuman village] *Élet és tudomány* 27 (1985), 850-852: 852 (henceforth: Pálóczi Horváth, Egy középkori kun falu)

⁷⁸⁹ András Pálóczi Horváth, “A középkori alföldi lakóház és telek a szentkirályi ásatási eredmények alapján,” [Medieval dwelling houses and plots in the Great Hungarian Plain, based on the archaeological research in Szentkirály], in *A Jászkunság kutatása 2012. Legújabb eredmények a Jászkunság régészeti, történeti, nyelvészeti és néprajzi kutatásában* [Research of the Iasian-Cuman Area. New Developments in the Archaeological, Historical, Linguistic and Ethnographic Research of the Region], ed. Márta Mészáros (Kiskunfélegyháza: Kun Összefogás Konzorcium, Kiskunfélegyháza Város Önkormányzatának Kiskun Múzeuma, 2013). 29–41: 34.

⁷⁹⁰ László Selmeczi, “Építménytípusok a Nagykunság és a Jászság középkori településein.” [Types of construction in medieval villages of Greater Cumania and Iasia] in *Régészeti-néprajzi tanulmányok a jászokról és a kunokról* [Archaeological and Ethnographic Studies on the Iasians and Cumans] Folklór és etnográfia 64. (Debrecen: Kossuth Lajos Tudományegyetem Néprajzi Tanszék, 1992), 115-134: 127 (henceforth: Selmeczi, Építménytípusok); Aszt, Gödörök, 46.

⁷⁹¹ Pálóczi Horváth, Élet egy középkori faluban, 19.

⁷⁹² András Pálóczi Horváth, “A környezeti régészeti szerepe Magyarországon a középkor kutatásában” [Environmental archaeology in the research of medieval Hungary] In *Európa híres kertje. Történeti ökológiai tanulmányok Magyarországról* [The Famous Garden of Europe. Historical Ecological Studies on Hungary] Eds. Ágnes R. Várkonyi and László Kósa (Budapest: Orpheus, 1993), 44-66: 60.

⁷⁹³ Pálóczi Horváth, A késő középkori Szentkirály határhatalma és gazdálkodása, 62.

weeds were mostly found in garbage pits, separately from the crops, which means that the fields were regularly cleared of weeds.⁷⁹⁴ In the Turkish tax rolls wheat, rye, barley, flax, hemp, lentils and beans are mentioned as being cultivated here.⁷⁹⁵ The botanical sample also displays evidence of horticulture: the remains speak to a highly developed cultivation of fruits and vegetables. Peas, lentils and squash, as well as watermelon and muskmelon were found, along with weeds typically associated with vineyards and orchards.⁷⁹⁶ It seems that wheat and rye were sown together, which was a widespread custom in the Middle Ages.⁷⁹⁷ On the basis of the Turkish tax rolls András Pálóczi Horváth calculated the average annual grain production of one family as 2.6 tons, of which ca. 50% had to be paid in forms of taxes.⁷⁹⁸ The remains of goosefoot (*Chenopodium*) are of special interest, as this species may have been used as a substitute for wheat in flour as well as for animal fodder and its leaves could also be cooked. A total of 799 linseed remains was definitely consumed as a piece of charred food contained a high quantity of linseed. Commensal animals such as common hamster, ground squirrel, rats and mice, as well as insects (European rhinocerous beetle, weevil) and snails also came to light from the well, testifying to an extensive cultivated area that provided a habitat for these species.⁸⁰⁰

The archaeobotanical remains also testify to the presence of bodies of water in the close vicinity. Plants such as great water dock (*Rumex hydrolapathum*), marsh ragwort (*Senecio aquaticus*) roughseed bulrush (*Schoenopectus mucronatus*), grass sedge (*Carex brizoides*) and hop (*Humulus sp*) suggest Szentkirály lay near a reedy marshland and had a wet gallery forest surrounding it.⁸⁰¹ Species typically associated with woodland clearing reflect conscious alteration of the environment,⁸⁰² probably as the village needed more space for agricultural

⁷⁹⁴ Andrea Torma, "Szentkirály archaeobotanikai leletei" [Archaeobotanical finds from Szentkirály] in *Élet egy középkori faluban. 25 év régészeti kutatása a 900 éves Szentkirályon. Life in a Medieval Village. 25 Years Archaeological Research in the 900 Years Old Szentkirály*, ed. András Pálóczi Horváth (Budapest: Mezőgazdasági Múzeum, 1996), 37-43: 40-41 (henceforth: Torma, Szentkirály archeobotanikai leletei)

⁷⁹⁵ Káldy-Nagy, A budai szandzsák 1546-1590 évi összeírásai, 571.

⁷⁹⁶ Torma, Szentkirály archeobotanikai leletei, 41.

⁷⁹⁷ Torma, Szentkirály archeobotanikai leletei, 40.

⁷⁹⁸ Pálóczi-Horváth, A késő középkori Szentkirály határasználata és gazdálkodása, 63.

⁷⁹⁹ István Takács and Katalin Kissai M., "Miből éltek a kunok?" [How did the Cumans make a living?] *Élet és tudomány* 1985 (27), 853-854: 853 (henceforth: Takács and Kissai, Miből éltek a kunok)

⁸⁰⁰ István Takács, "Szentkirály középkori falu kútjának biológiai leletei" [The biological finds from the well in the medieval village of Szentkirály], in *Múzeumi Kutatások Bács-Kiskun Megyében* 1986 [Museum Research in Bács-Kiskun County 1986], ed. István Sztrinkó (Kecskemét: Katona József Múzeum, 1987), 89-90. (henceforth: Takács, Szentkirály középkori falu kútjának biológiai leletei)

⁸⁰¹ Torma, Szentkirály archaeobotanikai leletei, 39.

⁸⁰² Torma, Szentkirály archeobotanikai leletei, 40.

production and pastureland. Herbs and plants that were used as natural dyeing materials (for cheese, wine and textiles) were identified in the botanical sample as well; plants whose seeds or leaves could occasionally be consumed or used as spices were also recorded, along with remains of wild fruits that could serve as a valuable source of vitamins in the early spring and late fall.⁸⁰³ These eco-finds evidence a form of environment exploitation that is rarely perceptible (certainly not in the written record), and shows clearly that plant gathering still was a factor in the everyday life at fully settled and developed village communities.

Although no detailed report was published on the fish bones found at the village, the consumption of carp, catfish and common bream were said to be evidenced in the bone sample.⁸⁰⁴ Thus, bodies of water were probably also utilized for fishing.

So far, only a part of the animal remains from Szentkirály has been analyzed (ca. 5300 of the collected sample of 40,000 bones), but this sample is sufficiently representative to formulate some conclusions on animal keeping at the settlement. The analyses were carried out by several archaeozoologists (Éva Nyerges, László Bartosiewicz, Tamás Somhegyi, Andrea Körösi and István Takács, respectively). The analyzed and published bone material was recovered from five different spots in the settlement's area, including a dwelling house with its agricultural structures (plot no. 4-4a) and two pit-stalls. The faunal remains from separate archaeological contexts were analyzed and published separately. Each of these contexts will be discussed shortly here. The zoological evaluation that follows is based on all finds (kitchen refuse) from these different but contemporary features. The houses in the village were abandoned in the early seventeenth century at the latest: the wells were infested with the decaying bodies of rodents and birds.⁸⁰⁵

Species	Nyerges – plot 4-4a, n=1356			Nyerges-Bartosiewicz – road, n=2124			Takács – plot 4-4a, pit-stall, n=140		
	1	2	3	1	2	3	1	2	3
Cattle	634	47.17	52.79	1009	47.5	71.26	38	27.14	28.79
Horse	81	6.03	6.74	39	1.84	2.75	41	29.29	31.06

⁸⁰³ Torma, Szentkirály archeobotanikai leletei, 42.

⁸⁰⁴ Pálóczi Horváth, Katalógus, in *Élet egy középkori faluban*, 62 (item 143); Takács and Kassai, Miből éltek a kunok, 854.

⁸⁰⁵ András Pálóczi Horváth, "The Survival of Szentkirály in the Ottoman Era" in *Archaeology of the Ottoman Period in Hungary. Papers of the conference held at the Hungarian national Museum, Budapest, 24–26 May 2000*. Eds. Ibolya Gerelyes and Gyöngyi Kovács, Opuscula Hungarica III. (Budapest: Hungarian National Museum, 2003), 201–206: 204. (henceforth: Pálóczi Horváth, The survival of Szentkirály)

Sheep and goat	252	18.75	20.98	239	11.25	16.88	8	5.71	6.06
Swine	110	8.18	9.16	112	5.27	7.91	41	29.29	31.06
Dog	25	1.86	2.08	7	0.33	0.49	3	2.14	2.27
Domestic cat	13*	0.07	0.08	-	-	-	-	-	-
Domestic hen	63	4.69	5.25	4	0.19	0.28	-	-	-
Domestic goose	6 + 1 egg fr.	0.52	0.58				-	-	-
<i>Total domestic</i>	<i>1185</i>	<i>87.28</i>	<i>97.67</i>	<i>1410</i>	<i>66.38</i>	<i>99.58</i>	<i>131</i>	<i>99.29</i>	<i>99.24</i>
Red deer	3	0.22	0.25	-	-	-	-	-	-
European hare	4	0.3	0.33	-	-	-	-	-	-
Greylag goose	-	-	-	-	-	-	1	0.71	0.76
Wild mammal (not specified)**	-	-	-	5	0.24	0.35	-	-	-
Northern pike	1	0.07	0.08	-	-	-	-	-	-
Carp (Cyprinida sp.)	20	1.49	1.67	-	-	-	-	-	-
Fish (not specified)**	-	-	-	1	0.04	0.07	-	-	-
<i>Total fish</i>	<i>21</i>	<i>1.56</i>	<i>1.75</i>	<i>1</i>	<i>0.04</i>	<i>0.07</i>	<i>-</i>	<i>-</i>	<i>-</i>
<i>Total wild game</i>	<i>28</i>	<i>2.08</i>	<i>2.33</i>	<i>6</i>	<i>0.28</i>	<i>0.42</i>	<i>1</i>	<i>0.71</i>	<i>0.76</i>
Total identified to taxon	1213	89.36	100	1416	66.7	100	132	94.29	100
Total non-identified to taxon	143	10.64		708	33.3		8	5.71	
Total	1356	100		2124	100		140	100	

A

*One partial cat skeleton. It was counted as a single entity in the statistics.

**Listed in the publication as identified to taxon, but the taxon itself is not specified.

Species	Körösi – pit-stall no.2, n=760			Somhegyi – Templom dűlő, n=926		
	1	2	3	1	2	3
Cattle	497	65.4	66.09	520	56.16	58.43
Horse	34	4.5	4.52	71	7.67	7.98
Sheep and goat	102	13.4	13.56	201	21.71	22.58
Swine	100	13.2	13.3	91	9.83	10.22
Dog	10	1.3	1.33	1	0.11	0.11
Domestic cat	1	0.1	0.13	-	-	-
Domestic hen	4	0.5	0.53	3	0.32	0.34
Domestic goose	3	0.4	0.4	-	-	-
<i>Total domestic</i>	<i>751</i>	<i>98.8</i>	<i>99.87</i>	<i>887</i>	<i>95.78</i>	<i>95.78</i>
Red deer	-	-	-	1	0.11	0.11

Roe deer	-	-	-	1	0.11	0.11
European hare	1	0.1	0.13	1	0.11	0.11
Greylag goose	-	-	-	-	-	-
Northern pike	-	-	-	-	-	-
Carp (Cyprinida sp.)	-	-	-	-	-	-
<i>Total fish</i>	-	-	-	-	-	-
<i>Total wild game</i>	1	0.1	0.13	3	0.33	0.33
Total identified to taxon	752	98.9	100	890	96.11	100
Total non-identified to taxon	8	1.1		36	3.89	
Total	760	100		926	100	

B

Table 3.3.6 A and B. The faunal material recovered from various sites in Szentkirály, identified and published by different authors.

1- Bones identified, 2 - % of all faunal remains, 3- % of faunal remains identified to taxon. Whole and partial skeletons are considered as single entities in the counts.

Plot no. 4-4a of Szentkirály: two successive houses, pit-stall no. 1, and the road

The first specialist to identify and publish faunal material from this plot was István Takács. He summarized the results of a small number of finds recovered from a pit-stall excavated on the land plot. He also mentions a larger, identified assemblage from Szentkirály, but this was never properly published with only a short report prepared by Takács and his colleague Katalin Kassai M.⁸⁰⁶ (Even though the precise archaeological context of this material is not known, it was probably the same house material that was later investigated by Nyerges, and which Takács could not finish due to his premature death.) A few years later, Éva Nyerges analyzed the material from the two successive houses in her MA thesis. The merit of this dataset lies in the fact that it reflects the consumption of one household, recovered from its backyard and the attached structures. This household was probably a wealthier one, as it was situated in the village center, east of the church.⁸⁰⁷

Coin finds date the plot to the first half of the sixteenth century at latest, which means that it was abandoned probably just before the Turkish occupation.⁸⁰⁸ The plot was situated ca. 40 m

⁸⁰⁶ Takács and Kassai, Miből éltek a kunok, 853-854. This is only a short summary, without actual statistical data.

⁸⁰⁷ Pálóczi Horváth, Agrártörténeti emlékek, 74.

⁸⁰⁸ Éva Ágnes Nyerges, “Ethnic traditions in meat consumption and herding at a 16th century Cumanian settlement in the Great Hungarian Plain” in *Behaviour Behind Bones. The Zoarchaeology of Ritual, Religion, Status and*

from the church and the main square. In the first phase of the complex, dated to the first half of the fifteenth century, a house was built on the plot (house 4a). Initially, it had only two rooms, a living room and a kitchen, to which two smaller units (rooms) were added somewhat later, probably for storage purposes. This complex burnt down at the beginning of the sixteenth century, and another building was erected (house 4) on its ruins. Its layout was very similar to the previous complex, with four rooms (a living room, a kitchen and two small rooms for storage), to which a large veranda was attached. It is likely that the house was used by several generations as the living room was later divided into two with a small inner wall. The two houses were altogether used for ca. 200 years, which means six or seven generations.⁸⁰⁹

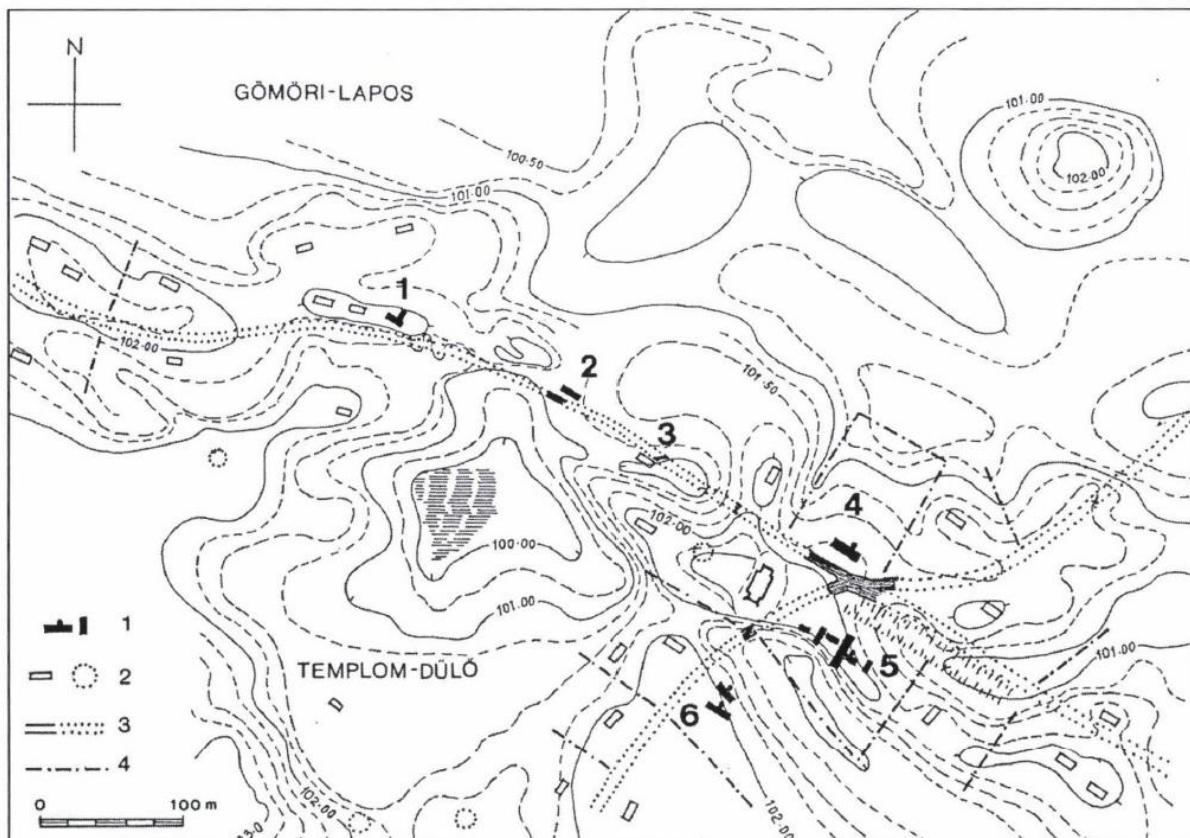


Fig 3.3.5. The map of archaeological excavations at Szentkirály. 1 – excavated houses; 2 – houses identified but not excavated; 3 – medieval road; 4 – reconstructed borders of the plots. (After Pálóczi Horváth, Szentkirály középkori

Identity, ed. Sharyn Jones O'Day, Wim Van Neer and Anton Ervynck (Oxford: Oxbow, 2003), 262-270: 265 (henceforth: Nyerges, Ethnic traditions); András Pálóczi-Horváth, "Szentkirály továbbélése a török korban" [Szentkirály's Survival in the Turkish-Ottoman Period] in *A hódoltság régészeti kutatása* [Archaeological Research of the Turkish-Ottoman Period] eds. Ibolya Gerelyes and Gyöngyi Kovács (Budapest: Magyar Nemzeti Múzeum, 2002), 189-194: 191 (henceforth: Pálóczi-Horváth, Szentkirály továbbélése)

⁸⁰⁹ Pálóczi Horváth, Agrártörténeti emlékek, 76-77.

háztartásai, 223.)

House 4a was classified by Pálóczi Horváth as a typical example of the lowland house type, a predecessor of the eighteenth-nineteenth-century so-called Middle-Hungarian house (the type that later became dominant in the Carpathian Basin).⁸¹⁰ According to his interpretation, animals were never kept in the dwelling house itself in this type of structure, but were separated from humans, while agricultural produce was mostly kept in large pits in the yard.⁸¹¹ This house type was widespread on the late medieval Great Hungarian Plain. It appears first at the end of the fourteenth century, and usually consisted of two rooms, which – based on the location of the stove – can be identified as a dwelling room and a kitchen. This basic type was usually extended with a third and sometimes even with a fourth room without a heating unit, used rather for storage,⁸¹² as in house 4a at Szentkirály as well.

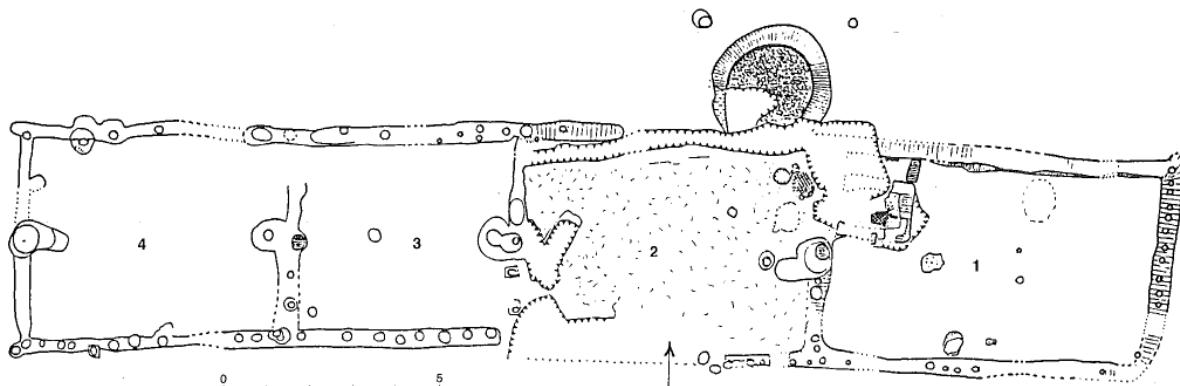


Fig 3.3.6. The layout of house 4a of Szentkirály (first half of the fifteenth century), a typical example of the widespread medieval lowland house type. 1 – dwelling room, 2 – kitchen, 3 and 4 – storage rooms. (After Pálóczi Horváth, Development of the Late Medieval house, 309.)

The structures in the backyard of plot no. 4-4a have been interpreted as the late remains of the extensive pastoral practice: structures associated with extensive pastoralism appear within the village although in most cases these were located outside the settlement core.⁸¹³ The backyard was almost fully covered with structures identified as sheepfolds, which seem to have

⁸¹⁰ András Pálóczi Horváth, "Development of the Late Medieval house", *Památky Archeologické, Supplementum 15, Rurália IV*, 308-319: 309. (henceforth: Pálóczi Horváth, Development of the Late Medieval house)

⁸¹¹ Pálóczi Horváth, Development of the Late Medieval house 309.

⁸¹² Pálóczi Horváth, *Lakóház és telek rekonstrukciója*, 135.

⁸¹³ Pálóczi Horváth, *Egy középkori kun falu*, 852; Pálóczi Horváth, *Agrártörténeti emlékek*, 92; Pálóczi Horváth, *Élet egy középkori faluban*, 19; Pálóczi Horváth, *Lakóház és telek rekonstrukciója*, 130-131.

been used for short periods of time and were then renewed; the soil contained a high percentage of organic material here.⁸¹⁴ Remains of a small stable that probably housed riding horses used on a daily basis were also identified on the plot, close to the street front.⁸¹⁵ A fold for cattle was identified on plot no. 5; the soil even preserved the hoofprints of the animals kept there.⁸¹⁶ Two pit-stalls were also found in the excavation area, one of which was located in plot 4-4a.

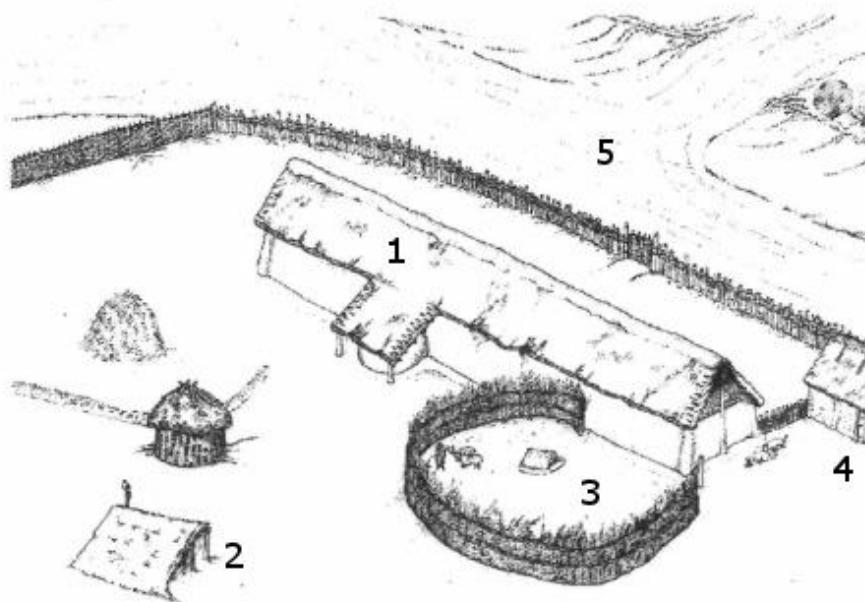


Fig. 3.3.7. Reconstruction of house 4a in Szentkirály, first half of the fifteenth century. 1 – dwelling house; 2 – pit stall no.1; 3 – sheepfold; 4 – stall for riding horses; 5 – main road. Illustration made by Tibor Sabján. After Aszt, Gödörőlak, 49.

Pit-stall no. 1, excavated in 1979-80, was situated on the plot of house 4-4a in the backyard, and must have been used by the house's inhabitants for animal keeping purposes. It was surrounded by a number of post holes, which clearly suggests that a small roof was built over it (as known from ethnographic analogies). The pit-stall has a circular layout, and 14 different layers could be identified in its filling, including three layers of plaster. The purpose of the construction is reflected in the chemical profile of the soil which covered the plastered surfaces which were rich in organic materials and testified to the presence of animals (pig coprolites were also found at the bottom of the pit, on the surface of the oldest plastering).⁸¹⁷ It

⁸¹⁴ Pálóczi Horváth, Agrártörténeti emlékek, 80; Pálóczi Horváth, Élet egy középkori faluban, 19.

⁸¹⁵ Pálóczi Horváth, András., Agrártörténeti emlékek, 77.

⁸¹⁶ Pálóczi Horváth, Lakóház és telek rekonstrukciója, 133.

⁸¹⁷ Pálóczi Horváth, Agrártörténeti emlékek, 88.

seems that the construction was used as a pit-stall for swine and it was filled in bit by bit when it was out of use. Pálóczi-Horváth identified this construction as a stall for pigs giving birth and raising their sucklings or for pigs that were kept and fed at the household during the winter.⁸¹⁸ In fact, this pit stall of 4.5 m x 5.3 m would have been perfectly comfortable for one breeding sow.⁸¹⁹ The structure was not continuously used, or only temporarily in a, more or less, regular manner. The pit-stall was in use during the first occupation phase on the plot (coeval with the first house, 4a),⁸²⁰ that is, in the early fifteenth century, after which it functioned as a garbage pit and was gradually filled up.

A small, rectangular structure of 5.2 x 3.8 m on the street front of the plot, signified by post holes, was interpreted by Pálóczi Horváth as a stall for riding horses.⁸²¹ Takács raised the possibility that this was a place for slaughtering animals and that the huge poles were used to hang up the carcass for partitioning.⁸²² This explanation is, however, unlikely, as there is no water source in the close vicinity and thus, regular butchery would have been difficult to carry out here.

A total of 1,356 animal bone pieces were analyzed from the plot by Nyerges and¹⁴⁰ from the pit-stall by Takács (Table 3.3.6). Unfortunately, it was impossible to separate the two houses and occupation phases in the bone material. Cattle (52.79% of all remains identified to taxon) and small ruminants (20.98%) dominate the picture as expected. Other domestic species represent only small percentages (swine 8.1%, horse 5.9%, and poultry 5.3%); the amount of game is insignificant (0.6%).⁸²³ The small assemblage recovered from the pit stall yielded different species ratios, but this is certainly rooted in sample size. The road section in front of the plot also yielded a considerable number of animal remains in which cattle was expressively dominant (more than 70% of the identifiable pieces). This, nevertheless, is probably due to taphonomic factors: animal bones on the road surface were exposed to heavy trampling, and thus the more robust bones of large domesticates produced more identifiable fragments and had a better chance to survive in identifiable form. (Details of the material collected from the road are

⁸¹⁸ Pálóczi Horváth, Agrártörténeti emlékek, 88; Aszt, Gödörőlak,: 47-50.

⁸¹⁹ Aszt, Gödörőlak., 40.

⁸²⁰ Aszt, Gödörőlak, 47-50.

⁸²¹ Pálóczi Horváth, Agrártörténeti emlékek, 77.

⁸²² Pálóczi Horváth, Agrártörténeti emlékek, 77; Takács, Szentkirály középkori falu zoológiai leletei, 102; Takács and Kissai, Miből éltek a kunok, 854

⁸²³ Kovácsné Nyerges, A középkori Szentkirály állattartása, 255

yet to be published. Only the species ratios are provided by Nyerges and Bartosiewicz without a detailed evaluation of this part of the assemblage.)

The most striking characteristic of the plot's assemblage is the low number of pig bones which seemingly contradicts the presence of the pit-stall associated with this species. In coeval settlements, pigs usually outnumber caprines; in Szentkirály, however, it seems that pigs were kept in small numbers. This situation can be explained in various ways. One tempting explanation is that these numbers reflect some form of surviving steppe tradition since pigs are typically associated with a sedentary way of life. In this context, the low number of pig bones may show the survival of preferences in meat consumption patterns, meaning that mutton preserved its status while pork, usually unimportant in nomadic food traditions, did not reach the level of importance it had among the non-Cuman population. (See the subchapter on meat consumption in Chapter 5.) It is interesting that a similar low ratio of pigs can be observed at early Hungarian settlements (eleventh-thirteenth century); the conquering Hungarians were also mobile pastoralists with a comparable steppe tradition.⁸²⁴ There are, however, other possible explanations: it might well be that the high number of caprines can rather be explained by demands on the meat market. As we have seen, swine keeping was an important economic enterprise in Greater Cumania; if inhabitants of small villages gave up their meat preferences for economic reasons, it would have been even more likely in a larger village or a market town. If piglets were consumed in large numbers, their more porous and fragile bones had a poorer chance of survival and thus, they may be underrepresented in the faunal sample. The consumption of juvenile pigs was indeed a custom reflected in the bone assemblage: half of the swine remains originated from immature individuals.⁸²⁵

There is, however, evidence suggesting that in the period postdating the abandonment of plot 4-4a, swine keeping became an increasingly important practice in Szentkirály. For the second half of the sixteenth century, Turkish tax rolls reveal the growing importance of pig keeping, correlating with the general trend in Hungary during the Turkish-Ottoman wars. In 1546 only 25 swine were listed, while in 1562 there were already ten times more, altogether 255; both in 1580 and in 1590 their numbers fell to 150.⁸²⁶ This suggests that at times, swine keeping may

⁸²⁴ Kovácsné Nyerges, A középkori Szentkirály állattartása , 269.

⁸²⁵ Kovácsné Nyerges, A középkori Szentkirály állattartása , 268

⁸²⁶ Káldy-Nagy, A budai szandzsák 1546-1590 évi összeírásai, 571.

have served purposes other than simple household consumption. At the same time, the fines paid to compensate for crop damage by loose swine (250, 300 and 100 akce in 1562, 1580 and 1590 respectively) and after hay and firewood (2000 and 3150 akce in 1580 and 1590) was particularly high, which suggests extensive animal herding was practiced.⁸²⁷ Thus, all these activities must have been concurrent, maybe with shifting focus from one species to the other, or different households specialized in different taxa. The fast increase in the number of swine might be explained by the very economic character of pig keeping. Not only are they multipara animals that multiply relatively quickly, but Turks laid taxes only on pigs older than 1 year,⁸²⁸ which means that a large number of piglets could be kept and consumed without being taxed – and without appearing in the records. Although in Pálóczi's view it seems from the sixteenth-century written records that pig keeping was not practiced on a large scale, and typically served the personal meat consumption purposes of a given household,⁸²⁹ it might well be that Cumans of Szentkirály, as other inhabitants of the Hungarian Kingdom, recognized the opportunities presented by swine keeping during the Turkish-Ottoman period. Thus, this change was driven by mere necessity rather than by cultural assimilation. Interestingly, Takács found zoological evidence for pig castration (size and transverse section of the canine of a young individual),⁸³⁰ which shows that pig breeding must have been a consciously planned practice. In fact, a huge area ideal for swine husbandry was at the inhabitants' disposal: in the north, the settlement was surrounded by wet, swampy grazing lands, while to the southwest an oak forest would have provided acorn fodder resources.⁸³¹

⁸²⁷ Káldy-Nagy, A budai szandzsák 1546-1590 évi összeírásai, 571.

⁸²⁸ László Bartosiewicz and Éva Ágnes Nyerges, "Szentkirály állattartása a középkori régészeti állattani adatok tükrében" [Animal husbandry at Szentkirály on the basis of archaeozoological data] *Studia Caroliensia* 3-4 (2006), 331-352: 337 (henceforth: Nyerges and Bartosiewicz, Szentkirály állattartása)

⁸²⁹ He argues that the 25 listed swine in 1546 would not even have been sufficient to meet the needs of the village itself. Pálóczi Horváth, Élet egy középkori faluban, 20.

⁸³⁰ Takács, Szentkirály középkori falu zoológiai leletei, 99.

⁸³¹ The presence of the oak forest was shown by the biological analysis of the remains found in one of the wells of Szentkirály marking a new methodological approach for archaeology in Eastern Europe in the 1980s. The European rhinoceros beetle identified from the well reflects the close environment, as this species lives exclusively in oak forests (Kovácsné Nyerges, A középkori Szentkirály állattartása, 252, footnote 17; Takács, Szenkirály középkori falu kútjának biológiai leletei, 89; István Takács, "Collecting biological finds by water-sieving from the well of a Mediaeval village" In *Archaeometrical Research in Hungary*, eds Márta Járó and László Koltó (Budapest: National Centre of Museums, 1988), 275-281)

Pit-stall no. 2 (feature no. 32)

Pit-stall no. 2 was discovered in the backyard of house no. 29, and even though its layout and size is very similar to the one excavated on plot 4-4a. Its interpretation proved difficult as there was no sign of plastering, and the characteristic organic infill was only observed in the upper layers.⁸³² (Unfortunately, the entire construction could not be excavated due to lack of time and the presence of high groundwater.) In all probability, this construction was first used for a different purpose and was transformed into a stall only later. According to Aszt's interpretation, the pit was initially used as a clay extraction pit for house construction. After the house was built, the pit was transformed into a pit-stall for animal keeping.⁸³³ The finds discovered in the fill are not connected to the means of animal keeping in the pit-stall here either, but represent household rubbish (almost all types of tableware are represented). The fill was dated to the end of the fifteenth or beginning of the sixteenth century, which means that the stall was probably used for animal keeping purposes in the first half of the fifteenth century. The bone fragments found in the pit's fill were identified by Andrea Körösi (760 pieces). The species ratio seen here, more or less, corresponds to what Nyerges observed, although there seems to be a shift in the sheep to swine ratio. Cattle dominate the assemblage with 66.1% of all finds identified to taxon, while sheep and goat represent 13.6%, and swine is the third most important domestic species (13.3%). This difference may be rooted in different forms of accumulation. An intact skull of a full-grown sow was uncovered at the bottom of the pit. The skull resembles those of wild boars with a flat profile and a rimmed cranial edge, suggesting that crossbreeding went on between the wild and domestic forms. This find was discovered at the very bottom of the pit, meaning that it comes from an early phase of its filling up.⁸³⁴

Household keeping of pigs was a usual custom over the whole of the Carpathian Basin. Cumans followed the usual Hungarian form of swine husbandry. There are no specific features associated with a "Cuman sort" of swine keeping, although both groups use the same type of pit-

⁸³² Aszt, Gödörőlak, 52.

⁸³³ Aszt, Gödörőlak, 52.

⁸³⁴ Andrea Körösi, "Szentkirály (Bács-Kiskun megye) késő középkori falu 2. gödörőljának állatcsontleletei" [Animal bones from a pit-stall from the Late Medieval village of Szentkirály, Bács-Kiskun County] *Studia Caroliensia* 3-4 (2006), 353-382: 367-368 (henceforth: Körösi, Szentkirály)

stalls as found in Árpád Period Hungarian villages.⁸³⁵ It is highly unlikely that Cumans would have had a long history of pig breeding during their semi-nomadic steppe existence, before they migrated, even though the species was definitely known to them.⁸³⁶ These pit-stalls speak for the adaptation of pig keeping practices adopted from the sedentary Hungarian population; however, the fact that both pit-stalls were no longer in use after the beginning of the fifteenth century suggests a change in pig keeping practices.

The Templom dűlő (Church hill) area

The animal bone material investigated by Tamás Somhegyi and published in a short article came to light in an area named “Templom dűlő” (Church Hill), northwest of the church at a distance of 300 m during the 1971 and 1974 excavations. Most of the 926 bones were identifiable to taxon. This assemblage consists of remains unearthed from different contexts, including houses, wells, pits and trenches; however, none of these features yielded enough bones to be suitable for a separate analysis.⁸³⁷ The species ratios observed by Somhegyi are almost identical to those published by Nyerges: cattle dominated with 58.4%, while caprines represent 22.6%, and swine 10.2% of the sample (Table 3.3.6). This assemblage was heavily fragmented; in fact, no bones were suitable for withers height calculation were present. Somhegyi, however, made an important remark on the ratio of sheep to goats: in his view, goat keeping was negligible and that there was an overwhelming dominance of sheep in the flock.⁸³⁸

⁸³⁵ Such constructions were discovered throughout the country, e.g. at Kardoskút-Hatablak, Lébény-Bille domb, Hejőkeresztúr – Vizek Köze, Kemej, Beregsurány, Hetényegyháza-Belsőnyír, Tiszafüred – Morotva part, Ballószög. Ágnes Aszt raised the possibility of such an identification in a number of further cases. Aszt, Gödörölök, 42-46.

⁸³⁶ The Cuman words for boar and sow are listed in the passage on animal husbandry in the Codex Cumanicus. Györfy, A kipcsaki kun társadalom, 244.

⁸³⁷ Tamás Somhegyi, “A húsfeldolgozás és -fogyasztás jelei a középkori Szentkirályon.” [Meat processing and consumption in medieval Szentkirály] *A Mezőgazdasági Múzeum Közleményei* 1995-97 (Budapest 1998). 9-20: 14-15, Table 1. (henceforth: Somhegyi, A húsfeldolgozás- és fogyasztás jelei)

⁸³⁸ Somhegyi, A húsfeldolgozás- és fogyasztás jelei, 11.

Archaeozoological observations at Szentkirály

As seen on Diagram 3.3.9, the main domesticates are represented in similar ratios at the sites associated with the village of Szentkirály. The slightly different proportions observed at plot 4-4a may be due to a different accumulation pattern, as the house was probably kept clean for a longer time, and waste was deposited outside the immediate living area. Moreover, the extensive trampling on the road and the church hill must have meant that long bones of cattle had a better chance to survive, while in the plot this was a less important factor in deposit formation.

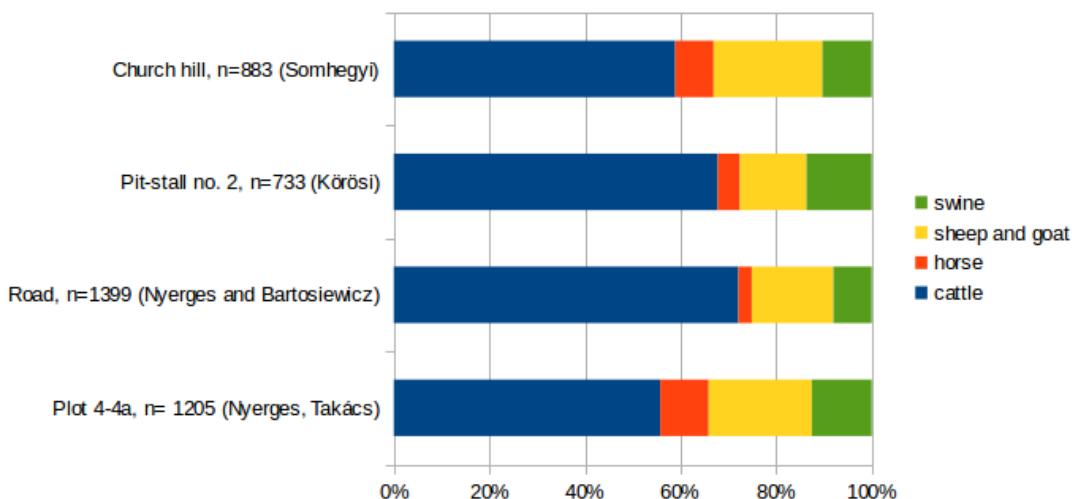


Diagram 3.3.9. The ratio of main domesticates at various sites in the village of Szentkirály.

Unfortunately, only a limited number of raw data have been published on the site's animal bone assemblage which means that in most cases what one can rely on is the interpretation provided by the authors. Both Takács and Nyerges were able to distinguish between two size cohorts of cattle.⁸³⁹ In the small assemblage from the plot's pit-stall, two

⁸³⁹ Takács, Szentkirály középkori falu zoológiai leletei, 97; Nyerges and Bartosiewicz, Szentkirály állattartása, 335; Éva Ágnes Nyerges, "Nagytestű szarvasmarhák megjelenése egy késő középkori településen" [The appearance of large cattle in a medieval settlement] in *Momos III. Őskoros kutatók III. összejövetelének konferenciakötete. Halottkultusz és temetkezés* [Momos III. Proceedings of the 3rd Conference of Researchers of Antiquity. Cults of the Dead and Burial Customs] Ed. Gábor Ilon (Szombathely: Vas Megyei Múzeumok Igazgatósága, 2004), 527-543: 528-529 (henceforth: Nyerges, Nagytestű szarvasmarhák); Éva Ágnes Nyerges, *A szentkirályi kunok állattartása. A későközépkori kun falu, Szentkirály állattartása a "4-4a ház és beltelek" állatcsont leltai alapján* [Animal Husbandry of the Cumans of Szentkirály. Animal keeping in the late medieval Cuman village of Szentkirály, on the basis of faunal remains excavated from plot no. 4-4a] MA Thesis. Eötvös Loránd University, Humanities, Institute of Archaeology, Department of Medieval Archaeology (Budapest, 2003), 45-47 (henceforth: Nyerges, A szentkirályi kunok állattartása)

individuals were found that measured 124.7 and 114.8 cm at the withers. The single preserved horn core found by Takács belonged to the generally widespread brachyceros-type;⁸⁴⁰ Nyerges also found one skull of this type. Körösi reported that most cattle bones from pit-stall no. 2 came from small and medium-size individuals.⁸⁴¹ Somhegyi was able to distinguish a short-horned brachyceros-type cattle with a wavy forehead, as well as a bigger type with a particularly wide forehead, which he described as *Bos primigenius frontosus*.⁸⁴² Unfortunately, only very limited amount of raw data have been published for this site.

Precursors of the Hungarian Grey have previously been sought for in the Cuman material. The primigenius cattle type appears and starts to spread in the fourteenth-fifteenth century, and this has been considered a “predecessor” of the Hungarian Grey,⁸⁴³ moreover, it has even been proposed that the cattle that later became known as the Hungarian Grey were in fact brought to the region by the Cuman migrants.⁸⁴⁴ There is, however, no evidence that the Hungarian Grey had its roots in the Cuman cattle population. The question itself is problematic, as the Hungarian Grey is a modern standard whose breeding is strictly regulated and recorded, while no such measures were employed by medieval cattle raisers. Modern breed standards were unknown in medieval times and the factors of selection, breeding and selling as well as the purposes of cattle rearing were different. Therefore, suggestions of any genetic connection between medieval cattle of the primigenius type and the modern Hungarian Grey should be avoided. It is more appropriate to view the medieval population as a huge and varied pool on the basis of which the later cattle types emerged when conscious breeding became a factor, instead of taking some parts of this population as a direct forerunner of any particular modern breed.⁸⁴⁵ The presence of these

⁸⁴⁰ Takács, Szentkirály középkori falu zoológiai leletei, 97

⁸⁴¹ Körösi, Szentkirály, 361.

⁸⁴² Tamás Somhegyi, “Állattartás a középkori Szentkirályon” in *Élet egy középkori faluban. 25 év régészeti kutatása a 900 éves Szentkirályon. Life in a Medieval Village. 25 Years Archaeological Research in the 900 Years Old Szentkirály*, ed. András Pálóczi Horváth (Budapest: Mezőgazdasági Múzeum, 1996). 29-35: 31. (henceforth: Somhegyi, Állattartás a középkori Szentkirályon)

⁸⁴³ János Matolcsi, “A szarvasmarha testnagyságának változása a történelmi korszakokban Magyarország területén” [Changes in the size of cattle throughout history in Hungary] *Agrártörténeti Szemle* 10 (1968), 1-38: 1-2, 25. Vörös, however, warns that such a terminology may cause misunderstandings, and emphasizes that there was no direct connection between the medieval cattle population and the later Hungarian Grey. (Vörös, Adatok az Árpád-kori állattartás történetéhez, 88.)

⁸⁴⁴ Sándor Bökonyi, “Die Haustiere in Ungarn im Mittelalter auf Grund der Knochenfunde” in *Viehzucht und Hirtenleben in Ostmitteleuropa. Etnographische Studien*, ed. László Földes (Budapest: Akadémiai Kiadó, 1961), 83-111: 90. (henceforth: Bökonyi, Die Haustiere in Ungarn im Mittelalter)

⁸⁴⁵ A systematic craniometric study of the modern Hungarian Grey was carried out by Andrea Körösi who concluded that these animals are closest to the *Bos primigenius* type, and show little or no similarity to the long-horn cattle

types in the Cuman material may help us to reconstruct these beasts and understand the preferences exhibited during their selection for breeding, but it does not imply populations with different origin existed in the region. Cuman communities must have had access to the same sources of animals as did contemporary Hungarians; their animal population can by no means viewed as an isolated group with an independent development, although it is likely that the extensive pastoralist husbandry typically associated with the Great Plain had an important impact on the livestock bred in this area.

The smaller of the two size cohorts at Szentkirály was 120.9 cm at the withers, which corresponds to what is generally expected in the region in the medieval period. The bigger size cohort was 136.9 cm at the withers.⁸⁴⁶ In the material analyzed by Körösi, measurements on two bull metacarpals provided withers heights of 116 and 124 cm, that is, animals from the smaller size group.⁸⁴⁷ These bones, however, may come from cows on the basis of the metric data

types in Africa and Western Europe. However, some of the skulls she investigated exhibited traits more typical for the brachyceros type of cattle. Moreover, changes were observed in the crania dated to the nineteenth and twentieth centuries, with an increase in the size of bulls and cows, and a shortening of the skull in oxen. (Andrea Körösi, *A magyar szürke marha kraniometriai jellemzése* [The Craniometric Analysis of the Hungarian Grey Cattle] (Budapest: Magyar Mezőgazdasági Múzeum, 2008), 148-149, henceforth: Körösi, *A magyar szürke*) This is a warning to be cautious in formulating statements concerning the medieval animal population for several reasons. Even the strictly regulated modern breed standards may change over time, sometimes rapidly and sometimes over several decades. Another problem is inherent in the term primigenius, which has been treated here as a subspecies of *Bos taurus*, as well as a synonym for the aurochs, and has sparked debates in the zoological nomenclature. (Don E. Wilson, and DeeAnn M. Reeder eds, *Mammal Species of the World: A Taxonomic and Geographic Reference*. Third edition. Vol 2. (Baltimore, Maryland: The Johns Hopkins University Press, 2005), 692-693) The terms primigenius and brachyceros for domestic cattle types were introduced by Rütimeyer in the late nineteenth century; the chief difference between these was the relative and absolute size of their horns (Ludwig Rütimeyer, *Die Fauna der Pfahlbauten der Schweiz* (Basel: Schweighäuser, 1861), 140-149) The name *Bos taurus longifrons*, introduced by Owen, has also been used for cattle with a broad forehead and a smaller and more gracile viscerocranum. The use of these terms in the archaeozoological literature is not consistent, and it is sometimes difficult to tell what various authors mean by “the primigenius type of cattle”, and in what regard they are different from the short-horned brachyceros type. In fact, there is no clear distinction between such types and they may represent individual differences between specimens of the same population. These “types” may be seen as two ends of a biological continuum within one species, whose presence or absence may suggest tendencies of selection preferences but nothing more; for passing from one type to the other, a few generations of conscious selection and/or environmental factors could be enough. Possible predecessors of the Hungarian grey cattle were identified by Péter Csippán from the eighteenth-century Water Town of Buda on the basis of horn core fragments. However, even where there is morphological similarity, genetic relationships between the two groups can only be determined by a proper DNA analysis. (Péter Csippán, “XVIII. századi szarvcsapleletek a budai vizivárosból” [Eighteenth-century cattle horn core finds from the Viziváros district of Buda, Hungary], in *Csontvázak a szekrényből. Válogatott tanulmányok a Magyar Archeozoológusok Visegrádi Találkozóinak Anyagából, 2002-2009* [Skeletons from the Cupboard. Selected Studies from the Visegrád Meetings of Hungarian Archaeozoologists, 2002-2009], eds. László Bartosiewicz, Erika Gál and István Kováts (Budapest: Martin Opitz, 2009), 195-201.)

⁸⁴⁶ Nyerges, Nagytestű szarvasmarhák, 530

⁸⁴⁷ Körösi, Szentkirály, 361.

published by Körösi, and then the withers height estimations change to 110.6 and 118.3 cm (see Table 3.3.7).

Nyerges investigated the cattle bones from plot 4-4a and compared them to 11 contemporary Hungarian Grey skeletons in order to establish similarities and differences in body size and stature. She discovered a skull that was much larger than the medieval average, but the horncores were still pretty small compared to modern Hungarian Grey.⁸⁴⁸ However, some of the bulls and oxen in the Szentkirály material fell within the standard deviation interval of the modern Hungarian Grey, and the size difference between the two cohorts at Szentkirály is bigger than the difference between the larger size group and the Hungarian Grey.⁸⁴⁹ Although the two size cohorts could have been interpreted as the result of sexual dimorphism, Nyerges found that bones of the bigger size cohort also came from cows, and thus the difference in size was rooted in type and stature. She concluded that the Szentkirály material supports the theory of the presence of a large cattle type and a slower and gradual process of selective breeding that later resulted in typically large individuals that became known as the Hungarian Grey.⁸⁵⁰ It must be kept in mind, nevertheless, that animals whose remains were found in the kitchen garbage are not necessarily identical in type and stature to those kept on external pastures for market purposes, and were driven to the west and sold in Italy or Germany.

No cattle horn cores were brought to light from the assemblages of pit stall no. 2 and Templom-dűlő. Éva Nyerges also found only fragments in plot 4-4a. This suggests that horn cores were collected and probably processed in workshops. Thus, a systematic analysis of cattle horn cores from Szentkirály – which, along with craniometric studies, would be crucial to see the relation between medieval cattle population and the Hungarian Grey more clearly – is not possible; however, the metapodia may be investigated and compared to modern standards. The presence of a larger cattle type in Szentkirály is evident from proximal metapodial measurements. Comparing these to early modern and modern data from seventeenth-nineteenth-century Vác and Tiszagyenda, a surprising overlap is seen (Diagram 3.3.10). This suggests that the medieval cattle of Szentkirály did not much differ from the animals bred later. On the other hand, the few preserved cranial fragments come from a diverse population of cattle.

⁸⁴⁸ Nyerges, Nagytestű szarvasmarhák, 529.

⁸⁴⁹ Nyerges, Nagytestű szarvasmarhák, 530.

⁸⁵⁰ Nyerges, Nagytestű szarvasmarhák, 532; Nyerges, A szentkirályi kunok állattartása, 45–47.

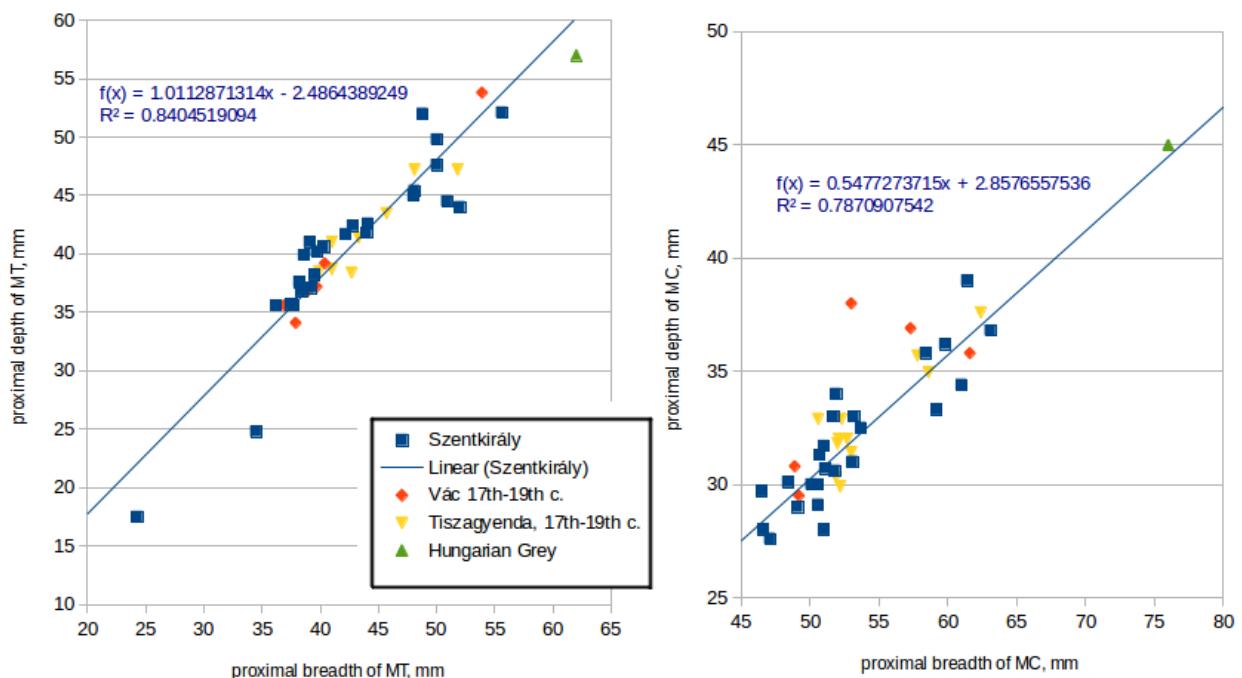


Diagram 3.3.10. Proximal measurements of cattle metapodia from Szentkirály, and from the seventeenth-nineteenth-century layers of Tiszagyenda and Vác. The value given for the Hungarian Grey is an average value based on measurements taken on five bulls and six oxen in the collection of the Hungarian Museum of Agriculture. (Only the average values are included in Nyerges' MA thesis, the raw data were not made available.) Skip this or put it in a short appendix

Cattle of large size (*magnis bous, magni bous*) are mentioned here and there in the charter material from the thirteenth century onwards.⁸⁵¹ They also appear as *magnis bobus* in a 1288 legislation regulating the tolls collected at Esztergom, issued by Ladislaus the Cuman.⁸⁵² It is, however, dubious if this may be taken as an evidence for cattle of an especially large, or primigenius type brought to the Carpathian Basin by the Cumans. First of all, very little is known about the original animal population they arrived with; written evidence is virtually non-existent, let alone metrically investigated, properly dated and excavated faunal material. Furthermore, the term *magnus* does not necessarily refer to another phenotype; this word is in fact too general to draw specific conclusions. Nyerges argued that if Cumans had brought the predecessors of the Hungarian Grey with them, this type should dominate the Szentkirály assemblage, but in fact,

⁸⁵¹ Nyerges, Nagytestű szarvasmarhák, 532.

⁸⁵² Vörös, Adatok az Árpád-kori állattartás történetéhez, 88; Györfy, Az Árpád-kori Magyarország történeti földrajza, vol. 2, 261.

there are twice as many bones identified as belonging to the brachyceros type.⁸⁵³ Short-horned, small brachyceros cattle were found in other Cuman settlements discussed in this thesis as well. It may be hypothesized that the presence of this bigger size cohort at Szentkirály is a result of the active participation in the cattle trade which resulted in a widened selection basis, while these animals are mostly missing from villages that did not function as regional market hubs. Nyerges raised the question of whether the larger, primigenius type animals may have been used to improve the livestock.⁸⁵⁴ Although this is impossible to prove as the details of breeding practices were not recorded, the preference for a larger and more robust animal which provided a bigger mass of meat and was more resistant to harsh environmental conditions must certainly have played a role in livestock development.

Horses were found in smaller numbers in the Szentkirály material and they were mainly discussed in terms of horse meat consumption. (This issue will be discussed in Chapter 5). The horse remains were surprisingly heavily fragmented, and very few measurements could be taken. One horse metacarpal discovered by Takács belonged to an individual that was 141 cm at the withers.⁸⁵⁵ Although the rest of the horse bones he examined were not suited for such a calculation, he added that some fragments testified to the presence of larger animals, and most horses belonged to an “Eastern” type (although it is not clear what he means by this definition; he probably refers to smaller, relatively gracile animals).⁸⁵⁶ Körösi also described “Eastern” type of horses in the faunal sample; two skulls, one of a 9 months old foal and another of a 3.5-4 year-old individual, were elongated and narrow.⁸⁵⁷ Their cranial proportions are, however, very different from that of the Csengele stallion (see Diagram 3.3.4 in the subchapter on Csengele). On the other hand, bones of larger and more robust horses were also found by Körösi (although the fragmented material made it mostly impossible to take proper measurements and calculate withers heights). She even identified some of the remains as belonging to the “Western” type “cold-blood” horses; in her view, four of the six to seven horses whose remains were excavated from the pit-stall belonged to the “cold-blood” type, while the other two to three animals were

⁸⁵³ Nyerges, Nagytestű szarvasmarhák, 532

⁸⁵⁴ Nyerges, A szentkirályi kunok állattartása, 54

⁸⁵⁵ Takács, Szentkirály középkori falu zoológiai leletei, 99.

⁸⁵⁶ Takács, Szentkirály középkori falu zoológiai leletei, 99.

⁸⁵⁷ Körösi, Szentkirály, 372.

small and relatively gracile.⁸⁵⁸ I would be cautious with such terminology, and consider the size differences as individual characteristics instead of taking them to be different breeds. In Vörös' view, the horse type generally known today as cold-blood (however vague and undefined this category may be) was unknown in the Middle Ages.⁸⁵⁹ Nyerges identified individuals of 142 cm and 149 cm at the withers in the Szentkirály material.⁸⁶⁰

Körösi found three sheep bones suitable for withers height calculations; she identified a female of 59.3 cm, and two rams of 65.2 and 67.9 cm. In her view, age profiles suggest there was a strong secondary exploitation of this domestic species, probably in the form of wool and milk production.⁸⁶¹ Another sheep's withers height was calculated by Nyerges; this individual was 61.5 cm. Although Nyerges and Bartosiewicz also noted the presence of two size cohorts in the case of sheep, they added that the size difference may well be rooted in sexual dimorphism;⁸⁶² nevertheless, the fragmented condition of the sample made it impossible to distinguish between individual and sex differences. Nyerges found a clear dominance of sheep to goats in a 46:10 ratio.⁸⁶³ In the material examined by Körösi only bones of sheep were found but no goats.⁸⁶⁴

The sheep examined by Nyerges were not much different in size from the sheep population of the early Árpád Period (ninth-eleventh c.), however, their long bones were more robust and similar to those kept in the Late Middle Ages. The skulls resembled the Turkish Period average, and were relatively narrow; the horn cores were much smaller than those of sheep kept in the early Árpád Period.⁸⁶⁵ This suggests a size and form variability similar to what was observed in the cattle population. As we have seen, Turkish tax rolls reveal a pivotal role of sheep herding in the region in the sixteenth century, with an increasing number of animals in the hands of a few professionals specialized in sheep herding and, probably, trade. A widening selective basis made it easier to meet the market demand, serve changing preferences, and provide animals for different purposes. As the majority of sheep at Szentkirály were killed as adults, they must have been exploited for their wool and milk. Felt production may also have

⁸⁵⁸ Körösi, Szentkirály, 372-373.

⁸⁵⁹ Vörös, Adatok az Árpád-kori állattartás történetéhez, 95-96.

⁸⁶⁰ Nyerges, A szentkirályi kunok állattartása, Appendix: Bone measurements

⁸⁶¹ Körösi, Szentkirály, 367.

⁸⁶² Nyerges and Bartosiewicz, Szentkirály állattartása, 336-337.

⁸⁶³ Nyerges, A szentkirályi kunok állattartása, 54.

⁸⁶⁴ Körösi, Szentkirály, 361.

⁸⁶⁵ Nyerges, A szentkirályi kunok állattartása, 60.

been a factor in the exploitation of sheep wool.⁸⁶⁶ The agricultural structures in the backyard of plot 4-4a were interpreted as sheepfolds; this theory was also supported by a thick layer of organic material (dung);⁸⁶⁷ Nyerges estimated that the three folds could house 64, 84 and 224 sheep, respectively.⁸⁶⁸ Even if they were not used contemporaneously, this herd was clearly bigger than what could have served the immediate needs of the household.

Swine keeping has already been touched upon in connection with the pit-stall. Keeping pigs by peasants for household purposes was typical up to the fourteenth century;⁸⁶⁹ a similar practice is observed here. The ratio of juveniles, however, is surprisingly low. Körösi found bones of small pigs, some of which were younger than three years.⁸⁷⁰ Takács also found only a few remains of young swine,⁸⁷¹ while in the material investigated by Nyerges, the ratio of piglets is 54%,⁸⁷² and Somhegyi also found the dominance of youngsters in the sample of swine bones.⁸⁷³ However, the latter author added that many of the pigs kept at the Szentkirály households were not properly fattened, but slaughtered as adults although still young.⁸⁷⁴ As usual for pig bones at these sites, the remains are heavily fragmented and it was not possible to calculate withers height..⁸⁷⁵ A swine skull published by Körösi shows a straight, wild swine-like profile; a mandible of a male has huge lower canines, although the corpus of the mandible itself is shortened.⁸⁷⁶ Takács also mentions that swine skull fragments with straight profiles dominate the sample.⁸⁷⁷ This suggests occasional interbreeding with wild boar, which is known from the

⁸⁶⁶ Nyerges, A szentkirályi kunok állattartása, 61.

⁸⁶⁷ Pálóczi Horváth, Agrártörténeti emlékek, 77-85.

⁸⁶⁸ Nyerges, A szentkirályi kunok állattartása, 62.

⁸⁶⁹ Márta Belényesy, "Állattartás a XIV. században Magyarországon" [Animal husbandry in 14th-century Hungary] *Néprajzi Értesítő* 38 (1956), 23-60: 34. (henceforth: Belényesy, Állattartás)

⁸⁷⁰ Körösi, Szentkirály, 368.

⁸⁷¹ Takács, Szentkirály középkori falu zoológiai leletei, 100.

⁸⁷² Nyerges, A szentkirályi kunok állattartása, 65.

⁸⁷³ Somhegyi, A húsfeldolgozás és -fogyasztás jelei a középkori Szentkirályon, 11.

⁸⁷⁴ Somhegyi, Állattartás a középkori Szentkirályon, 32.

⁸⁷⁵ Interestingly, both Somhegyi and Takács proposed that the highly fragmented character of pig remains may be due to their use in glue making. (Somhegyi, Állattartás a középkori Szentkirályon, 32; Takács, Szentkirály középkori falu zoológiai leletei, 101.)

⁸⁷⁶ Körösi, Szentkirály, 368, 369, figs. 1-2. In one case, the root of the huge canine teeth pushed out the lateral wall of the lower jaw. According to Bökonyi, such crowding in the jaw are symptoms typically associated with the refinement of swine breeds (Bökonyi, History of Domestic Mammals, 223). This somewhat contradicts the generally primitive character of the straight and elongated swine skulls observed at Szentkirály. A swine skull put on the exhibition of the site in 1996 was described as a primitive, a transitional form between the domestic and wild swine. (Pálóczi Horváth, Katalógus, 61 (item 128)).

⁸⁷⁷ Takács, Szentkirály középkori falu zoológiai leletei, 97.

Middle Ages, especially in cases when swine flocks grazed in the forests.⁸⁷⁸ The fact that decima was collected after styes suggests that there was a widespread practice of giving acorns to pigs as complementary fodder.⁸⁷⁹

Takács and Kassai, as well as Körösi distinguished between two dog types in the material: one smaller type, and a bigger type probably used for herding, the latter having a withers height of 60-62 cm.⁸⁸⁰ The 25 dog bones examined by Nyerges also came from different dog types, including a large individual of a size of the modern German shepherd, a medium-sized type somewhat smaller than a modern boxer, and a short-legged type that may have been used for hunting burrow-dwelling animals.⁸⁸¹ Somhegyi described a large dog type, probably used in herding.⁸⁸² This, however, does not imply that different dog breeds were kept at the village, but rather I would rather suggest that the dog population was varied, with significant individual differences. The extent to which these dogs were consciously bred is unknown. As herding was a crucial economic activity, good herding dogs must have been valued. The Hungarian *komondor* breed has been interpreted as the descendent of a dog type bred by the Cumans.⁸⁸³ This claim is, however, not supported by the archaeological record. It is more likely that the *komondor* as a herding dog became associated with Cumans because of their active participation in cattle rearing and consequently, their need for such large herding dogs. Although dogs played a pivotal role in the original religious beliefs of Cumans (see chapter 5.2, *Animals in ritual contexts*), the list of terms used in the everyday life, included in the Codex Cumanicus, hardly suggests a highly developed practice of dog husbandry.⁸⁸⁴ Dog burials were present at Szentkirály, their ritual context is, however, questionable (see chapter 5.2 *Animals in ritual contexts*). Although

⁸⁷⁸ Bökonyi, History of Domestic Mammals, 222.

⁸⁷⁹ Nyerges, A szentkirályi kunok állattartása, 66; László Dám, Magyar népi állattartás és pásztorkodás [Animal Husbandry and Pastoralism in Hungary] Néprajz egyetemi hallgatóknak 19. (Debrecen: Kossuth Lajos Tudományegyetem, 1995), 191; Torma, Szentkirály archeobotanikai leletei, 40.

⁸⁸⁰ Takács and Kassai M., Miből éltek a kunok, 853; Körösi, Szentkirály, 374.

⁸⁸¹ Nyerges and Bartosiewicz, Szentkirály állattartása, 338.

⁸⁸² Somhegyi, Állattartás a középkori Szentkirályon, 34.

⁸⁸³ The word *komondor* has been interpreted as a Cuman word, meaning “the dog of the Cumans”. Another word used only in Greater Cumania, *barág*, is also considered a Cuman word and designates a large herding dog with a rough and long coat. (Somhegyi, Állattartás a középkori Szentkirályon, 34). Takács and Kassai M. mention that according to written sources the Cumans brought a large-sized herding dog type from the East when they migrated to Hungary, which was named *komondor* after their ethnic name (*kuman*, *koman*). They, however, did not specify in which written record this piece of data is to be found; I was unfortunately unable to locate it. They also add that the dog remains unearthed at Szentkirály were similar in size, but not identical to those of the modern komondor breed. (Takács and Kassai M., Miből éltek a kunok, 853)

⁸⁸⁴ Györffy, A kipcsaki kun társadalom, 244.

these skeletons seem complete in the excavation photos, unfortunately they have never been properly published. An almost complete skeleton of a domestic cat, cat gnawings on a couple of bones, as well as the coprolites of cats found by Nyerges at Szentkirály, testify to the presence of this species either as a pet or as a commensal animal.⁸⁸⁵

Although poultry is represented only in small ratios in the bone material, Takács and Kassai mention that eggshells of goose and hen were found almost in every pit they investigated. They also identified an eggshell of a wild bird, perhaps a mallard, and mention the possibility that eggs of wild birds were collected and hatched in the household (as known from ethnographic records, see Chapter 4 on environment exploitation). The fact that mostly elder hens were found also supports the theory of an extensive use of eggs.⁸⁸⁶ Nyerges came to the same conclusion while investigating the kill-off patterns of poultry: 75% of the hen remains she found came from adult individuals, probably used in egg production.⁸⁸⁷ Körösi was also able to identify the remains of a small-sized hen, along with egg shells.⁸⁸⁸ This phenomenon, although obviously influenced by taphonomic factors and methods of excavation, speak of intensive poultry keeping: in most medieval villages eggshells are come to light sporadically. Somhegyi added in connection with the Szentkirály material that the size of hens became larger as their importance in consumption grew.⁸⁸⁹

Éva Nyerges and László Bartosiewicz investigated Szentkirály in the context of other coeval faunal assemblages from towns, villages and cities, and came to the conclusion that Szentkirály's animal-keeping profile based on the faunal remains is very close to that of coeval Hungarian villages. They emphasize that the extensive keeping and the almost monocultural specialization in one or two domestic species (as reflected also in the tax rolls) was a key element for the Cumans in finding their place in the economic nexus, as opposed to nomadic practice where the different domestic species were often not separated but kept and raised together.⁸⁹⁰ Tax accounts from the years 1546, 1559 and 1562 show an increase in the number of sheep; in 1562, 11 farmers were listed as having large herds of sheep, while the number of animals in the hands of one farmer was around 300. In the next 20 years, however, the number of

⁸⁸⁵ Nyerges, A szentkirályi kunok állattartása, 74-75.

⁸⁸⁶ Takács and Kassai M., Miből éltek a kunok, 854.

⁸⁸⁷ Nyerges, A szentkirályi kunok állattartása, 75.

⁸⁸⁸ Körösi, Szentkirály, 374.

⁸⁸⁹ Somhegyi, Állattartás a középkori Szentkirályon, 34.

⁸⁹⁰ Nyerges and Bartosiewicz, Szentkirály állattartása, 347.

farmers specialized in sheep keeping decreased significantly (only five rich farmers are left on the market, probably due to the finite character of market demand), but at the same time, the average number of animals owned by these farmers rises to ca. 400, reflecting a strong concentration of the livestock.⁸⁹¹ As we have seen, such a development was not an isolated event in sixteenth century Hungary. An increase in the importance of sheep can be partly explained by the cultural and economic effects of the Turkish-Ottoman occupation (an increase in the demand for the meat of sheep on the market), as well as the remunerative character of sheep keeping due to the potentials of secondary exploitation (wool). It has been assumed that the old Cuman animal keeping tradition also played some part in this specialization process, as the already existing framework of extensive pastoralism was easily transformed into a modern, large-scale animal production.⁸⁹²

Grain production seems to have been quite significant in Szentkirály compared to other medieval villages in the region. Pálóczi Horváth calculated that the recorded yield of 76.95 metric tons of wheat and 55-60 metric tons of other grains in 1562 suggests the cultivation of 337.5-385.7 hectares of arable land, with an average field size per family estimated to 6.8 hectares. This was only 3.5-4.6% of all lands at the villagers' disposal, which means that they possessed a large number of available pastures. Pálóczi Horváth found the arable land in maps prepared coeval to the First Military Survey; these were arranged in one block.⁸⁹³ This arrangement also helped animal herding as it made it easier to keep grazing herds from damaging the crops. The presence of four mills in the village is testified to by Turkish tax rolls; these were probably powered by animals. In addition, quern-stones found in almost every excavated house suggest that all households were equipped with a hand mill.⁸⁹⁴

⁸⁹¹ Nyerges, Ethnic traditions, 268, Table. 9.; Nyerges and Bartosiewicz, Szentkirály állattartása, 347.

⁸⁹² Nyerges and Bartosiewicz, Szentkirály állattartása, 348; László Bartosiewicz, *Régenvolt háziállatok. Bevezetés a régészeti állattanba*. [Domestic Animals of the Past. Introduction to Archaeozoology] (Budapest: L'Harmattan, 2006), 94.

⁸⁹³ Pálóczi Horváth, The Survival of Szentkirály, 205; Káldy Nagy, A budai szandzsák 1546-1590 évi összeírásai, 1985, 571.

⁸⁹⁴ Pálóczi Horváth, The Survival of Szentkirály, 205; Pálóczi Horváth, Élet egy középori faluban, 20, 48, cat no. 15

3.3.2.5 Summary

As we have seen in this chapter, the archaeological evidence from this region hardly provides an unambiguous picture of animal keeping; in fact, Szentkirály is the only well-excavated and documented settlement identified as Cuman. The burials of the nobility, and especially the well-researched grave at Csengele, testifies to an early Cuman presence here, however, archaeological finds mostly date to a later period. In some cases, the Cuman presence is suspected but still debated. However, the animal bone samples analyzed from this region display patterns that are neither distinctive in terms of species ratios nor in terms of the animal population. The nobleman's grave at Csengele may be an exemption, as an Arab-type horse was excavated from here; nevertheless, this site represents a different social stratum and a different context than the kitchen refuse of commoners, and therefore the two should not be compared.

Many of the Cuman villages mentioned in fourteenth-fifteenth century charters were depopulated by the beginning of the sixteenth century, their settlers moving to market towns. Others, like Szentkirály, emerged as richer villages, organizational elements in the exchange of agricultural products.⁸⁹⁵ This process ran parallel with the increasing importance of agricultural specialization in the fifteenth-sixteenth century, especially in terms of extensive animal husbandry.

Szentkirály seems to be a perfect example of the transformation of the remains of a pastoralist animal husbandry into a modern and remunerative, almost specialized, monocultural agricultural system meeting the demands of a new economic nexus. At the same time however, some structural elements testifying to the once existing practices of a steppe life, such as the large distance of dwellings and the greater number of *ad hoc* sheepfolds, are still preserved. Szentkirály's economic growth must also have been due to the presence of a significant market center, Kecskemét, in the near vicinity, the town being one of the biggest animal export centers of contemporary Hungary (especially concerning the horse, cattle and sheep trade). Máté Kajtár, a merchant with a Cuman name, who also happened to be the biggest horse exporter of the

⁸⁹⁵ András Pálóczi Horváth, "Keleti népek bevándorlása és letelepedése a középkori Magyarországon. A kunok példája" [Migration and settlement of Eastern peoples in Hungary. The Cuman case] in *Internationales Kulturhistorisches Symposium Mögersdorf 1994. Band 25. Verfestigung und Änderung der ethnischen Strukturen im pannónischen Raum im Spätmittelalter*, ed. Roland Widder (Eisenstadt, 1996), 17-26: 19. (henceforth: Pálóczi Horváth, Keleti népek bevándorlása)

country, lived in Kecskemét.⁸⁹⁶ The merchants of this rich oppidum must have represented a source of always present market demand market for livestock and animal products, even though Szentkirály's inhabitants might also have sold their products themselves on local markets. Important trade routes as well as this market center were also present in the area: one route ran between Szeged to Buda, and another one lead from Csongrád to Alpár and Szolnok, along the Tisza River. At Alpár, there was also a crossing point on the Tisza.⁸⁹⁷ The village is also situated in the catchment area of the animal trade for the Western markets.⁸⁹⁸ It was, however, not the population's ethnic or cultural background but the village's geographical position and the size of available lands that determined Szentkirály's opportunities.

3.4 The Cumans in Transdanubia

3.4.1 *The short history of Cumans in Transdanubia and the Seat of Hantos*⁸⁹⁹

Although the Cuman habitation area was concentrated on the eastern side of the Danube, Cumans also appeared in Transdanubia, in a small region called the Mezőföld, which is, from a geographical point of view, an organic part of the Great Hungarian Plain in spite of the Danube separating it from the rest of the plain. This Cuman group, however closed, was geographically somewhat isolated from other Cuman communities.

The Seat of Hantos covered ca. 700 km²,⁹⁰⁰ in present-day Fejér County. So far, 21

⁸⁹⁶ Pálóczi Horváth, A Lászlófalván 1969-1974-ben végzett régészeti ásatások, 278; Gyula Káldy-Nagy, *Magyarországi török adóösszeírások* [Turkish Tax Rolls of Hungary] Értekezések a történeti tudományok köréből. Új sorozat 52. (Budapest: Akadémiai Kiadó, 1970), 88. (henceforth: Káldy-Nagy, Magyarországi török adóösszeírások)

⁸⁹⁷ Kovácsné Nyerges, A középkori Szentkirály állattartása, 252; Pálóczi Horváth, A Lászlófalván 1969-1974-ben végzett régészeti ásatások, 276; Pálóczi Horváth, Agrártörténeti emlékek, 69.

⁸⁹⁸ László Bartosiewicz, "Cattle trade across the Danube at Vác, Hungary," *Anthropo-zoologica* 21 (1995), 189-196: 193, fig.4.

⁸⁹⁹ The seat's name is spelled both as Hantos and Hontos in the sources as well as in the secondary literature. Here, the name Hantos is used; however, where settlement names are written differently in the primary sources, the original spelling is kept.

⁹⁰⁰ Hatházi first approximated this territory as 600 km² (Gábor Hatházi, "Adatok a Hantos-széki kunok településtörténetéhez" [Data on the settlement history of the Cumans in the seat of Hantos] In *A Jászkunság kutatása* 1985 [Studies on Greater Cumania, 1985] Eds. István Fazekas, László Szabó and István Sztrinkó

Cuman archaeological settlements were identified in the former Seat of Hantos or in the charter material (identifying the two groups is not always possible). This number will probably grow as the archaeological research in the region proceeds.⁹⁰¹ It appears that only 13 or 14 settlements existed in this region at any one time.⁹⁰² Hatházi calculated on the basis of archaeological data that this Cuman community probably comprised 3500-4200 people, with a population density of 6-8 person/km²; however, continuously on-going demographic changes, and thirteenth to fourteenth century conditions in all probability differed from the better known picture in the fifteenth to sixteenth century.⁹⁰³ In the fifteenth to sixteenth century an individual village had at least 50-56 km² land at its disposal, which resembles the conditions in Lesser and Greater Cumania.⁹⁰⁴ In Gyárfás' view, the Cuman village of Lackháza and those Cumans living on the Csepel Island also belonged under the authority of the Seat of Hantos.⁹⁰⁵

According to Gyárfás, the seat was named after a family or clan, similarly to the seat of Kolbaz in Greater Cumania.⁹⁰⁶ The first reference to a Cuman presence in the area comes from 1399: a perambulum of a piece of land called Erdőhalom in Fejér County mentions Cumans living northeast of its border.⁹⁰⁷ Nevertheless, the Seat of Hantos already appears in documents a few years later in 1417, suggesting that Cumans must have lived in the region from a much earlier date than the first written document was issued. In fact, Anonymus wrote about Cumans that joined the Hungarian army at Kiew and moved to the Carpathian Basin with the conquering Magyars. One of the Cuman leaders, Vajta, was given lands along the stream of Sár in Fejér

(Kecskemét-Szolnok: Kiskunfélegyházi Városi Tanács, 1987), 29-65: 29; henceforth: Hatházi, Adatok a Hantos-széki kunok településtörténetéhez) but later he corrected its size to 700 km². (Hatházi, A kunok régészeti emlékei, 164.)

⁹⁰¹ Hatházi, A kunok régészeti emlékei, 219-231.

⁹⁰² Hatházi lists the following settlements known from charters: Hantosegyháza, Jakabszállás, Sárospatak, Kajtorszállás, Ivánkatelke, Újszállás, Karácsonymiklósszállása, Előszállás, Perkáta, Csobakszállás (the same as Előszállás?), Nyögérszállás (later Gyolcsáplászállása?), Thobaliszentpéter, Bezterszállás and Bajdamerszállás. In addition, several archaeological sites are known that have not yet been identified with any settlement in the charters. Gyárfás, A jász-kunok, vol. 3, 188; Hatházi, Adatok a Hantos-széki kunok településtörténetéhez, 33-34; Hatházi, A kunok régészeti emlékei, 164, 219-231.

⁹⁰³ Hatházi, A kunok régészeti emlékei, 170. It has to be added, nevertheless, that population density is intimately intertwined with other factors such as the carrying capacity of the given piece of land, the intensity of animal keeping and the need for pastures, as well as the spatial arrangement according to which people were distributed in this area.

⁹⁰⁴ Hatházi, A kunok régészeti emlékei, 164-165.

⁹⁰⁵ Gyárfás, A jász-kunok, vol.3, 423.

⁹⁰⁶ Gyárfás, A jász-kunok, vol. 3, 188. In fact, the seat was named after its regional center, the village of Hantosegyháza, as revealed in a 1419 charter. Gyárfás, A jász-kunok, vol. 3, 565-568.

⁹⁰⁷ János Károly, *Fejér vármegye története* [The History of Fejér County] Vol.5. (Székesfehérvár, 1904), 304-305 (henceforth: Károly, Fejér vármegye története); Györffy, A magyarországi kun társadalom, 304.

County.⁹⁰⁸ This early presence, however, was not attested in any other source. Pálóczi Horváth argued that Cumans must have appeared here two generations before the first debates on ownership of lands in Hantos, that is, in the mid-fourteenth century at the latest.⁹⁰⁹ This region was formerly inhabited by the Pechenegs, who similarly to the Cumans, probably migrated here in the mid-eleventh century.⁹¹⁰ They served as auxiliary military forces in the royal army, and had some form of autonomy until 1352 when they were subjugated to the jurisdiction of the *comes*.⁹¹¹ It was most likely in this period that the Cumans started to build their communities here. Whether the Cumans' military service played any role in their settlement in this particular region is uncertain but may be suspected.⁹¹² According to Hatházi, the village of Nyögérszállás must have been the oldest of the region's Cuman settlements, as its name is derived from the elite bodyguard unit of Cumans that first served under Ladislaus IV (*neugerii*).⁹¹³ In fact, a number of names of Cuman villages (Bajdamerszállása, Bezterszállása, Csabakszállása, Kajtorszállása) bear witness to pagan naming practice and suggest these are relatively early establishments. The archaeological site of Perkáta testifies to a continuous habitation from the Árpád Period onwards, meaning that Cumans occupied and began to live in the abandoned Hungarian village almost immediately after its destruction during the Mongol Invasion.⁹¹⁴ However, the Cuman settlements identified in the charter material appear in the written record only in the early fifteenth century.⁹¹⁵

⁹⁰⁸ Anonymus, *Gesta Hungarorum*. Digital edition: <http://vmek.oszk.hu/02200/02245/02245.htm#11> Accessed 04.09.2014. Gyárfás, A jász-kunok, vol. 2, 33; vol. 3, 192.

⁹⁰⁹ Pálóczi Horváth, A kunok megtelkedése, 251.

⁹¹⁰ Although the precise date of their arrival is doubtful and they appear in the sources only at the end of the twelfth century (that is, not much earlier than the Cuman migration itself), the Pechenegs probably came to the Carpathian Basin in several waves, and most likely they migrated in larger numbers under the reign of King Andrew I, with whom they had friendly political contacts. Gábor Hatházi, "Besenyők, kunok a Mezőföldön" [Pechenegs and Cumans in Mezőföld] In *Zúduló sasok. Új honfoglalók – besenyők, kunok, jászok – a középkori Alföldön és a Mezőföldön* [Flying Eagles. New Conquerors – Pechenegs, Cumans, Iasians – in the Great Plain and Mezőföld in the Middle Ages] Ed. Péter Havassy, Gyulai Katalógusok 2. (Gyula: Erkel Ferenc Múzeum, 1996), 37-56: 39-42. (henceforth: Hatházi, Besenyők, kunok)

⁹¹¹ István Mándoky Kongur, "A Hantos-széki kunok" [Cumans of the Seat of Hantos] *Székesfehérvár Évszázadai* 2 (1972), 73-82: 73. (henceforth: Mándoky Kongur, A Hantos-széki kunok)

⁹¹² Hatházi, Adatok a Hantos-széki kunok településtörténetéhez, 41.

⁹¹³ Gábor Hatházi, "A kunok évszázadai" [The centuries of Cumans] In *Perkáta története* [History of Perkáta] Eds. Gábor Hatházi and Ferenc Erdős (Perkáta: Perkáta Nagyközség Polgármesteri Hivatala, 1996), 83-103: 87. (henceforth: Hatházi, A kunok évszázadai)

⁹¹⁴ Hatházi, A kunok évszázadai, 98.

⁹¹⁵ Only Sárosd (a village that was inhabited before the arrival of the Cumans) appears earlier in the written record: it is mentioned in the late thirteenth century but not in connection with the Cumans. Hatházi, A kunok régészeti emlékei, 221.

The region already had a small network of villages before the Mongol Invasion,⁹¹⁶ and, thus, Cumans occupied abandoned areas where the infrastructure was, more or less, there. According to Gláser, Cumans already came here to use the open pastures in the late thirteenth century,⁹¹⁷ but no written records from this period actually exist for Cuman settlement here. It is certain nevertheless that this area was not the most favorable from an agricultural point of view: although areas along the watercourses were suitable for land cultivation, the region was rather used as royal pasture land in the Árpád Period with a sparse population inhabiting it. Spontaneous settlement concentration was already ongoing in the thirteenth century.⁹¹⁸ After the Mongol Invasion, the remaining Hungarians left this region, more or less, empty. Thus the land opened up to new migrations.⁹¹⁹ According to Hatházi, the Cumans probably came here from Lesser Cumania, from the area around Szabadszállás, Fülöpszállás and Kunszentmiklós, respectively.⁹²⁰ A charter from 1454 still describes the road that lead from Lesser Cumania to the ferry of Szigetfő a “Cuman Road”,⁹²¹ signifying a possible route of migration from traditionally Cuman areas to the other side of the Danube River.

Although it is uncertain when Cumans first appeared, archaeological research showed that at the turn of the thirteenth and fourteenth centuries permanent Cuman villages were already present here.⁹²² The Seat of Hantos itself was probably also much older than the first document reporting on its existence. The 1417 and 1419 charters in which the first data on the seat are preserved, concern an argument about the leadership of this administrative unit. Miklós Perényi, judge of the royal Cumans (*judex Cumanorum*) and “Master of the Horse” (*Magister Agazonum*, a high official in the royal household), decided that the Cuman captain Jakab Thoman (or Tubay⁹²³) could stay in his office and keep his lands in spite of complaints questioning his right

⁹¹⁶ Hatházi, A kunok régészeti emlékei, 156-160.

⁹¹⁷ Lajos Gláser, “Fejér vármegye kialakulása” [The development of Fejér County] in *Fejér vármegye* [Fejér County] Eds. Miklós Schneider and Viktor Juhász. Magyar városok és vármegyék monográfiája 23. (Budapest, 1937), 75-102: 99. (henceforth: Gláser, Fejér vármegye kialakulása)

⁹¹⁸ This was evidenced in the region by e.g. the Árpád Period sites of Dunaújváros and Csetény. István Bóna, *VII századi avar települések és Árpád-kori magyar falu Dunaújvárosban* [7th-Century Avar Settlements and an Árpád Period Hungarian Village in Dunaújváros] *Fontes Archaeologici Hungariae* (Budapest: Akadémiai Kiadó, 1973), 81.

⁹¹⁹ Hatházi, Besenyők, kunok, 48.

⁹²⁰ Hatházi, A kunok évszázadai, 87

⁹²¹ Gláser, Fejér vármegye kialakulása, 99.

⁹²² Hatházi, A kunok régészeti emlékei, 190.

⁹²³ The name is written inconsistently throughout the charter, although it is clear from the context that it refers to the same person. The name Thoban / Thoman derives from the Cuman word *tuman* ('fog') and is a typical Cuman

to be leader of the seat.⁹²⁴ We learn from the text that a previous captain, Gal, died without a male heir who could have inherited the office and the lands although his foster son Jakab had a son called Peter who now claimed to be the rightful heir of Gal. The king, however, donated the lands of Gal to Jakab Thoman and appointed him captain. This casts a light on some interesting aspects of inheritance. The office of the captain was, it seems, regularly inherited from father to son. It was, nevertheless, possible to include the families of foster children as heirs. On the other hand, the king had the ultimate right to donate this office and all lands and income that went with it to whomever he pleased. In fact, it was Filippo Scolari, the *comes* of Temes, who first decided to grant Jakab Thoman this office in the first charter from 1417 (reaffirmed by the king two years later).⁹²⁵ However, his decision was contested by relatives of the late Gal and possibly also others. Interestingly, Filippo Scolari referred to the leadership abilities of Jakab Thoman when he inaugurated him in the office.⁹²⁶ Thus, it seems that royal officials had an important impact on the internal affairs of the Cumans from the Seat of Hantos and could appoint a person of their own choice even if the Cuman community presented their favored candidates. This signifies an important shift in Cuman society: their leaders were no longer chieftains chosen on the basis of blood ties but officials of the state appointed by royal authorities.

In any case, these two charters imply that the Seat of Hantos must have existed well before the early fifteenth century. Both Gyárfás and Károly argue that Cumans were already present here in the early fourteenth century.⁹²⁷ It is also revealed in the above-mentioned document that the village of Hantosegyháza had a stone church (that may have had an Árpád Period predecessor), and the seat was named after this settlement which probably served as a regional center.

A 1407 charter is of special interest as it may signal migration patterns inside the country. This is an affirmation of a 1343 document that forbade anyone to harass the Cumans under the leadership of a certain captain Buthemer from the Ilonchuk clan (the question of this clan has been touched upon in the subchapter on Lesser Cumania). Interestingly, the 1407 charter calls the

personal name. Hatházi, A kunok évszázadai, 99.

⁹²⁴ Gyárfás, A jász-kunok, vol. 3, 188-190; 565-568; Károly, Fejér vármegye története, vol. 1, 573-576.

⁹²⁵ Károly, Fejér vármegye története, vol.1, 190-191.

⁹²⁶ Gyárfás, A jász-kunok, vol.3, 192.

⁹²⁷ Károly, Fejér vármegye története, vol.1, 192; Gyárfás, A jász-kunok, vol.3, 192.

late Cuman leader *Buthemer de Jakabszállása*.⁹²⁸ This village may be identified with Jakabszállása near Kecskemét,⁹²⁹ or with the settlement of the same name in the Seat of Hantos.⁹³⁰ The 1407 charter was made at the request of his grandchildren Peter and Johannes, who may then have lived in Transdanubia instead of Lesser Cumania. As we have seen in the earlier subchapter on Lesser Cumania, Buthemer and his family probably lived in the Seat of Halas, and had had brushes with other Cuman leaders, especially Köncsög, who was the leader of the Chertan clan in the mid-fourteenth century. It is possible that some of his family members migrated to Transdanubia later, and in this way two of his grandchildren showed up in the Seat of Hantos. Whether the conflicts between Buthemer's family and that of Köncsög played any role in this theoretical migration is impossible to say, but it seems logical that moving to the other side of the Danube was a way to bring a bitter conflict to an end. As Cumans appear relatively late in the area of the Seat of Hantos, this region was probably not among the first pieces of land they inhabited but rather they migrated here later from the Danube-Tisza Interfluve.⁹³¹ Although no direct evidence exists for this migration, there are place names that possibly reflect ties between the two areas.⁹³² The settlement name Baydamerszállása in the Seat of Hantos may also be connected to the name Buthemer: according to Mándoky Kongur, the name Baydamer is in fact Baytemir, and was only misspelled by the scribe who did not know the Cuman language.⁹³³ Pálóczi Horváth, however, suggests that these names refer to two distinct families, and Buthemer actually had nothing to do with the Seat of Hantos.⁹³⁴ There is a possible influence of the Ilonchuk clan or family in the region through Buthemer's family,⁹³⁵ but the absence of proper

⁹²⁸ Gyárfás, A jász-kunok, vol. 3, 552-553.

⁹²⁹ Györffy, Az Árpád-kori Magyarország történeti földrajza, vol.3, 531. Hatházi and Pálóczi Horváth also wrote that the settlement referred to as Jakabszállása was in the Danube-Tisza Interfluve and, thus, Buthemer and his family had probably nothing to do with the Mezőföld area. Hatházi, A kunok régészeti emlékei, 220-221; Pálóczi Horváth, A kunok megtelepedése, 252.

⁹³⁰ Károly, Fejér vármegye története, Vol. 1, 190.

⁹³¹ Györffy, Az Árpád-kori Magyarország történeti földrajza, vol.3, 532.

⁹³² Gyárfás associates the Cuman settlement of Chabak (Csabakszállás) in the Hantos region with a Cuman named Kabak, whose son was given pieces of lands close to Kecskemét. However, Mándoky Kongur does not see any association between these two name forms and states that the name Chabak is only known as a settlement name, although in all probability it refers back to a personal name. (Gyárfás, A jász-kunok, vol.3, 190-191; 494-495. Mándoky Kongur, A Hantos-széki kunok, 79.) The settlement named Bezterszállása probably has identical roots to the place name Beztherháza, located between Szabadszállás and Kunszentmárton in Lesser Cumania. (Györffy, A magyarországi kun társadalom 304; Mándoky Kongur, A Hantos-széki kunok, 79.)

⁹³³ Mándoky Kongur, A Hantos-széki kunok, 79.

⁹³⁴ Pálóczi Horváth, A kunok megttelepedése, 252.

⁹³⁵ Károly, Fejér várnegye története, vol.1, 201.

sources on the matter only leaves room for speculations. (Moreover, as we have seen in the previous chapters, the origin and standing of the Ilonchuk clan or family is itself dubious.)

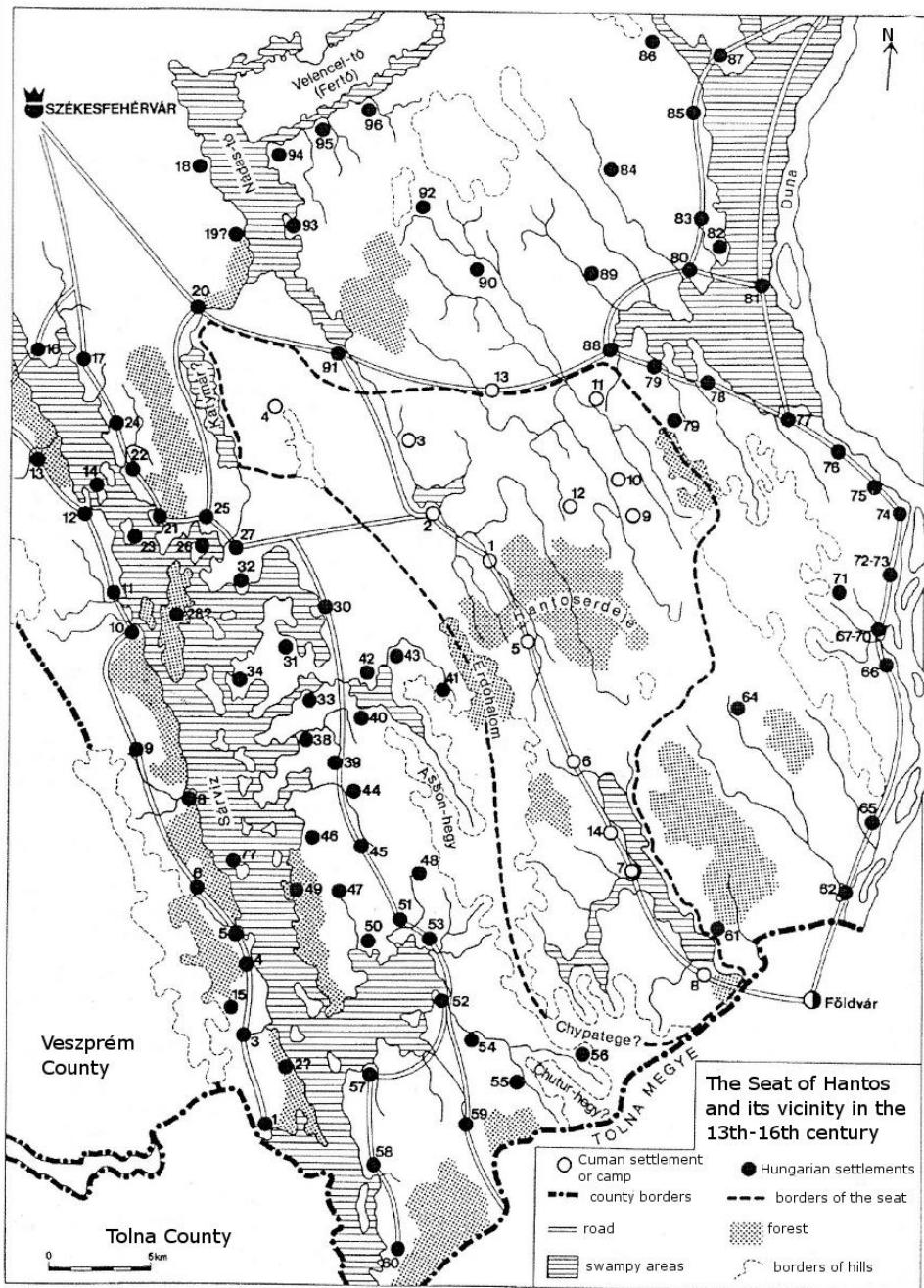


Fig. 3.4.1. The map of the Seat of Hantos. After Hatházi, *A kunok régészeti emlékei*, 10.

In 1406, Cuman landlords of Ivánkatalke and Csabakszállása concluded a trial with an agreement that they can settle as many peasants on their common lands (that is, in the two above

mentioned villages and in Nyögérszállása) as they wished; the background of these peasants is, nevertheless, unknown.⁹³⁶ This practice means that a shortage in manpower may have been a factor in the region not long after settlement by the Cumans so that new inhabitants were invited and settled here at least on an occasional basis. The division of the village later known as Perkáta into two distinct settlements may also signify the presence of people of different legal status or with different cultural roots.⁹³⁷

Thus, the ethnic background of this community is, if possible, even more problematic than for other Cuman seats. Pálóczi Horváth argued that the Cumans in Fejér County probably belonged to a separate tribe;⁹³⁸ there is, however, no unambiguous evidence either to support or invalidate this theory. Whether there was mixing with the local Hungarian population is again, a question. Besides, as mentioned above, Pechenegs inhabited this area before the mid-fourteenth century. Most probably some Pechenegs were also attracted here by the special legal status the Cuman communities were given, especially after the loss of the Pechenegs' relative autonomy.⁹³⁹ Sources are silent on this matter, nor are linguistics really of much help. According to Mándoky Kongur, the language spoken by the Cumans in Hantos seems to be identical to the language spoken in Greater and Lesser Cumania with only minor differences. There is, however, not much room to study on this subject, as the only sources for language differences are personal and place names preserved in charters so that the possibilities of analysis are limited.⁹⁴⁰ The transition from paganism to practicing Christianity is not touched upon in the sources. In 1473, however, a Cuman named Mihály Kun from Kajtorszállása is mentioned as a "confrater" in a Pauline monastery. He was even granted tax exemption from paying for his services.⁹⁴¹ The name of the village of Karácsonszállása was also interpreted by Pálóczi Horváth as a proof of Christian naming (*karácsony* meaning 'Christmas' in Hungarian). Nevertheless, it is also possible that this name can rather be traced back to the Cuman word *Quarasìn* ('pay attention'),⁹⁴² which was

⁹³⁶ Elemér Mályusz, ed. *Zsigmond kori oklevélétár* [Collected Charters from the Sigismund Period] Vol II/1. (Budapest: Akadémiai Kiadó, 1956), 543-544; Hatházi, A kunok régészeti emlékei, 223.

⁹³⁷ Hatházi, A kunok évszázadai, 103.

⁹³⁸ Pálóczi Horváth, A kunok megtelkedése, 251-252.

⁹³⁹ Mándoky Kongur, A Hantos-széki kunok, 73.

⁹⁴⁰ Mándoky Kongur, A Hantos-széki kunok, 79.

⁹⁴¹ Hatházi, A kunok régészeti emlékei, 171; Gyárfás, A jász-kunok, vol.3, 312.

⁹⁴² Mándoky Kongur, A kun nyelv magyarországi emlékei, 141. The place name Karaszon is mentioned as being in the area of Kunmadaras in the seventeenth and eighteenth century.

simply misheard and distorted by scribes unfamiliar with the Cuman tongue.⁹⁴³

Internal conflicts centered on the seat's leadership and the office of the captain arose again and again, especially in the connection with the regional center Hantossalásá and its territories. According to Hatházi, this settlement was the place where the head of the Cuman community already had his quarters at the time of their arrival in the region.⁹⁴⁴ Like other villages in the region, Hantosegyháza was also situated beside the important (and, more or less, naturally defined) road that led from Dunaföldvár to Székesfehérvár.⁹⁴⁵ The ownership of this village – and the office of the captain – was the subject of a series of trials that only ended in the early sixteenth century.⁹⁴⁶ The first phase of this debate centered around the late Captain Gal and his heirs mentioned above. Although the case was brought before the king several times, it was renewed in 1439, 1455, and 1465 , that is, several times in one generation. In 1471, János Thobay (from the same family called Thoman in other documents) and the Gyolcs family, all of them Cumans, asked the royal authorities to settle their long-lasting dispute over the ownership of Sárosd, Gyolcsapálszállása and Ujszállás villages. Both parties had documents of ownership to support their claim. Interestingly, they came to an agreement before the royal authorities could come to a decision.⁹⁴⁷ It is telling, however, that the captains of Hantos regularly engaged in arguments about their position. They were therefore eager to reaffirm their rights every time a new king was crowned.⁹⁴⁸ This uncertainty may signify a tension in the community which is not referred to in other sources. Later in the sixteenth century it was possible for female family members to receive land donations as well, something attested in a 1517 document in which Imre Thoman (from the same Thoman/Tobay family), his brothers, his wife Katalin as well as his daughter Sofia are named as donation receivers.⁹⁴⁹ Lands in the Seat of Hantos were forfeited several times by the king as well as by other owners.⁹⁵⁰

Some villages seem to have been left untouched by the long-lasting fight between the Gal, Thoman and Gyolcsa families. Karácsonszállása was in the possession of the Karácsony

⁹⁴³ This interpretation was raised by Hatházi on the basis of the linguistic analysis of place names carried out by Mándoky Kongur. Hatházi, A kunok régészeti emlékei, 225.

⁹⁴⁴ Hatházi, A kunok régészeti emlékei, 166.

⁹⁴⁵ Hatházi, A kunok régészeti emlékei, 15.

⁹⁴⁶ Hatházi, A kunok régészeti emlékei, 219-220.

⁹⁴⁷ Gyárfás, A jász-kunok, vol.3, 281-282.

⁹⁴⁸ Károly, Fejér vármegye története, vol.1, 197.

⁹⁴⁹ Gyárfás, A jász-kunok, vol.3, 369-370.

⁹⁵⁰ Gyárfás, A jász-kunok, vol.3, 248-249.

family, as attested in a letter from 1418 written by István Pomázi Csikó to the widow of László Töttös in the lands of his friend Miklós, son of Karácsny.⁹⁵¹ (Indeed, the village's alternative name was Karácsonmiklósszállása, a name used in a 1419 charter.⁹⁵²) This also explains why this settlement was chosen as a place for decision-making in the trial between the Thoman and Gal families and a certain Peter from Baydamerszállása.⁹⁵³

While a lot is known about the ownership conflicts within these villages, not much is revealed on the economic life of the region in written documents. The first preserved piece of data on taxes paid by the Seat of Hantos comes from 1444 when the income valued at 1,000 Forints presented by the seat was forfeited by the *Magister Agazonum* Simon Pálóczi to László Szentmihályi and his family.⁹⁵⁴ (In fact, King Vladislaus also forfeited this income to Simon Pálóczi.) There is almost nothing in the records on Hontosegyháza itself, even though it must have been the original political – and supposedly also economic – center, something clearly evidenced by the above mentioned “dynastic” fights for its possession. Its forest is mentioned in the charters several times and regularly referred to as *Hontoserdeye* (“the forest of Hantos”), *virgultum* (thicket) and *Hantosharaztya* (probably an oak forest that was transformed by irregular exploitation such as occasional wood collecting and grazing).⁹⁵⁵ The name “haraszt” suggests that this forest was intensively but intermittently used for pasturing animals or for collecting wood,⁹⁵⁶ although none of these forms of exploitation is specified in the texts.

Even though not much is known about the regional administrative center, other settlements seem to have played an equally pivotal role in the area. In 1481, King Matthias granted the village of Jakabszállása the right to organize weekly markets every Thursday and

⁹⁵¹ „...*Scripta in descensu Comanorum apud domum nobilis Nicolai filii Karachon...*” Iván Nagy, Imre Nagy, and Dezső Véghely eds., *A zichi és vásonkeői gróf Zichy-család időság ágának okmánytára*. [Collected Charters of the Zichy Family of Zics and Vásonkeő] Vol. 12. (Budapest, 1931), 111-112.

⁹⁵² Gyárfás, A jász-kunok, vol.3, 566.

⁹⁵³ Hatházi, A kunok régészeti emlékei, 225.

⁹⁵⁴ Gyárfás, A jász-kunok, vol. 3, 615-616; Hatházi, A kunok régészeti emlékei, 183.

⁹⁵⁵ „... *cum virgulto ad ipsam Honthos spectante...*”, „...*et usui silve Hontoserdeye vocate*”, „...*predii litigiosi Honthosharazthy nominati in territorio possessionis Honthos...*” The name *haraszt* was used in the Middle Ages for oak forests. Károly, Fejér vármegye története, vol.1. 582, 585, 588, 593; Hatházi, A kunok régészeti emlékei, 11; Pál Csöre, *A magyar erdőgazdálkodás története. Középkor*. [The History of Woodland Management in Hungary. The Middle Ages] (Budapest: Akadémiai Kiadó, 1980), 105, 109-110 (henceforth: Csöre, A magyar erdőgazdálkodás története); Camillo Reuter, “Tölgy és haraszt” [The terminology of oak and bushy thickets] *Magyar Nyelv* 61 (March 1965), 80-89: 80.

⁹⁵⁶ Csöre, A magyar erdőgazdálkodás története, 105.

three big nationwide fairs in each year.⁹⁵⁷ This privilege suggests that this village served as a market hub and was probably an economically important settlement. In fact, the village must have been economically active even just before its destruction in the first half of the sixteenth century: the Cuman captain Gergely Thoman moved here after Hantosegyháza, the former center, was destroyed sometime between 1526-29.⁹⁵⁸ Interestingly, this market hub was one of the first villages in the region to disappear forever, and from the mid-sixteenth century its role as a small regional economic center was taken over by Karácsonzállása and Előszállása, as revealed in the Turkish defters. Another village, Újszállás, may also have had the right to organize markets. Although there is no clear evidence for it, the name of its church, consecrated to “Vásáros Boldogasszony” (that is, the “Holy Virgin of markets”), is suggestive.⁹⁵⁹ This name no longer appears after 1455, which is possibly connected to the newly established markets in Jakabszállása that may have taken over the market role of Újszállás.⁹⁶⁰ It seems that smaller hubs competed with each other and the leading position repeatedly shifted between different settlements. To what extent this was due to local demographic changes, shifts in trade opportunities and land ownership is, however, hard to pin down.

Of course, debates over land ownership and associated agricultural products may also reflect economic processes. Beside the one long trial over village ownership between the heirs of Gal and the Thoman/Tobay family, conflicts resembling those seen in Greater Cumania were present here as well. In 1448, peasants from Kajtorszállása complained that people from the nearby village of Báránd had sent a servant to set fire to their hay still lying on the pasture, and a Cuman was also beaten up.⁹⁶¹

Although not much is revealed about the economy of the region in the documents, environmental conditions made this area unfavorable for land cultivation. Approximately 57% of this Cuman habitation area consisted of dry loess hills with poor vegetation, while the rest of the area was interspersed with watercourses surrounded by swampy wetlands.⁹⁶² Therefore, animal

⁹⁵⁷ Mándoky Kongur, A Hantos-széki kunok, 77; Gyárfás, A jász-kunok, vol.3, 682-683.

⁹⁵⁸ Hatházi, A kunok régészeti emlékei, 221.

⁹⁵⁹ 1419: "...Wyzallas, in quo Ecclesiae beatae Mariae Virginis Vasarosbodogazzon appellatam..." Gyárfás, A jász-kunok, vol.3, 566.

⁹⁶⁰ Gyárfás, A jász-kunok, vol.3, 262; Hatházi, A kunok régészeti emlékei, 224.

⁹⁶¹ Gyárfás, A jász-kunok, vol.3, 251-252.

⁹⁶² Hatházi, A kunok régészeti emlékei, 164. Already in the Árpád Period, villages of this area were mostly located along the narrow watercourses.

husbandry was supposedly dominant although in this region, unlike Greater and Lesser Cumania, there are no written records that specifically would testify to this activity.

Lajos Gláser presented the view that the important road from Székesfehérvár to Dunaföldvár running through this region was the same as the trade route that led from Szeged to Székesfehérvár and Győr; this was, however, disputed by Hatházi.⁹⁶³ Another route that touched this area and was mentioned in a 1436 charter, diverged from the Buda – Székesfehérvár Road and led in the direction of Sárosd, Káloz and Kapurév to merge with the Székesfehervár - Zákány Road. This was, however, not among the most significant routes.⁹⁶⁴ The extent to which the people of Hantos were in an ideal position to join the cattle trade is uncertain. In fact, Fejér County did not belong to the traditional catchment area for this trade.⁹⁶⁵ On the other hand, the merchants of Buda and Székesfehérvár were probably close enough geographically to buy up the surplus livestock. At any rate, if the Cumans of Hantos participated in the animal trade, similarly to those in Greater and Lesser Cumania, the Turkish-Ottoman wars were certainly to become catastrophic in terms of jeopardizing long distance livestock drives.

The Turkish-Ottoman occupation already had a devastating impact on the region in its first phase. After the battle of Mohács in 1526, Turkish forces marched to the north and their route led through Fejér County and the Seat of Hantos. In a 1537 charter, both the village of Hantosegyháza and Ivánkatalke are mentioned as deserted settlements. The region, however, still must have preserved some of its infrastructure, inhabitants and value as the villages of Előszállás, Karácsonszállás, Újszállás, Jakabszállás, Sárosd, Kajtorszállás and Perkáta were donated to the bishop of Pécs, György Sulyok and his family as a reward for their war services.⁹⁶⁶ A number of settlement names disappear from the charters by the mid-sixteenth century such as Bajdamerszállás, Csobakszállás, Gyolcsapálszállása or Thobaliszentpéter; some of these places, however, may well be associated with a natural settlement desertion process instead of the devastating effects of the war. Interestingly, the above mentioned village names were completely unknown for Turkish tax collectors and were not even recorded as deserted

⁹⁶³ Lajos Gláser, "A Dunántúl középkori úthálózata. I." [The medieval road network of Transdanubia. I.] *Századok* 63-64 (1929-30), 138-167: 150; Hatházi, *A kunok régészeti emlékei*, 15.

⁹⁶⁴ Lajos Gláser, „A Dunántúl középkori úthálózata. II.” [The medieval road network of Transdanubia. II.] *Századok* 63-64 (1929-30), 257-285: 268.

⁹⁶⁵ Bartosiewicz, *Animals in the Urban Landscape*, 82-83.

⁹⁶⁶ Gyárfás, *A jász-kunok*, vol.3, 396-397.

places.⁹⁶⁷ Two additional place names, however, Mihálegyháza and Szentalberd, appear only in the Turkish defters. These are not known from earlier periods and cannot be associated with any of the Cuman settlements.⁹⁶⁸

The Turkish tax rolls mostly report on the abandonment of Cuman settlements. The former market hub of Jakabszállása is repeatedly described as an uninhabited although cultivated piece of land in Turkish ownership (in 1546- 1559, 1562, 1580 and 1590, respectively).⁹⁶⁹ The same is true for Újszállás, used by the inhabitants of Karácsonszállás.⁹⁷⁰ Ivánka was also destroyed and depopulated; it was used by the locals of the nearby village of Venim as pasture for animals.⁹⁷¹ The village of Perkáta (recorded under the name Parkát) was slowly dying: in 1559 it had only five families and one unmarried man. Their financial situation seems to have been rather precarious. The inhabitants possessed altogether six pigs and produced ca. 50 *kile* of wheat per family.⁹⁷² In 1580, the village was already listed as an abandoned place.⁹⁷³

Two of the region's Cuman settlements, Karácsonszállás and Előszállás, however, were continuously inhabited, and even showed signs of modest economic growth (see *Table 3.4.1*). Karácsonszállás had a fluctuating number of inhabitants. For some reason there seems to have been a migration into this village in the mid-sixteenth century (possibly from those nearby villages that were abandoned) and as a result the number of people living here grew rapidly. In 1426, only 37 people were listed, while the village possessed 104 inhabitants in 1562. Interestingly, it was mainly unmarried men who appeared here in large numbers as newcomers, but their cultural background is uncertain. Although name lists testify to a gradual shift from Cuman to Hungarian names in the sixteenth century, some of the sixteenth-century inhabitants still had Cuman family names.⁹⁷⁴ One family name preserved in the 1580 defter, *Besteri / Bezteri*

⁹⁶⁷ Hatházi, A kunok régészeti emlékei, 165.

⁹⁶⁸ Hatházi, A kunok régészeti emlékei, 231.

⁹⁶⁹ Káldy-Nagy, A budai szandzsák 1546-1590 évi összeírásai, 324-325.

⁹⁷⁰ Káldy-Nagy, A budai szandzsák 1546-1590 évi összeírásai , 667.

⁹⁷¹ Káldy-Nagy, A budai szandzsák 1546-1590 évi összeírásai, 321-322.

⁹⁷² One *kile* was approximately equivalent to 0.037 cubic meters.

⁹⁷³ Káldy-Nagy, A budai szandzsák 1546-1590 évi összeírásai, 481.

⁹⁷⁴ Some family names preserved in the sixteenth-century conscriptions probably have Cuman roots. As these have not yet been the focus of proper linguistic studies, only a suspicion can be voiced here. In Előszállás, 1559: Onta, Ornta, Ungi, Bercsik, Borla; 1580: Torla / Tozla, Karamos, Osta, Öteki, Tarsa, Tatár, Onda, Gazdik. In Karácsonszállás, 1559: Moncsák, Ozsvárd, Kara(i), Tokácsi, Csát, Hotáz, Alagor; 1580: Kara, Ozvár, Marcsák, Ozvár, Csotár. (Káldy-Nagy, A budai szandzsák 1559. évi összeírása, 70-72; Antal Velics and Ernő Kammerer, *Magyarországi török kincstári defterek* [Turkish Tax Registers from Hungary] Vol. 2. (Budapest: A Magyar Tudományos Akadémia Történelmi Bizottsága, 1890), 536-537 (henceforth: Velics and Kammerer,

may signify that this family migrated here from the nearby and previously destroyed village of Bezterszállása.⁹⁷⁵ Military movements and worsening conditions elsewhere as well as the favorable position this particular village held at that time may have contributed to the population into it. In Karácsonzállás, locals were involved in sheep keeping although not on a large scale: even in the richest years, owners typically herded 100-150 animals (altogether 750 sheep in 1559 and 740 in 1562), which may have been sufficient to allow for a modest participation in the sheep trade, or the production of wool and dairy products. In the mid-sixteenth century, when the livestock grew from 150 to 750 animals and a significant population movement into the village into the area was evident, the number of sheep owners did not really change (there were three owners in 1546, five in 1559 and six in 1562), suggesting that the newcomers were not attracted here by the opportunities presented by sheep keeping but there were other reasons for the migrations. Nevertheless, according to the 1559 tax roll, families whose names are probably Cuman were also involved in sheep husbandry.⁹⁷⁶ Even though sheep keeping became more important in the mid-sixteenth century, only three owners kept sheep in 1580, signaling that the livestock remained concentrated in the hands of a few people. At the same time, the number of swine and beehives significantly increased between 1562 and 1590. A huge amount of tax paid after firewood and hay again suggests there was extensive keeping of cattle and horses for which large amounts of hay were needed. The expansion is also evidenced by the fact that in 1559 Karácsonzállás also used the lands that previously belonged to the villages of Sárosd, Cserecsút, Szentalberd and another, unidentified settlement.⁹⁷⁷ The lands of Újszállás, another abandoned Cuman village, were also used by Karácsonzállás; in the tax rolls it is mentioned that these lands were mainly used for cultivating hay.⁹⁷⁸ Interestingly, the two geographical names that were unknown in previous centuries and appear in the Turkish tax rolls, that is, Mihálegyház and Szentalberd, also denote abandoned villages whose lands were used by the expanding settlement

Magyarországi török kincstári defterek)

⁹⁷⁵ Bezterszállás was in fact located on the other side of the Danube, between Szabadszállás and Kunszentmiklós; thus, it was located in the area that Hatházi considered to be the major source of early Cuman migration to the Hantos region. Consequently, it is difficult to say if the name, recorded in 1580, contains the memory of an earlier or a more recent migration. (Velics and Kammerer, Magyarországi török kincstári defterek Vol. 2. 536; Hatházi, A kunok régészeti emlékei, 225, 230-231; Hatházi, A kunok évszázadai, 87.)

⁹⁷⁶ Balázs Moncsák possessed 150 sheep and Mihály Karai possessed 100 sheep. (Káldy-Nagy, A budai szandzsák 1559. évi összeírása, 72) In the 1580 rolls, none of the people mentioned as sheep owners has a Cuman name. (Velics and Kammerer, Magyarországi török kincstári defterek, vol.2, 536-537.)

⁹⁷⁷ Káldy-Nagy, A budai szandzsák 1546-1590 évi összeírásai, 341-342.

⁹⁷⁸ Káldy-Nagy, A budai szandzsák 1546-1590 évi összeírásai, 524, 667.

of Karácsonszállás.⁹⁷⁹ Mándoky Kongur suggested that these newly appearing place names may be associated with the above mentioned population movements and new inhabitants named the settlements differently;⁹⁸⁰ nevertheless, if these were, in fact, newly formed settlements, they were not to be long-lived, and there was out migration as well. An intriguing piece of data on individual population movements is preserved in the 1559 tax roll of Karácsonszállás: a person with a probable Cuman name, Lajos Alagor, escaped from the village and settled in Ráckeve for some reason.⁹⁸¹

Village	Year	Number of inhabitants in the lists	Number of sheep	Number of sheep owners	Number of swine	Number of beehives	Tax paid after firewood and hay
Karácsonszállás	1546	37	150	3	10	5	N/A
	1559	30	750	5	70	38	N/A
	1562	104	740	6	N/A	N/A	N/A
	1580	65	355	3	250	250	1500
	1590	45	N/A	N/A	325	750	1800
Előszállás	1546	44	165	4	10	5	N/A
	1559	46	600	6	125	60	N/A
	1562	82	690	8	N/A	N/A	N/A
	1580	82	435	4	125	175	2310
	1590	61	N/A	N/A	625	225	2250

Table 3.4.1 Demographic and economic data on two Cuman villages in the Seat of Hantos in the sixteenth century. (Based on Káldy-Nagy, A budai szandzsák 1546-1590 évi összeírásai) Numbers suggesting high yields are in bold.

A very similar story emerges from the tax roll data on the Cuman village of Előszállás. This village is somewhat mysterious, as it appears in documents first in the mid-sixteenth century, and not long after its first appearance it starts to grow rapidly. Hatházi raised the possibility that this was actually a village which must have existed before but whose name was simply changed for whatever reason;⁹⁸² it is even possible that this settlement is identical to the

⁹⁷⁹ Káldy-Nagy, A budai szandzsák 1559. évi összeírása, 537; Káldy-Nagy, A budai szandzsák 1546-1590 évi összeírásai, 431, 556.

⁹⁸⁰ Mándoky Kongur, A Hantos-széki kunok, 78.

⁹⁸¹ Káldy-Nagy, Magyarországi török adóüsszeirások, 72.

⁹⁸² Hatházi, A kunok régészeti emlékei, 226.

one known under the name Csabakszállása,⁹⁸³ an important part of the landed properties over which the Thoman and Gal families fought. In any case, Turkish tax rolls reveal that the number of inhabitants listed in this village doubled in the mid-sixteenth century and the number of sheep also started to increase. Here, unlike Karácsonszállás, the number of livestock owners also increased slightly in number. While in 1546, altogether four owners possessed 165 sheep, in 1559 there were 600 animals in the hands of six people, while already in 1562 eight owners were engaged in sheep keeping and kept 690 animals. Nevertheless, the number of sheep on the one hand, typically did not exceed that observed in Karácsonszállás but remained steady at around 100 animals. It was only in 1562 that one of the owners possessed 190 sheep. Families with supposedly Cuman names appear as sheep keepers here as well.⁹⁸⁴ Előszállás paid even more tax after firewood and hay than did Karácsonszállás. A steep increase in the number of swine and beehives suggest similar strategies. The lands of former Jakabszállás were used by Előszállás for agricultural purposes.⁹⁸⁵ This suggests that the village participated in the animal trade or produced wool and dairy products, but the emphasis was probably not on sheep keeping. (This trend observed at Előszállás and Karácsonszállás also corresponds to the archaeozoological material of Perkáta, in which cattle and horses outnumber sheep, suggesting that mutton had a secondary role in the village's meat consumption.)

As seen above, the economic emphasis first shifted to sheep keeping in the 1550s-1560s, which may have been due to an Ottoman demand for mutton as opposed to swine, while in the 1570s and 1580s there seems to be a setback in the keeping of small stock. Unfortunately, no direct data is at hand on cattle husbandry at these villages, however, the large amounts of tax paid after hay at the end of the century suggests long-term participation in raising cattle. These similar processes in the two regional economic centers are probably rooted in identical reasons. In the late sixteenth century, other regional centers not associated with the Cumans, especially Adony, became more important and may have posed serious economic competition. In Adony, the surprisingly high tax paid after hay (1500 akçe in 1580) and after "income from pastures and meadows" (100 akçe in 1562, but 2500 akçe both in 1580 and 1590) suggests intensive animal

⁹⁸³ Hatházi, *A kunok régészeti emlékei*, 229.

⁹⁸⁴ Benedek Onta kept 50 sheep and György Ornta (from the same family but misspelled?) possessed another 50 animals while Anbrus Borla had 100. (Káldy-Nagy, *A budai szandzsák 1559. évi összeírása*, 70-71) In the 1580 rolls, none of the people mentioned as sheep owners has a Cuman name. (Velics and Kammerer, *Magyarországi török kincstári defterek*, vol. 2, 536.)

⁹⁸⁵ Káldy-Nagy, *A budai szandzsák 1546-1590 évi összeírásai*, 227-228.

husbandry practices. The number of sheep paid as *decima* also grew steeply from 50 in 1580 to 654 in 1590 (!). The number of sheep was not listed for Karácsonszállás and Előszállás for this date, but their sheep stock had already started to decrease between 1562 and 1580. Most likely local market demand did not significantly change over the course of these decades although production centers did. At the same time, the number of swine and beehives increased in Adony as well, similarly to what was observed at the two other settlements.⁹⁸⁶

Thus, a process similar to those observed in Lesser and Greater Cumania also took place here, although on a smaller scale. In this region, animal traders from Buda, Vác and possibly Székesfehérvár may have raised the demand for animal products that they could then re-sell on larger domestic markets or even abroad. Karácsonszállás and Előszállás emerged as two relatively wealthy settlements and probably also as new regional centers in place of the previous hubs of Hantosegyháza and Jakabszállása that had been depopulated. However, these new centers were also abandoned later. This abandonment process may also indicate an already ongoing spontaneous concentration of people and wealth in the region which was accelerated by the wars with the Ottoman forces. Mándoky Kongur suggested that the Turkish-Ottoman Wars eventually resulted in a mass migration of the Cumans of Hantos into larger Cuman communities; there are especially many personal and place names of probable Hantos origin in the northern part of Lesser Cumania where contacts must have always been most intensive.⁹⁸⁷ The Fifteen Years' War put an end to the medieval history of the remaining settlements as well. The important military road along the Danube was a key strategic element both parties wished to control resulting in a harsh period for the whole region. Both Karácsonszállás and Előszállás, the two small regional centers that took over the role of Jakabszállása, were destroyed at the end of the sixteenth century; this is also evidenced by the late sixteenth-century coin hoards discovered at Karácsonszállás.⁹⁸⁸ Settlements repopulated here later have no records that show any connections whatsoever to Cumans.

⁹⁸⁶ Káldy-Nagy, A budai szandzsák 1546-1590 évi összeírásai, 61.

⁹⁸⁷ Mándoky Kongur, A Hantos-széki kunok, 80; see also footnote 35. Mándoky Kongur suggested that family names in Greater Cumania such as Gyócsai, Kantási or Karácsónyi also probably have a Hantos origin.

⁹⁸⁸ Hatházi, A kunok régészeti emlékei, 176-177.

3.4.2 The archaeological site of Perkáta

Written sources are not abundant on medieval Perkáta, although its medieval ownership is relatively well-known due to the continuous court trials between the influential Thoman and Gyolcsa families in the region. Its name is probably of Slavic origin. The original name used in the tenth century has not been preserved and the name is certainly not Cuman, only adopted by the Cumans.⁹⁸⁹ Therefore the possibility that the original ethnic background of medieval Perkáta was Slavic has been raised in the scholarly literature, either in the form of an early Slavic community that lived here in the eleventh-twelfth century when the village changed its name, or as a Slavic group that was settled here in the eleventh-twelfth century and gave the village a new name.⁹⁹⁰ The settlement appears in the sources only in 1419 under the name Kétpolkárt as a village with a church consecrated to the Holy Virgin.⁹⁹¹ The prefix ‘két’ ('two' in Hungarian) probably refers to a special settlement development pattern. It seems that the modern division into Nagy- and Kispermáta had medieval precursors; this kind of “village filiation” is, in fact, a well-known medieval phenomenon in the Carpathian Basin.⁹⁹² It is not clear why the settlement was “doubled” in this manner. It may be rooted in overpopulation or in the presence of people with different legal status (that is, free Cumans subjugated to the crown were separated from those who were serfs under a captain’s rule or possibly also from Hungarians who were settled here to supply a workforce).⁹⁹³ Interestingly, the settlement changed its name in the Cuman period. In charters dated between 1417 and 1517 it only appears as Kétpolkárt, which is then changed to Perkát, or Parkát in the Turkish tax rolls.⁹⁹⁴ This means that in the fifteenth-sixteenth centuries there must have been two villages or at least two settlement centers here.⁹⁹⁵ This is also reflected in the 1559 tax roll that recorded two places with this name:⁹⁹⁶ an abandoned piece of

⁹⁸⁹ Hatházi, A kunok régészeti emlékei, 227.

⁹⁹⁰ Hatházi, A kunok régészeti emlékei, 227.

⁹⁹¹ 1419: "...Kelpelkuarth, in quo similiter Ecclesia beatae Mariae Virginis..." Gyárfás- A jász-kunok, vol 3, 566.

⁹⁹² As in the case of Perkáta, such villages were often established in the close vicinity of each (Szabó, A falurendszer kialakulása Magyarországon, 119-126.)

⁹⁹³ Hatházi, A kunok évszázadai, 103.

⁹⁹⁴ 1417: Kelpalkuarth, 1419: Kelpelkuarth, 1455: Kelpolkvarth, 1517: Kethpolkarth, Kethpolkard, 1537: Percath (Gyárfás, A jász-kunok, vol. 3, 566, 631, 736-737, 767); Káldy-Nagy, A budai szandzsák 1546-1590 évi összeírásai, 481.

⁹⁹⁵ Hatházi, A kunok régészeti emlékei, 227.

⁹⁹⁶ It seems that this duplication of the name must have confused the Turkish officials as well. There are two records

land listed as belonging to the village of Adony and a small village with six taxpayers. The appearance of the name Perkáta instead of Kétpolkárt may be associated with the destruction and abandonment of one of the villages going by this name.⁹⁹⁷ The village was later repopulated and started to flourish again in the mid-seventeenth century;⁹⁹⁸ its population, however, must have been completely changed while Cuman names never appear in the settlement's records again.

During the, more or less, peaceful period of the fifteenth century, Perkáta was in the hands of the Thoman family. After the first years of the Turkish-Ottoman wars and the partial destruction of the village, Perkáta was donated to György Sulyok (the bishop of Pécs) in 1537 and then in 1541 to Ferenc Horváth (the captain of the castle of Szarvaskő) along with the rest of the villages of Hantos.⁹⁹⁹ War movements seriously decimated the region and it was probably in these years that the Cuman villages of Hantos lost their privileges.¹⁰⁰⁰ Perkáta, however, was repopulated for a short period. As mentioned earlier, in the mid-sixteenth-century tax roll, Perkáta was listed among the poor villages with a few inhabitants. None of these people bore Cuman names, but at least two of them seem to have been Slavs;¹⁰⁰¹ Hatházi assumed that these were Hungarians and/or South Slavs who migrated here from the even more war-affected area around the main road leading to Buda.¹⁰⁰² That is, these people did not belong to the village's original Cuman population who probably migrated to larger towns or more peaceful areas. The inhabitants in 1559 possessed altogether six swine and paid only 30 akçe in taxes after hay.¹⁰⁰³ It seems that these people did not stay here long: in 1562, 1580 and 1590 Perkáta was listed as being an abandoned village whose lands were cultivated by peasants of the neighboring village of Adony.¹⁰⁰⁴

Several archaeological sites were identified in the region of present-day Perkáta. Sporadic

in the 1559 Turkish tax roll under the name Parkát. The first one which says it is an abandoned piece of land cultivated by the village of Adony was crossed through and the inscription "village" was added. The other record, describing a village with six taxpayers was written next to it. (Káldy-Nagy, Magyarországi török adóösszeírások, 51)

⁹⁹⁷ Hatházi, A kunok régészeti emlékei, 227.

⁹⁹⁸ Gábor Hatházi, "A török hódoltság kora" [The Turkish-Ottoman Period] In *Perkáta története* [History of Perkáta.] Eds. Gábor Hatházi and Ferenc Erdős (Perkáta: Perkáta Nagyközség Polgármesteri Hivatala, 1996) 104-108: 104-105. (henceforth: Hatházi, A török hódoltság kora)

⁹⁹⁹ Hatházi, A kunok régészeti emlékei, 227.

¹⁰⁰⁰ Gyárfás, A jász-kunok, vol.3, 403.

¹⁰⁰¹ Family names in the 1559 conscription roll: Mészáros, Milanovity, Pap, Szigedfő, Salvan, Isztepan. (Káldy-Nagy, A budai szandzsák 1559. évi összeírása, 51.)

¹⁰⁰² Hatházi, A kunok régészeti emlékei, 227.

¹⁰⁰³ Káldy-Nagy, A budai szandzsák 1546-1590 évi összeírásai, 481.

¹⁰⁰⁴ Hatházi, A török hódoltság kora, 104.

medieval finds and small sites dated to the eleventh-thirteenth centuries were discovered,¹⁰⁰⁵ but only three large sites are associated unambiguously with the Cuman occupation. The site, known as Nagyperkáta - Szalasina / Kóhalmi dűlő, was identified as an early, thirteenth -fourteenth century Cuman village, established over the remains of an Árpád Period settlement. Its cemetery was excavated and extensively published by Hatházi.¹⁰⁰⁶ North of this site, at a distance of 200 m, fifteenth -sixteenth century finds testified to another medieval habitation area, known today as the site of Nagyperkáta - Hosszúlaposi- and Kereklaposi-dűlő. Hatházi suggested that this must be a continuation of the earlier site of Nagyperkáta – Szakasina / Kóhalmi dűlő, which was abandoned for some reason at the end of the fourteenth century. The medieval church consecrated to the Virgin Mary was also probably located here (even though it has not yet been found). Interestingly, a small, swampy lake seems to have been situated at the center of the site. The third site, Kisperkáta – Nyúli dűlő / József Attila u. / Homokbánya is located northeast of the latter two. It was also dated to the later period, that is, the fifteenth-sixteenth century. Thus, it seems that the latter two sites represent the doubled medieval settlement, inhabited after the site of Kóhalmi dűlő was abandoned at the end of the fourteenth century.¹⁰⁰⁷ In the near vicinity of present-day Perkáta, another medieval site (known by the name Perkáta – Bárányjárás – Alsódűlő) was discovered. This village can probably be identified with the village of Gyolcsapálszállása mentioned in fourteenth-century charters.¹⁰⁰⁸

The excavations continued in 2009-2011 in this third region under the site name of Perkáta - Homokbánya. The site is situated northwest of the present-day settlement, on a slope on the western bank of the Pistola Stream. Most medieval features were brought to light on the northern part of the stream bank, close to the watercourse, and probably represented two phases dated to the thirteenth and to fifteeenth-sixteenth centuries.¹⁰⁰⁹ The excavated village area was continuously inhabited. Consequently several layers dated to different periods from the Neolithic

¹⁰⁰⁵ Hatházi, A kunok régészeti emlékei, 215-217.

¹⁰⁰⁶ Gábor Hatházi, A perkátaí kun szállástemető” [The Cuman cemetery of Perkáta] *Móra Ferenc Múzeum Évkönyve* 1984-85/2 (1991), 651-674 (henceforth: Hatházi, A perkátaí kun szállástemető); Hatházi, A kunok régészeti emlékei, 19-132.

¹⁰⁰⁷ Hatházi, A kunok régészeti emlékei, 227-228.

¹⁰⁰⁸ Hatházi, A kunok régészeti emlékei, 228.

¹⁰⁰⁹ Katalin Kovács, “Perkáta – Homokbánya (Fejér Megye)” [Perkáta / Sand Mine (Fejér County)], in *Tájékoztató az MNM NÖK 2010 – 2011. évi tevékenységéről* [Reports on the Work of the Hungarian National Museum, Center of Cultural Heritage Protection in 2010-2011] Eds. Judit Kvassay and László Schilling (Budapest: Magyar Nemzeti Múzeum, 2013) 9.

to the Early Modern Period were brought to light. The village's late medieval layer is probably identical to the remains of the fifteenth-sixteenth century village of Kétpolkárt mentioned in the charters.¹⁰¹⁰

This faunal material was identified and processed by Anna Biller who kindly allowed me to use her as yet unpublished data on the site's animal bones. This material comprised altogether 1,906 bone finds dated to the Árpád Period and, generally, the Middle Ages,¹⁰¹¹ here discussed together.¹⁰¹² It goes without saying that this small sample cannot reflect the animal husbandry of the whole region; however, at the moment, this is the only available and processed archaeological material that can serve as a starting point for further research.

Species	Bones identified	% of all faunal remains	% of faunal remains identified to taxon	MNI	Butchering marks	Skinning marks	Worked pieces	Pathological bones
Cattle	710	37.25	50.57	N/A	N/A	N/A	4	3
Horse	291	15.27	20.73	N/A	N/A	N/A	3	4
Sheep and goat	213	11.18	15.17	N/A	N/A	N/A	-	4
Swine	123	6.45	8.76	N/A	N/A	N/A	-	3
Dog	30	1.57	2.14	N/A	N/A	N/A	1	3
Domestic hen	8	0.42	0.57	N/A	N/A	N/A	-	-
Domestic goose	2	0.1	0.14	N/A	N/A	N/A	-	-
Total domestic	1377	72.25	98.08	N/A	N/A	N/A	8	17
Red deer	9	0.47	0.64	N/A	N/A	N/A	-	-
Wild swine	4	0.21	0.28	N/A	N/A	N/A	-	-
Roe deer	1	0.05	0.07	N/A	N/A	N/A	-	-
Aurochs	3	0.16	0.21	N/A	N/A	N/A	-	-
Grey wolf	1	0.05	0.07	N/A	N/A	N/A	-	-
Red fox	1	0.05	0.07	N/A	N/A	N/A	-	-
European hare	1	0.05	0.07	N/A	N/A	N/A	-	-
Ground squirrel	6	0.31	0.43	N/A	N/A	N/A	-	-
European hamster	1	0.05	0.07	N/A	N/A	N/A	-	-

¹⁰¹⁰ Hatházi, A kunok régészeti emlékei, 228.

¹⁰¹¹ Anna Biller, *Perkáta – Homokbánya feltárásának állatcsontleletei*. 2013. [Animal bone findings from the excavation of Perkáta – Sand mine] Report on file at NÖK. (henceforth: Biller, Perkáta)

¹⁰¹² Altogether 51 bone finds were dated to the Árpád Period and 29 to the Late Middle Ages. These samples are not suited for an independent calculation.

Total wild game	27	1.42	1.92	N/A	N/A	N/A	-	-
Total identified to taxon	1404	73.66	100	N/A	N/A	N/A	-	17
Large ungulate	395	20.72	-	N/A	N/A	N/A	1	-
Small ungulate	75	3.93	-	N/A	N/A	N/A	-	-
Small mammal	27	1.42	-	N/A	N/A	N/A	-	-
Bird	2	0.1	-	N/A	N/A	N/A	-	-
Amphibian	1	0.05	-	N/A	N/A	N/A	-	-
Molluscs	2	0.1	-	N/A	N/A	N/A	-	-
Total non-identified to taxon	502	26.34	-	N/A	N/A	N/A	1	-
Total	1906	100	100	N/A	119	2	9	17

Table 3.4.2 The medieval faunal remains unearthed at Perkáta – Homokbánya in 2009-2011 (after Biller; Perkáta)

The species ratios more or less reflect those observed in other Cuman areas. The dominance of cattle is evident (50.6% of all bones identified to taxon); it is however a bit surprising that horses represent 20.7% as opposed to the 15.2% of sheep and goats and the 8.8% of swine.¹⁰¹³ (The minimum number of individuals was not calculated by Biller.) Gnawing marks were observed on the bones in 95 cases. The presence of these marks indicates that dogs and swine had at least occasionally free access to the village garbage.

An atypical age profile is revealed by the faunal material. Most interestingly, the ratio of young animals in the kitchen refuse is very high: 57% of all cattle identified to age were juvenile or subadult animals, while this ratio is 57.4% in swine, and in the case of sheep it is over 60%.¹⁰¹⁴ This is difficult to explain. On one hand, these values must be handled with caution, as heavy fragmentation made it impossible to identify the animals' age in most cases, and thus, the sample of individuals whose age at death can be determined is small. Although chopping marks were observed only in a few cases, deliberate fragmentation must have affected the bones, as they were likely broken into small pieces for cooking (so-called pot-sizing).¹⁰¹⁵ On the other hand, the same was also observed on the cattle and swine bone, signifying a clear trend in the

¹⁰¹³ Biller, Perkáta, 20, Fig. 6.

¹⁰¹⁴ Biller, Perkáta, 21, fig. 8

¹⁰¹⁵ Such a practice may result in a high number of diaphysis fragments, however, it does not influences the possibilities for determining age from the epiphyses, which is the most usual method of identifying the age of individuals.

way bones were broken up during food processing. This high ratio of young individuals in the faunal material suggests that there was relative wealth in the village before the sixteenth century setback. Moreover, most skeletal elements come from the meaty parts of extremities (upper leg, shoulder, pelvic region), which again shows the relative wealth of the village inhabitants (at least the inhabitants living in this excavated part of the village).¹⁰¹⁶ The large number of young small ruminants in the garbage is especially striking, given the widespread secondary exploitation of sheep and goat (milk, wool), which makes it reasonable to keep them alive longer and slaughter them only in an older age when they do not efficiently provide milk or wool anymore. It is tempting to connect this abundance in sheep to the upswing of the sheep livestock revealed by the region's mid-sixteenth century Turkish defters and say that Karácsonszállás and Előszállás took over the sheep production work that must have previously been characteristic at Perkáta. It must be kept in mind, however, that our archaeological data blur minor chronological distinctions. Sheep may have represented the usual form of "pocket money" since they can be easily sold or slaughtered when necessary. As we have seen in the tax rolls of nearby villages, the number of sheep in one owner's hands typically did not exceed 100-150 individual animals; however, if these were mainly kept for non-commercial purposes, young individuals must have been constantly available. A high ratio of young sheep also suggests a strategy of maintaining an ideal age and sex composition in the herd where superfluous (not needed for breeding purposes) young males are often slaughtered, while ewes are kept alive longer for their wool, milk and new offspring.

Luckily, a number of well-preserved bones were available for withers height calculation. Remains of cattle of the larger *primigenius* type were discovered here: at least two of the seven unearthed horn cores belonged to this type.¹⁰¹⁷ Withers heights of cattle, on the other hand, overlap with those observed at other sites: they range from 108.5 to 123.1 cm (with an average of 114.8 cm),¹⁰¹⁸ and indicate that these were small animals (the same size cohort as the smaller group of cattle observed at Szentkirály). It must be added, however, that six of the seven individuals whose withers height was calculated were cows, and these are usually smaller due to

¹⁰¹⁶ Butchering patterns and meat preferences are discussed in detail in Chapter 5, Processing the animal body.

¹⁰¹⁷ Biller, Perkáta, 22.

¹⁰¹⁸ The withers height of 7 individuals could be calculated: 108.5 cm (cow, metacarpal), 112.2 cm (cow, metacarpal), 115.6 cm (oxen, metacarpal), 113.4 cm (cow, metacarpal), 120.6 cm (cow, metatarsal), 110.3 cm (cow, metatarsal) and 123.1 cm (cow, metatarsal). Biller, Perkáta, 32, Appendix 3.

the sexual dimorphism characteristic of this species. It is telling, however, that Perkáta, a village that in all probability did not contribute intensively to the cattle trade, yielded animals of a similar size to those discovered east of the Danube, in the catchment area of the export. Even as cows, the average size of cattle in Perkáta is, in fact, smaller than the fourteenth-seventeenth century average calculated by Bökönyi (118.2-125.5 cm), and rather reflects the average for Árpád Period cattle (107.2-120.3 cm).¹⁰¹⁹ Matolcsi also made such average calculations for the different sexes, and his values for small sixteenth-seventeenth-century cows overlap with those found at Perkáta.¹⁰²⁰ On the basis of Bökönyi's dataset, if only fourteenth-seventeenth century-cows from Hungarian settlements are investigated, their average withers height would be 117.9 cm (with a minimum of 96.4 and a maximum of 136.9 cm);¹⁰²¹ this is still larger than the average of the Perkáta sample.

Measurements and proportions of the metacarpal bones of the Perkáta cows overlap with those observed at other, fourteenth - seventeenth- century Hungarian sites. As seen on *Diagram 3.4.1*, the medieval cow population was rather heterogenous in terms of metapodial size and slenderness with various size cohorts forming a continuum. There is, however, a clear difference in size between the Árpád Period and the late medieval average, although proportions of individual animals are quite similar. The Perkáta metacarpals are rather small and relatively slender, with small values for proximal depth, and rather correspond to measurements taken on Árpád Period cows. This, again suggests that the cattle at Perkáta belonged to the brachyceros rather than the primigenius group. In fact, apart from the two horn core fragments identified by Biller as belonging to the primigenius type, there is no other proof that cattle of larger stature, representing a more varied livestock pool, were present at Perkáta. The settlement (and the whole region) did not belong to the most important catchment area of the trade, and no evidence exists that testifies to the village's participation in this business. Consequently, the relative fifteenth-

¹⁰¹⁹ Average values are based on 185 individual bones. Bökönyi, History of Domestic Mammals, 140.

¹⁰²⁰ Matolcsi came up with withers height of 107.6 – 120.6 cm for sixteenth-seventeenth-century cows (based on 61 individuals), 123.5 – 128.2 cm for bulls and oxen (based on 52 individuals) and 129.3 – 137.8 cm for oxen (based on 21 animals). János Matolcsi, "Historische Erforschung der Körpergrösse des Rindes auf Grund von ungarischen Knochenmaterial" *Zeitschrift für Tierzüchtung und Züchtungsbiologie* 87/2 (1970), 89-137 (henceforth: Matolcsi, Historische Erforschung); István Vörös, "Sixteenth- and Seventeenth Century Animal Bone Finds in Hungary" in *Archaeology of the Ottoman Period in Hungary. Papers of the Conference Held at the Hungarian National Museum, Budapest, 24-26 May 2000*, Eds. Ibolya Gerelyes and Gyöngyi Kovács (Budapest: Hungarian National Museum, 2003), 351-364: 356, Table 5. (henceforth: Vörös, Sixteenth- and Seventeenth Century Animal Bone Finds)

¹⁰²¹ Bökönyi, History of Domestic Mammals, 470-476; 499-501.

century wealth of the villagers must have derived from other sources.

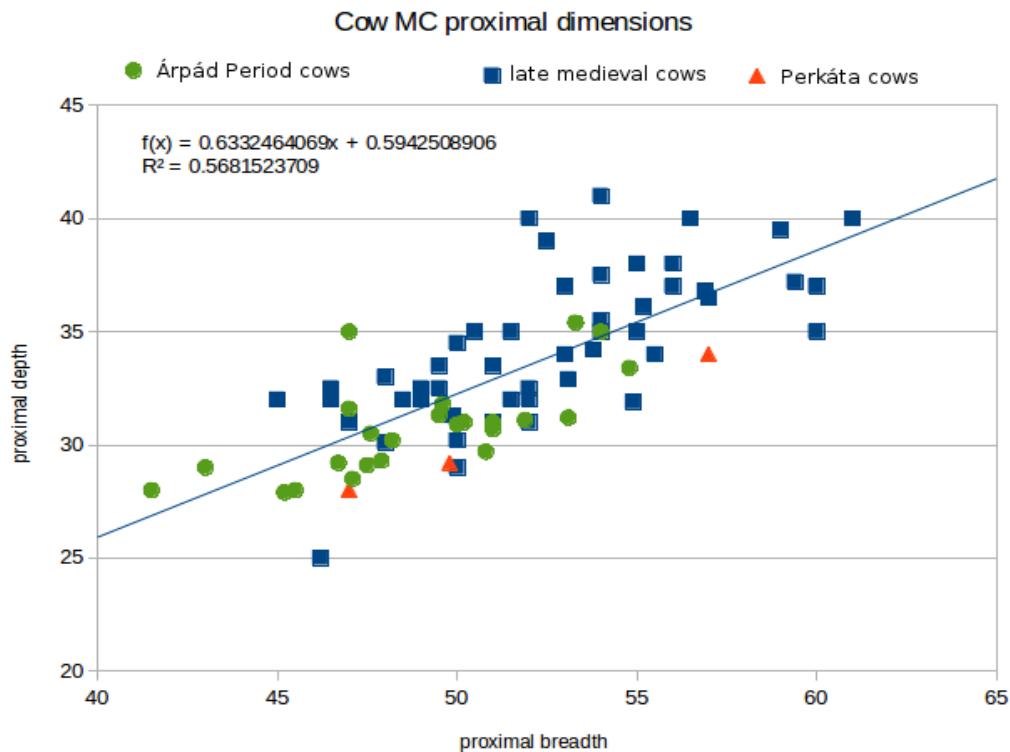


Diagram 3.4.1 Metacarpal proximal proportions of medieval cows. The red triangles indicate the Perkáta individuals. Sites included: Szolnok Castle, Visegrád, Gyula Castle, Tiszaszőlős – Csákányeszeg, Tiszalök – Rázom, Kardoskút-Hatablak, Vác, Hanta, Murga – Schanz, Hajdúnánás – Fűrjhalom dűlő, Muhi, Endrőd 6 and Perkáta. Only cows were included in order to avoid distortions caused by sexual dimorphism.

Preserved horse bones (especially metapodia) were also available in relatively high numbers. The sizes of ten individuals were estimated; these range from 134.8 to 155.8 cm (with an average of 146.5 cm; or 142.6 cm if the withers height are estimated with Vitt's method), testifying to the presence of different phenotypes, possibly horses used for different purposes.¹⁰²² This average height calculated by Biller (146.5 cm; or 142.6 cm) is somewhat larger than the Árpád Period average calculated by Vörös as 140.6 cm,¹⁰²³ or by Bökönyi as 134.2 – 141 cm; it rather overlaps with the fourteenth-seventeenth-century average withers height according to

¹⁰²² The withers height of the ten horses are calculated by Biller as follows: 134.8 cm (femur; 133.6 cm with Vitt's method), 137.5 cm (metatarsal), 144.9 cm (radius; 137.6 cm with Vitt's method), 145.5 cm (metatarsal), 146.1 cm (tibia; 132 cm with Vitt's method), 148.1 cm (metacarpal), 148.1 cm (metacarpal), 151.5 cm (radius; 143.6 with Vitt's method), 152.4 cm (metatarsal), 155.8 cm (radius; 147.6 cm with Vitt's method). Biller, Perkáta, 32, Appendix 3.

¹⁰²³ Vörös' calculation is based on 48 individuals. Vörös, Ló az Árpád-kori Magyarországon, 176.

Bökönyi, which lay between 136.6 – 143.6 cm.¹⁰²⁴ Although the presence of several size groups at Perkáta is evident, large differences in withers height estimations may be influenced by different scholars using different methods of calculation. The highest withers heights in Biller's report were, in fact, calculated from radii with Kiesewalter's method, while Vörös uses the method of Vitt in which minor modifications were made in order to avoid extreme values. Calculating with Vitt's method, the tallest individuals at Perkáta are around 148 cm, which in fact is still higher than the contemporary average.¹⁰²⁵ It seems that there were horses of considerable size present at Perkáta, beside average-sized animals: altogether eight preserved horse bones seem to have originated individuals that belong to a larger size cohort. Especially tall horses (with withers heights over 150 cm) were also discovered in various regions in the Carpathian basin: in late medieval Szolnok (Greater Cumania) and Fonyód (in Transdanubia, south of Lake Balaton).¹⁰²⁶ The two preserved metacarpals found at Perkáta come from a slender legged and a somewhat slender legged individual (slenderness indices are 13.9 and 15.3; the withers heights of both animals were 148 cm). At Perkáta, rather gracile animals were also observed: compared to Árpád Period and late medieval horses from other sites, the three measureable metatarsals from Perkáta reveal individuals that were not particularly high but slender legged (Diagram 3.4.2). Whether these differences in wither's height and slenderness had patterned repercussions in terms of how individual animals were used is difficult to see clearly.

It is of special interest that Árpád Period horses of this size and stature were labeled by Vörös as being “Arabian type horses”,¹⁰²⁷ and he also classified the horse excavated from the Cuman burial of Csengele within this group.¹⁰²⁸ This, of course, does not necessarily mean a genetic connection with Arabian horses in all cases, although in the case of the Csengele individual the suggestion of actual genetic connection was strengthened by the results of a DNA

¹⁰²⁴ Bökönyi, History of Domestic Mammals, 246. The Árpád Period average was calculated on the basis of 37 individual bones and the fourteenth-seventeenth-century average is based on a sample of 33 horse bones.

¹⁰²⁵ The two methods yield quite different results when withers height is calculated from the greatest length of the radius or the tibia. The late medieval individual with a radius GL of 349 mm is 151.5 cm at the withers with Kiesewalter's method, and 143.6 cm with that of Vitt. The other individual with the GL of the radius is 359 mm, has a withers height of 155.8 cm according to Kiesewalter and 147.6 cm according to Vitt. When metapodia are used for withers height calculation, the differences are insignificant.

¹⁰²⁶ Vörös, Sixteenth- and Seventeenth Century Animal Bone Finds, 359; 360, Table 8.

¹⁰²⁷ Vörös, Ló az Árpád-kori Magyarországon, 176.

¹⁰²⁸ Vörös, Ló az Árpád-kori Magyarországon, 170.

analysis.¹⁰²⁹

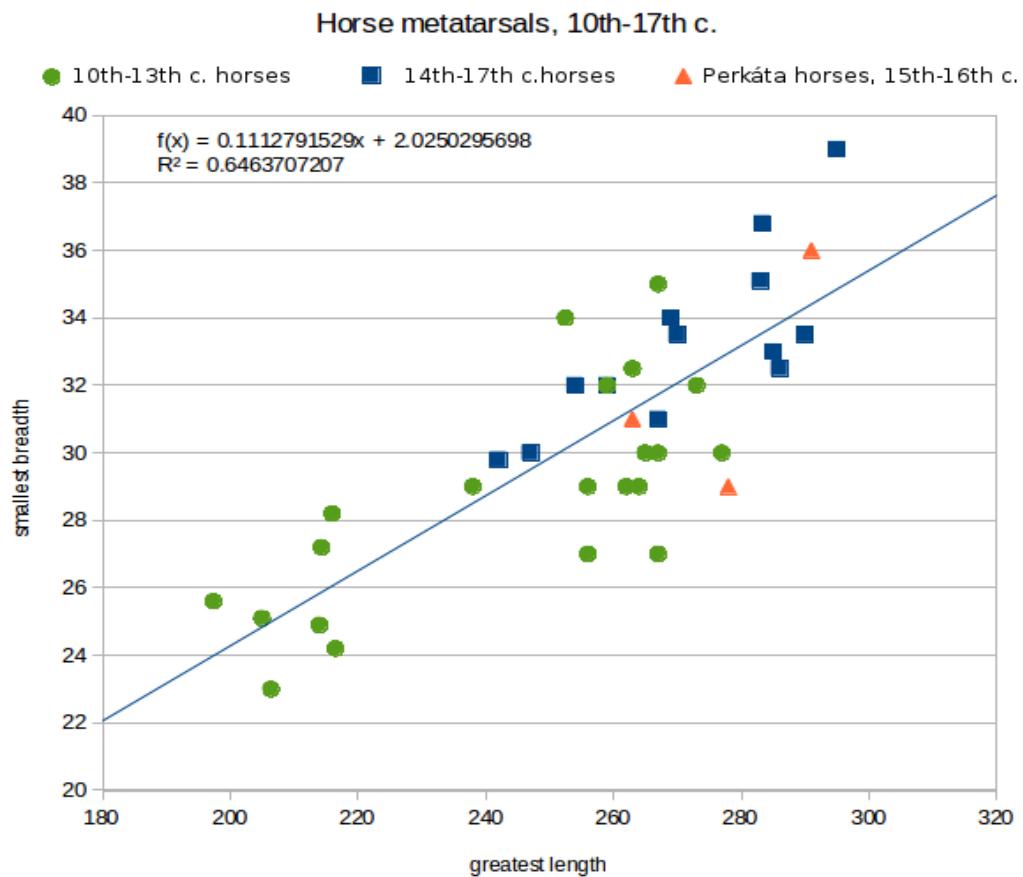


Diagram 3.4.2 Metatarsal proportions of medieval horses from Hungary. Sites included: Gyula Castle, Szolnok Castle, Kecskemét – Bocskay Street, Csátalja, Doboz-Hajdúirtás, Kardoskút-Hatablak, Kúthegyes-Jajhalom, Tiszalök-Rázom (Bökönyi, 1972), Kána (Daróczi-Szabó, 2014), Muhi and Perkáta.

The seven sheep bones suitable for withers height calculation give a 63.3 cm average (58.2 cm – 68 cm).¹⁰³⁰ This is again smaller than the fourteenth-seventeenth-century medieval average calculated by Bökönyi, which is 69.5 cm.¹⁰³¹ Hornless individuals are not reported by Biller. The ratio of sheep to goats is also unknown; seven bones were identified as sheep, but no bone unambiguously coming from goat was found. However, poor soil conditions in the region must have made it more remunerative to keep a higher ratio of goats.

¹⁰²⁹ Priskin, A csengelei kun vezér lovának genetikai vizsgálata, 217-219

¹⁰³⁰ Biller, Perkáta, 32, Appendix 3

¹⁰³¹ Bökönyi, History of Domestic Mammals, 188.

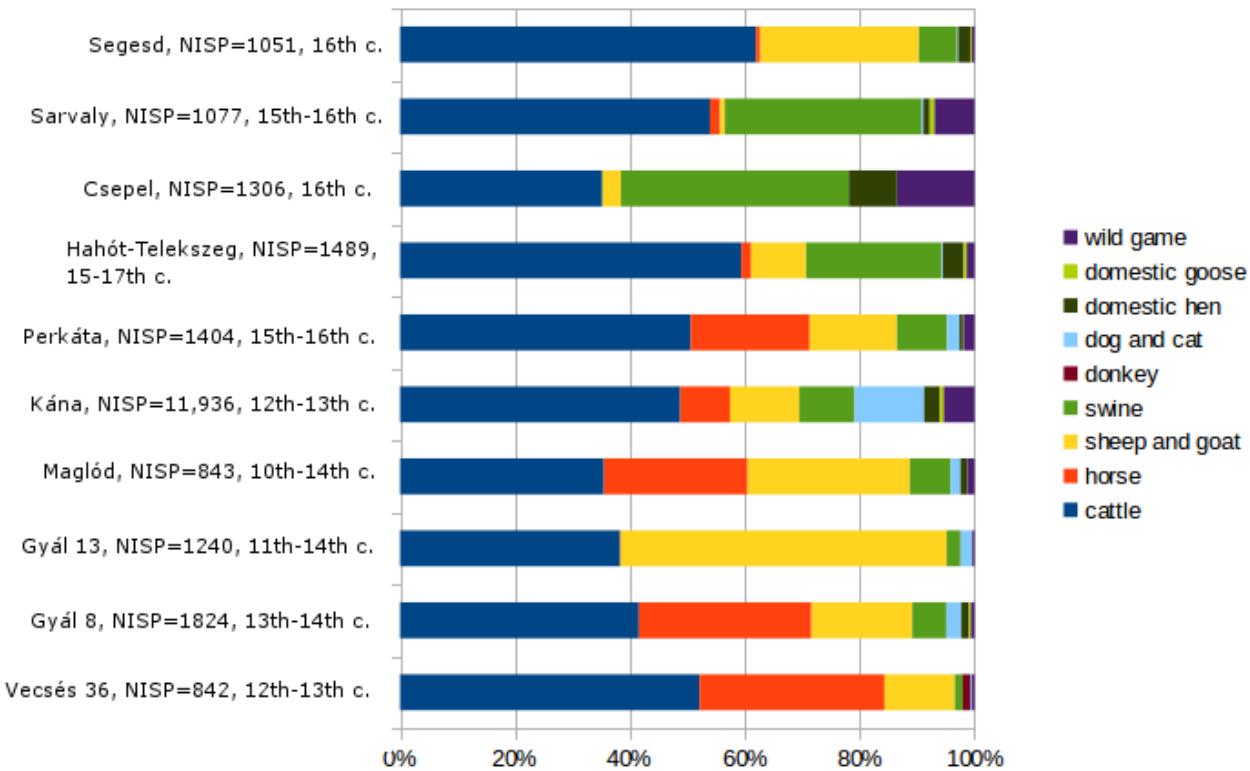


Diagram 3.4.3 The ratio of species at Perkáta compared to other medieval village sites. Only larger sites with a NISP around 1,000 were included. (Gyál 113, Gyál 8 and Vecsés 36, Hahót-Telekszeg; Csepel, Segesd, Sarvaly, Maglód.)

Although this region is unfortunately neglected from the point of view of archaeozoological studies focusing on the Middle Ages, there are some data published which can serve as a basis for comparison. István Vörös concluded that cattle is typically dominant in the region of Transdanubia in the Árpád Period (around 50%), while swine is the second most important species (generally around 30%), followed by a moderate number of sheep and goats (around 10%) and a few horses (around 7%).¹⁰³² In villages of the Turkish-Ottoman era, cattle bones typically represent around 56% of the sample, sheep and goats ca. 19%, and pigs around 25%.¹⁰³³ The Perkáta assemblage, however, shows a different trend. This may be explained, not only by the chronological differences, but also by the different character of sites used in Vörös' study: most of his sites are located in Western Transdanubia where the environmental and

¹⁰³² In fact, the sites Vörös builds his conclusion on only yielded a limited amount of bone material. Vörös, Adatok az Árpád-kori állattartás történetéhez, 80, Table 2, Fig. 2

¹⁰³³ Vörös, Sixteenth- and Seventeenth Century Animal Bone Finds, 353.

geographical conditions as well as the economic emphases are different.¹⁰³⁴ It may be better to compare Perkáta to sites on the Great Hungarian Plain. In the above-mentioned study of István Vörös, however, only a small number of remains are cited as coming from the Plain. The Árpád Period site of Dunaújáros – Öreghegy, which is included in Vörös' study, lies relatively close to Perkáta, but its bone material has not been published in detail.¹⁰³⁵ Therefore I decided to compare Perkáta to other villages (*Diagram 3.4.3*).

In fact, faunal remains of excavated Árpád Period villages, although they, more or less, follow a common pattern with an overwhelming dominance of domesticates and especially cattle, still present yet to be understood phenomena. It is interesting, however, that the late medieval Cuman site of Perkáta is closer to Árpád Period Hungarian sites in terms of species ratios, especially to the thirteenth - fourteenth century site of Gyál 8. Perkáta is the only late medieval village with such a high ratio of horse bones, compared to non-Cuman sites. The explanation for this high ratio of horses may be sought after in the settlement's cultural background. As we have seen, a similarly high percentage of horse bones was observed at other, late medieval Cuman sites as well, both in Greater and Lesser Cumania. Although horse bones in general tend to turn up in higher numbers at late medieval villages than at forts or cities,¹⁰³⁶ it seems to be a phenomenon that is especially typical for Cuman assemblages.

When compared to Árpád Period Hungarian settlements in the northern part of the Great Plain (Vecsés 36, Gyál 8, Maglód), the observed species ratio at Perkáta is not particularly striking: with the exception of Gyál 13 (where horses were virtually missing), horse bones typically represent 15-20% of the Árpád Period faunal remains, similarly to Perkáta, where the ratio of horse bones was over 20% among the finds identified to taxon. It is tempting to associate these similarities to the shorter history of settled life and herd preferences still resembling those of the Eurasian steppe, which also characterized Hungarians in the early Árpád Period. Horse meat consumption, occasionally practiced in medieval Hungarian settlements, seems to have

¹⁰³⁴ Only one of the eight sites Vörös used is located in the relative proximity of Perkáta: Dunaújváros – Öreghegy. This site is, however, not published in detail. Vörös, Adatok az Árpád-kori állattartás történetéhez, 73-75.

¹⁰³⁵ Only a graphic summary of the species ratios is available, on the basis of which a quite atypical picture emerges: cattle bones represent around 80% of the total sample, while caprines and pig each contribute ca. 10%, and horses are missing. It is not clear, however, how many bones were identified and thus how reliable the sample is. László Bartosiewicz, "Archaeozoological studies from the Hahót Basin, SW Hungary" *Antaeus* 22 (1995): *Archaeology and Settlement History in the Hahót Basin, South-West Hungary*, 307-367; Fig.22

¹⁰³⁶ Vörös, Sixteenth- and Seventeenth Century Animal Bone Finds, 354.

been a much more accepted custom in Cuman communities, and thus, more horse bones ended up in the garbage of households, even if their ratio in the herd itself was no higher than at other villages. Interestingly, it seems that both in terms of species ratios and animal sizes, late medieval Perkáta was closer to the region's Árpád Period villages than coeval settlements in Transdanubia. Nevertheless, as the area lacks properly published and processed late medieval assemblages, only the dim outlines of a preliminary picture can emerge from the available dataset.

Sheep and goat are not present in large numbers at Perkáta, but the high ratio of young individuals among them suggests a consciously maintained herd in which an ideal age and sex ratio is maintained through culling strategies. This is especially logical if secondary exploitation emphasized milk and dairy products, produced only by females, as opposed to wool produced by both sexes. Keeping an ideal ratio and between the sexes and age clusters, and thus controlling herd size may have been crucial given the generally harsh soil conditions and poor pastures in the region.

It is challenging to place Perkáta within the region's economic nexus given the sporadic nature of the written evidence and the fact that the analysis of material unearthed at the most recent excavations is still ongoing and not yet published in a comprehensive form. The dominance of fragments which testify to better meat-quality, observed by Biller, also suggest that there was a relatively wealthy community living in Perkáta.¹⁰³⁷ The spatial distribution of these finds and their connection to individual households is, however, unknown and so it is not clear if there was a significant difference between households in terms of meat quality available to them. From this point of view, former research in Perkáta is of interest. Finds from the thirteenth-fourteenth-century cemetery, associated with the early Cuman population of the region and excavated by Hatházi, reflects a relative wealth accumulated in the hands of a smaller group. Altogether 124 graves were identified as Cuman, 45 of which possessed some grave goods in them although jewelry and clothing accessories concentrated in only 17 graves, mostly those of women and children.¹⁰³⁸ These, of course, cannot be compared to the luxuries found in the graves of thirteenth-fourteenth century nobles, such as in the burials from Bánkút-Rózsamajor, Balotapuszta or Homok-Óvirághegy. The financial position of this wealthy stratum of the "free"

¹⁰³⁷ Biller, Perkáta, 21, Fig. 7. Meat quality and butchering practices is discussed in depth in chapter 6.

¹⁰³⁸ Hatházi, A kunok régészeti emlékei, 131.

Cuman commoners (*universitas Cumanorum*) present in the thirteenth-fourteenth century cemetery rather resembles the well-off peasants in contemporary Hungarian villages.¹⁰³⁹

These wealthier burials are found scattered throughout the cemetery and are not located in a single cluster. Although financial differentiation is evident among the village inhabitants, it must be kept in mind that the church itself and its closest vicinity was destroyed and were thus not excavated. It may well be that the graves of the wealthiest stratum is missing from the sample.¹⁰⁴⁰ The presence of a wealthier stratum, usually representing 10-15% of all graves, was also observed by Pálóczi Horváth in other Cuman cemeteries; he identified this group with the Cuman nobility.¹⁰⁴¹ Nevertheless, in this case, the highest stratum, the captains of Hantos, lived in Hontosegyháza and was in all probability buried there and not in Perkáta.¹⁰⁴²

It is uncertain if the population of the fifteenth-sixteenth century “double village” is a direct continuation of the one that inhabited the thirteenth-fourteenth century village and used its cemetery. Establishing two village centers may have been necessary either due to overpopulation or due to the necessity of separating groups of different ethnic backgrounds or legal standing within the settlement. From the end of the fourteenth century, Hungarian elements were sometimes invited to counterbalance gaps in the workforce; in the thirteenth-fourteenth century, even slaves were brought to Hungary from military campaigns in which the Cumans served, were regularly added to the population of Cuman settlements.¹⁰⁴³

¹⁰³⁹ Hatházi, A kunok régészeti emlékei, 132. This financial stratification was identified in Hungarian cemeteries as well. András Kubinyi, “A parasztság hétköznapi élete a középkori Magyarországon” [Peasant everyday life in medieval Hungary] *Veszprém Megyei Múzeumok Közleményei* 17 (1984), 221-231: 223-224.

¹⁰⁴⁰ In the cemetery of Csengele the wealthiest people were buried inside the church, in the sanctuary and in the nave (graves 1, 5, 9, 11, 12, 14, 15, 16, 18, 19, 20, 24, 25, 27, 30, 31, 33; some of them had been robbed previous to excavation). A similar practice may be assumed at Perkáta. (Horváth, Csengele középkori temploma, 99-107.)

¹⁰⁴¹ Pálóczi connected the wealthy graves in the cemeteries of commoners to the tribal aristocracy. Pálóczi Horváth, Régészeti adatok a kunok viseletéhez, 103.

¹⁰⁴² Hatházi, A kunok régészeti emlékei, 131.

¹⁰⁴³ Hatházi, Halas kun székközpont, 182-183.

3.4.3 Summary

In this subchapter we have seen how Cuman history was shaped in Transdanubia. This small community of 3-4,000 people, although it probably had connections to the Cumans living in Lesser Cumania, was somewhat isolated from the rest of the Cuman population due to its geographical position. This population may even have constituted a separate tribe. Some internal tensions may have existed as the captains of Hantos regularly engaged in arguments about their authority and position.

The environment was dominated partly by dry loess hills with poor vegetation, and partly by swampy wetlands, which made the area more suitable for animal herding than intensive land cultivation. The Turkish-Ottoman occupation already had a devastating impact on this region in the mid-sixteenth century. Even villages that formerly served as local market hubs disappeared. Thus, a process similar to those changes observed in Lesser and Greater Cumania seems to have taken place here as well, although on a smaller scale. Traders from Buda, Vác and possibly Székesfehérvár may have raised the demand for animal products that they could then re-sell on larger domestic markets or even abroad; however, there is scarcely any written evidence for the participation of these communities in the cattle trade. Textual sources reveal a shift to sheep keeping in the second half of the sixteenth century, possibly connected to an Ottoman demand for mutton as opposed to swine. In the last third of the century small stock keeping suffered a setback.

Several archaeological excavations were carried out in the area of Perkáta, some of which are associated with the Cumans. The medieval cemetery, with a large number of graves identified as Cuman, has been excavated. The late medieval animal bone material, although it does not significantly differ from other sites in the region, is closer to Árpád Period Hungarian sites in terms of species ratios, and displays a strong resemblance to other assemblages labeled as Cuman. Perkáta is the only late medieval village in the region with a relatively high ratio of horse bones (compared to non-Cuman sites). However, distinct “breeds” or phenotypes of domestic species, associated with the Cumans, could not be identified here either.

3.5 Two sites on the periphery

For the sake of comparison, I have included in the study two settlements from two regions which are not specifically associated with the Cumans but certainly had contacts with them, and are geographically close to an area that was undoubtedly under Cuman influence. One of these two sites, Hódmezővásárhely-Gorza (called simply Gorza in the text), is located in southern Hungary, East of the Tisza River, in a region that had intensive trade contacts with the Danube-Tisza Interfluve, including Lesser Cumania. The other one, Tiszagyenda – Morotva part (Lak), called simply Tiszagyenda in the text, is situated in Greater Cumania, in the near vicinity of a region inhabited by Cumans.

The purpose of studying them was to see if any of the archaeological phenomena that came to light on these sites suggests an influence from the Cumans living nearby. Both sites have been excavated recently, and are not yet published. As these sites yielded a considerable number of measurable animal bones from well-documented features, both have the potential to serve as a comparative basis for Cuman sites and also to deepen our understanding of village animal husbandry in the medieval Great Plain in general.

3.5.1 Hódmezővásárhely-Gorza

3.5.1.1 Gorza in the written sources and the presence of Cumans in the region

The medieval village of Gorza was situated southeast of present-day Hódmezővásárhely (a late medieval market town and trading center called Vásárhely at that time), east of the Tisza and north of the Maros River, right by the border of the two medieval counties of Csongrád and Csanád. Written evidence for this settlement is scarce. Its name, although bearing some resemblance to the Cuman word *ghorsi* (seat), is probably of Slavic origin.¹⁰⁴⁴ The village first

¹⁰⁴⁴ Samu Szeremlei, *Hódmezővásárhely története. II. köt. Az ököljog kora. I. Istvántól a mohácsi vészig* [The History of Hódmezővásárhely. Vol.2. The Age of Club Law. From StePálóczi Horváthn I to the Battle of Mohács] (Hódmezővásárhely, 1901), 347 (henceforth, Szeremlei, Hódmezővásárhely története); Samu

appears in charters in 1331 in the form of *Bodgorsaya* in Csand County;¹⁰⁴⁵ in this charter King Charles I donated Gorzsa and another village, Bodhida, to the wealthy aristocrat Imre Becsei and his sons,¹⁰⁴⁶ who owned landed properties throughout the country, in the counties of Pest, Fejr, Baranya, Bodrog, Torontl and Bacs.¹⁰⁴⁷ The first owner may have been a certain Bod or Both from the same Becsei family in the thirteenth century, whose name was preserved in the original designation of the village.¹⁰⁴⁸ This landed property changed owners a couple of times but remained in Hungarian ownership. In the late fourteenth, early fifteenth century the area is described as an open land that belonged to the Hunyadi family although the ownership of the village itself is not clear.¹⁰⁴⁹

On the maps of the first and second military surveys, Gorzsa appears only as a geographical name (Gorzsai hegy, Hill of Gorzsa); there is no longer any trace of the village. It is clear from the maps, however, that the Tisza River meandered close by at that time. Other watercourses, such as the Porgny-Stream and Gorzsai-Stream, as well as Lake Hd (which had already dried out) were depicted on the eighteenth- and nineteenth-century maps.¹⁰⁵⁰ The region was a wet, swampy area that was regularly flooded by the Tisza and the Maros Rivers. Five lakes, the Hd, the Sr, the kr, the Nagy-sk and the Dong dominated the environment; these were at times even connected to each other when water accumulated in them during and after the

Borovszky,. *Csand vrmegye trtnete 1715-ig.* Vol. 2. *A vrmegye reszletes trtnete.* [The History of Csand County Until 1715. Vol. 2. The Detailed History of the County] (Budapest: Magyar Tudomnyos Akadmia, 1897), 203. (henceforth: Borovszky, Csand vrmegye trtnete)

¹⁰⁴⁵ Gyrffy, Az rpd-kori Magyarorszg trtneti fldrajza. Vol. 1, 857; Istvn Hoffmann, *Korai magyar helynvsztr, 1000-1350. I. Abaj-Csongrd vrmegye* [A Dictionary of Early Hungarian Placenames, 1000-1350. I. Abaj-Csongrd County] A Magyar Nvarchvm Kiadvnyai 10. (Debrecen: Debreceni Egyetem, Magyar Nyelvtudomnyi Tanszk, 2005), 58; Mria Wolf, "Gorzsai homo ludens. Malomjtk egy rpd-kori hzban" [The Homo ludens of Gorzsa. A Nine Men's Morris Found in an rpd Period House] in *Avarok puszti. Rgszeti tanulmnyok Lrinczy Gbor 60. szletsnapjra.* [Avarorum Solitudiness. Archaeological Studies Presented to Gbor Lrinczy on His Sixtieth Birthday] eds. Alexandra Anders, Csilla Balogh, and Attila Trk. Opitz Archaeologica 6. (Budapest: Martin Opitz – MTA BTK, 2014), 627-636.

¹⁰⁴⁶ Istvn Gbor Kruzslicz, "Szeremlei-oklevlmsolatok regeszti, I. rsz. (1138-1525)." [Abstracts of the Charters in Szerelmei's Collection] in *A Hdmezvsrhelyi Szeremlei Trsasg vkonyve 1996*, eds. Istvn Gbor Kruzslicz and Istvn Kovcs (Hdmezvsrhely: Hdmezvsrhely nkormnyzata, 1996), 129-155: 134.

¹⁰⁴⁷ Szeremlei, Hdmezvsrhely trtnete., Vol.2, 107.

¹⁰⁴⁸ Szeremlei, Hdmezvsrhely trtnete., Vol.2, 346.

¹⁰⁴⁹ Szeremlei, Hdmezvsrhely trtnete, Vol.2, 346-347.

¹⁰⁵⁰ First Military Survey, digital edition:

<http://mapire.eu/hu/map/collection/firstsurvey/?zoom=14&lat=46.3197&lon=20.24738>, accessed 02.10.2015, Second Military Survey, digital edition: http://archivportal.arcanum.hu/maps/html/katfelm2b_google.html accessed 02.15.2014.

floods.¹⁰⁵¹ Matthias Bel mentions in his account of Csongrád County that the Lake of Hód sometimes flooded agricultural fields.¹⁰⁵²

There is not much in our written sources on medieval Gorzsa; nothing has been preserved on the village's fifteenth-century history. Most data on the village concern the mid-sixteenth century, and it seems that the ownership of the settlement often changed, and double taxation was a recurrent problem. In 1555, the village belonged to György Bak, Sebestyén Őstelki and Bálint Balassa, and the inhabitants paid 2 and a half Forints as tax.¹⁰⁵³ In 1557-58, Gorzsa was listed by the Turks as a Hungarian village with eight houses.¹⁰⁵⁴ The village is listed in Matthias Bel's account of Csanád County as a village that in 1561 belonged to a certain János Vásári, a Hungarian landlord;¹⁰⁵⁵ other sources mention three or four Hungarian landowners. The tax paid for these Hungarian landlords grew from 8 Forints 80 denars in 1561 to 11 Forints and 25 denar in 1564, which may indicate a slight growth in the population.¹⁰⁵⁶ A few years later, in 1570, another Turkish conscription was made; now already 14 families lived there who paid altogether 950 lambs in decima, 78 akçe after beehives, 650 akçe after firewood and hay and 198 akçe after swine.¹⁰⁵⁷ These differences in taxes indicate the village participated in sheep raising for market purposes. In 1571, Gorzsa was attached to the *khas* land of Vásárhely (owned by the sultan).¹⁰⁵⁸

Data on nearby villages reveal an expanding emphasis on animal husbandry in the second half of the sixteenth century (*Table 3.5.1*). In general, the region's villages display a growing trend in terms of sheep and swine keeping as well as in the amount of hay produced. Villages

¹⁰⁵¹ Márta Galántha, and Katalin Vályi, "A város és környékének középkori régészeti topográfiája és településtörténete" [The archaeological topography and settlement history of the town and its surroundings] in *Hódmezővásárhely története* [The History of Hódmezővásárhely] Vol. 1. Eds. István Nagy and János Szigeti (Hódmezővásárhely, 1984), 267-276 (henceforth: Galántha and Vályi, A város és környékének középkori régészeti topográfiája). See also László Blazovich, "A honfoglalástól a török hódoltság koráig (895-1552)," [From the Period of Hungarian Conquest to the Turkish-Ottoman Period (895-1552)], in *Hódmezővásárhely története* [The History of Hódmezővásárhely] Vol. 1, eds. István Nagy and János Szigeti (Hódmezővásárhely: Hódmezővásárhely Önkormányzata, 1984), 294, map 15. (henceforth: Blazovich, A honfoglalástól a török hódoltság koráig)

¹⁰⁵² Matthias Bel ed. Zombori, 12.

¹⁰⁵³ Borovszky, Csanád vármegye története, Vol.2, 204.

¹⁰⁵⁴ Velics and Kammerer, Magyarországi török kincstári defterek, Vol. 2, 197.

¹⁰⁵⁵ Matthias Bel ed. Zombori, 74.

¹⁰⁵⁶ Borovszky, Csanád vármegye története, vol.2, 204.

¹⁰⁵⁷ Gyula Káldy-Nagy, *A szegedi szandzsák települései, lakosai és török birtokosai 1570-ben* [The Settlements, People and Turkish Lords of the Sandjak of Szeged in 1570] Dél-Alföldi Évszázadok 24. (Szeged: Csongrád Megyei Levéltár, 2008), 53 (henceforth: Káldy-Nagy, A szegedi szandzsák)

¹⁰⁵⁸ Borovszky, Csanád vármegye története, vol.2, 204.

similar to Gorzsa in size, such as Lele, Rétkopáncs or Szentkirály,¹⁰⁵⁹ must have been impacted by economic processes in parallel ways. In fact, the amount of taxes paid by Rétkopáncs in 1579 is almost identical to what was paid by Gorzsa in 1570. (Sheep decima was not recorded in Lele, although it is not likely that inhabitants of this settlement were not involved in sheep keeping at all.) Gorzsa rather resembles the villages in the sandjak (Ottoman Turkish administrative unit) of Csanád instead of those in the sandjak of Szeged, both in terms of size and profile. As seen in *Table 3.5.1 A and B*, most of the settlements in Gorzsa's immediate vicinity were larger and paid more tax to the Turks.

Village (the number of households in 1567; in 1579)	1567				1579			
	Decima in lamb	Tax after swine (akçe)	Decima after beehives	Tax after firewood and hay (akçe)	Decima in lamb	Tax after swine (akçe)	Decima after beehives	Tax after firewood and hay (akçe)
Rétkopáncs (10; 13)	550	56	20	200	900	200	35	325
Batida (39; 33)	667	200	68	780	955	340	180	825
Feldeák (110; 98)	425	1098	250	2200	1000	900	280	2400
Lele (18; 16)	-	150	44	360	-	500	50	400
Csomorkány (65; 91)	750	700	296	1300	800	700	350	2275
Csókás (18; 22)	411	150	50	360	700	260	300	550

A

Village (the number of households)	1570			
	Decima in lamb	Tax after swine (akçe)	Decima after beehives	Tax after firewood and hay (akçe)
Gorzsa (14)	950	198	72	650
Vásárhely (311)	9950	4450	2150	15250
Mindszent (Mincend) (52)	1500	300	250	2450
Mártély (65)	1902	450	200	2650
Ferget (27)	1000	300	150	1300
Szentkirály (19)	471	252	36	900
Körtvélös (36)	1420	440	120	1750
Szentes (106)	1500	1950	520	5000

B

¹⁰⁵⁹ This village is a different place from the Szentkirály located in Lesser Cumania which has been discussed previously.

Table 3.5.1 A and B. Sixteenth-century economic data on settlements in the region of Gorzsa.

A, Villages around Vásárhely in the sanjak (district) of Csanád. Kálidy-Nagy, 2000

B, Settlements around Vásárhely in the sanjak (district) of Szeged. Kálidy-Nagy, 2008. (Szentkirály is not the same as the settlement by the same name in Lesser Cumania.)

Even though there are no data on livestock ownership in Gorzsa itself, other villages in the immediate area appear in the tax records in a more detailed form. In 1567 in Csókás, there was only one owner who possessed 500 sheep and was probably involved in large-scale husbandry and trade; the others typically owned ca. 100 animals or less. Twelve years later, however, the overall number of sheep kept in the village grew but the livestock was less concentrated: more people kept sheep on the scale of 150-250 animals.¹⁰⁶⁰ A somewhat similar process can be observed in Feldeák: here in 1567, only three persons were listed as having 280, 80 and 25 sheep respectively, while in 1579, 16 sheep owners were recorded, with typically 100-300 animals each.¹⁰⁶¹ In Batida, however, there is little change in the average number of sheep per owner. Nevertheless, the names of the sheep owners in 1579 are not the same as those listed in 1567: only one family seems to have continued sheep keeping (Ferenc Nagy had livestock amounting to 200 sheep in 1567 and his son Jakab a sheep herd numbering 325 animals in 1579).¹⁰⁶² Although Gorzsa tried to keep up with the surrounding settlements in terms of sheep keeping, and similar shifts in livestock ownership may have been present here as well, it remained a small village and could not compete with the larger settlements of Mártyély, Mindszent or Csomorkány.

In all probability, the merchants of Szeged and Vásárhely created a demand for sheep that later could be sold at the big fairs held in these towns. Cattle and horse keeping seem to have been of secondary importance, as Gorzsa paid little tax after hay. Gorzsa's short distance from Vásárhely had an impact on trading opportunities, but on the other hand, the town must have attracted the villagers, not only as a settlement with better economic standing, but also as a place where the chances of survival were better. Similarly to many Cuman settlements, Gorzsa was

¹⁰⁶⁰ Gyula Kálidy-Nagy, *A csanádi szandzsák 1567. és 1579. évi összeírása* [The 1567 and 1579 Conscriptions of the Sandjak of Csanád] Dél-Alföldi Évszázadok 15. (Szeged: Csongrád Megyei Levéltár, 2000), 45-46 (henceforth: Kálidy-Nagy, A csanádi szandzsák)

¹⁰⁶¹ Kálidy-Nagy, A csanádi szandzsák, 123-125. It is not likely that the 1567 data are correct. Moreover, it does not actually correspond to the recorded lamb decima; it seems that for some reason not all sheep owners were recorded in 1567.

¹⁰⁶² Kálidy-Nagy, A csanádi szandzsák, 125-126.

destroyed and abandoned for good in 1596 as a consequence of the Fifteen Years' War.¹⁰⁶³

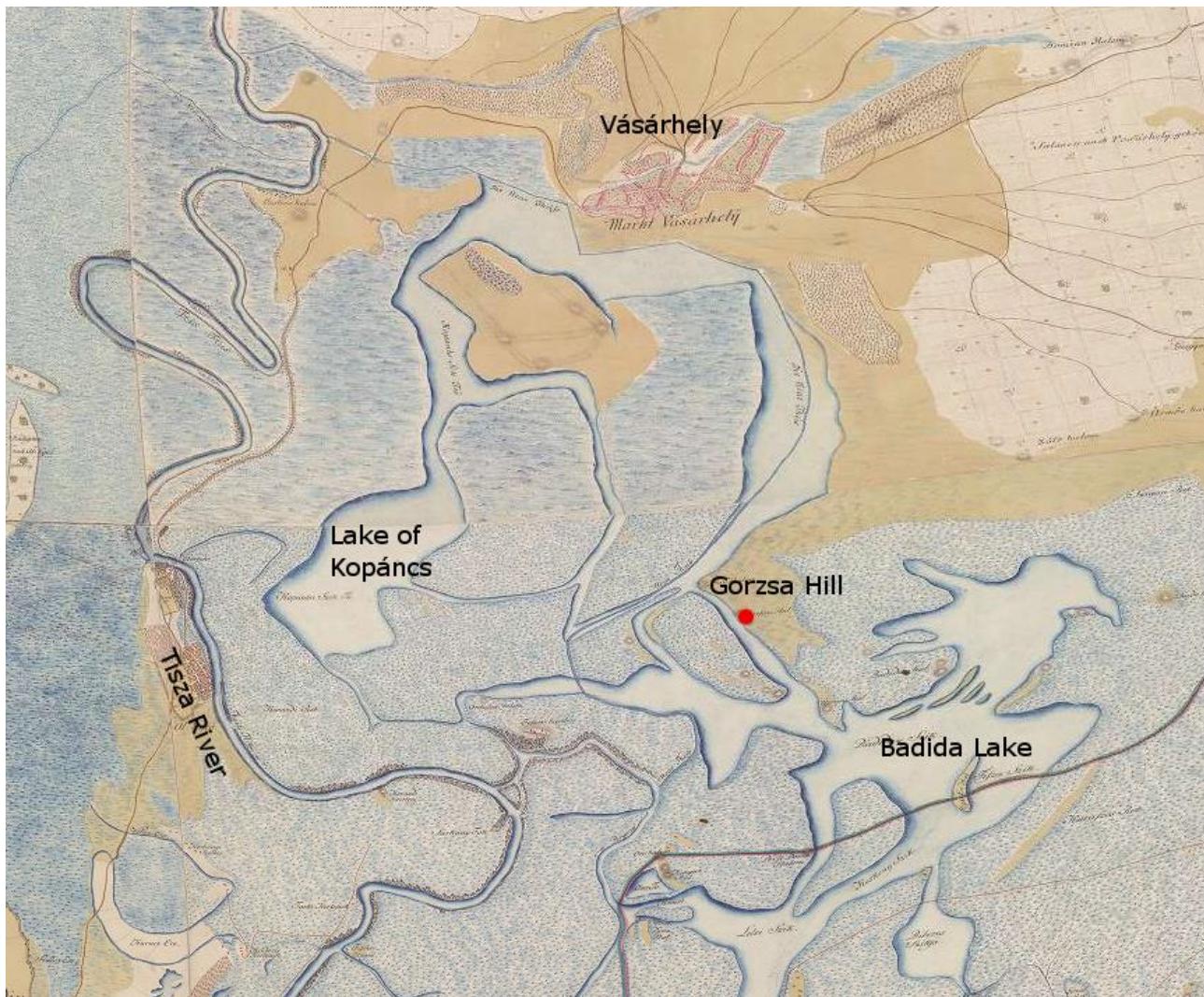


Fig. 3.5.1 The region of Gorzsa in the map of the First Military Survey (1763-1787). The Hill of Gorzsa (location of the former village) is marked with a red dot. Areas marked in blue are watercourses and swamps. From the map of the First Military Survey)

3.5.1.2 The question of Cuman presence

This area east of the Tisza River is not traditionally associated with the Cumans, although

¹⁰⁶³ Borovszky, Csand vrmegye trtnlete, vol.2, 204.

some data indicate that Cumans might have played a role in this micro-region. The so-called battle of Lake Hód, in which the Cumans rose up in 1282 against the Hungarian king, Ladislaus IV,¹⁰⁶⁴ may have taken place here, although the location has been widely debated.¹⁰⁶⁵ Although even the date of the battle is debated,¹⁰⁶⁶ most historians locate the battle at the so-called *campus Hod*, south of the village of Hód.¹⁰⁶⁷ This may indicate some Cuman presence in the area in the thirteenth century. The Cuman armies coming back from Transylvania under the leadership of Aldamur (the son of Khan Kuthen¹⁰⁶⁸ who originally led the Cumans to Hungary) united with the rest of the Cuman troops at this location. They picked this place because it was surrounded by swampy areas, lakes and the Tisza River¹⁰⁶⁹ and was therefore difficult to approach. This means that this area must have been familiar to at least some segments of the Cuman troops. In Szabó's view, Lake (and the village of) Hód must have been close to the coeval Cuman habitation

¹⁰⁶⁴ According to some interpretations, the king marched against the Cumans in order to keep them from migrating out of the country (and leaving large areas uninhabited and uncultivated). Attila Zsoldos, "Téténytől a Hód-tóig. Az 1279 és 1282 közötti évek politikatörténetének vázlata" [From Tétény to Lake Hód. An overview of political history from 1279 to 1282] *Történelmi Szemle*, 39/1 (1997) 69–98: 87–88. (henceforth: Zsoldos, Téténytől a Hód-tóig)

¹⁰⁶⁵ According to Gyárfás, no lake is mentioned in the original documents. Only the expressions *in Hoot, Houd, Hood, Hod* and *in loco Howd* are used in charters from 1282–88. Therefore, Hód may have been the name of a village and not a lake. Even though in the Turóczy Chronicle the battle is described as having taken place *circa lacum Hood*, and in Bonfini's report as *ad lacum, quem Hodum vocaut*, Gyárfás argues that the Latin words locum and lacum were simply mixed up by later readers of the original sources. He adds that a village with the name *villa Houd* appears in the written records in 1237 but its location is unknown. Finally, he accepts Károly Szabó's theory (Károly Szabó, *Kun László 1272–1290* [Ladislaus the Cuman, 1272–1290] Magyar Történeti Életrajzok (Budapest, Franklin-Társulat könyvnyomdája, 1886), 102, see also footnote 6; henceforth: Szabó, *Kun László*) that a place (or village) called Hód must have existed in the vicinity of present-day Hódmezővásárhely, and in all probability, this was the place of the battle. (Gyárfás, *A jász-kunok*, vol. 2, 354–355.) Samu Szeremlei also locates the battlefield by present-day Hódmezővásárhely, and agrees with Gyárfás' view on the misinterpretation of the Latin word *locus* as *lacus*. (Szeremlei, *Hódmezővásárhely története*, Vol. 2, 81–87.) There was another place called Hód in medieval Arad County, and a Lake Hodos in Transylvania; some historians locate the battle by one of these places. Czimer adds that it would have been impossible for the Cuman light cavalry to move around freely in an area that was heavily impacted by floods in the spring, and around Hódmezővásárhely it certainly would have been a factor as the battle probably took place in April or May. (Károly Czimer, "Az 1282-iki Hód-tavi csata helye és lefolyása" [The battle at the Lake of Hód, 1282] *Hadtörténelmi Közlemények* 30/4 (1929). 385–416: 395–397.) See also: Frigyes Pesty, *Magyarország helynevei történeti, földrajzi és nyelvészeti tekintetben*. Vol. I. [The Historical, Geographical and Linguistic Aspects of Placenames in Hungary] (Budapest, 1888), 133–139 (chapter "Hódostó").

¹⁰⁶⁶ There are contradictions in the charters and some of them may even be faked. László Blazovich, "IV. László harca a kunok ellen" [The fight of Ladislaus IV against the Cumans] *Századok* 111/5 (1977), 941–945. Attila Zsoldos argued convincingly that the battle could not have taken place earlier than in 1282. Zsoldos, Téténytől a Hód-tóig, 73–79.

¹⁰⁶⁷ Blazovich, A honfoglalástól a török hódoltság koráig, 287–290.

¹⁰⁶⁸ Gyárfás, *A jász-kunok*, vol. 2, 351.

¹⁰⁶⁹ Gyárfás, *A jász-kunok*, vol. 2, 353.

areas;¹⁰⁷⁰ Blazovich, however, thinks that the area around Hód was not inhabited by Cumans but rather that they lead raiding campaigns here from their lands along the Maros, Temes and Körös Rivers.¹⁰⁷¹ Samu Szeremlei again argues that this land was not in Cuman ownership at that time but that they tried to expand their territories into this region in the thirteenth century.¹⁰⁷² It is unknown if Cumans returned here to settle after their devastating defeat (which, in fact, resulted in the partial emigration of the Cuman community) and if so, in what numbers. According to Gyárfás, those Cumans who participated in the revolt and were caught by the royal army were reduced to serfs, and only those who stayed home and not supported Aldamur's forces were allowed to keep their privileges.¹⁰⁷³

Cumans, nonetheless, were undoubtedly present south of Gorzsa in the Middle Ages. The territory of a Cuman clan called Koor or Kool (*qoryur*, “few, slight”)¹⁰⁷⁴ south of the Maros River later became the seat of Szentelt.¹⁰⁷⁵ This clan is known from a 1315 document in which two Cumans, Kondam and Juhpogo of the Koor clan (*Kondam et Juhpogo de genere Kool*)¹⁰⁷⁶ ask King Charles to reinforce their property rights on a village called *Beeb* (Béb) in Csanád County (present-day Vojvodina in Serbia), stating that this village used to belong to their ancestors (*possessionem et terram Beeb in Comitat Chanad existentem suam et suorum progenitorum esse asserentes*). A royal letter from 1321 mentions not only this village but also another possession called *Halazmortva* (Halászmorotva, ‘a dead river branch or lake of fishermen’ – possibly a village’s name),¹⁰⁷⁷ and in 1350, King Louis issued a charter commanding that servants of György, the son of the late chieftain of the Koor clan living in Béb and Halászmorotva should be exempt from the jurisdiction of other authorities except in cases of theft.¹⁰⁷⁸ Gyárfás concluded that the person by the name of Kondam must have served in the army of Stephan V during his campaign against his father Béla IV, and he received this landed property as a gift for his services. So the Koor clan was probably one of the Cuman groups that

¹⁰⁷⁰ Szabó, Kun László, 102, footnote 6.

¹⁰⁷¹ Blazovich, A honfoglalástól a török hódoltság koráig, 287-290.

¹⁰⁷² Szeremlei, Hódmezővásárhely története, Vol. 2, 98-99.

¹⁰⁷³ Gyárfás, A jász-kunok, vol.2, 354; Pálóczi Horváth, Pechenegs, Cumans, Iasians, 61.

¹⁰⁷⁴ Pálóczi Horváth, Pechenegs, Cumans, Iasians, 58.

¹⁰⁷⁵ Györffy located these lands in Cuman possession south of the Maros river in a, more-or-less, uninterrupted unit. Györffy, Az Árpád-kori Magyarország történeti földrajza, vol.1, 843.

¹⁰⁷⁶ Gyárfás, A jász-kunok, vol.3, 508. According to Gyárfás the name is either Kool or Koos.

¹⁰⁷⁷ Gyárfás, A jász-kunok, vol.3, 509.

¹⁰⁷⁸ Gyárfás, A jász-kunok, vol.3, 103.

served as mercenaries in royal campaigns in the thirteenth-fourteenth centuries.¹⁰⁷⁹

Parts of the Olas clan may also have settled in the area of the later seat of Szentelt.¹⁰⁸⁰ Otherwise, the Seat of Szentelt, which is first mentioned in documents in 1424,¹⁰⁸¹ is usually associated with the Koor clan.¹⁰⁸² The oppidum of Szentelt is probably identical to the present-day village of Mokrin in Serbia (in a ca. 55 km distance from Gorzsa);¹⁰⁸³ this was the seat's center. The precise boundaries of the medieval Cuman seats are unknown, but Gorzsa definitely did not belong to any of them, although it was relatively close to the Seat of Szentelt to the south and to the Seat of Kecskemét, Mizse and Halas to the West. Nonetheless, the area of Gorzsa was separated from these polities by watercourses (the Tisza and Maros Rivers, respectively). Consequently, even if parts of the Cuman population migrated back here after the battle at Lake Hód, these fragments supposedly assimilated very quickly as they became separated from the "official" Cuman territories and must have constituted a small and unorganized minority; moreover, those who participated in the revolt were stripped of their privileges and became serfs. (In fact, there are some names in the sixteenth-century Turkish defters from the region that suggest a possible Cuman origin for these families; however, as the proper linguistic study of these defters has not been carried out, it remains a mere supposition.¹⁰⁸⁴).

3.5.1.3 The archaeological material of Gorzsa

The medieval village was localized by Imre Oláh who lead the first excavations here in 1894; the localization was later reinforced by János Banner;¹⁰⁸⁵ at that time the village was dated

¹⁰⁷⁹ Gyárfás, A jász-kunok, vol.3, 103-104.

¹⁰⁸⁰ Gyárfás, A jász-kunok, vol.3, 49.

¹⁰⁸¹ Gyárfás, A jász-kunok, vol.3, 582-583.

¹⁰⁸² Cuman captains from the Chuka family ('pike' in Hungarian), which may be a direct translation of the name Chertan, are mentioned in connection with the village of Béb in Csanád County in 1384, 1385 and 1389. However, the captains of the Koor clan (*Capitanei comanorum generacionis Koor de Beeb et Halazmortva*) are also mentioned in the same charters. Gyárfás, A jász-kunok, vol.3, 507-509, 512.

¹⁰⁸³ Gyárfás, A jász-kunok, vol.3, 207.

¹⁰⁸⁴ In Feldeák in 1567 and 1579 there are family names such as: Bödöcs, Ercsin, Karacsi, Göröcs, Karcsa. (Káldy-Nagy, A csanádi szandzsák, 122-124.) In Mártély in 1570: Barak and Bencs. In Bekén in 1570: Bilak, Bögöcs. In Körtvélös in 1570: Bakatar and Karancs. (Káldy-Nagy, A szegedi szandzsák, 50-52) Did these "Turkic sounding" names have anything to do with the Cumans? Without specialized training in Turkology this possibility can only be raised not resolved.

¹⁰⁸⁵ Szeremlei, Hódmezővásárhely története Vol. 2, 347; Galántha and Vályi, A város és környékének középkori régészeti topográfiája, 273; János Banner, "Ásatások a hódmezővásárhelyi határ batidai és gorzsai részében. —

on the basis of archaeological finds to some time between the eleventh and sixteenth centuries.¹⁰⁸⁶

An extensive excavation of the 2.5 ha (site-name: Hódmezővásárhely – Gorzsa, Sand Mine no. 10) was carried out by the Archaeology Department of Szeged University under the leadership of archaeologist Mária Wolf in 2009. Habitation layers dating to a variety of periods from the Bronze Age to the Early Modern Period were brought to light during this excavation which yielded 9316 animal bones dated to the medieval period, 6890 of which could be identified to taxon. Thus, the dataset casts light on a, more-or-less, continuous human habitation process, allowing particular changes in terms of animal husbandry at the time the Cumans appeared and settled, and started to build trading connections with the region to be followed. Up-to-date excavation methods also meant a large number of bird and fish bones were recovered, which help immensely in reconstructing the past fauna and environment.

Species	Árpád Period				Late Medieval Period			
	Bones identified (n)	% of all faunal remains	% of faunal remains identified to taxon	MNI	Bones identified (n)	% of all faunal remains	% of faunal remains identified to taxon	MNI
Cattle	1107	24.19	35.98	30	663	27.28	36.55	35
Horse	344	7.52	11.10	13	335	14.44	19.34	14
Sheep and goat	551	12.04	17.38	18	288	12.41	16.63	11
Swine	484	10.58	11.59	17	412	9.83	13.16	35
Dog	295	6.45	4.19	8	154	2.93	3.93	6
Donkey	2	0.04	0.07	1	-	-	-	
Domestic cat	12	0.26	0.40	1	2	0.09	0.12	1
Domestic hen	211	4.61	7.01	7	55	2.37	3.18	3
Domestic goose	43	0.94	1.43	3	13	0.56	0.75	2
Domestic duck	16	0.35	0.53	3	4	0.17	0.23	1
Domestic pigeon	-	-	-		2	0.09	0.12	1

Ausgrabungen in den Grenzteilen Batida und Gorzsa,” *Dolgozatok a M. Kir. Ferencz József Tudományegyetem Régiségtudományi Intézetéből* 9–10 (1934), 251–271; Márta Széll, “Elpusztult falvak, XI–XVI. századbeli régészeti leletek Szeged és Hódmezővásárhely határában. — Les cemeteries du XIe siècle aux environs de Szentes,” *Dolgozatok a M. Kir. Ferencz József Tudományegyetem Régiségtudományi Intézetéből* 16 (1940) 159–180.

¹⁰⁸⁶ Galántha and Vályi, A város és környékének középkori régészeti topográfiája, 273.

Total domestic	3065	66.98	91.38		1928	70.17	94.00	
Red deer	7	0.15	0.23	1	3	0.13	0.17	1
European hare	1	0.02	0.03	1	-	-	-	
Least weasel	2	0.04	0.04	1	-	-	-	
Common pochard	1	0.02	0.03	1	-	-	-	
Dalmatian pelican	3	0.06	0.10	1	1	0.04	0.06	1
Garganey	2	0.04	0.07	1	-	-	-	
Great crested grebe	5	0.11	0.17	1	2	0.09	0.12	1
Mute swan	2	0.04	0.07	1	-	-	-	
Ferruginous duck	2	0.04	0.07	1	3	0.13	0.17	1
Western jackdaw	1	0.02	0.03	1	-	-	-	
Grey partridge	1	0.02	0.03	1	-	-	-	
Stock dove	3	0.06	0.10	1	-	-	-	
Greater white-fronted goose	1	0.02	0.03	1	-	-	-	
Greylag goose	15	0.33	0.50	1	24	1.03	1.39	3
Eurasian coot	6	0.13	0.20	1	3	0.13	0.17	1
Rock dove	2	0.04	0.07	1	-	-	-	
Rook	1	0.02	0.03	1	-	-	-	
Black-crowned night heron	-	-	-		2	0.09	0.12	1
Total wild birds	45	0.98	1.52		35	1.51	2.02	
European ground squirrel	8	0.17	0.27	1	-	-	-	
European water vole	9	0.20	0.30	3	-	-	-	
European hamster	59	1.29	1.99	8	11	0.47	0.64	2
Total commensals	76	1.70	2.64		11	0.47	0.64	
Common bream	1	0.02	0.03	1	-	-	-	
Tench	6	0.13	0.20	1	-	-	-	
Northern pike	42	0.92	1.42	8	15	0.65	0.87	2
Sterlet	1	0.02	0.03	1	-	-	-	
Wels catfish	3	0.07	0.10	1	4	0.17	0.23	1

Carp	22	0.48	0.74	1	18	0.78	1.04	1
Carp sp. (Cyprinida sp.)	48	1.05	1.62	2	18	0.78	1.04	2
European crayfish (Astacus sp.)	3	0.07	0.03	1	-	-	-	-
<i>Total fish</i>	<i>126</i>	<i>2.75</i>	<i>4.19</i>		<i>55</i>	<i>2.37</i>	<i>3.18</i>	
<i>Total wild game</i>	<i>257</i>	<i>5.62</i>	<i>8.62</i>		<i>104</i>	<i>4.48</i>	<i>6.00</i>	
Total identified to taxon	3322	72.60	100		2032	74.65	100	
Large ungulate	789	17.09			348	15.00		
Small ungulate	433	9.38			185	7.97		
Bird	4	0.09			3	0.13		
Fish	10	0.22			1	0.04		
Total non- identified to taxon	1236	27.01			535	23.15		
Human remains	1	0.02			-	-		
Amphibian (Rana sp.)	4	0.09			48	2.07		
Gastropoda sp.	11	0.24			1	0.04		
Pond tortoise	2	0.04			2	0.09		
Total	4576	100			2639	100		

A

Species	Medieval (non specified)				All Medieval remains			
	Bones identified (n)	% of all faunal remains	% of faunal remains identified to taxon	MNI	Bones identified (n)	% of all faunal remains	% of faunal remains identified to taxon	MNI
Cattle	602	29.48	41.40	27	2372	27.09	37.79	92
Horse	210	9.70	13.62	9	889	10.12	14.11	36
Sheep and goat	253	12.39	17.40	8	1092	12.42	17.32	37
Swine	225	9.16	12.86	14	1121	8.91	12.43	66
Dog	80	2.35	3.30	4	529	2.82	3.94	18
Donkey	4	0.20	0.28	1	6	0.07	0.10	2
Domestic cat	2	0.10	0.14	1	16	0.19	0.26	3
Domestic hen	25	1.22	1.72	4	291	3.40	4.74	14
Domestic goose	23	1.13	1.58	3	79	0.92	1.29	8

Domestic duck	3	0.15	0.21	1	23	0.27	0.37	5
Domestic pigeon	-	-	-		2	0.02	0.03	1
Total domestic	1427	65.87	92.50		6420	66.23	92.38	
Red deer	1	0.05	0.07	1	11	0.13	0.18	3
Roe deer	2	0.10	0.14	1	2	0.02	0.03	2
European hare	1	0.05	0.07		2	0.02	0.03	1
Least weasel	-	-	-		2	0.02	0.03	1
Brown bear	1	0.05	0.07	1	1	0.01	0.02	1
European badger	1	0.05	0.07	1	1	0.01	0.02	1
Common pochard	-	-	-		1	0.01	0.02	1
Mallard	1	0.05	0.07	1	1	0.01	0.02	1
Dalmatian pelican	-	-	-		4	0.05	0.06	2
Garganey	1	0.05	0.07	1	3	0.03	0.05	2
Great crested grebe	1	0.05	0.07	1	8	0.09	0.13	3
Mute swan	-	-	-		2	0.02	0.03	1
Ferruginous duck	2	0.10	0.14	1	7	0.08	0.11	2
Western jackdaw	-	-	-		1	0.01	0.02	1
Hooded crow	1	0.05	0.07	1	1	0.01	0.02	1
Grey partridge	-	-	-		1	0.01	0.02	1
Stock dove	1	0.05	0.07	1	4	0.05	0.06	
Greater white-fronted goose	-	-	-		1	0.01	0.02	1
Greylag goose	1	0.05	0.07	1	40	0.47	0.65	5
Eurasian coot	11	0.54	0.76	2	20	0.23	0.33	4
Rock dove	-	-	-		2	0.02	0.03	1
Rook	17	0.83	1.17	2	18	0.21	0.29	3
Black-crowned night heron	-	-	-		2	0.02	0.03	1
Red-necked grebe	4	0.20	0.28	1	4	0.05	0.06	1
Total wild birds	40	1.96	2.75		120	1.40	1.95	
Ground	3	0.15	0.21	1	11	0.13	0.18	2

squirrel								
Northern white-breasted hedgehog	2	0.10	0.14	1	2	0.02	0.03	1
European water vole	-	-	-		9	0.11	0.15	3
European hamster	43	2.11	2.96	6	113	1.32	1.84	8
<i>Total commensals</i>	<i>48</i>	<i>2.35</i>	<i>3.30</i>		<i>137</i>	<i>1.60</i>	<i>2.23</i>	
Common bream	1	0.05	0.07		2	0.02	0.03	
Tench	-	-	-		6	0.07	0.10	
Northern pike	1	0.05	0.07		58	0.68	0.94	
Sterlet	-	-	-		1	0.01	0.02	
Wels catfish	-	-	-		7	0.08	0.11	
Carp	11	0.54	0.76		51	0.60	0.83	
Carp sp. (Cyprinida sp.)	2	0.10	0.14		68	0.79	1.11	
European crayfish (Astacus sp.)	-	-	-		3	0.01	0.02	
<i>Total fish</i>	<i>15</i>	<i>0.73</i>	<i>1.03</i>		<i>196</i>	<i>2.26</i>	<i>3.16</i>	
<i>Total wild game</i>	<i>109</i>	<i>6.07</i>	<i>7.50</i>		<i>471</i>	<i>5.46</i>	<i>7.62</i>	
Total identified to taxon	1536	71.94	100		6890	71.69	100	
Large ungulate	398	19.49			1535	17.91		
Small ungulate	184	9.01			802	9.36		
Bird	-	-			7	0.08		
Fish					11	0.13		
Total non-identified to taxon	582	28.50			2355	27.48		
Human remains	-	-			1	0.01		
Amphibian (Rana sp.)	4	0.20			52	0.61		
Pond tortoise	2	0.10			6	0.07		
Gastropoda sp.	-	-			12	0.14		

Total	2124	100			9316	100		
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B

Table 3.5.1 A and B. Faunal remains from Gorzsa dated to the Árpád Period, the Late Middle Ages (A), to the Middle Ages in general, and the summary of these three (B). N signifies the number of all remains; Complete and partial skeletons were counted as single entities in the count.. Crayfish is listed among the fish although taxonomically it is an Anthropod.

Gorzsa belongs to the region of Southern Hungary according to the classification developed by István Vörös. In the Árpád Period, cattle is typically dominant here, while horses represent the second largest sample, caprines the third most common species group, with domestic swine only being in fourth place.¹⁰⁸⁷ There is, however, quite a great variability between individual sites in the region. Most sites yielded only a small number of identifiable animal bones. Thus, I only included larger samples (n>500: Kardoskút-Hatablak,¹⁰⁸⁸ Endrőd 6,¹⁰⁸⁹ Endrőd 170,¹⁰⁹⁰ Békés-Kastélyzug¹⁰⁹¹) in my comparison.

Interestingly, the first striking difference between the Árpád Period and late medieval samples from Gorzsa is the change in the ratio of horses, which – as opposed to what would be expected – increases in the Late Middle Ages, strangely mainly at the expense of poultry, while the ratio of cattle, sheep/goat and swine remain more-or-less constant (although there is a small increase in the ratio of swine). The high number of poultry bones in the Árpád Period material, and the fact that these animals were mostly adults, signifies an intensive secondary exploitation for eggs (hen were kept alive longer in order to secure the egg supply).

Wild game, as is usual in the Middle Ages, only occasionally contributed to the villagers' diet, although species variability is very high at this site. Red and roe deer as well as the European hare was hunted and consumed, while the bones of a badger, a weasel and probably a brown bear testify to the occasional hunting of these species for their fur. Nevertheless, no wild swine remains were found, even though the species must have been present in the area. Wild

¹⁰⁸⁷ Vörös, Adatok az Árpád-kori állattartás történetéhez, 79.

¹⁰⁸⁸ Bökonyi, History of Domestic Mammals, 372.

¹⁰⁸⁹ Kyra Lyublyanovics, "Endrőd 6 lelőhely Árpád kori csontleleteinek zoológiai vizsgálata." in Régészeti kutatások az alföldi mikrorégió területén [Archaeological investigations in a microregion of the Hungarian Great Plain], eds. Imre Szatmári and Dénes Jankovich-Bésán, Varia Archaeologica Hungarica 28 (Budapest: Archaeolingua, 2013), 261-280.

¹⁰⁹⁰ László Bartosiewicz and Alice M. Choyke, "Early Medieval animal exploitation at the site of END0170", in *Archaeological Investigations in County Békés, 1986-1992*, eds. Andrea H. Vaday, Dénes Jankovich Bésán and László Kovács, Varia Archaeologica Hungarica XXV. (Budapest: Archaeolingua, 2011), 321-342.

¹⁰⁹¹ István Vörös, "Előzetes jelentés a Békés-kastélyzugi törökkorai palánkvár állatcsoport leleteiről, 1975-1978." [Preliminary report on the faunal material from the Turkish Period fort of Békés-Kastélyzug] *Archeológiai Értesítő* 107 (1980), 112-114.

birds represent the majority of wild animal bones; altogether 18 wild bird species were identified, most of which inhabit wetlands, floodplains and riverbanks.¹⁰⁹² This means that the natural environment was intensively exploited, and the wet environs provided an abundance of wild birds. The presence of these bones not only reflects the methodological precision of the excavation, but it also suggests that scavengers, dogs, cats and pigs, usually did not have access to the household garbage. Thus, the more fragile bones of birds were more likely to be preserved.

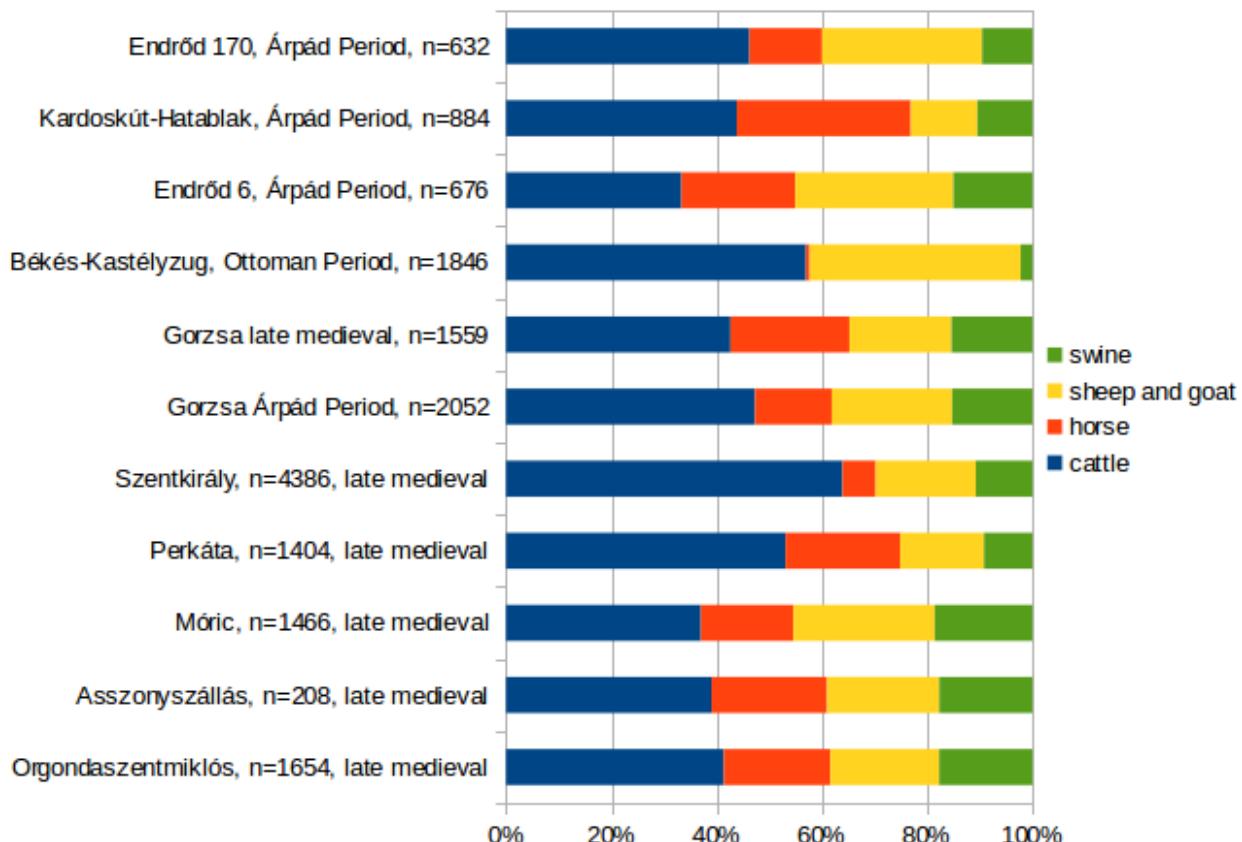


Diagram 3.5.1 The ratio of the main domestic species at Gorzsa, other sites in the region and at the Cuman sites

When compared to other sites in the region, Gorzsa does not resemble any of the ratios provided by sites known so far. Sheep and goat bones represent a significantly smaller proportion of the faunal material compared to Endrőd 6 and Endrőd 170, or Ottoman Period Békés-Kastélyzug, and the ratio of horses is also much lower than is in the case at the other Árpád Period sites in the area. It must be kept in mind, however, that the general picture of animal

¹⁰⁹² The wild birds were identified by Attila Sándor, PhD (University of Agricultural Sciences and Veterinary Medicine, Cluj-Napoca, Romania), for whom I am grateful for his help.

husbandry in this region has been drawn on the basis of a couple of small sites; Gorzsa's different ratios may not signify economic specialities but rather warn us that the overall picture of animal husbandry in villages of Southern Hungary must be revised (in addition, the sample size of the faunal assemblage is much greater at Gorzsa than at other medieval sites in the region, and sample size is intimately connected not only with ratios but also with increases in taxon variability.)

The almost identical ratio of horses and caprines at Gorzsa, however, resembles the species distribution observed at the late medieval Cuman sites of Móric, Asszonyszállás and Orgondaszentmiklós, especially the latter (Diagram 3.5.1). This, of course, does not imply an 'organic' connection between these sites, but may signify similar animal husbandry and meat consumption strategies, regardless of so-called 'ethnic' affiliation. As seen in the subchapter on Greater Cumania, the environs of Orgondaszentmiklós were suitable for the keeping large numbers of swine; this was the case at Gorzsa as well. This may explain the relatively high ratio of swine and the fewer than expected number of sheep bones. The increase in the ratio of horses in late medieval Gorzsa is, however, difficult to explain. Butchered horse bones are available from the site (both from the Árpád Period and from the Late Middle Ages), and their presence in the pits is probably not due to mixing of garbage from different sources but rather the horse bones actually represent part of the kitchen refuse. Thus, it may be supposed that their ratio in the faunal assemblage is close to their ratio in meat consumption practices in the community at large. As we have seen, horse bones are usually abundant at Cuman sites and butchered pieces are often present as well. Although horse consumption was practiced throughout the Middle Ages in Hungarian villages as well,¹⁰⁹³ the ratio of horse bones is somewhat higher at Cuman sites (with the exception of Szentkirály in Lesser Cumania). From this point of view, Gorzsa seems to be an exception. It is possible that similarities in the species ratios indicate that when the Cumans came they mixed with the local villages and the two populations merged adopting each others

¹⁰⁹³ A lot of attention has been given to whether horse meat was consumed regularly. Even though there are hints that it was forbidden by the church to eat horse meat, there is no unambiguous evidence for the effectiveness of such a prohibition. Butchered horse bones are found in variable numbers at medieval sites in the Carpathian Basin. This issue will be discussed in detail in the chapter *Processing the animal body*. (Bökönyi, History of Domestic Mammals, 40; Vörös, Adatok az Árpád kori állattartáshoz, 96-97; Matolcsi, Állattartás őseink korában, 252-253; László Bartosiewicz, Régenvolt háziállatok. Bevezetés a régészeti állattanba [Domestic Animals of the Past. Introduction to Archaeozoology] (Budapest: L'Harmattan, 2006), 112-114; Vörös, Ló az Árpád-kori Magyarországon, 176-180.)

traditions in various spheres.

Two things are particularly interesting about kill-off patterns in the Árpád Period strata (Table 3.5.2). One is the similarity between horse and cattle, the other is the almost identical values of swine and sheep. Similar kill-off patterns usually signify similar utilization strategies. Almost as many sheep and swine were slaughtered while young (before 3-3.5 years of age when the last long bone epiphyses are fused) as full adults suggesting that the primary use of sheep was for meat and not dairy products or wool. The low number of mature and the absence of senile animals shows that beasts that were not able to work anymore were slaughtered and consumed before they attained old age. This also seems true for the horses; only one bone from an older individual, a 12-year-old mare, was discovered. In the cases where the precise age of death could be estimated on the basis of incisors, subadult and adult horses of 4, 5, 6 and 7 years were identified. It is striking that the ratio of juvenile horses is actually higher than that of juvenile cattle, sheep or swine. This fact also supports the idea of regular horse consumption in the village in the Árpád Period. Later, although the tendencies are similar, there is a small shift: there are fewer juvenile and more adult horses in the late medieval sample, and a senile individual (an 18-year old mare) was also found. The use of sheep also seems to have changed in the later period: the number of adult caprines increase, although the ratio of sheep and goat slaughtered as juveniles still hovers around 10%. Late medieval swine remains contained a surprisingly low ratio of juvenile bones; this, however, may also be due to the fact that swine bones were quite fragmented due to cooking or preparation practices and the dominance of diaphysis splinters make it impossible in most cases to identify the age of the animal (this is a typical problem with kitchen waste).

	Infantile	Juvenile	Subadult	Adult	Mature	Senile
Árpád Period						
Cattle	-	-	112	10.2%	33	2.9%
Horse	1	0.3%	46	13.4%	2	0.6%
Sheep and goat	3	0.5%	55	9.9%	1	0.2%
Swine	3	0.6%	50	10.3%	1	0.2%
Dog	1	0.3%	4	0.4%	1	0.3%
Late medieval						
Cattle	-	-	95	14.3%	4	0.6%

Horse	1	0.3%	38	11.3%	4	1.2%	140	41.8%	2	0.6%	1	0.3%
Sheep and goat	3	1%	28	9.7%	1	0.3%	61	21.2%	-	-	-	-
Swine	5	1.2%	33	8%	-	-	49	11.9%	1	0.2%	-	-
Dog	1	0.6%	-	-	-	-	15	9.7%	-	-	-	-

Table 3.5.2. Kill-off patterns at Gorzsa. The percentages show the ratio of juvenile, subadult, adult etc. animals from the sample of bone finds identifiable to species (including those not identified to age). The condition of the finds did not allow a precise estimation of the age at death in most cases. Whole or partial skeletons were counted as single entities.

One peculiarity of this site is the relatively high number of partial and whole skeletons deposited in pits and trenches (Table 3.5.3 in the Appendix). Mostly, these skeletons are not from whole animals but represent only half limbs and half or quarter carcasses that were not processed for some reason. These are mostly remains of juveniles, infantiles or even neonates (except for dogs which were rather adult and mature animals). Thus, it is tempting to associate them with high mortality of offspring and generally harsh keeping conditions. Why were carcass parts of animals normally kept for their meat not consumed? In some cases, ritual activities cannot be excluded, although there is no clear patterning in their deposition suggesting clear signs of special behavior. It is more likely, however, that these animals died of natural causes or from some disease (or in case of neonates, the animal may have been stillborn) and so their carcasses were considered inedible and were disposed of. Interestingly, some of the partial skeletons represent valuable meaty parts (spine, ribs, meaty forelimbs) of meat-purpose animals. Particularly many neonate and infantile piglets were found. As opposed to pigs, natural offspring mortality in sheep is not that evident; only the skeleton of a 10 month-old lamb was brought to light. In other cases, decomposing carcass parts may have been buried in refuse pits or abandoned places.

A surprising change was observed in the sizes of cattle from Gorzsa (see Table 3.5.4 in the Appendix). While several size cohorts are present in the Árpád Period (with cows ranging from 116 to 132 cm at the withers and one ca. 110 cm tall bull), the small-sized type becomes overwhelmingly dominant in the late medieval sample (the withers heights of cows ranges from 103 to 126 cm). The Árpád Period cows from Gorzsa are somewhat larger than what would have been typical for that era¹⁰⁹⁴ although the late medieval values correspond to those estimated for

¹⁰⁹⁴ Vörös, Adatok az Árpád-kori állattartás történetéhez, 85-86, Table 4.

sixteenth and seventeenth-century cows.¹⁰⁹⁵ Interestingly, a significant decrease is observed in the average withers height; this is just the opposite of what would be expected. There is no trace of the large *primigenius* type said by some researchers to be precursor of the Great Hungarian Grey, whatsoever (see the discussion of this issue in subchapter 3.3.2.4 on Szentkirály). Both the body size of cattle and the level of size variability in the livestock seems to have decreased with time. Nevertheless, there is again the difficulty of interpreting direct consumption data to learn about production. In fact, if the large animals were removed for market purposes and therefore from the gene pool then one would expect that the size of animals would decrease.

Horn cores and skull fragments found at the site testify to the presence of a *brachyceros* type cattle with a wavy frontal ridge, a narrow front and short, small horns. In most cases, horn cores were chopped off and further processed to extract the horn sheath. Five horn cores were well preserved enough to estimate their overall length: four were only ca. 10 cm long, while one was 12 cm long. When compared to horn core measurements from other medieval and early modern sites, the Gorzsa individuals stand out with their small size; interestingly, their depth measurements are bigger than the typical horn core proportions both in the Árpád Period and in the Late Middle Ages (Diagram 3.5.3), and, thus, they do not closely correspond to either of the linear trend lines. The coefficient of determination (r^2) signifies a close correlation between the two values in both the Árpád Period and in the Late Middle Ages. Although the measurements overlap (sexual dimorphism must be a factor here as well), the horn core sample of late medieval and early modern cattle include individuals significantly larger than the Árpád Period average. (In fact, the largest measurements from the seventeenth to the nineteenth century correspond to those of the modern Hungarian Grey.¹⁰⁹⁶) The cattle from Gorzsa, however, fall into the smaller size group. These animals were probably females; all cattle identified to sex were cows with one exception showing the importance of dairy production.

This supports the idea that Gorzsa did not take part in the cattle trade in any form but rather cattle was only kept for household purposes; not even the increasing variability of late medieval cattle populations raised for the meat markets is reflected here. Even though the markets of Vásárhely and Szeged were geographically close and there must have been a continuous demand for animals and animal products, Gorzsa was a small and probably poor

¹⁰⁹⁵ Vörös, Sixteenth- and Seventeenth-Century Animal Bone Finds, 356, Table 5.

¹⁰⁹⁶ Vörös, Sixteenth and Seventeenth-Century Animal Bone Finds, 355, Diagram 2.

village in a period when the cattle trade really began to flourish. Its inhabitants, if they were involved in animal trade, moved to nearby market towns.

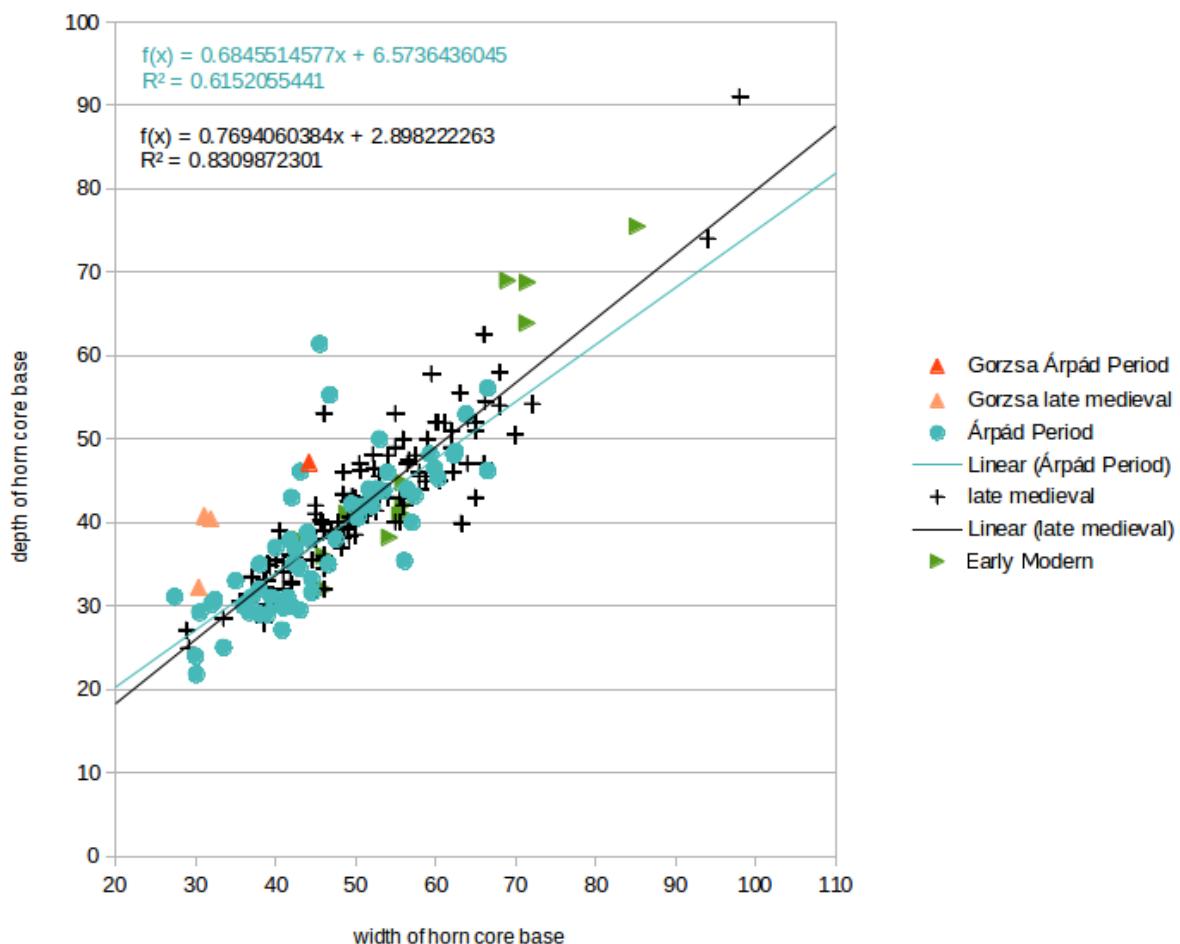


Diagram 3.5.2 Measurements on cattle horn core bases from Gorzsa and other sites. (Sites included: Vác, Kána, Hanta, Hajdúnánás, Sarvaly, Ugod, Szolnok, Buda Castle, Szarvas-132, Szarvas-Rózsás, Szabolcs, Mende, Óbuda, Sarud, Térkeve-Móric, Szolnok Castle, Sárospatak Castle, Nagyvázsony - Csepely, Kőszeg Castle, Kecskemét - Bocskai Street, Gyula Castle, Fonyód, Tiszalök-Rázom, Tiszaeszlár - Basahalom, Doboz - Hajdúirtás, Csatár - TSZ istálló (stable), Csátalja – Vágóthegy, Gorzsa.)

An interesting variability in size was observed in horses. Several size groups are present (from 110 to 150 cm at the withers, with an average of 134-136 cm, which is significantly smaller than the Árpád Period average¹⁰⁹⁷) in the Árpád Period strata although relatively tall individuals dominate the late medieval sample. As seen in Table 3.5.5 (Appendix), based on the metacarpals there is only one very slender legged individual dated to the late medieval period (its slenderness index is 13.3), and two slender legged horses dated to the Middle Ages in general

¹⁰⁹⁷ Vörös, Ló az Árpád-kori Magyarországon, 176.

(slenderness indexes are 14 and 14.3). The rest of the horses belong to the slightly and medium slender-legged type, and there is one somewhat massive legged horse dated to the Árpád Period (slenderness index is 16.6). Metatarsal proportions plotted against Árpád Period and late medieval data from other sites also show that in the later Middle Ages, taller and more slender-legged horses were introduced to Gorzsa (Diagram 3.5.4 A and B).

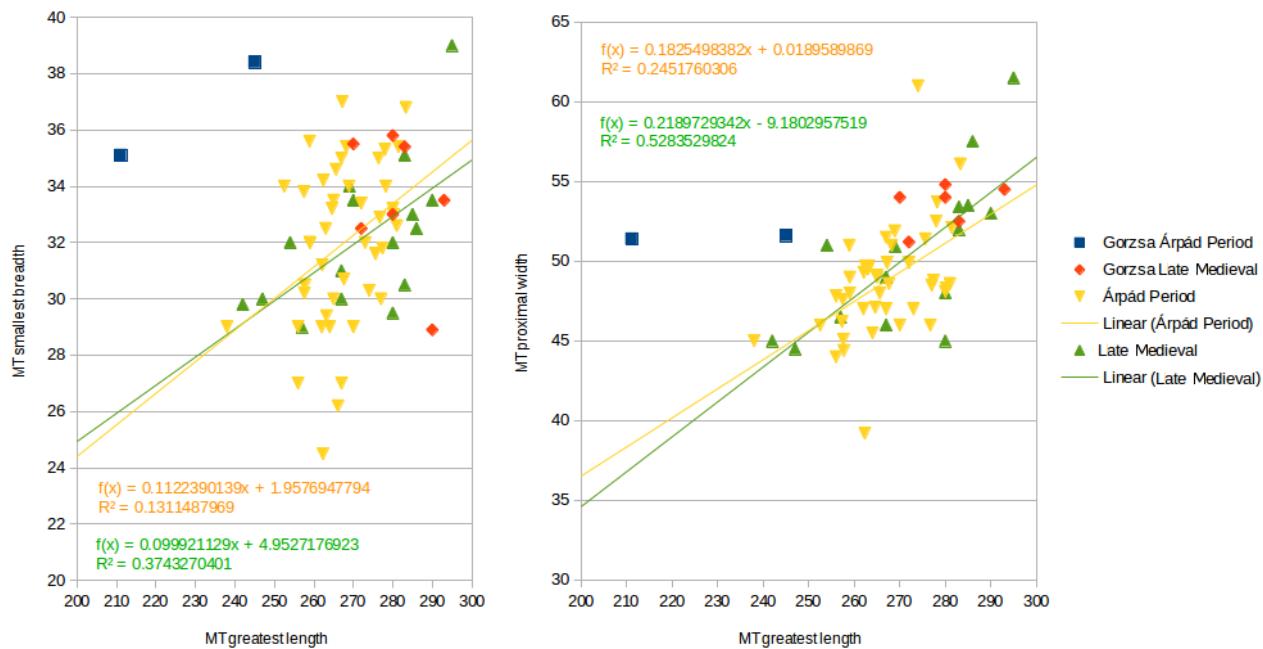


Diagram 3.5.3 A and B. Metatarsal proportions of horses from Gorzsa and other sites. (Sites included: Kána, Muhi, Hanta, Csátalja – Vágóthegy, Doboz – Hajdúirtás, Kardoskút-Hatablak, Kunhegyes-Jajhalom, Tiszalök-Rázom, Gyula Castle, Kecskemét- Bocskai Street, Szolnok Castle and, Tírkeve-Móric.)¹⁰⁹⁸

Although this amount of data is, of course, not sufficient to support a general statement on a change in horse types kept in Gorzsa, the clear difference between Árpád Period and late medieval animals raises the possibility of some influence from the horses associated with the Cumans.¹⁰⁹⁹ As we have already seen in the previous discussions of horses, horses labeled as Eastern may be recognized by the relative slenderness of their legs. Metatarsal proportions testify to a small, relatively massive-legged horse type in Gorzsa in the Árpád Period, from which the taller and more slender-legged animals of the Late Middle Ages are clearly separated.

¹⁰⁹⁸ Bökönyi, The History of Domestic Mammals, 551-552; Daróczsi-Szabó, Az Árpád-kori Kána falu állatconjainak vizsgálata, appendix; Vörös, A kora Árpád-kori Hanta falu állatcsont leletei [Faunal remains from the early Árpád Period village of Hanta.] *Acta Musei Papensis – Pápai Múzeumi Értesítő* 6 (1996), 319-328: 323.

¹⁰⁹⁹ The horse of the Csengele burial was identified as an Arabian stallion. Priskin, A csengelei kun vezér lovának genetikai vizsgálata, 217-219

Interestingly, these Árpád Period metatarsal measurements significantly differ, not only from the later data, but also from the rest of the Árpád Period horse bones, and may signify the presence of a primitive, small, autochthonous breed (Diagram 3.5.4 A and B). However, the coefficient of determination is low in both cases, indicating a great variability in size and the presence of various types of animals in the sample whose size, physique, and primary uses were probably different.

Only a few of the sheep horn cores were preserved; most had been cut off and processed further (for the horny sheath as raw material), and sometimes the basis was destroyed in order to access the brain. The horn cores are small, bent in an arc to the side, and are only slightly twisted along the axis. A hornless type of sheep was also present in both the Árpád Period and in the late medieval sample. These animals had only small bumps or rudimentary horn core bases on their skulls instead of proper horn cores. The hornless type of sheep is rare in the archaeological material, although specimens of this type were also discovered at late medieval Barcs,¹¹⁰⁰ and in the Pasha's Palace in Buda.¹¹⁰¹ The withers height of sheep could be estimated in three cases: these are calculated to 56.4 cm (metacarpal, Árpád Period), 61.7 cm (metatarsal, Ottoman Period) and 65.4 cm (metacarpal, Árpád Period). The Árpád Period measurements correspond to the expected, average withers height for sheep in the period;¹¹⁰² the only Ottoman Period individual, however, whose height was estimated is significantly smaller than the average for the period.¹¹⁰³ As neonatal individuals are virtually missing from the sample, sheep must have been kept under relatively good circumstances and lamb mortality seems to have been low (or such animals were immediately sold off deposited elsewhere). The increase of the ratio of adult individuals in the late medieval period suggests the growing importance of wool and dairy (or mutton from older sheep may have become preferred) as opposed to a primary exploitation for meat in the Árpád Period (Table 3.5.2). Goats were only sporadically identified: two bones from the Árpád Period and two from the Late Middle Ages.

¹¹⁰⁰ László Bartosiewicz and Erika Gál, "A barcsi oszmán palánkvár állatcsontleletei" [Animal bone finds from the Turkish fort of Barcs] manuscript, 2014

¹¹⁰¹ Bökonyi, History of Domestic Mammals, 183, 185, Fig 61, 186, Fig 62. Bökonyi raises the possibility that sheep with rudimentary horns and completely hornless ones represent two distinct breeds.

¹¹⁰² Vörös, Adatok az Árpád-kori állattartás történetéhez, 90-91.

¹¹⁰³ Vörös, Sixteenth and Seventeenth-Century Animal Bone Finds, 357, Table 7; Bökonyi, History of Domestic Mammals, 188.

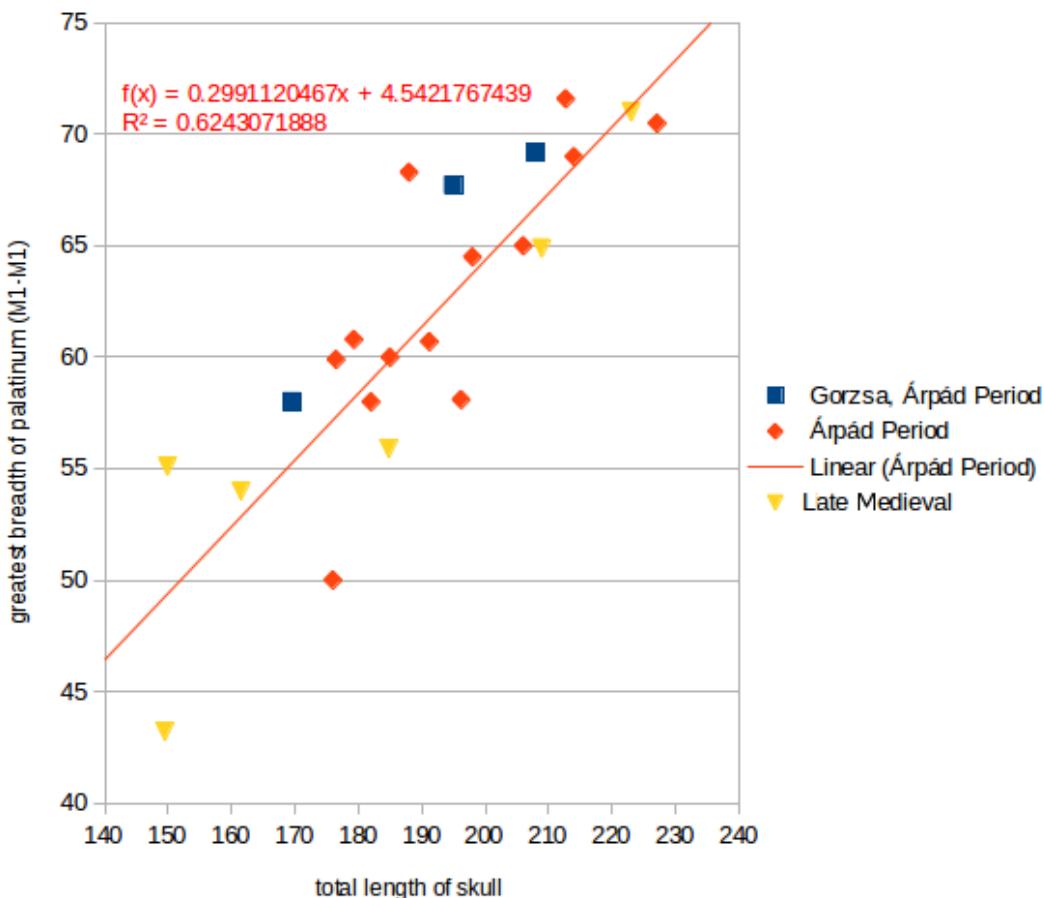


Diagram 3.5.4 Measurements of the three Árpád Period dog skulls from Gorzsa and other medieval sites. Sites included: Fancsika, Jánosszállás, Tiszagyenda, Vác, Kána, Kardoskút, Zalavár, Térkeve-Móric, Tiszaeszlár-Basahalom and Maglód.

Dog withers height could be estimated in six cases, including three partial skeletons (see Table 3.5.6 in the Appendix). All these animals were adults, and with one exception they represent the typical average size of medieval dogs¹¹⁰⁴ (53-57 cm, Table 3.5.6). One dog, however, measured 71.2 cm at the withers. Dogs of this size are not unknown in medieval bone assemblages, although they are present in lower numbers. Such individuals were found at Árpád Period Kána,¹¹⁰⁵ Bóly and Kardoskút¹¹⁰⁶ as well. The presence of this larger type may signify a growing variability in the size of this domestic species (this tendency was observed at e.g.

¹¹⁰⁴ Daróczi-Szabó, Az Árpád-kori Kána falu állatcsonjainak vizsgálata, 34-35, diagrams 16 and 17.

¹¹⁰⁵ Daróczi-Szabó, Az Árpád-kori Kána falu állatcsonjainak vizsgálata, 34. The tallest individual at Kána was 72.1 at the withers.

¹¹⁰⁶ Bökonyi, History of Domestic Mammals, 560-562; withers heights estimated from the published data are 69.8 cm (radius), 70.9 (tibia), 76.4 cm (humerus), and 66.7 cm (humerus).

medieval Vác¹¹⁰⁷) and the different uses associated with different types and statures; however, it seems that the typically widespread, medium-sized “pariah dog” type¹¹⁰⁸ was dominant in Gorzsa throughout the Middle Ages. This is also evident if we plot the measurements of the three well-preserved dog skulls from Árpád Period Gorzsa against dog skulls from other medieval sites (Diagram 3.5.5). Although there is a high variability in skull proportions and sizes (the diagram shows the relation between the length of the head and largest breadth of the snout), Árpád Period measurements group around a clear trend line and the correlation is significant ($r^2=0.6$). The Gorzsa individuals have somewhat broader snouts than the average but their proportions follow the general medieval trend.

Five, more-or-less, intact dog skeletons were brought to light at the site (Table 3.5.3). Two of these were placed in pits that did not contain any other finds and were probably purpose made; one was disposed of in a trench and one was simply thrown into a garbage pit. Two dog skeletons, one male and dated to the Árpád Period, and another female, dated to the medieval period in general, are of special interest as they display pathologies which may be connected to old age. Both animals belonged to the medium-sized, “pariah dog” type. The male individual shows signs of an inflammation on the elbow joint (the distal end of the left humerus and proximal end of the left radius), while the other individual’s fibula was fused with the tibia. The latter dog also had significant tooth loss: the left second premolar, the left first molar, the right second and third premolars of the skull, as well as the third premolar of the right mandible had fallen out and the alveoli fused. This dog was probably unable to chew and feed properly and needed human attention and care. It was placed in a simple pit without any trace of a ritual burial, however, it may have been a valued working dog that was cared for in its old age. On the other hand, a young, ca. 4-5 month-old whelp dated to the Árpád Period was disposed of in a trench after it died; there is a shallow, circular recess on its left *os parietale* which may signify maltreatment (a frequently observed phenomenon in the Middle Ages).

¹¹⁰⁷ Bartosiewicz, Animals in the Urban Landscape, 59.

¹¹⁰⁸ That is, the type that becomes dominant in the dog population if there is no conscious breeding. These animals today are typically middle sized and have rust colored coat.

3.5.2 Tiszagyenda

The site of Tiszagyenda-Morotva Part (Lak) – that is, the former village of Gyenda or Lak¹¹⁰⁹ – is located in Greater Cumania, east of Karcag (see also the map on Greater Cumania, Fig. 3.2.1 in subchapter 3.2). Although no written record testifies to the presence of Cumans at this particular settlement, it lies very close to the Cuman habitation area in Greater Cumania, and its population undoubtedly must have experienced at least some Cuman contacts and influences, either in cultural or economic terms (market relations, trade), or probably both. As the broader history of the region of Greater Cumania has already been discussed in another subchapter, only the main historical data on Gyenda and Lak are presented here.

3.5.2.1 The villages of Gyenda and Lak in the written sources and the question of the Cuman presence

The archaeological excavation revealed evidence of a continuous habitation throughout the Late Middle Ages, the Early Modern and Modern Ages. It is not yet clear, however, if the excavated settlement is identical to medieval Gyenda or the neighboring settlement of Lak.¹¹¹⁰ Therefore, data have been collected on both villages.

Medieval Gyenda makes only very fleeting appearances in charters. It is somewhat confusing that there were two villages going by the same name in Heves County and therefore it is sometimes difficult to say if a source is referring to one or the other village. One village called Gyenda was located near present-day Vámosgyörk, while the Gyenda discussed in this subchapter lies next to present-day Tiszaroff. Originally, Gyenda was in the ownership of the Hungarian Aba family.¹¹¹¹ In the 1320s, however, it changed ownership and in 1325 it is listed as

¹¹⁰⁹ The medieval name of the village is Gyenda, so in the text it is referred to as Gyenda when the medieval settlement is discussed. The archaeological site, however, is called by its modern name, Tiszagyenda in the text because it is not clear if the site is the same as medieval Gyenda.

¹¹¹⁰ It is mentioned in one article that the site was identified as medieval Lak by Gábor Bagi, but no reference is given. Marietta Csányi, Judit Tárnoki, and Zoltán Polgár, “A Vásárhelyi-terv továbbfejlesztése I. üteméhez kapcsolódó régészeti feltárások Jász–Nagykun–Szolnok megyében” [Archaeological Excavations in Jász–Nagykun–Szolnok County, Associated with the 1st Phase of the Vásárhelyi Plan] *Magyar Régészeti* 13/1 (2007), 34–36: 35. (henceforth: Csányi, Tárnoki and Polgár, A Vásárhelyi-terv továbbfejlesztése)

¹¹¹¹ Györrffy, Az Árpád-kori Magyarország történeti földrajza Vol.3, 95.

belonging to the Kompolthy family.¹¹¹² In 1415, Gyenda and some neighboring villages (one of which, Fegyvernek, had the right to hold a large, annual fair) were donated to the Doroszlai family by King Sigismund.¹¹¹³ The village's parish priest is mentioned in 1334, and in 1335 it paid 4 *grossus* in papal tithe.¹¹¹⁴ Gyenda appears a number of times in documents concerning landed properties during the fourteenth century; it must have been a favorable place from an agricultural point of view as much debate was focused on the area's ownership.¹¹¹⁵

Lak, the neighboring village of Gyenda also appears in the fourteenth century charters (under the name Laak) as a village in the possession of the Aba family.¹¹¹⁶ It was also donated to the Kompolth family in 1323 along with Gyenda; a few years later it was sold again but it remained in Hungarian ownership.¹¹¹⁷ However, there is almost nothing preserved on this settlement in the written records. It was not even recorded in the 1571 Turkish defter, and Matthias Bel's eighteenth-century account does not mention it either. Again, the name is somewhat confusing, as several medieval villages existed that used this name.¹¹¹⁸ In 1548, a village by this name was listed as deserted; however, it is probably not the same as the Lak near Gyenda as it was not listed in the district of Kisheves (as was Gyenda) but in that of Pásztó, north of present-day Gyöngyös.¹¹¹⁹ Now only the place name 'Lakhalom dűlő' near Tiszagyenda

¹¹¹² According to this charter, Gyenda was owned by the sons of Peter Kompolthy along with other villages; however, the Aba family is also named as the owner of neighboring lands. This suggests that land ownership must have changed several times in the area. Ferenc Balássy, *Heves vármegye története* [The History of Heves County] Vol.1. (Eger, 1897), 271-273. (henceforth: Balássy, Heves vármegye története)

¹¹¹³ Adorján Soós, *Adalékok Jász-Nagykun-Szolnok megye történetéhez az Anjouk és a Luxemburgok korában.* [Notes on the History of Jász-Nagykun-Szolnok County in the Anjou and Luxemburg Periods] (Budapest, sine anno), 30. (henceforth: Soós, Adalékok)

¹¹¹⁴ Györffy, Az Árpád-kori Magyarország történeti földrajza Vol.3, 95.

¹¹¹⁵ Soós, Adalékok, 12.

¹¹¹⁶ Györffy, Az Árpád-kori Magyarország történeti földrajza Vol.3, 111.

¹¹¹⁷ 1327: ...*possessionam suam Laak vocatam...* Balássy, Heves vármegye története, 186, 274; Györffy, Az Árpád-kori Magyarország történeti földrajza Vol.3, 111.

¹¹¹⁸ There was also a village called Lak in Tolna or Baranya County, and another in Borsod County, North of present-day Miskolc. Gábor Varga, *Tanulmányok Lak történetéből* [Studies on the History of Lak] (Debrecen: BAZ Megyei Önkormányzat, 1995), 7-9; László Hegedűs, "Kelet-Tolna települései (1500-1686)" [Settlements in eastern Tolna County 1500-1686] In: *Tanulmányok* [Studies] Ed. Gyula Dobos. Tolna Megyei Levéltári Füzetek 6. (Szekszárd: Tolna Megyei Önkormányzat Levéltára, 1997), 115-208: 131; János Ravasz, *A 700 éves Szederkény. Egy baranyai német község története.* [700 Years of Szederkény. The History of a German Settlement in baranya County] Pécs: Községi Közös Tanács VB. Szederkény, 1973. Digital edition: http://www.sulinet.hu/oroksegtar/data/magyarorszagi_nemzetisegek/nemetek/a_700_eves_szederkeny/ Accessed 05.09.2014.

¹¹¹⁹ Péter Bán, ed. *Dézsmajegyzékek. Heves- és Külső-Szolnok vármegye 1548* [Tax Rolls. The Counties of Heves and Külső Szolnok, 1548] A Heves Megyei Levéltár Forráskiadványai 1. (Eger: Heves Megyei Levéltár, 1981), 107. (henceforth: Bán, Dézsmajegyzékek)

testifies to the presence of this former village.¹¹²⁰

Both settlements were situated along the road that led from Roff to Fegyvernek and Szolnok, and their fates took the same trajectory. Both Gyenda and Lak were situated on the riverbank of the Tisza, and thus, a wet and swampy environment must have been dominant.¹¹²¹

One of the two villages named Gyenda was deserted in the mid-fifteenth century (*Gyanda vacua et habitatoribus destituta*, 1414 and 1435).¹¹²² However, there is some confusion in the sources: while Györffy writes that Gyenda next to Vámosgyörk was the village that was abandoned,¹¹²³ Csánki identifies it with Gyenda near Tiszaroff.¹¹²⁴ A village called Tyzagyanda appears again in the sources in 1484; this may signify repopulation after a break.¹¹²⁵ The recently excavated settlement was, nevertheless, inhabited continuously from the medieval times to the Modern Era, although some minor periods of abandonment cannot be excluded.

There is no record which would indicate any Cuman presence in these villages. However, Gyenda's dwellers definitely came into contact with the Cumans of the Seat of Kolbaz in Greater Cumania on an everyday basis. Gyenda was situated right on the border of the Cuman lands, at a 15-20 km distance from the Cuman villages of Kolbazsállás and Fábiánsebestyén.¹¹²⁶ From an ecclesiastical point of view it belonged to the Deanery of Kemej (later the Deanery of Heves), as opposed to the Cuman villages in the region that belonged to the Deanery of Esztergom.¹¹²⁷ A 1438 charter reports that the new *comes* (count, *ispán*) was given landed properties in Pest, Nógrád and Heves counties, including the lands of Gyenda ("pedium"), and the ceremonial

¹¹²⁰ Another excavation has recently been organized in this area; its faunal material has been processed by Annamária Bárány. However, it has not yet been published in detail and therefore I cannot not use it in my study.

¹¹²¹ Györffy, Az Árpád-kori Magyarország történeti földrajza Vol.3, appendix map: Heves County (separate map without page number)

¹¹²² Dezső Csánki, *Magyarország történelmi földrajza a Hunyadiak korában* [The Historical Geography of Hungary in the Age of the Hunyadi Family] Vol. 1. (Budapest: Magyar Tudományos Akadémia, 1890), 62. (henceforth: Csánki, Magyarország történelmi földrajza)

¹¹²³ Györffy, Az Árpád-kori Magyarország történeti földrajza Vol.3, 95.

¹¹²⁴ Csánki, Magyarország történelmi földrajza, 62.

¹¹²⁵ Csánki, Magyarország történelmi földrajza, 62.

¹¹²⁶ Györffy, Az Árpád-kori Magyarország történeti földrajza Vol.3, appendix map: Heves County (separate map without page number); Sándor Frigyes Varga, "Jász-Nagykun-Szolnok vármegye területének története 1876-ig" [The History of Jász-Nagykun-Szolnok County Until 1876] in *Jász-Nagykun-Szolnok vármegye múltja és jelene* [The Past and Present of Jász-Nagykun-Szolnok County] Ed. György Schefták, 1935. Digital edition: <http://vfek.vfmk.hu/adat/00000113.html> Accessed 05.09.2014

¹¹²⁷ It appears under the name Gaudas in the 1333/1337 papal tithe list. Tivadar Ortvay, *Magyarország egyházi földleírása a XIV. század elején. A pápai tizedjegyzékek alapján feltüntetve* [Ecclesiastical Lands in Hungary in the Early Fourteenth Century, Based on Papal Tithe Lists] Vol.1. (Budapest, 1891), 128, 174.

donation took place in the presence of the region's "Philistei" (a common name for Iasians and Cumans).¹¹²⁸ In a 1521 document, the palatine István Báthori settled a long debate over landed properties between the Cumans of Heves and the people of Tomaj, Bánhalma and Gyenda,¹¹²⁹ reflecting intense and conflict-loaded connections between the Cuman and non-Cuman population in the region. As we have seen in the subchapter on Greater Cumania, such fights were common in the mid-sixteenth century; Cumans from Kolbazszállás even participated in the armed conflict against the Hungarian peasants of Kenderes in 1522.¹¹³⁰ During the Turkish-Ottoman occupation, Gyenda belonged to the *nahije* of Szentmiklós, along with the other Cuman villages of the region (Orgonaszentmiklós, Kolbász, Kunhegyes, Fábiánsebestyén, Asszonyszállás).¹¹³¹

In terms of its economic standing, not much is revealed about medieval Gyenda until the sixteenth century. The district of Kis-Heves, to which both Gyenda and Lak belonged, differed from the rest of Heves County from an economic point of view: there was practically no wine production and peasants were mainly involved in grain cultivation and animal husbandry.¹¹³² A 1513 charter reports about a trial in which peasants from Gyenda were charged with stealing hay from the Cuman village of Hegyes (present-day Kunhegyes), possibly signifying a need for complementary fodder and a competition for resources.¹¹³³ A total of 37 family heads were listed in 1548, and the village paid altogether 2852 sheaves of wheat, 1515 sheaves of barley and 9 beehives as decima, and 60 Denars as "Christian money" (to be paid by landless peasants).¹¹³⁴ In the 1571 tax roll of the Szentmiklós *nahije*, Gyenda is listed as having 27 houses and one church; none of the listed persons had Cuman names.¹¹³⁵ The 1591-92 Turkish conscription counted only 18 families who paid altogether 9,000 akçe. The decima in lambs was 100, while 1,200 akçe was paid after swine and 140 after crop damage by the grazing livestock (4,480 akçe was paid after

¹¹²⁸ Gyárfás interprets the charter this way; the text, however, does not specify that witnesses were of Cuman/Iasian origin. Gyárfás, A jász-kunok, vol.3, 601-603.

¹¹²⁹ Gyárfás, A jász-kunok, vol. 3, 744-749.

¹¹³⁰ Kormos, Kenderes története, 26-29.

¹¹³¹ Györffy, Adatok az Alföld törökktori településtörténetéhez, 23-33.

¹¹³² István N. Kiss, 16. századi dézsmajegyzékek. Borsod, Heves, Bereg, Bihar és Közép-Szolnok megyék [Sixteenth-Century Decima Lists from the Counties of Borsod, Heves, bereg, Bihar and Közép-Szolnok] (Budapest: Akadémiai Kiadó, 1960), 984.(henceforth: N. Kiss, 16. századi dézsmajegyzékek)

¹¹³³ Gyárfás, A jász-kunok, vol.3, 730-731.

¹¹³⁴ The region's center, Fegyvernek, paid 22,134 sheaves of wheat and 1695 sheaves of barley in decima in 1548. Bán, Dézsmajegyzékek, 68-69; 75.

¹¹³⁵ Györffy, Adatok az Alföld törökktori településtörténetéhez, 24.

wheat and 1,485 after firewood and hay).¹¹³⁶ The village was not particularly wealthy, something which is also suggested by sixteenth-century decima rolls in which mostly landless peasants, paupers and peasants who owned only half lots are listed. The end of the sixteenth century was a devastating period for Heves County: 88% of sheep keepers and 93% of sheep herds disappeared between 1583 and 1598.¹¹³⁷ Tax roll data from Gyenda also reveal a serious setback in the 1580s and 1590s, seen both in the number of lambs and the tithes paid in grain (Table 3.5.7).

Year	Decima in lamb	Decima in grain
1576	163	120 <i>qt</i> of autumn wheat and 145 <i>qt</i> of spring wheat
1583	134	213 <i>cumuli</i> of autumn wheat and 100 <i>cumuli</i> of spring wheat
1598	10	97 <i>cumuli</i> of autumn wheat and 30 <i>cumuli</i> of spring wheat

Table 3.5.7. Taxes paid by the villagers of Gyenda in the second half of the sixteenth century.¹¹³⁸ Cumulus = heap, stack; *qt* = “quart”, equals to 42 or 72.5 liters.¹¹³⁹

Although tax records reveal relative poverty in this micro-region, a coin hoard brought to light during the excavation and dated to the mid-seventeenth century is of special interest in terms of accumulated wealth. The assemblage was buried 30 cm under present-day floor levels and consists of 63 silver coins and one gold coin, and includes coins minted by the Hungarian king Matthias II, Gabriel Bethlen, Prince of Transylvania, Gustav Adolf II, king of Sweden, Christian IV, king of Denmark, as well as coins from Saxony, Braunschweig and Salzburg.¹¹⁴⁰

¹¹³⁶ Ágoston, A szolnoki szandzsák, 284.

¹¹³⁷ N. Kiss, 16. századi dézsmajegyzékek, 801.

¹¹³⁸ N. Kiss, 16. századi dézsmajegyzékek, 321, 347, 566, 599, 796, 800, 981.

¹¹³⁹ N. Kiss, 16. századi dézsmajegyzékek, 11.

¹¹⁴⁰ Zoltán Polgár, “Gondolatok egy éremkincs kapcsán” [Notes on a hoarded coin finding] *Tisicum* 19 (2009), 555–561: 555 (henceforth: Polgár, Gondolatok); Csányi, Tárnoki and Polgár, A Vásárhelyi-terv továbbfejlesztése, 34–36.

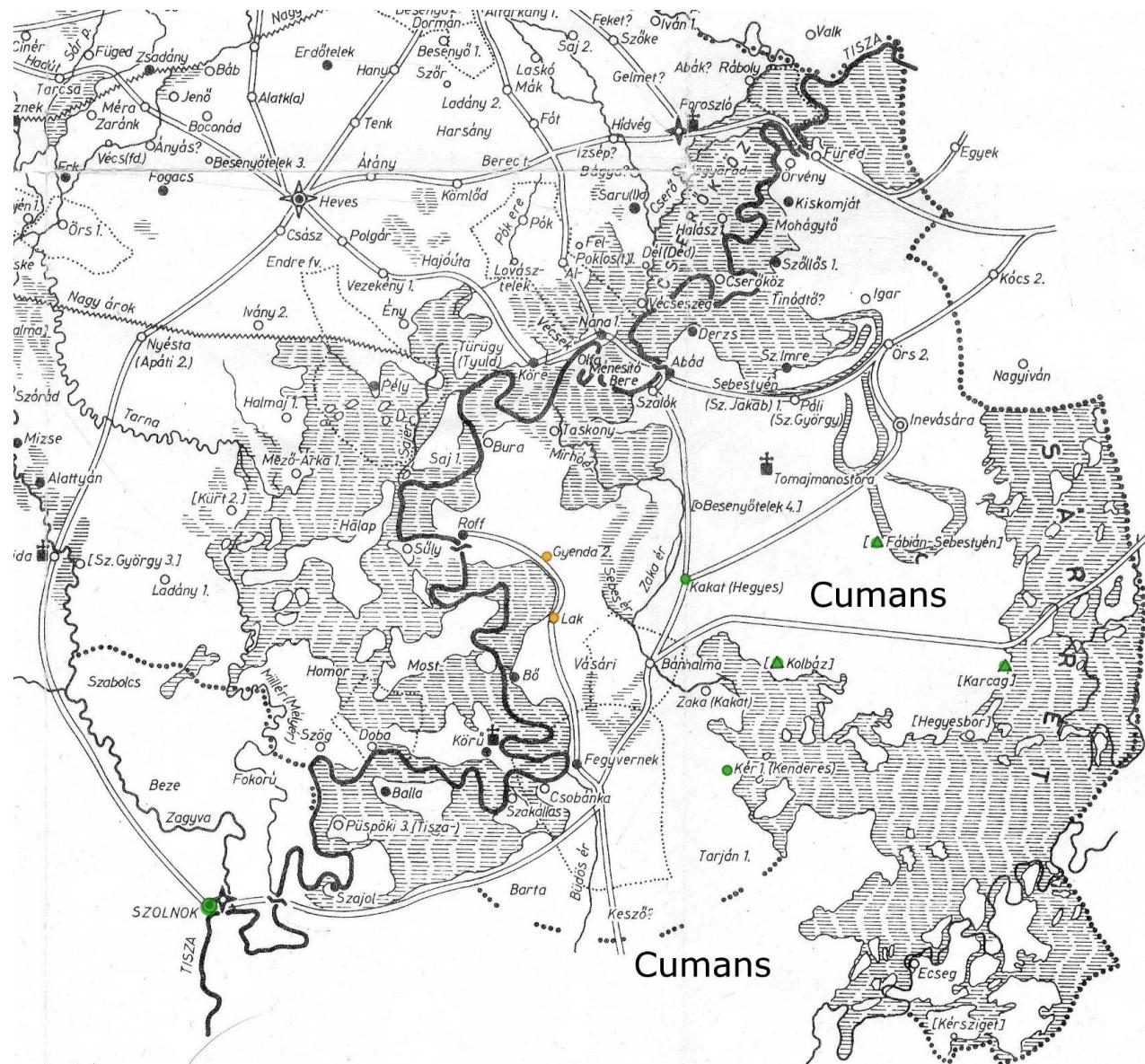


Fig. 3.5.2. The map of the region around medieval Gyenda and Lak in the early fourteenth century. Gyenda and Lak are marked in yellow, while settlements mentioned in association with Cumans later, and the market town of Szolnok are marked in green. Most Cuman villages are depicted here as most of them are first mentioned in the charters only later. After Györffy, Az Árpád-kori Magyarország történeti földrajza, vol. 2 (separate map)



Fig. 3.5.3 Greater Cumania in the map of the First Military Survey, late eighteenth-century. The location of sites and important settlements discussed in the text are indicated in red.

This amount of money, which equals ca. 100-130 Forints, was the annual income of a mounted mercenary.¹¹⁴¹ Although the owner of the hoard is impossible to identify, the wide variety of coins raise the possibility that it belonged to one of the wealthier merchants. The money was perhaps buried in the face of military movements of the armies of György Rákóczi in the region in 1644-45.

As with so many other villages in the region, Gyenda was destroyed in the Turkish-Ottoman wars. After 1683 it was abandoned and was repopulated only in the eighteenth century.¹¹⁴² In Matthias Bel's eighteenth-century account, Gyenda is listed as an uninhabited land although he emphasizes the good quality of soil and pasture here and reports on a small lake abundant in fish and suitable for watering cattle.¹¹⁴³ Matthias Bel also adds that dried cattle dung was frequently used in this area as a fuel for heating.¹¹⁴⁴

3.5.2.2 The archaeological material of Tiszagyenda-Morotva Part (Lak)

Parts of the medieval village were brought to light within the framework of a rescue excavation preceding the building of a reservoir in Tiszaroff in 2006-2007, led by archaeologist Zoltán Polgár. Altogether 7671 bones were brought to light from features dated to the medieval period, 6319 of which were identified to taxon (Table 3.5.8 A and B).

Species	Árpád Period				Late Medieval period			
	Bones identified (n)	% of all faunal remains	% of faunal remains identified to taxon	MNI	Bones identified (n)	% of all faunal remains	% of faunal remains identified to taxon	MNI
Cattle	517	28.42	37.99	18	2062	34.28	41.77	90
Horse	356	16.05	21.45	15	807	16.01	19.51	35

¹¹⁴¹ Polgár, Gondolatok, 559.

¹¹⁴² Imre Soós, *Az egri egyházmegyei plébánia történetének áttekintése* [An Overview of the History of the Parish Churches in Eger] (Budapest: Szent István Társulat, 1985), 293.

¹¹⁴³ *Gyenta elegans desertum, terreno vicinum Roffensi, eoque multo pinguiori fertiliorque, medium irrigat palus [seu paludis] piscosissima, [et pecorum aquationi idoneam].* Péter Bán ed. Bél Mátyás Heves megye ismertetése. Matthias Bel Notitia Comitatus Hevesiensis 1730-1735. A Heves Megyei Levéltár forráskiadványai 18. (Eger: Heves Megyei Levéltár, 2001), 184-185. (henceforth: Matthias Bel ed. Bán)

¹¹⁴⁴ Matthias Bel ed. Bán, 156-157.

Sheep and goat	282	15.50	20.72	12	741	13.93	16.97	28
Swine	147	8.08	10.80	18	721	11.69	14.24	78
Dog	99	3.35	4.48	6	337	3.31	4.03	8
Domestic cat	3	0.16	0.22	1	21	0.14	0.17	3
Domestic hen	22	1.21	1.62	3	38	0.77	0.93	8
Domestic goose	11	0.60	0.81	2	25	0.50	0.62	2
Domestic duck	-	-	-		9	0.18	0.22	4
Domestic pigeon	-	-	-		22	0.44	0.54	2
Total domestic	1437	73.39	98.09		4783	81.26	99.02	
Red deer	4	0.22	0.29	1	9	0.18	0.22	2
Roe deer	-	-	-		1	0.02	0.02	1
Mallard	1	0.05	0.07	1	4	0.08	0.10	3
Bean goose	3	0.16	0.22	2	-	-	-	
Greylag goose	-	-	-		4	0.08	0.10	1
Gadwall	-	-	-		1	0.02	0.02	1
Great cormorant	-	-	-		1	0.02	0.02	1
Levant sparrowhawk	-	-	-		1	0.02	0.02	1
Little egret	-	-	-		4	0.08	0.10	1
Mute swan	-	-	-		2	0.04	0.05	2
Greater white-fronted goose	4	0.22	0.29	1	-	-	-	
Rook	-	-	-		1	0.02	0.02	1
Griffon vulture	4	0.22	0.29	1	-	-	-	
Total wild birds	12	0.66	0.88		18	0.36	0.44	
Northern white-breasted hedgehog	3	0.16	0.22	1	-	-	-	
European water vole	1	0.05	0.07	1	1	0.02	0.02	1

European hamster	2	0.11	0.15	1	5	0.10	0.12	1
<i>Total commensals</i>		0.33	0.44		6	0.12	0.14	
Northern pike	3	0.16	0.22	1	2	0.04	0.05	1
Wels catfish	1	0.05	0.07	1	2	0.04	0.05	1
Carp	-	-	-		2	0.04	0.05	1
<i>Total fish</i>	4	0.22	0.29		6	0.12	0.15	
<i>Total wild game</i>	26	1.43	1.90		40	0.81	0.98	
Total identified to taxon	1463	74.82	100		4823	82.07	100	
Large ungulate	353	19.41			689	13.91		
Small ungulate	102	5.61			187	3.78		
Bird	1	0.05			1	0.02		
Total non-identified to taxon	456	25.07			877	17.71		
Human remains	2	0.11			11	0.22		
Total	1921	100			5711	100		

A

Species	Medieval (non specified)				All medieval remains			
	Bones identified (n)	% of all faunal remains	% of faunal remains identified to taxon	MNI	Bones identified (n)	% of all faunal remains	% of faunal remains identified to taxon	MNI
Cattle	13	N/A	N/A	2	2592	32.64	40.71	110
Horse	21	N/A	N/A	2	1184	16.21	20.21	52
Sheep and goat	6	N/A	N/A	1	1029	14.33	17.87	41
Swine	7	N/A	N/A	2	875	10.74	13.39	98
Dog	-	N/A	N/A		436	3.30	4.11	14
Domestic cat	-	N/A	N/A		10	0.15	0.18	4
Domestic hen	-	N/A	N/A		60	0.88	1.10	11
Domestic	-	N/A	N/A		36	0.53	0.66	4

goose								
Domestic duck	-	N/A	N/A		9	0.13	0.16	4
Domestic pigeon	-	N/A	N/A		22	0.32	0.40	2
Total domestic	47	<i>N/A</i>	<i>N/A</i>		6253	79.22	98.79	
Red deer	-	N/A	N/A		13	0.19	0.24	3
Roe deer	-	N/A	N/A		1	0.01	0.02	1
Mallard	-	N/A	N/A		5	0.07	0.09	4
Bean goose	-	N/A	N/A		3	0.04	0.05	2
Greylag goose	-	N/A	N/A		4	0.06	0.07	1
Gadwall	-	N/A	N/A		1	0.01	0.02	1
Great cormorant	-	N/A	N/A		1	0.01	0.02	1
Levant sparrowhawk	-	N/A	N/A		1	0.01	0.02	1
Little egret	-	N/A	N/A		4	0.06	0.07	1
Mute swan	-	N/A	N/A		2	0.03	0.04	2
Greater white-fronted goose	-	N/A	N/A		4	0.06	0.07	1
Rook	-	N/A	N/A		1	0.01	0.02	1
Griffon vulture	-	N/A	N/A		4	0.06	0.07	1
Total wild birds	-	<i>N/A</i>	<i>N/A</i>		30	0.44	0.55	
Northern white-breasted hedgehog	-	N/A	N/A		3	0.04	0.05	1
European water vole	-	N/A	N/A		2	0.03	0.04	2
European hamster	-	N/A	N/A		7	0.10	0.13	2
Total commensals	-	<i>N/A</i>	<i>N/A</i>		12	0.18	0.22	
Northern pike	-	N/A	N/A		5	0.07	0.09	2
Wels catfish	-	N/A	N/A		3	0.04	0.05	2
Carp	-	N/A	N/A		2	0.03	0.04	1

(Cyprinida sp.)								
<i>Total fish</i>	-	N/A	N/A		10	015	0.18	
<i>Total wild game</i>	-	N/A	N/A		66	0.98	1.21	
Total identified to taxon	47	N/A	N/A		6319	80.19	100	
Large ungulate	2	N/A	N/A		1044	15.30		
Small ungulate	4	N/A	N/A		293	4.29		
Bird	-	N/A	N/A		2	0.33		
Total non- identified to taxon	6	N/A	N/A		1339	19.62		
Human remains	-	N/A	N/A		13	0.19		
Total	53	N/A	N/A		7671	100		

B

Table 3.5.8 A and B. Faunal remains from Tiszagyenda dated to the Árpád Period, the Late Middle Ages (A), to the Middle Ages in general, and the summary of these three (B). N signifies the number of all remains; however, complete and partial skeletons were counted as single entities. No counts were calculated for bones dated to the Middle Ages (no centuries specified) due to the low number of finds.

Partial and whole skeletons were found again in relatively high numbers. There are partial skeletons of horses (including the limbs of two, maximum 1.5-2 year-old foals, one 4.5 year-old and one 8 year-old individual) and dogs (a 15 month-old animal and two adults) dated to the Árpád Period, while in the later period the number of deposited partial skeletons grew and included those of cattle and sheep as well. Interestingly, most articulated partial cattle skeletons (9 of 8) came from calves and are probably associated with natural mortality of juveniles. Partial skeletons of infantile/neonate and juvenile pigs (altogether eight animals) also testify to the mortality rates of offspring. These, just as at Gorzsa, were disposed of in garbage pits and not consumed. Malnutrition must also be taken into consideration as a factor of mortality. Unfortunately, most of these skeletons were poorly preserved (also due to the early age at death and the porous quality of the young bones, as well as other taphonomic factors).

Some of the skeletons were disposed of in the same pits. Pit 40 (stratigraphic unit 97, dated to the sixteenth-eighteenth century) contained the partial skeletons of three juvenile and

one adult cattle. From pit 61 (stratigraphic unit 147, originally a clay extraction pit that was later filled with garbage, dated to the fifteenth-sixteenth century) the partial skeletons of a 36 month-old calf and an adult cattle were brought to light along with a large amount of kitchen refuse. Pit 133 (stratigraphic unit 273, sixteenth-seventeenth century) contained two 12 month-old calves and the partial skeleton of an adult cattle. Well no. 95 (stratigraphic unit 206, dated to the fourteenth-sixteenth century) contained two 8-9 month-old dogs (probably from the period when the well was no longer in use); pit 311 (stratigraphic unit 567, fourteenth-sixteenth century) also yielded the remains of a 10-12 month-old whelp and an adult dog.

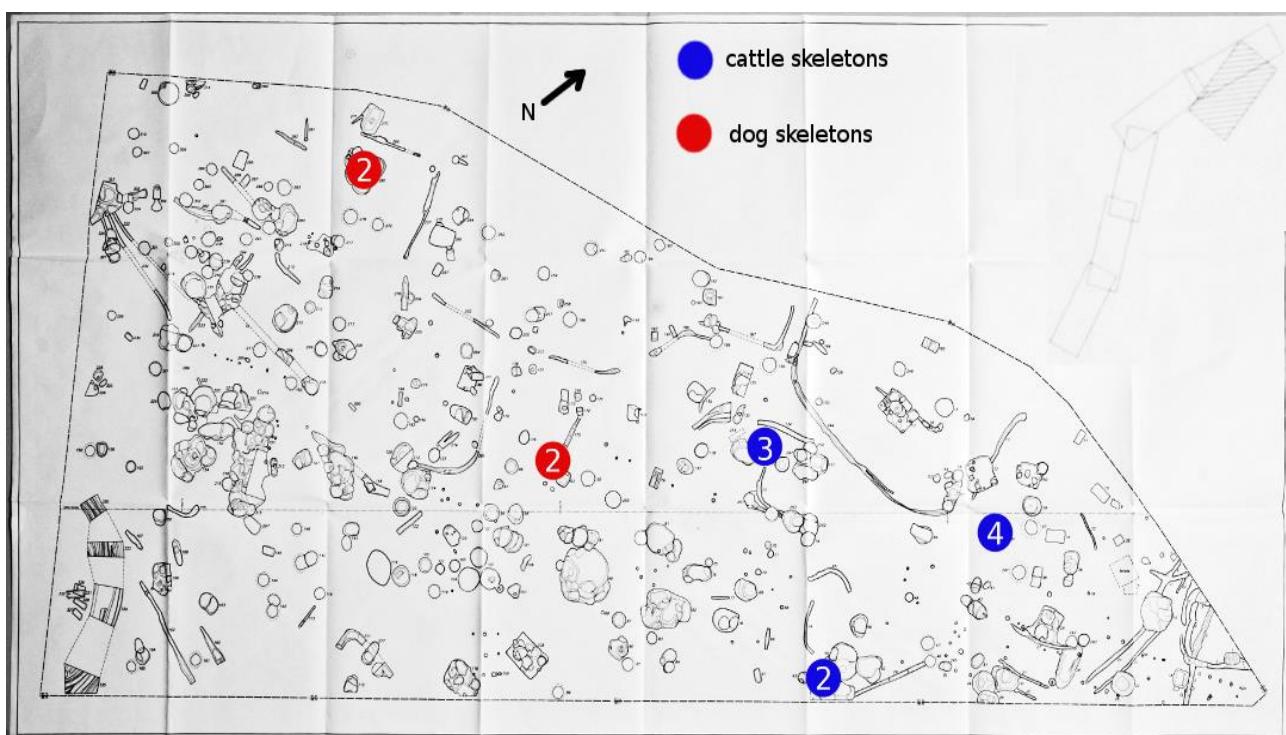


Fig 3.5.4. The spatial distribution of late medieval cattle and dog skeletons at the site of Tiszagyenda. The numbers indicate the number of individuals buried in a particular feature. The small schematic map in the upper right corner shows the part of the excavated area represented on the map. Late medieval cattle and dog skeletons were deposited in this area.

In these cases it may be suspected that the animals died and were buried at the same time. As opposed to kitchen refuse which may have been left uncovered for a longer period without problems (although it certainly attracted scavengers), pits containing decomposing carcasses had to be filled in as soon as possible in order to avoid stench, flies and the danger of infections. Interestingly, late medieval cattle and dog skeletons were deposited in the northern area of

excavation (Fig. 3.5.4), while those of piglets were deposited in the southeastern corner of the excavated middle section, in two pits lying in close proximity to each other (probably associated with the same household), as well as in yet another pit north of these. It cannot be excluded that the cattle carcasses (which were larger and more problematic than those of small dogs) were disposed of in the northern area because this part of the village was abandoned in that particular period and thus, they posed no danger of infection here. It is in any case telling that the northern segments of the excavation area yielded most of the decomposing carcasses while none was found in the southern part of the excavated village section.

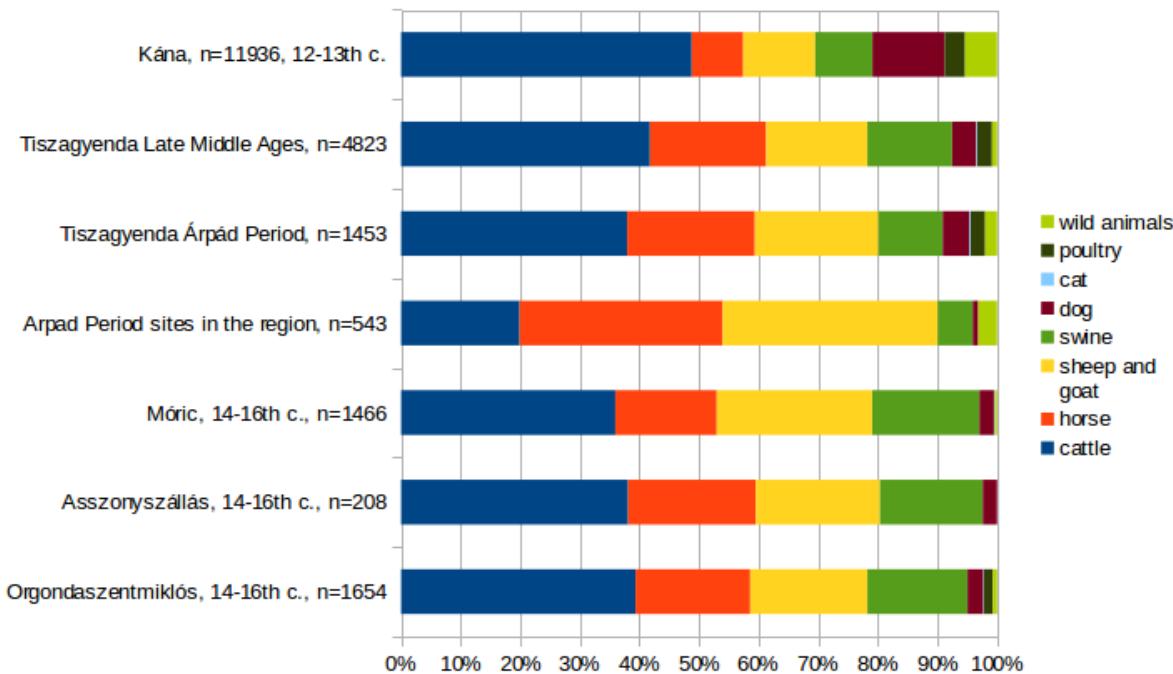


Diagram 3.5.5 The ratio of species at Tiszagyenda compared to other sites. (For Árpád Period sites in the region, see Vörös, Adatok az Árpád-kori állattartás történetéhez, 76-78.)

When compared to other contemporary sites, the species ratios observed at Tiszagyenda seems to follow the general trend in that period with an overwhelming dominance of cattle that increased somewhat in the later period, and the almost identical ratios of horses, sheep and swine. The difference between what animals can be found in the Árpád Period layers at Tiszagyenda and what was observed at other Árpád Period sites of the region is evident; it is, however, perhaps inherent in the differences in sample size. The striking difference between Árpád Period Tiszagyenda and Árpád Period Kána may be due to regional peculiarities: the

dominance of cattle is more pronounced at Kána, while in the settlements of Greater Cumania cattle rarely exceeds 40% of all fauna even in the Late Middle Ages. While a dominance of horse and sheep was observed by Vörös in the Middle Tisza region in the Árpád Period, based on small assemblages, it seems that swine keeping was in fact more crucial in terms of food production both in the Árpád Period and in the Late Middle Ages as the environment was ideal for pig raising. Interestingly, the ratio of species at late medieval Tiszagyenda is almost identical to that found at Orgondaszentmiklós.

Kill-off patterns suggest secondary exploitation of certain domestic species (see Table 3.5.9). Although cattle and sheep were sometimes slaughtered at an early age, and the ratio of juveniles grows with time, it was definitely not an everyday practice. It is surprising, however, that swine seems to have been kept alive longer in the later medieval period, and this species has in fact lower juvenile ratios in the Late Middle Ages than have sheep and cattle, and even mature individuals (probably sows kept for breeding) are available from both time periods. This corresponds to the importance of swine keeping already observed in the region. As discussed in the chapter on Greater Cumania, the practice of swine keeping is most evident at Orgondaszentmiklós: here names of nearby places also testify to feeding pigs on meadows and fish in the wetlands. The same environment was available for the people of medieval Gyenda and Lak as well, both settlements having been situated on the bank of the Tisza River, close to the flood areas.

Only one senile animal was found, a horse of 15-16 years of age. Most horses whose age at death could be identified precisely died as adults: in the Árpád Period material horses of 7-8 years were found, while in the Late Middle Ages most horse bones that could be aged showed that these horses died between 6-8 years. Although this is not an old age for horses, it must be kept in mind that the way a horse is handled, trained, fed and used, profoundly influences its usefulness and condition as years go by.¹¹⁴⁵

¹¹⁴⁵ Although not dated to the medieval period but to the Early Modern Era, there is an interesting find worth mentioning here: the right mandible of an aged cat whose teeth had all fallen out except for its canines. This individual must have been a valued companion animal that was provided for even when old. (See also: László Bartosiewicz, *Shuffling Nags, Lame Ducks. The archaeology of animal disease* (Oxford: Oxbow, 2013), 180 (henceforth: Bartosiewicz, Shuffling Nags, Lame Ducks)

	Infantile / neonate		Juvenile		Subadult		Adult		Mature		Senile	
Árpád Period												
Cattle	2	0.39%	50	9.69%	2	0.39%	138	26.74%	1	0.19%	-	-
Horse	-	-	17	5.8%	2	0.68%	114	39.04%	-	-	1	0.34%
Sheep and goat	1	0.35%	21	7.45%	-	-	73	25.89%	-	-	-	-
Swine	3	2.04%	25	17%	3	2.04%	37	25.17%	2	1.36%	-	-
Dog	-	-	1	1.64%	-	-	26	42.6%	-	-	-	-
Late medieval												
Cattle	2	0.12%	192	11.30%	8	0.47%	424	24.97%	3	0.18%	-	-
Horse	4	0.50%	106	13.37%	5	0.63%	315	39.72%	1	0.13%	-	-
Sheep and goat	3	0.43%	74	10.72%	3	0.43%	120	17.39%	-	-	-	-
Swine	5	0.86%	55	9.49%	7	1.21%	227	32.20%	3	0.52%	-	-
Dog	1	0.61%	4	2.44%	1	0.61%	67	40.85%	-	-	2	1.22%

Table 3.5.9. Kill-off patterns at Tiszagyenda. The percentages show the ratio of juvenile, subadult, adult etc. animals in all finds identified to a particular species (including those not identified to age). The condition of the finds did not allow a precise estimation of the age at death in most cases. Whole or partial skeletons were counted as single entities.

A decrease in the average withers height of cattle was observed here as well, similarly to what was found at Gorzsa; the size variability, however, increased somewhat (see Table 3.5.10 in the Appendix). There is, nevertheless, not much point in comparing the site's two periods from this point of view as only a few bones were well enough preserved from the Árpád Period layers to estimate withers heights. The standard deviation of withers height in the late medieval sample is 6.12, which suggests a, more-or-less, homogenous livestock. Typically for the medieval period, most identified adults were cows, signifying a practice that bulls were slaughtered at a younger age with only those males being retained that were needed for breeding, while cows were used for dairy production and traction work and were killed when they could not work or produce milk anymore.

Proximal metatarsal measurements were abundantly available from the late medieval Tiszagyenda sample. Their ratio follows the general medieval trend. Nevertheless, the correlation between individuals from Tiszagyenda ($r^2=0.81$) is stronger than that between all other late medieval cattle ($r^2=0.61$), which means that the growing variability in the late medieval cattle livestock did not really appear at Gyenda (Diagram 3.5.7; the standard deviation that signals the

growth of variability is 3.34 for Árpád Period measurements from other sites and 3.63 in the general late medieval sample, while the standard deviation for late medieval Tiszagyenda individuals is only 2.87). Interestingly, the cattle from Tiszagyenda typically have lower proximal depth values and rather align with Árpád Period measurements. This suggests the consumption of locally bred livestock kept for household purposes and not fattened for the market. Sexual dimorphism is present but there is a considerable overlap between the two sexes in both periods. Cattle with relatively narrow tarsals were less suited for use as draught animals; the presence of working oxen with massive tarsals is suspected in the second group.

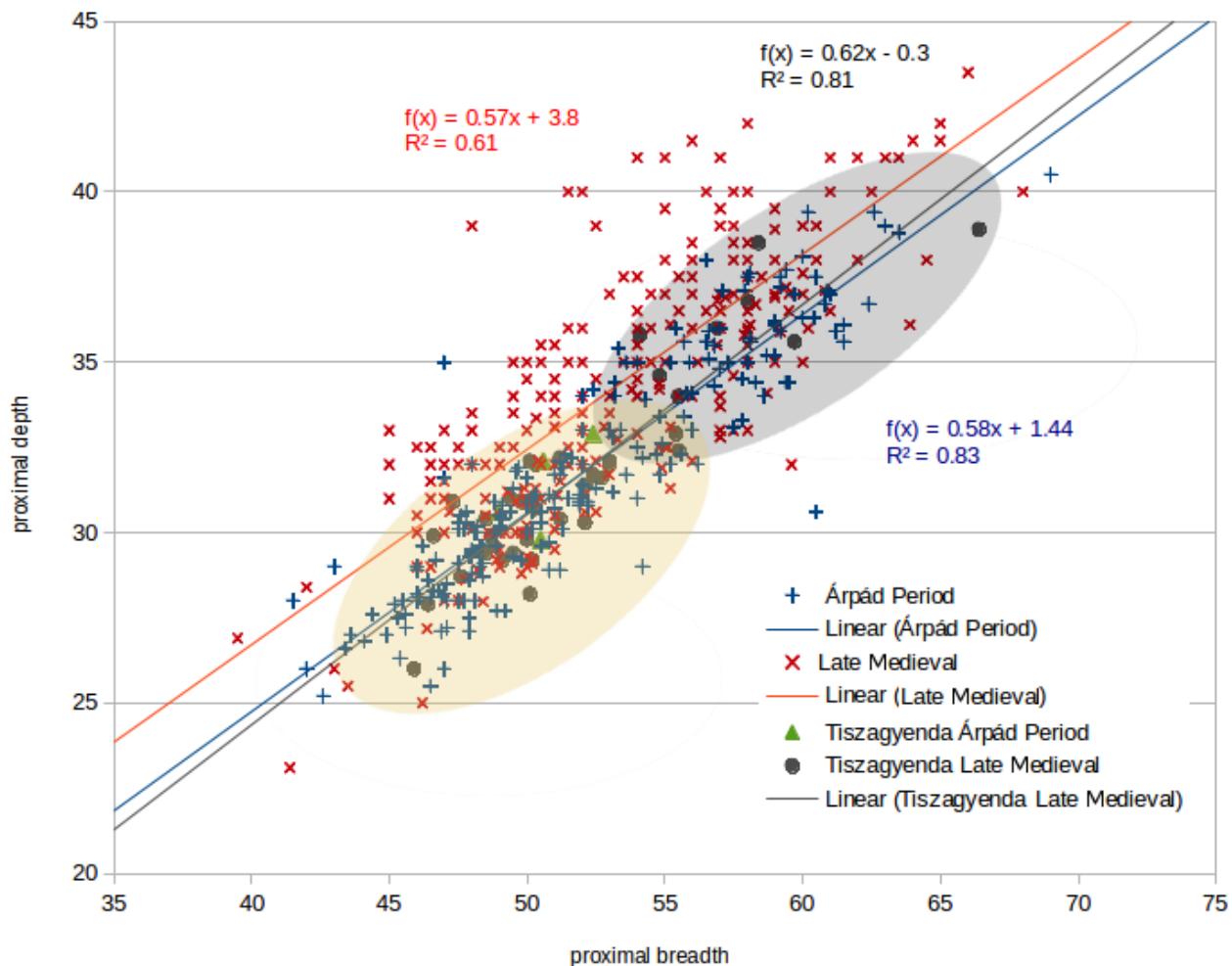


Diagram 3.5.6. Proximal measurements on cattle metatarsals. The two shadowed areas represent two size groups at Tiszagyenda, probably the two sexes. Sites included: Tiszagyenda, Muhi, Vác, Visegrád, Kána, Gorza, Endrőd 6, Újhartyán, Hanta, Perkáta, Buda Castle, Gyula Castle, Szolnok Castle, Tárkere-Móric, Visegrád, Tiszaszőlős-Csákányszeg, Nagyvázsony-Csepely, Fonyód, Kőszeg Castle, Sopron – Szent György tér, Orgondaszentmiklós, Csongrád-Felgyő, Tiszalök-Rázom, Hajdúnánás-Fürjhalmai dűlő, Kardoskút-Hatablak, Csátalja – Vágóthegy, Dobozi-Hajdúirtás.

Horn core measurements overlap with the late medieval sample taken from other sites. Especially large individuals (bulls and oxen) found at other excavations are missing here; interestingly, even the seventeenth-nineteenth-century individuals from the site fall within the size range of Árpád Period cattle. Approximate length measurements could be made in four cases: these were ca. 70 cm (late medieval), 130 cm (two horn cores, both from the Árpád Period) and 180 cm (late medieval) long, massive horn cores. The horn core measurements of the Tiszagyenda specimens coincide with the small and medium horned cattle group described by Vörös from the sixteenth and seventeenth century faunal assemblages.¹¹⁴⁶

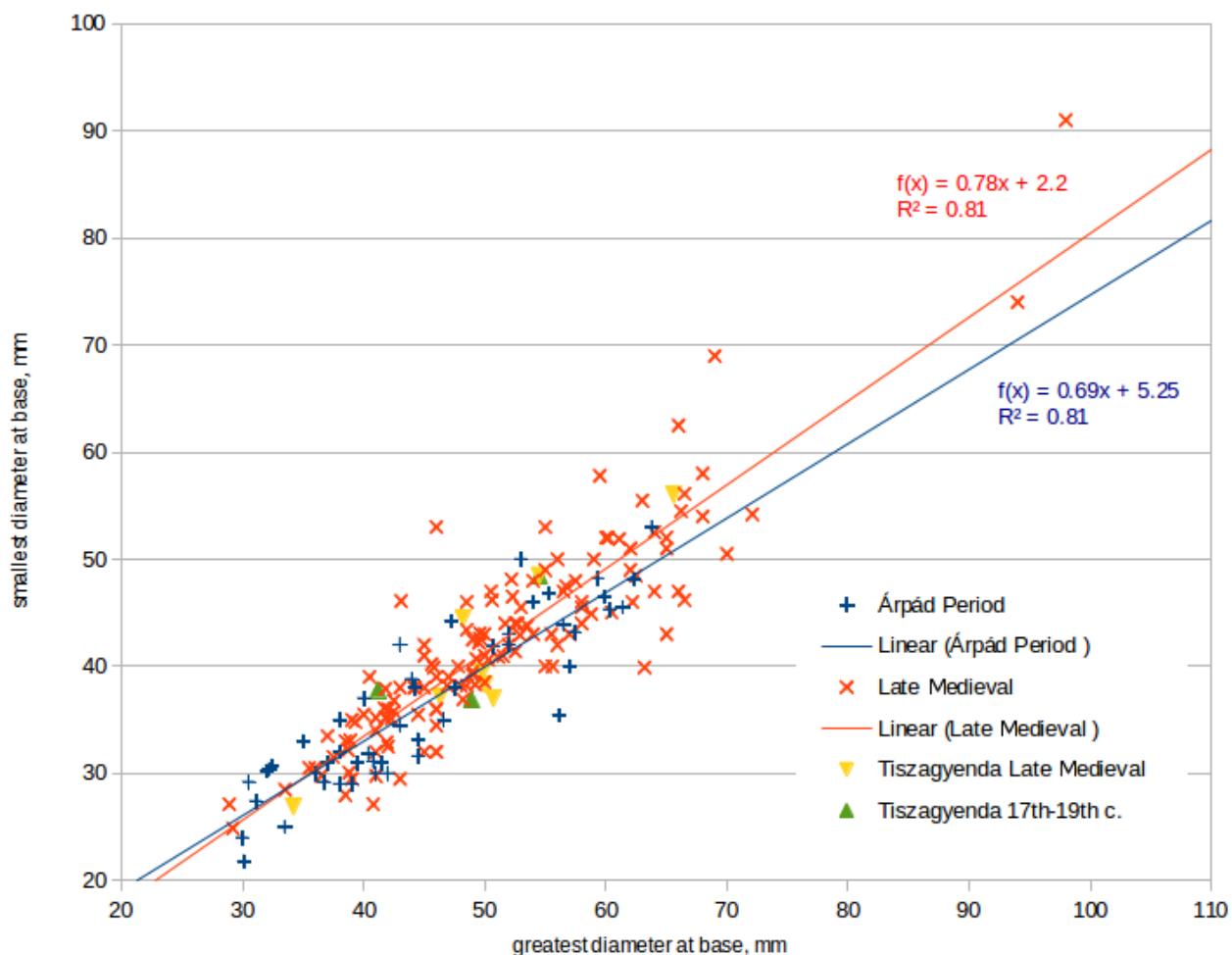


Diagram 3.5.7. Cattle horn core measurements. Sites included: Tiszagyenda, Csátalja-Vágóthegy, Csatár-TSZ Istálló, Dobozi-Hajdúirtás, Tiszaeszlár-Basahalom, Tiszalök-Rázom, Buda Castle, Fonyód, Gyula Castle, Gorza, Kecskemét-Bocsai utca, Kőszeg Castle, Nagyvázsony-Csepely, Sárospatak Castle, Szolnok Castle, Túrkeve-Móric, Mende, Óbuda, Sarud, Szabolcs, Szarvas-Rózsás, Szarvas-132, Vác, Ugod, Sarvaly, Hajdúnánás-Fürjhalmi dűlő,

¹¹⁴⁶ Vörös, Sixteenth and Seventeenth-Century Animal Bone Finds, 354-355, Diagram 2.

The withers height of horses varies between 130 and 160 cm (with a standard deviation of ca. 6), which testifies to the presence of different horse phenotypes (see Table 3.5.11 in the Appendix). The average size of horses increased in the late medieval period. Two late medieval individuals classify as very slender legged, four are slender legged, one is slightly slender legged, and five are medium slender legged. Only one massive legged individual was found, dated to the Árpád Period.

The sex of one stallion could be identified in the smaller, Árpád Period sample, while in the late medieval material two mares and eight stallions could be distinguished in the late medieval material. The apparent dominance of adult males in the latter sample is interesting. Horses in this period were typically used for riding or to pull carts and not for agricultural work. Only the more well-off peasants could afford to keep horses.¹¹⁴⁷ The observed sex ratio may reflect an actual preference for males (and geldings) as riding horses. Such a practice suggests that horses that were eventually consumed were working beasts that were no longer useful. Mares may have been occasionally milked but their milk was definitely not as crucial as the dairy products from cattle.

Three pig bones (two radii and one tibia) were suitable for withers height calculation; these came from animals that were 75.6, 81.5 and 82 cm at the withers respectively, corresponding to the few available late medieval measurements on pigs in Hungary.¹¹⁴⁸ The sex ratio is somewhat surprising: 27 males and 21 females were identified, even though the dominance of adult females kept for breeding purposes would be expected, while males were slaughtered at a relatively young age (when they reached their maximum weight). Swine was undoubtedly bred at the site, something testified to by the remains of newborn and very young animals. Modern veterinary manuals recommend an ideal 1:15 to 1:25 boar-to-sow ratio for mating.¹¹⁴⁹ In wild populations, however, swine herds consist of 3-4 sows and their offspring,

¹¹⁴⁷ László Gaál, *A magyar állattenyésztés múltja* [The Past of Hungarian Animal Husbandry] (Budapest: Akadémiai Kiadó, 1966), 124, 130 (henceforth: Gaál, *A magyar állattenyésztés múltja*); Belényessy, Állattartás, 33.

¹¹⁴⁸ Vörös calculated the average withers height of Árpád Period swine as 67.8 cm. (Vörös, Adatok az Árpád-kori állattartás történetéhez, 92.) Based on Bökonyi's measurements, late medieval individuals of 76.7 cm, 75 cm and 95.7 cm could be reconstructed. (Bökonyi, History of Domestic Mammals, 522-525.) Large and medium sized pigs were present in the Ottoman Period, ranging from 55 to 73 cm at the withers (Vörös, Sixteenth and Seventeenth-century Animal Bone Finds, 358.)

¹¹⁴⁹ Susan E. Aiello ed. *Merck Veterinary Manual*, Digital edition:

while boars are solitary.¹¹⁵⁰ Therefore, it would have been hard to herd groups containing several, competing males. If pigs were grazed in a free-ranging style the practice of neutering males was certainly present. Neutered boars are first reported in Hungary in 1247¹¹⁵¹ and although not much is revealed in the written sources on the sex ratios of pigs being kept, neutering certainly was a well-known measure to ensure that pigs kept for fattening were more docile. In fact, most fattened pigs in medieval Hungary from the fourteenth century onwards were neutered males.¹¹⁵² How these animals were herded and whether they were grazed in the floodplains together with the sows and their offspring, or in smaller groups, is, however, unknown.

The withers height of dogs increases from the Árpád Period average of 49.4 cm (standard deviation is 6.7) to a late medieval average of 57.5 cm (standard deviation is 10.5) (see Table 3.5.12 in the Appendix). The size variability is high: beside the “average” medieval type of ca. 40 cm, resembling the pariah dog, a larger type with a withers height around 60-70 cm was also present: one such dog was found in the Árpád Period sample, while the large type was represented by five animals in the late medieval assemblage. Possibly both types were used for herding, but with different species (sheep or cattle). Surprisingly, the largest individual was a juvenile of 15 months, dated to the fourteenth-fifteenth century. By this age, most long bones have ceased to grow longitudinally, although minor changes in size may take place later. Unfortunately, this large individual’s skull was not preserved and thus, a craniometric study was not possible.

http://www.merckmanuals.com/vet/management_and_nutrition/management_of_reproduction_pigs/breeding_management_in_pigs.html

¹¹⁵⁰ Susan E. Aiello ed. *Merck Veterinary Manual*, Digital edition:

http://www.merckmanuals.com/vet/behavior/normal_social_behavior_and_behavioral_problems_of_domestic_animals/social_behavior_of_swine.html

¹¹⁵¹ Gaál, A magyar állattenyésztés múltja, 122.

¹¹⁵² Attila Paládi-Kovács, *A magyar állattartó kultúra korszakai* [Historical Periods of Animal Husbandry in Hungary] (Budapest: MTA Néprajzi Kutatóintézet, 1993), 108 (henceforth: Paládi-Kovács, *A magyar állattartó kultúra korszakai*)

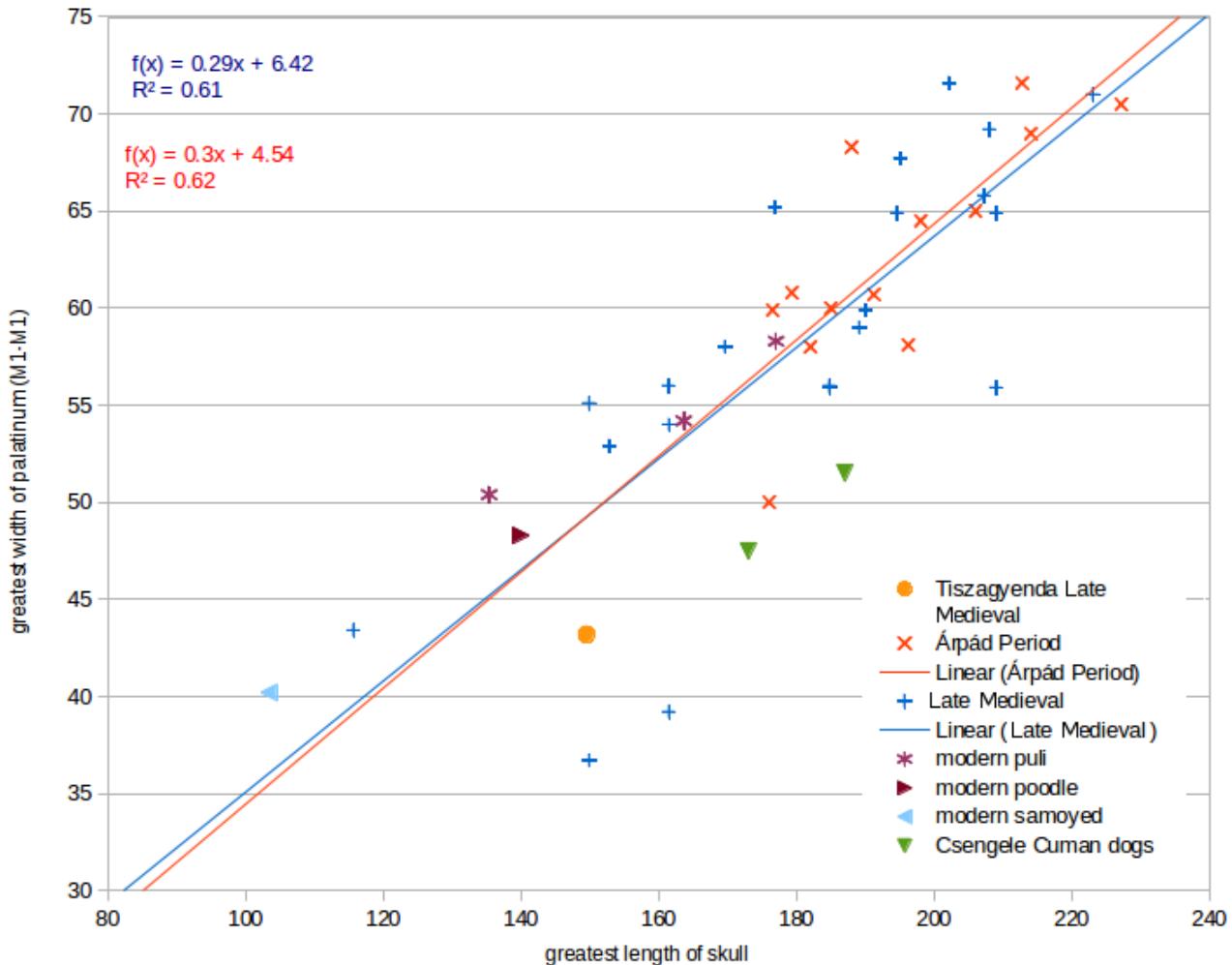


Diagram 3.5.8. Dog skull measurements. The well preserved dog skull from an Árpád Period pit at Tiszagyenda stands out from the pool with its small size, but follows the trend line. Sites included: Kána, Maglód, Gorzsa, Kardoskút, Zalavár; Térkeve-Móric, Tiszaeszlár-Basahalom, Vác, Fancsika, Jánosszállás, Márianosztra, Buda Castle, Csengele-Bogárhát. Modern individuals belong to the Hungarian Museum of Agriculture, and were measured by Márta Daróczi-Szabó in her MA thesis.

The only well preserved dog skull belonged to a medium-size animal from the late Árpád Period. This adult animal measured ca. 44 cm at the withers. Its skeleton was deposited in a shallow pit along with fragments of sooty pottery, an iron knife and some brick debris. Its left humerus was fractured and healed with a slight dislocation, probably from an accident at an early age (see Chapter 6 on pathologies). The skull's length and width proportion, more-or-less, follows the general trend, but the small size distinguishes the animal from the majority of medieval measurements (Diagram 3.5.8). This skull is narrower than those of the modern Hungarian *puli* breed (a traditional shepherd dog) and the modern poodle, but coincides with

their length dimensions. Interestingly, the dimensions of this skull best resemble skulls discovered at the Cuman site of Csengele-Bogárhát. This, of course, does not demonstrate any genetic connection between these individuals, and these animals do not stand out from the overall medieval sample, although they do not strictly follow the trend line. Both the body size and the narrow skull suggests this skull came from a gracile dog. However, the perfectly healed fracture of the humerus suggests a possible veterinary treatment and that a value (whether monetary or emotional) was placed on the individual.

3.5.3 Summary

In this chapter, I have discussed two archaeological sites situated on the fringes of the medieval Cuman territory. Gorzsa in southern Hungary was, although geographically close, more separated from the Cumans in Lesser Cumania due to natural watercourses, while Tiszagyenda (the medieval village of Gyenda or Lak) was situated in close proximity to the Cuman villages in Greater Cumania. For this reason, these sites have the potential to reveal whether settlements with very similar geographical positions and natural environments but different cultural backgrounds did, in fact, differ from each other. These villages were recorded as being Hungarian, but they must have had close contacts with the neighboring Cuman settlements and their population.

Both sites were excavated more recently so that the methodology utilized in their case was more up-to-date and suitable for a detailed analysis. The almost identical ratio of horses and caprines at Gorzsa resembles the species distribution observed at the late medieval Cuman sites of Greater Cumania. From the Árpád Period to the late medieval era, the ratio of horses increases, strangely mainly at the expense of poultry, while the ratios of cattle, sheep/goat and swine remain, more-or-less, constant. However, this does not imply an ‘organic’ connection between these sites, or similar ‘ethnic’ affiliation. The environs here were suitable for keeping swine in larger numbers, which may explain the relatively high ratio of swine bones and the fewer than expected number of sheep bones. In all probability, Gorzsa did not take part in the cattle trade and cattle was only kept for household purposes. The increasing variability of late medieval cattle populations raised for the meat markets is not reflected in this assemblage.

Gorza was a small, probably poor village existing in a period when the cattle trade really began to flourish.

Tiszagyenda, a site located in Greater Cumania but not associated with Cumans, seems to follow the general trend in terms of species ratios, with an overwhelming dominance of cattle that increases somewhat in the later period, and almost identical ratios of horses, sheep and swine. Interestingly, the ratio of species at late medieval Tiszagyenda is almost identical to that at the nearby Cuman Orgondaszentmiklós. The kill-off patterns suggest the conscious raising of swine, with a higher number of adult individuals slaughtered in the late medieval period. This coincides with the already discussed importance of swine rearing in Greater Cumania.

These sites should pave the way to a more systematic comparison between Cuman and Hungarian medieval sites. It must be added, however, that only few medieval Hungarian sites have been properly excavated and analyzed from these regions, and the general picture from the available faunal assemblages is still based on a relatively small number of finds.

3.6 Cuman animal husbandry in the Great Plain. General trends and data quantification

After discussing the textual sources associated with the Cuman areas and individual archaeological sites, some comprehensive quantification must be carried out in order to investigate general trends and explore whether there genuine statistical differences between the Cuman and the Hungarian faunal materials exist. In this subchapter, some basic statistics will be presented to help strengthen the results of the qualitative analysis.

Taxonomic richness

Taxonomic richness correlates with sample size (Diagram 3.6.1). However, it is heavily influenced by factors not inherent to the material itself including recovery methods (especially use of or lack of sieving to retrieve small objects that are hard to see during hand-collection). Modern sampling methods started to be practiced in Hungary only in the 1990s and then only sporadically. Sites on the diagram with particularly high numbers of identified taxa represent more recent excavations where more precise recovery methods were employed (Kána, Gorza,

Tiszagyenda, Vác). In addition, two of these (Tiszagyenda and Gorzsa) yielded a great number of wild bird and fish remains, which obviously increased taxonomic richness. Older excavations of Cuman sites, as well as small assemblages, are positioned at the lower end of the trend line. The fact that a similar variability is observed with Árpád Period and late medieval Hungarian assemblages also suggests causes that are rather associated with recovery methods than historical reasons such as the ethnic affiliation of a population.

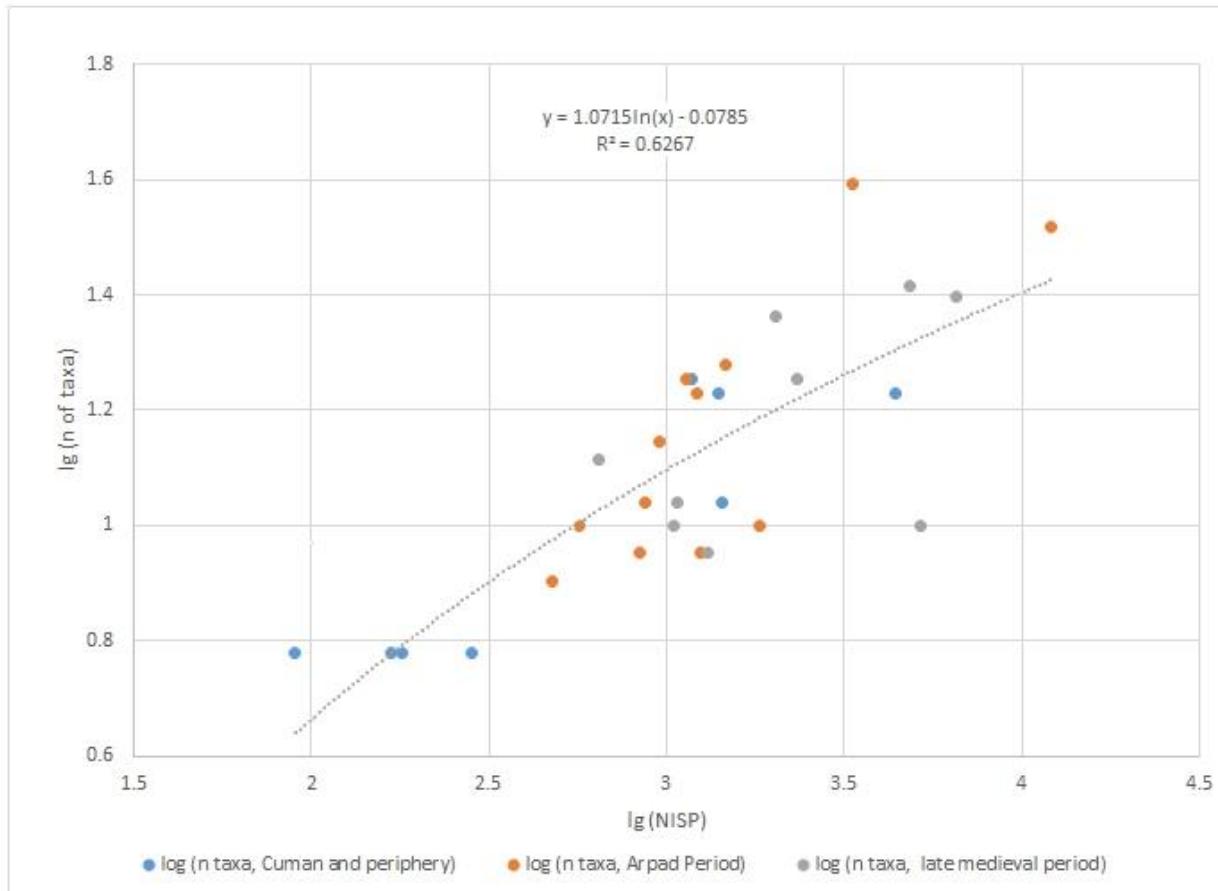


Diagram 3.6.1 Taxonomic richness at the Cuman and periphery sites and other medieval assemblages. (Sites included: Vecsés 36, Gyál 8, Gyál 13, Kána, Maglód, Vác, Muhi, Hanta, Murga-Schanz, Hajdúnánás, Endrőd 6, Jászberény-Négyeszálás, Csepel-Vizművek, Szabolcs, Ugod, Sarvaly, Segesd)

Herd structure

Herd structure reconstruction is particularly problematic as the available archaeological sample directly reflects consumption behavior and only indirectly production. However, in the case of villages where household slaughters took place and the settlement's involvement in large-scale animal trade or supplying meat to urban markets are not unambiguously evidenced in the

written material, it may be hypothesized that species ratios in the original herd were not fundamentally different from the observed ratios in the assemblage.

It is, in fact, a problem that although a lot of research has been done on medieval animal keeping, faunal assemblages from the Great Hungarian Plain that are of statistically significant size and properly processed are not yet numerous and therefore trends and phenomena they seem to manifest cannot always be properly understood. These interpretive problems also makes it more difficult to spot regional differences, as the background against which Cuman assemblages can be compared is also varied and subject to a number of changing factors. However, some basic trends can be formulated concerning the way animal keeping in Cuman communities changed in general.

The sites discussed above were already permanent settlements and thus, no traces of nomadic pastoralism should be expected. The small, earlier sites from the thirteenth-fourteenth century already testify to animal keeping customs that required a fully sedentary life. The presence of swine at each site and of domestic fowls in some assemblages (species that were known but not kept by the Cumans during their former life on the steppe) as well as the species ratios suggest they adapted quickly to the prevailing economic environment in the medieval Kingdom of Hungary. This must already have started when Cumans established their fixed winter camps in the thirteenth century. These camps were to give rise to proper permanent settlements. As discussed in chapter 1.2, permanent settlement had probably already begun in the steppe zone in some Cuman communities. However, they were subsequently forced to return to a mobile lifestyle due to Mongol attacks. Thus, they already must have experienced patterns of adaptation and learnt strategies connected to sedentary economy when they settled in the Plain. It is, however, not clear to what extent this worked the same way in different tribal fragments. From this point of view, the relatively early site of Kiskunfélegyháza-Templomdomb may be of special interest. Although the Cuman presence at this site is debated, in fact, this is the only assemblage where the ratio of horses to swine, as well as the abundance of caprines in the sample resembles steppe preferences. (However, here the small sample size may well have influenced the species ratios in the faunal assemblage. Conclusions can only be substantiated if more material is made available for study from sites in the immediate region.)

As noted earlier, cattle was the dominant species in practically all Cuman assemblages, while the presence of the other three other main domesticates fluctuated. However, the

dominance of cattle is not as evident in some cases as was customary at medieval settlements on the Great Plain. The horse to swine and small ruminants ratios may reveal if any remnants of the steppe animal husbandry were retained in terms of species preferences. Horses and small ruminants are expected to be better known and preferred in a population that migrated from the steppe region. When plotted against each other, it is evident that Árpád Period Hungarian settlements (that is, the environment the Cumans migrated into) were very varied from the point of view of species preferences,¹¹⁵³ as are all late medieval settlements (Diagrams 3.6.2 and 3.6.3). There is no clear clustering of these marker species, not even in the Hungarian (Árpád Period) material, and thus, it seems more logical that species preferences were rather geographically specific, and in parallel with the opportunities provided by the immediate natural and economic environment. Interestingly, however, those Cuman sites that have a greater NISP, that is, number of individual specimens (Szentkirály, Móric, Orgondaszentmiklós and Perkáta), seem to cluster, and display similar ratios with the late medieval faunal assemblages of Hungarian Vác, Muhi and the sites on the periphery of Cuman areas from the point of view of horse to swine ratios (Diagram 3.6.2). At the same time, they resemble the Árpád Period villages and the late medieval towns of Muhi or Vác in terms of sheep to swine ratios (Diagram 3.6.3). Small Cuman samples cluster together in both cases.

¹¹⁵³ This has also been demonstrated by Biller (Anna Biller, "Vecsés környéki Árpád-kori települések csontanyagának állattani vizsgálata" [Archaeological examination of Árpád Period settlements around Vecsés] *Archeometriai Műhely* 2007/1, 45-54, 51, Diagrams 6 and 7).

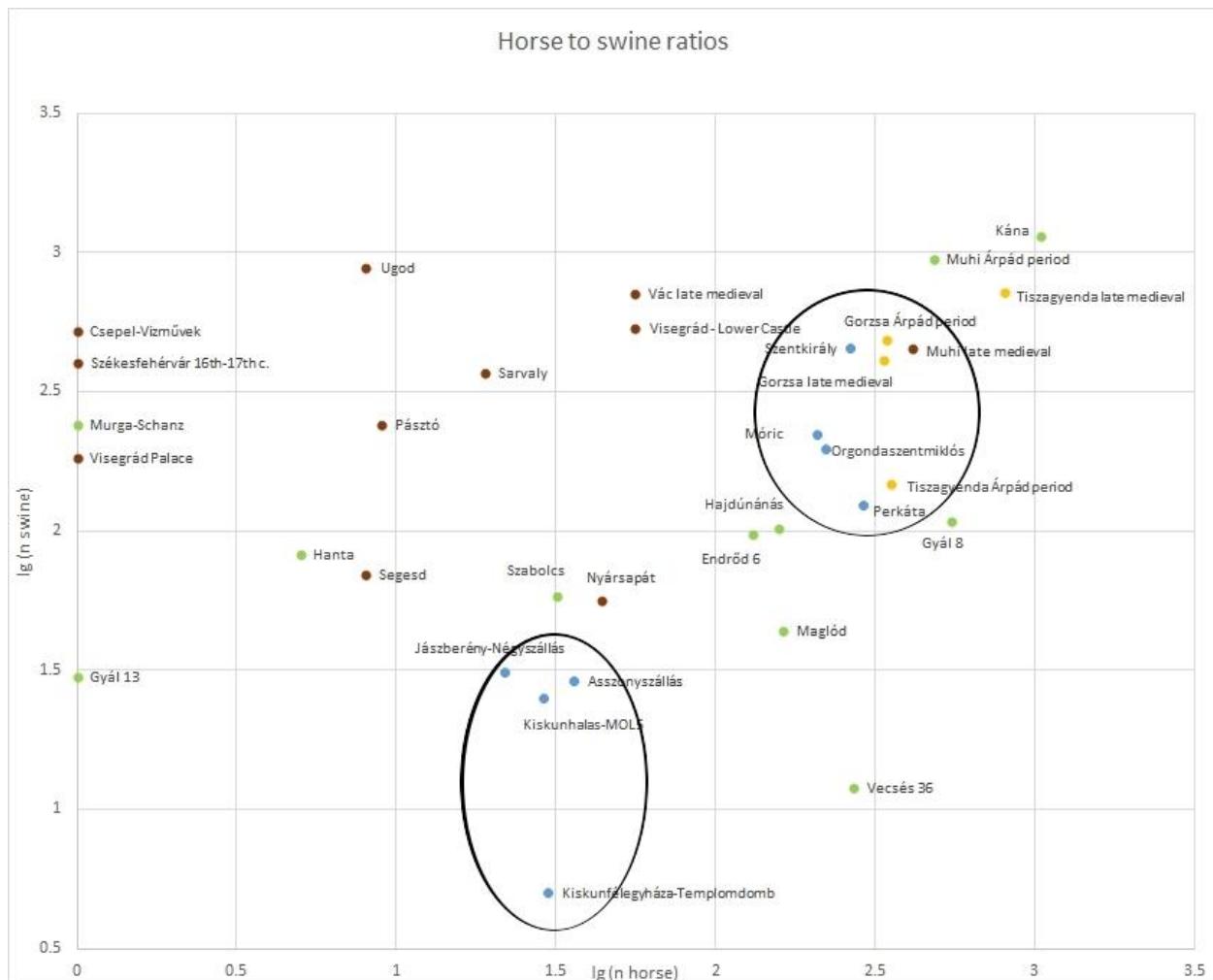


Diagram 3.6.2. Horse to swine ratios at archaeological sites in medieval Hungary. Hungarian Árpád Period sites are marked in green, Hungarian late medieval ones in dark red, ascribed Cuman sites in blue, and sites on the periphery of Cuman territories in yellow. (An Iasian site, Jászberény-Négyszállás is also marked in blue.) The calculation is based on altogether 16,429 horse and swine bones from the listed sites.

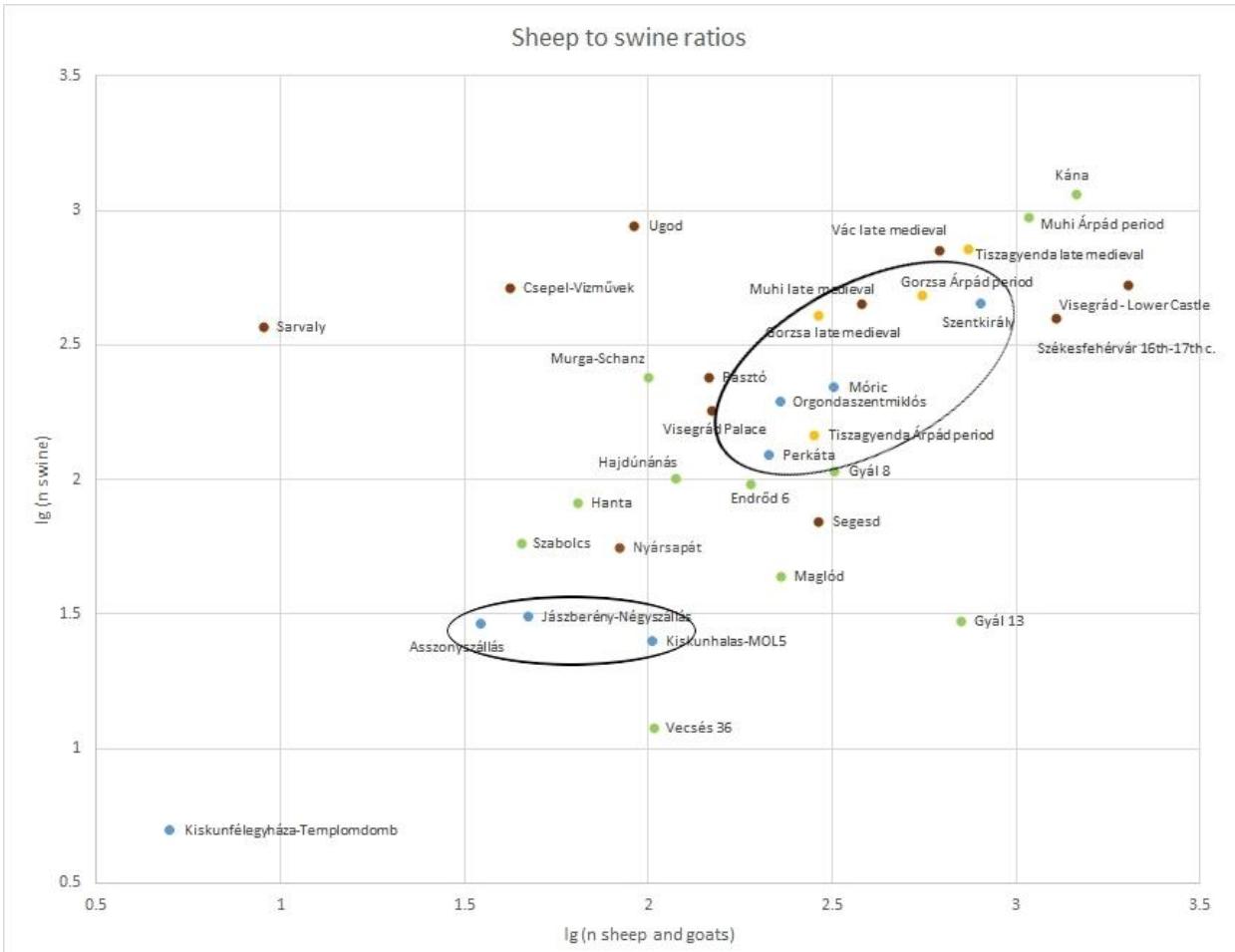


Diagram 3.6.3. Sheep/goat to swine ratios at archaeological sites in medieval Hungary. Hungarian Árpád Period sites are marked in green, late medieval Hungarian sites in dark red, Cuman sites in blue, and sites on the periphery of Cuman areas in yellow. (An Iasian site, Jászberény-Négyszállás, is also marked in blue.) The calculation is based on altogether 23,247 caprine and swine bones from the sites listed.

The ternary diagram of the three species (which graphically depicts the ratios of the three variables as positions in an equilateral triangle, Diagram 3.6.3) reveals a slight clustering of Cuman sites with a preference for sheep and horse instead of pig. These sites, however, do not stand out from the rest of the medieval assemblages. They appear, if anything, closer to Árpád Period sites in this regard compared to late medieval sites (Diagram 3.6.4). Nevertheless, that a slight but perceptible preference for horse and sheep as opposed to swine is observed even in the area of Greater Cumania, where the written sources suggest an intensive practice of swine husbandry. On this diagram, Szentkirály lies closest to Hungarian late medieval assemblages, although it still clusters with the other Cuman sites.

This difference, although it may have been influenced by species preferences associated with the Cumans' former steppe culture, is probably due rather to other factors. Swine keeping was already more predominant in the forested hill areas of Transdanubia and in the mountains of present-day northern and northeastern Hungary in the earlier Árpád Period,¹¹⁵⁴ while the Great Plain was typically not used for large-scale swine production. Although swine could easily be fed well on wetlands (as we have seen in the Cuman areas as well, e.g. at Orgondaszentmiklós), extensive oak forests with acorns were still preferred for swine fattening purposes throughout the country.

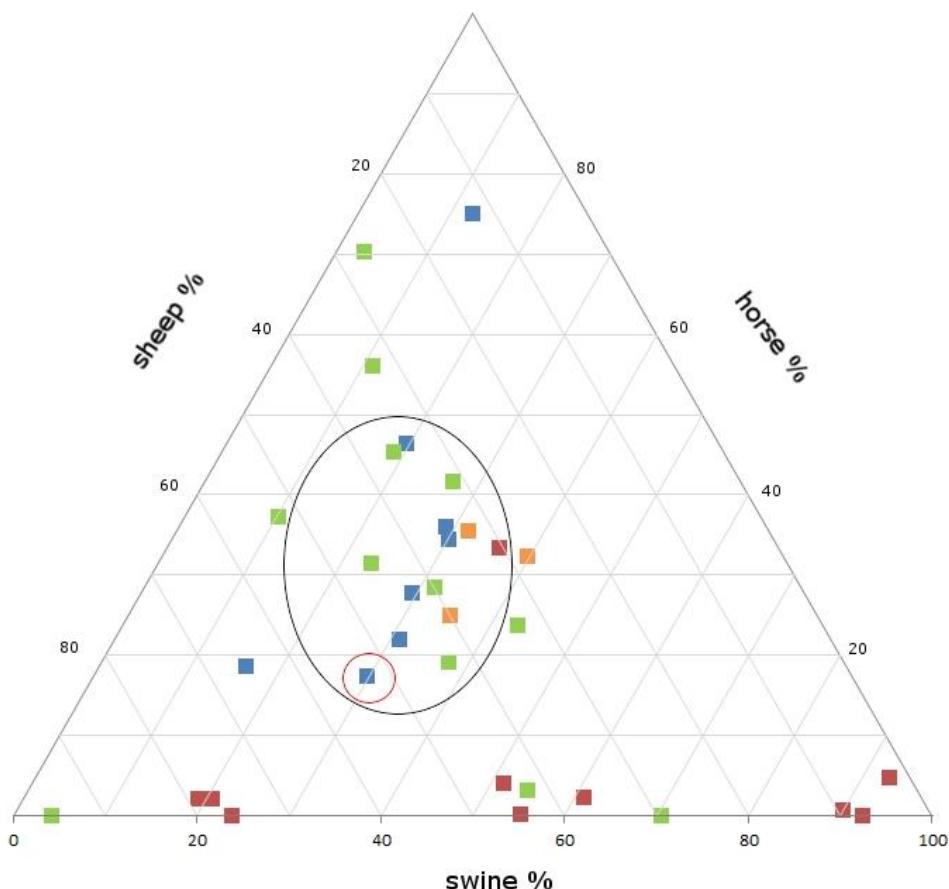


Diagram 3.6.4. Ternary plot showing the percentage proportions between the three main domesticates. Hungarian Árpád Period sites are marked in green, Hungarian late medieval ones in dark red, Cuman sites in blue, and sites on the periphery of the Cuman areas in yellow. (An Iasian site, Jászberény-Négyeszálás is also marked in blue.) The calculation is based on altogether 29,611 horse, sheep/goat and swine bones from the same sites that are listed for Diagram 3.6.1 and 3.6.2. The Cuman site that particularly stands out is Kiskunfélegyháza-Templomdomb, while the one lying in the bottom left corner of the diagram outside the cluster is Kiskunhalas-MOL5. Their positions are also influenced by small sample size. The Cuman site circled in red is Szentkirály.

¹¹⁵⁴ Vörös, Adatok az Árpád kori állattartás történetéhez, 77.

Percentages used alone, however, may often be quite misleading. It is worthwhile testing if the differences between Cuman and Hungarian villages in the Great Hungarian Plain are, in fact, really statistically significant. A Pearson's chi-square test of independence was carried out to evaluate the statistical significance. The NISP (again, the Number of Individual Specimens) observed in Árpád Period and late medieval Hungarian villages were taken as values against which the ratios observed in the separate Cuman areas were compared (Table 3.6.1).¹¹⁵⁵ In this case it was crucial to select sites for comparison that are not geographically too distant and classify as villages, because different environmental settings and different positions in the settlement hierarchy would introduce additional factors that would influence the results. Thus, only a few sites were deemed suitable for comparison. Of course, merging NISP data from different sites will unavoidably blur differences, but in this case, only villages from the Great Plain were included in the study so that variability in site type and location will probably not be a biasing factor.

The results indicate some heterogeneity in the species proportions. There is a statistically significant relationship between ethnic background and the ratio of domesticates in all regions, which means, in other words, that Cuman and Hungarian samples are statistically different from each other. However, the strength of association (Cramer's V value) is low and suggests a relatively weak relationship between ethnicity and the four domesticates' ratio (Table 3.6.1). Being classified as Cuman or Hungarian (by excavating archaeologists), although it does seem to be linked to species ratio, is not a factor that would categorically determine these ratios in an assemblage. The strength of association between ethnicity and species ratios is higher when the Cuman sample is compared with late medieval Hungarian assemblages (Cramer's $V \geq 0.2$) than when it is compared with Árpád Period ones (Cramer's $V \leq 0.1$). This means that in the former case, ethnicity does not seem to have been an important factor: the Cuman samples are actually more different from late medieval Hungarian samples than from the Árpád Period ones. This result coincides with our previous observations.

¹¹⁵⁵ Sites on the periphery of the Cuman area were excluded from this calculation. They were investigated separately (see later in this chapter).

	Greater Cumania	Lesser Cumania	Cuman Transdanubia	Árpád Period Hungarian villages*	Late medieval Hungarian villages**
N swine	445	484	123	2492	1078
N horse	468	325	291	2792	433
N cattle	961	2861	710	11201	3339
N sheep	583	909	213	4198	448

A

	Árpád Period Hungarian villages	Late medieval period Hungarian villages
Greater Cumania	$\chi^2 = 218.66$	$\chi^2 = 642.69$
	p value = 3.905E-47	p value = 5.6E-193
	Cramer's V = 0.09	Cramer's V = 0.29
Lesser Cumania	$\chi^2 = 178.51$	$\chi^2 = 384.44$
	p value = 1.84737E-38	p value = 5.20397E-83
	Cramer's V = 0.08	Cramer's V = 0.20
Cuman Transdanubia	$\chi^2 = 82.076$	$\chi^2 = 443.55$
	p value = 1.10083E-17	p value = 8.12955E-96
	Cramer's V = 0.06	Cramer's V = 0.25

B

	Lesser Cumania
Greater Cumania	$\chi^2 = 443.5530541$
	p value = 8.12955E-96
	Cramer's V = 0.25

C

Table 3.6.1 A-C. χ^2 test values for the Cuman and Hungarian samples ($df = 3$ in all cases). As χ^2 is higher than $\chi^2_{critical}$, (the critical value is 7.82 for 3 degrees of freedom and a significance level of 0.05), the null hypothesis (that the variables are independent) should be rejected and the independence of the two samples can be excluded with a 95% probability ($p \leq 0.05$). A: raw data, B: χ^2 test for Cumans vs. Hungarian samples, C: χ^2 test for Greater vs. Lesser Cumania.

* Sites included: Vecsés 36, Gyál 8, Gyál 13, Kána, Maglód, Hajdúnánás, Endrőd 6, Muhi (Árpád Period sample)

** Sites included: Csepel-Vizművek, Nyársapát, Muhi (late medieval sample)

When the sample from Greater and Lesser Cumania are compared, similar results are seen: there is a significant relationship between species ratio and geographical region, and the differences between the two samples are approximately as strong as the ones between late medieval Cuman and Hungarian samples. Therefore, the Cuman material seems to vary from one region to the other, and there is no homogenous archaeological assemblage that can be labeled as "Cuman proper". The sample from Lesser Cumania is dominated by the Szentkirály assemblage, while in Greater Cumania we have analyzed other assemblages from rather small villages. The

variations are probably rooted in the settlements' different places in the settlement hierarchy (Szentkirály as a larger village or even embryonic market town as opposed to Greater Cumania's small villages). This, again, suggests that the sites' positions in the settlement network was more important than ethnicity in terms of the ratio of animal species consumed.

It is also worthwhile taking a look at the differences between expected and observed values of species ratios (see Table 3.6.2 in the Appendix). Expected values show the distribution of species that would be found if there were no differences between the samples (that is, if ethnicity had no effect on species ratios). The comparison between Greater Cumania and the Hungarian sample is particularly interesting: here, there is some reflection of what I have called the "nomadic" stereotype. Horse and sheep were consumed in bigger quantities than expected, while there are many fewer cattle bones in the Cuman sample than in the Hungarian one. This is particularly evident in the comparison with late medieval Hungarian villages. Interestingly, a stronger preference for horse and sheep is also revealed by the comparison to earlier, Árpád Period Hungarian village assemblages. This difference is, however, stronger in the comparison with the later Hungarian phase. The Transdanubian sample also shows a similar preference for horse and sheep, which is again particularly evident when compared to the late medieval Hungarian assemblage. Therefore, the Greater Cumanian and Transdanubian sample suggests that Cumans, in fact, introduced species preferences that had also been characteristic of the earlier Hungarian population (who also brought with themselves a Eurasian steppe background to the Carpathian Basin). However, by the time the Cumans arrived these 'steppe-influenced' preferences for particular species had already been transformed in the Hungarian villages.

When Lesser Cumania is compared to the earlier, Árpád Period Hungarian sample, however, horses fall beyond the expected number in the Cuman sample, signifying that the Lesser Cumanian assemblage dominated by Szentkirály does not show exactly the same preferences as does Greater Cumania. Here, the correlation with earlier Hungarian assemblages is not that evident (which again reinforces the importance of the position of individual sites in the settlement hierarchy).

Comparing the sites on the periphery of Cuman areas yielded interesting results in terms of possible Cuman influence on their Hungarian neighbors. Comparison is easy in the case of Tiszagyenda, as we have a Cuman sample of three Cuman settlements from the same area that Tiszagyenda is located in Greater Cumania. In the case of Gorzsa, comparison must be made

with sites in Lesser Cumania as the closest Cuman area with available data; however, in the latter case, this village was separated from the Cuman zone by watercourses. When the χ^2 test (Chi-square) of independence is performed, it becomes clear that a significant difference exists between the samples, and so, both in the case of Tiszagyenda and Gorzsa ethnic preferences probably had a role in species ratios. However, the difference is, again, very small based on the Cramer's V values (Table 3.6.3), especially between Tiszagyenda and the nearby Cuman villages. Interestingly, the ratio of horses at both peripheral sites is also higher than at other late medieval sites. This may be connected to Cuman presence in these areas, although it must be added that horse consumption was not unknown in Hungarian villages. The dominance of cattle, on the other hand, is more prevalent in late medieval Lesser Cumania than in late medieval Gorzsa where there were more horses and swine. This, again, reflects the differences between the large village of Szentkirály and a smaller village rather than between two ethnic backgrounds (Table 3.6.4 in the Appendix). There are also more cattle than expected also in late medieval Tiszagyenda while at the same time there are fewer sheep.

Observed	Tiszagyenda Árpád Period	Tiszagyenda late medieval	Gorzsa Árpád Period	Gorzsa late medieval
N swine	147	721	484	412
N horse	356	807	344	335
N cattle	517	2062	1107	663
N sheep	282	741	551	288

A

	Greater Cumania	Lesser Cumania
Tiszagyenda, Árpád Period	$\chi^2 = 53.52$ p value = 1.42344E-11 Cramer's V = 0.09	
Tiszagyenda, late medieval period	$\chi^2 = 86.53$ p value = 1.535E-13 Cramer's V = 0.10	
Gorzsa, Árpád Period		$\chi^2 = 267.04$ p value = 1.34716E-57 Cramer's V = 0.19
Gorzsa, late medieval period		$\chi^2 = 477.28$ p value = 3.9915E-103 Cramer's V = 0.28

B

Table 3.6.3. A-B. χ^2 test values for the Cuman samples and the sites on the Cuman periphery (df = 3 in all cases).. As χ^2 is higher than $\chi^2_{critical}$, (the critical value is 7.82 for 3 degrees of freedom and a significance level of 0.05), the null hypothesis (that the variables are independent) should be rejected and the independence of the two samples can be excluded with a 95% probability ($p \leq 0.05$). A: raw data, B: χ^2 test for Cumans vs. samples from the periphery.

The χ^2 test values discussed above indicate that although ethnicity was probably a factor in the preference for main domesticates, other factors, such as settlement size and type, the community's place in the settlement network while and the immediate natural and economic environment must also have been defining factors for determining animal keeping preferences. Rather, the examined settlements in all of the sites studied regardless of ascribed ethnic affiliation or period or geographical location rather form a continuum with minor differences. Szentkirály represents a small market center with faunal assemblages that display strong resemblances to faunal assemblages from late medieval Hungarian villages and towns, while the small villages excavated at Kiskunfélegyháza-Templomdomb and Kiskunhalas-Dongér - MOL5 are closer to the earlier, ninth-thirteenth century Hungarian villages than to the later ones. This suggests that the transformative processes that the Cuman community underwent in the first 100-150 years after their migration were similar to those that characterized the newly settled Hungarian population after their migration to the Carpathian Basin; substantiation of this suggestion, however, requires the investigation of larger early samples unambiguously identified as Cuman – something that is not currently available.

As we have seen in the written sources, similar processes of settlement concentration were observed in Greater and Lesser Cumania in the late medieval period. This, however, was not unique for the Cuman areas but characterized the whole of the Great Plain. It seems that a community's rank within the settlement network had the greatest impact on animal-keeping practices. This was intimately connected with market opportunities: villages in the vicinity of market towns involved in animal trade must have had different objectives than those that were relatively secluded and aimed at subsistence animal keeping. There are settlements where the number of animals in one owner's hand was never high; in other cases, tax records reveal that animal production for profit must have been a factor, although it fluctuated according to market demand and available pastures. Late medieval Cuman village communities either quickly adapted themselves to the inter-village competition for pasturelands and market share, finding a way to cope with the changing demographic and political situation, or they became depopulated

and their inhabitants migrated to market towns or other villages.

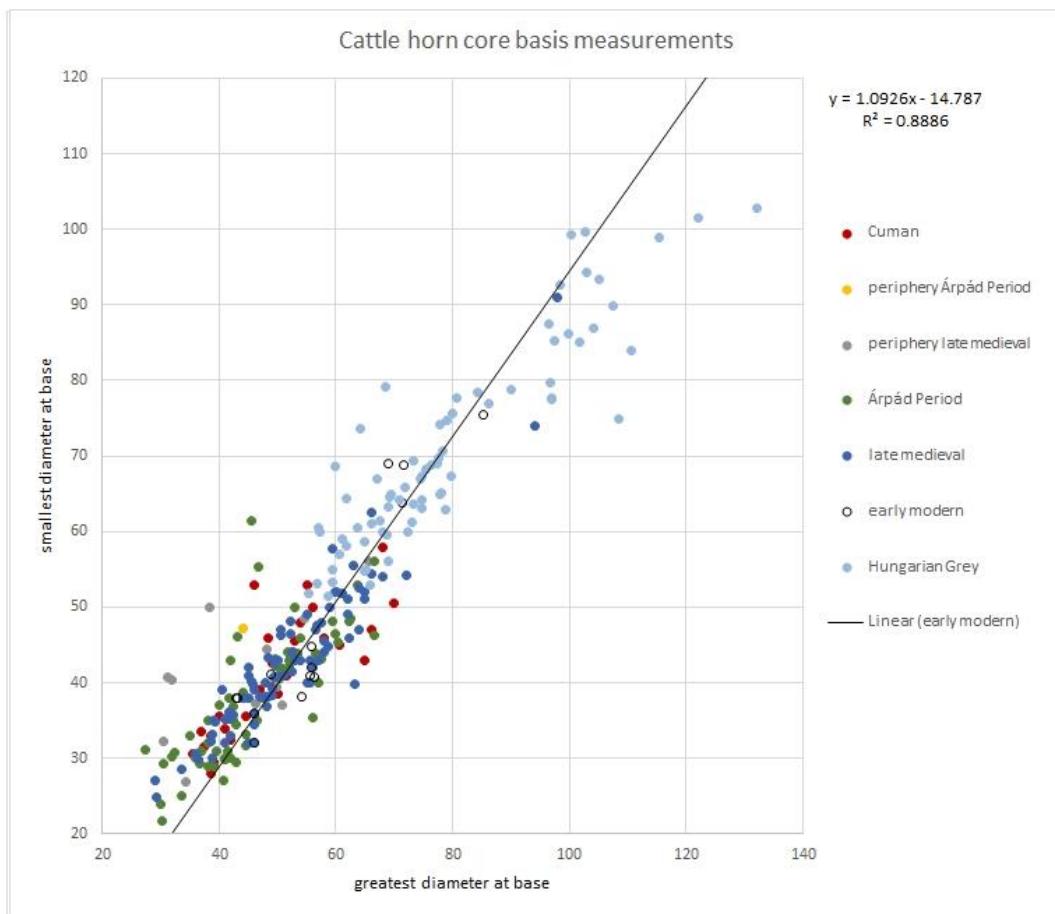


Diagram 3.6.5 Cattle horn core measurements. Data from modern Hungarian Grey cattle was taken from Körösi.¹¹⁵⁶

The Cumans' involvement in the late medieval cattle trade is not as clear-cut as one would expect, although their settlements were located in the catchment area of the trade. Cattle produced in small Cuman villages could be bought up and re-sold by wealthy merchants, especially to Lesser Cumania's market towns. It is, however, very difficult to find evidence for the existence of these beasts. Where the cattle driven to the western markets were procured and where they were raised and bought up, is not specified in the written sources (let alone the cultural or ethnic background of their original sellers), and at the same time, the remains of these animals will evidently not turn up in the archaeological assemblage either, simply because they

¹¹⁵⁶ Körösi, A magyar szürke (database in the volume's Appendix)

were culled and consumed in the target areas (that is, mostly abroad). However, one may assume that communities and families that participated in the cattle trade accumulated some wealth, which should show up in the tax records. A concentration of the sheep livestock has been discussed for the region of Lesser Cumania (see chapter 3.3). However, as the preserved tax records are rather late, these data are overshadowed by the disturbances during the Turkish-Ottoman rule, which had a very negative impact on the Cuman areas; it is impossible to say to what extent similar wealth concentration tendencies were present in previous centuries. The competition for resources such as hay and pastures, which has been observed in connection with several Cuman settlements, may also reflect participation in animal production.

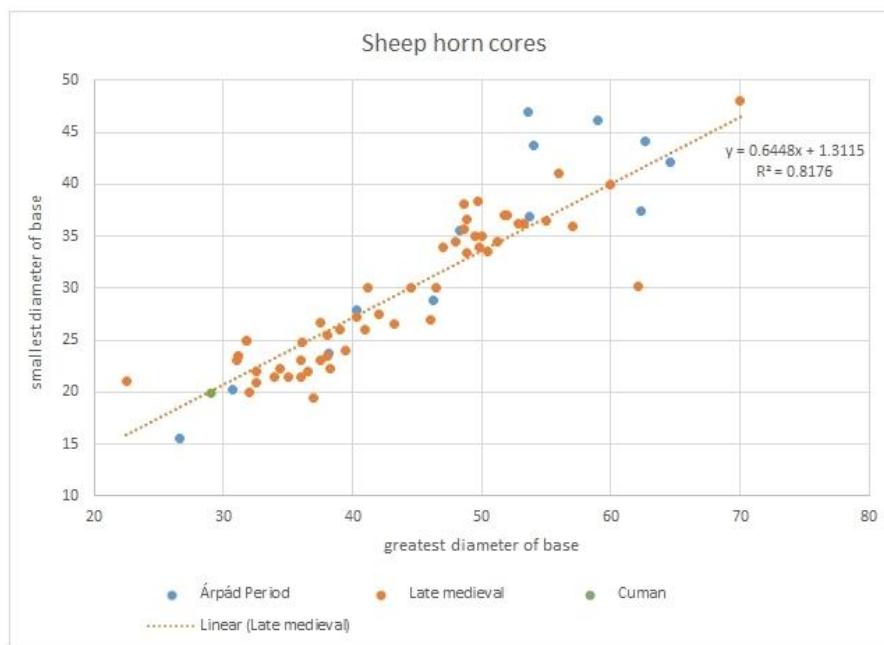


Diagram 3.6.6 Sheep horn core basis measurements.

Well-preserved cattle horn cores in large numbers were available only from Móric but were mostly absent from the other assemblages. This may be due to the practice of collecting and processing these parts of the cattle skull separately in horn workshops. It also means, however, that an important source of information regarding cattle livestock is lost. Although different clusters of horn core measurements were observed by Vörös at Turkish-Ottoman period sites,¹¹⁵⁷ these are not clearly present in our late medieval material (Diagram 3.6.5). The preserved horn cores cluster together with the Árpád Period remains. In general, the smaller brachyceros cattle

¹¹⁵⁷ Vörös, Sixteenth- and Seventeenth-Century Animal Bone Finds, 354-355.

was present at the Cuman sites, although at Szentkirály a larger type (not necessarily identical to the cattle bred for export) was also identified.

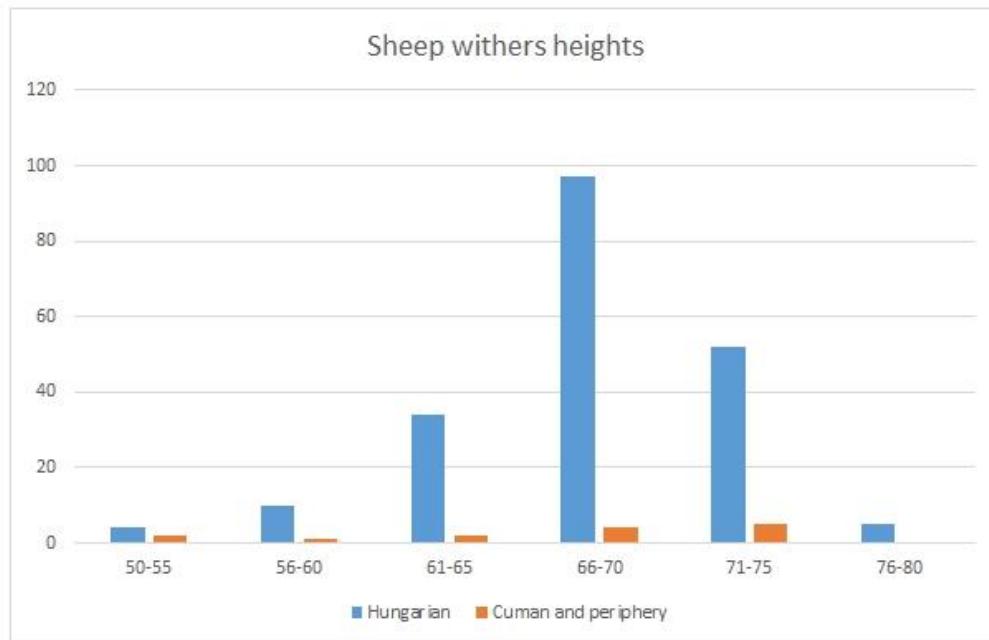


Diagram 3.6.7. Medieval sheep withers heights in Hungary. Sites included: Kána, Muhi, Visegrád, Vác, Buda Castle – Pasha's Palace, Gyula Castle, Szolnok Castle, Szentkirály, Tiszagyenda, Gorzsa, Kiskunhalas-MOL5, Fonyód.

Sheep horn cores are mostly slightly twisted inward on their axis and bend to the side in an arc, but they are varied in shape. V-shaped sheep horns were not discovered, but hornless individuals were present in the stock. There is no sign of the so-called Hungarian *racka* sheep, although it was hypothesized that this breed existed in the late medieval period¹¹⁵⁸ and dominated the sheep stock in the seventeenth century,¹¹⁵⁹ and in fact, horn cores interpreted as remains of this breed were found by Bartosiewicz in the thirteenth-fifteenth century faunal material from Vác.¹¹⁶⁰ Vörös, however, writes that this breed was rather an eighteenth-century introduction.¹¹⁶¹ Most of the unearthed horn core fragments are damaged and not suitable for measurement; the only well-

¹¹⁵⁸ Béla Hankó, *A magyar háziállatok története* [The History of Hungarian Domestic Animals] (Budapest: Művelt Nép, 1940), 17-19.

¹¹⁵⁹ László Gaál, *A magyar állattenyésztés múltja* [The Past of Hungarian Animal Husbandry] (Budapest: Akadémiai Kiadó, 1966), 189. Paládi-Kovács writes that the predominant breed was the so-called Hungarian peasant's sheep (magyar parasztjuh), but he does not elaborate on this issue, and not much is known about this type or breed (Attila Paládi-Kovács, *A magyar állattartó kultúra korszakai* [Historical Periods of Animal Husbandry in Hungary] (Budapest: MTA Néprajzi Kutatóintézet, 1993), 194).

¹¹⁶⁰ Bartosiewicz, *Animals in the Urban Landscape*, 54.

¹¹⁶¹ Vörös, *Sixteenth- and Seventeenth-Century Animal Bone Finds*, 358.

preserved Cuman sheep horn core comes probably from an ewe, and fits within the late medieval horn core shape trends (Diagram 3.6.6). Well-preserved sheep bones are very few in number both at Cuman and the peripheral sites. Thus, a proper distribution curve could not be generated. It seems, however, that various size cohorts were present from 50 to 75 cm at the withers (Diagram 3.6.7). The sheep stock the Cumans kept does not seem to differ from the stock generally available in the Carpathian Basin.

3.7 Summary

As we have seen in this chapter, textual and archaeological sources for animal keeping practices in the Cuman areas are mutually quite complementary. Most of the written data comes from the sixteenth century, when Turkish authorities started to record taxation. There is really very little textual information about animal keeping from the previous period. Few of our textual sources reveal data directly about animal husbandry although the number of sheep and swine taxes were paid after as well as the amount of hay produced was recorded. The taxation records testify to a fluctuation in the size of animal herds, with a slight concentration observable in the hands of some wealthier farmers, people who seem to have been specialized in animal production. These data, however, represent a very narrow chronological window. Thus, the archaeozoological material can have a key role in defining general trends in animal husbandry.

Although there is a slight but statistically significant difference between what is observed in the Cuman areas and what is found at other, Hungarian sites in the Great Plain, these differences rather seem to be rooted in settlement types than in ethnic traditions. Swine keeping seems to have been picked up quickly and was already intensively practiced by the Cumans in the fourteenth to sixteenth century. Nevertheless, some of the differences observed, namely the preference for horses and sheep and the somewhat lesser importance of cattle in Greater Cumania, may actually faintly reflect steppe traditions. The association between the ethnic background and the species ratio is, however, very weak. Nevertheless, that such traces of tradition are really observed only for small, relatively isolated villages is not very surprising. The wealthy village of Szentkirály in Lesser Cumania displays quite a different profile: this

settlement, although associated with the Cumans, is closer to other late medieval market towns than to village-level settlements in terms of its animal husbandry practices. The sites on the Cuman areas' periphery show resemblances to the Cuman faunal material in terms of a preference for horses, but it must be added that horse consumption in the Middle Ages was present at many Hungarian settlements. Thus, more complex causes than simple Cuman influence may be assumed behind it. The differences between Hungarian and Cuman samples are not much greater than those between individual Cuman sites. Thus, it may be concluded that by the late medieval period, there was no real difference between Hungarian and Cuman settlements in terms of animal husbandry practice, and the Great Plain formed a continuum with limited variation in strategies, based on a given settlement's place in the hierarchy.

The presence of distinct animal breeds could not be established on the basis of the archaeological material: domesticates kept by the Cumans fit into the medieval domestic animal populations of Hungary in general. The élite horse excavated at Csengele is an exception: this individual was actually most probably imported from the East. Such a high status animal, however, obviously does not reflect the horse keeping practices of the whole population.

Settlement concentration is evident in the late medieval period in the Cuman areas. This process was fuelled partly by economic changes (competition for pastures and markets), and partly for political and military reasons (Turkish-Ottoman occupation, Fifteen Years' War). These population movements completely reshaped most of the Cuman community both from economic and social points of view.

Now, let us investigate how these communities utilized the natural environment around them: how pastures were divided, and what is revealed about Cuman fishing and fowling practices. These issues will be discussed in the next chapter.

Chapter 4

Exploitation of the environment

Environment exploitation in the form of pasturing, hunting and fishing formed an organic part of Cumanian economic strategies, although it is sometimes challenging to study this subject. Given the methodology of archaeology in the past decades, flotation and water sieving was only occasionally practiced. This means that the small bones of commensals such as rodents and amphibians, testifying at least to the local past environment, were usually not collected; the same is true for fish bones. Moreover, cultural selection is a factor here as well: although taxonomic richness may be explored, the bones from hunted animals and caught wild birds as well as fish are products of consumption. Archaeobotanical studies were only rarely conducted. Therefore, serious losses of information were usually unavoidable. Nevertheless, in this chapter I will attempt to summarize what is revealed by the spotty charter evidence and historical environmental studies on the areas inhabited by the Cumans. The two sites on the periphery of the historically attested Cuman region, Tiszagyenda and especially Gorzsa, are recent excavations that yielded zoological material that help us reconstruct the natural environment the Cumans inhabited – and certainly exploited – in one way or another – in the Middle Ages.

Mariann Bálint has recently shown in her PhD thesis, that the Danube-Tisza Interfluve was a much less harsh an environment in the Middle Ages than in the Modern Period. In fact, it was abundant in water, had a pretty much closed vegetation (a cover composed of trees or shrubs, where the crowns interlock, touch or are very slightly separated) with woodlands, parklands and thickets. Sand dune movements were only extensive when natural conditions were influenced by human activities. The analysis of soil samples recovered from under more recent sandy layers reveal that the area was suitable for agricultural production.¹¹⁶²

The area inhabited by Cumans had a number of small lakes and watercourses, and in its

¹¹⁶² Marianna Bálint, *Az Árpád-kori településhálózat rekonstrukciója a Dorozsma-Majsai Homokhát területén* [Árpád-Period Settlement Network in the Region of the Dorozsma-Majsa Sandhills] PhD Thesis. Eötvös Loránd University, Budapest, 2007. 103-105.

northern section, around Cegléd, Nagykörös and Kecskemét, there were extensive oak forests.¹¹⁶³ (The latter is also testified to by the presence of European rhinoceros beetle (*Oryctes nasicornis*) at Szentkirály; this species lives almost exclusively in oak forests.¹¹⁶⁴) Thus, this area was suitable for a range of agricultural activities, including cereal cultivation and animal husbandry, but fruit and grape cultivation as well.¹¹⁶⁵ Moreover, the valley of the Tisza River, with its floodplains and small tributaries classified as one of the best places in the country for fishing.¹¹⁶⁶ In this chapter, I will explore the way these natural environments were exploited.

4.1 Pastures, hay cultivation and forests

4.1.1 Pastures

The use of pastures in the Great Hungarian Plain throughout history has a vast literature which cannot be covered within the framework of this short study; thus, only some key points will be discussed in connection with the Cumans. Animal husbandry and other forms of agriculture formed an organic, interdependent unity in the Middle Ages, and this was true for Cuman and Hungarian settlements alike. Animals were driven to fields left fallow for prescribed periods of time in order to fertilize it with their dung. Manure management had certainly become widely practiced and regulated by the thirteenth century; straw and litter from the stables (trampled and therefore decomposing more easily), along with the droppings of herbivores (and in some cases, even mixed organic waste from the households, peat or fallen leaves from the woodlands) were scattered across the fields.¹¹⁶⁷ This form of fertilizing was also used when new tracts of land were placed under cultivation: the acidic substance of dung killed most weeds, and some of those left were rooted out by swine (which, of course, does not imply that no other means were utilized to eliminate weeds). After this the field was prepared for plowing and the

¹¹⁶³ Pálóczi Horváth, A kun betelepedés, 25.

¹¹⁶⁴ Kovácsné Nyerges, A középkori Szentkirály állattartása, 252, footnote 17; Takács, Szenktirály középkori falu kútjának biológiai leletei, 89; Takács, Collecting biological finds by water-sieving, 275-281.

¹¹⁶⁵ Pálóczi Horváth, A kun betelepedés, 25.

¹¹⁶⁶ Györfy, Az Árpád-kori Magyarország történeti földrajza vol.1, 881.

¹¹⁶⁷ Richard Jones, “Understanding Medieval Manure”, in *Manure Matters. Historical, Archaeological and Ethnographic Perspectives*, ed. Richard Jones (Farnham: Ashgate, 2012), 145-158: 145-148.

cultivation of millet, wheat, barley, and oat, in succession.¹¹⁶⁸ Fields were sometimes used for land cultivation and as pastures in an alternating manner; only wet fields used for hay cultivation were exempt from this rule, as these were not suitable for plowing. In fact, the fifteenth century witnessed an expansion in land cultivation in general the Hungarian Kingdom and, thus, the size of fields used exclusively for pasture and hay cultivation decreased (which was not necessarily true for the Great Plain).¹¹⁶⁹ The size and quality of available pastures was closely connected to the practice of animal rearing, not only in terms of primary grazing areas but also for the fields that provided complementary fodder. Extensive animal keeping resulted in a characteristic settlement structure with a zone preserved for animal keeping purposes around the settlement core.¹¹⁷⁰ In a simplified scheme, successive zones of the settlement area – gardens – orchards and vegetable gardens – inner pastures – plow lands (farmsteads) – external pastures can be established.¹¹⁷¹ As we have seen in Chapter 3, the process of settlement concentration/ desertion, which was a crucial factor that made huge swathes of land, previously cultivated or used by small villages, available for market towns, was evident in the Cuman areas as well. The so-called “mezei kerti” (meadow garden), a piece of land situated outside the settlement area and used typically for the purpose of animal husbandry (small pastures, folds and fields for collecting hay), was already developed by the fifteenth century.¹¹⁷² Unused and/or uninhabited lands utilized by other settlements in the Great Plain appear in the written record from the late fourteenth century onwards.¹¹⁷³ These huge, newly available pieces of land were attached to the external pastures of bigger villages and market towns. In Chapter 3, a number of examples have

¹¹⁶⁸ Belényes, A földművelés fejlődésének alapvető kérdései a XIV. században, 395.

¹¹⁶⁹ Attila Paládi Kovács, *A magyar parasztság rétgazdálkodása* [Agricultural Field Management of the Hungarian Peasants] (Budapest: Akadémiai Kiadó, 1979), 37 (henceforth: Paládi Kovács, *A magyar parasztság rétgazdálkodása*)

¹¹⁷⁰ Most households had a “garden” outside the settlement core in which the livestock needed for everyday purposes was kept, along with the stored fodder. These were not used for human habitation; only by some serfs lived there who tended the animals lived there, usually in the stable itself. In some cases, the whole livestock of the household was driven here if the winter proved harsh; then, afterwards the livestock fertilized it with their dung and the land could be used for plant cultivation in the summer. Small stables in these gardens provided room for six to eight horses and some dairy cows; other animals usually spent the entire year outside. István Györffy, *Az alföldi kertes városok* [Towns with Gardens in the Great Hungarian Plain] (Budapest, 1926)

¹¹⁷¹ Pál Beluszky, *A Nagyalföld történeti földrajza* [Historical Geography of the Great Hungarian Plain] (Budapest - Pécs: Dialóg Campus, 2001), 102-103.

¹¹⁷² László Makkai, “A mezővárosi földhasználat kialakulása” [The development of land use in market towns] in *Emlékkönyv Kelemen Lajos születésének nyolcvanadik évfordulójára* [Festschrift in the Honor of Lajos Kelemen’s 80th Birthday] (Bucuresti – Cluj Napoca: Tudományos Könyvkiadó, 1957), 463-478: 465-466. (henceforth: Makkai, A mezővárosi földhasználat kialakulása)

¹¹⁷³ Makkai, A mezővárosi földhasználat kialakulása, 467-468.

been presented how larger settlements in the Cuman area started to use such available pastures. Although this practice is widely documented only from the sixteenth century onwards, already in the mid-fifteenth century, the people of Szeged tried to use pastures in Cuman ownership for their own purposes. This status quo was confirmed and made legal by King Matthias in 1462. The king allowed the inhabitants of Szeged to use any of the Cuman pastures in the Danube-Tisza Interfluve.¹¹⁷⁴ This right was re-confirmed twice in the following years,¹¹⁷⁵ suggesting that it was not accepted, or at least disputed. The frequent disputes over land ownership may be connected to the already ongoing settlement concentration process and the competition for the newly available resources. Ethnographic analogies from the Great Plain suggest that access to dry and wet pastures alike was preferred to insure that the livestock would have enough to feed on in all weather conditions. In periods of draught the flock could be driven to a wetland and if precipitation was very high or there was a serious flood, the dry pastures still provided proper grass.¹¹⁷⁶

Pastures used by big villages and market towns were able to feed a very large numbers of animals. At the end of the devastating Turkish-Ottoman wars, in 1699, 103 horses (35 foals), 617 cattle (207 oxen, 127 cows, 87 young oxen and 196 heifers), 345 sheep (89 lambs), and 428 swine (221 piglets) were conscripted in Karcag in Greater Cumania. Almost three decades later, when the area was no longer affected by military movements, this livestock grew to an animal population of 597 horses, 409 oxen, 429 cows, 1426 young oxen, 2399 dairy sheep, 224 sheep without lambs, 345 swine and 96 beehives.¹¹⁷⁷ These numbers could grow enormously if pastures formerly used by other settlements were annexed: in 1770, the pastures around Hódmezővásárhely in southern Hungary, which incorporated lands formerly used by Gorzsa, Batida, Rétkopáncs, Szentkirály (not identical to the one in Lesser Cumania) and Körtvélyes, provided room for 1000 cows (these were used in dairy production), 1750 oxen, 400 horses and 24,600 sheep.¹¹⁷⁸ Nicolaus Olahus mentions a cattle trader called Gáspár Biró who kept 10,000

¹¹⁷⁴ Gyárfás, A jász-kunok, vol. 3, 275, 644.

¹¹⁷⁵ In 1465 and 1469, respectively. Gyárfás, A jász-kunok, vol. 3, 654, 667.

¹¹⁷⁶ Tibor Bellon, *A Tisza néprajza. Ártéri gazdálkodás a tiszai Alföldön* [The Folklore of the Tisza River. Agriculture in the Tisza Floodplain Areas in the Great Hungarian Plain] (Budapest: Timp, 2003), 17 (henceforth: Bellon, *A Tisza néprajza*)

¹¹⁷⁷ Bellon, *A Nagykunsági mezővárosok*, digital edition: <http://terebess.hu/keletkultinfo/bellon3.html#6> Accessed 10.06.2014.

¹¹⁷⁸ László Ferenc Novák, "Határharsználat és állattartás az Alföldön" [The use of fields and animal keeping in the Great Plain] in *Az Alföld gazdálkodása. Állattenyésztés* [Traditional Rural Economy in the Great Hungarian

cattle for market purposes west of the Tisza River.¹¹⁷⁹ The size of one animal herd grazed on a piece of land varied, depending on the quality of pasture, the species and the purpose of the stock. In late eighteenth-early nineteenth-century Greater Cumania, the best pastures in Póhamara were reserved for fattening cattle in order to maintain their best performance. The maximum number of animals allowed to graze was 1000-1250 beasts.¹¹⁸⁰ These numbers are, of course, not necessarily representative of the medieval situation, but as animal export became an increasingly important factor in agricultural production, analogous attempts were probably made to re-organize pasture use and limit the size of livestock in one pasture. This was also crucial because pastures were usually rented and had to be paid for, and the number of animals in one owner's hand had to be meticulously recorded in order to establish a justifiable system for paying these rents. There are, however, abundant written records on this matter only from the eighteenth century onwards.¹¹⁸¹

Ethnographic literature on grazing, even though it may reveal interesting aspects of environmental necessities, must be handled with care, as these examples date to periods after the *Redemptio* (the buying back of the Iasian and Cuman areas from the Teutonic Order, see Chapter 1), which also brought with it new regulations in terms of grazing rights;¹¹⁸² in addition, the natural environment in the eighteenth-nineteenth centuries was already heavily impacted by overgrazing, a process which was only moderately present in the fourteenth-sixteenth centuries. Sand dune movements have been touched upon in Chapter 3, in connection with the sites of Csengele and Kiskunhalas – Dong-ér – MOL5; rapid changes in the landscape were recorded in the eighteenth century as well. Perambulatory documents mention that areas which had been suitable pastures were so heavily damaged by overgrazing and, as a consequence, sand movements, that it had become impossible to graze animals there.¹¹⁸³ This also implies that wet environments must have been increasingly valued. Overharvesting, along with overgrazing,

Plain. Animal Keeping] ed. László Ferenc Novák, Acta museim de János Arany Nominati 10. (Nagykőrös: Arany János Múzeum, 2004). 29-52; 38 (henceforth: Novák, Határasználat és állattartás az Alföldön)

¹¹⁷⁹ Gábor Szigeti ed. *Oláh Miklós, Hungária [Hungaria of Nicolaus Olahus]* (Budapest : Neumann Kht., 2003), Digital edition, chapter 16: <http://mek.oszk.hu/06000/06072/html/gmolah0003.html> Accessed 02.20.2015 (henceforth: Nicolaus Olahus ed. Szigeti)

¹¹⁸⁰ Bellon, A Nagykunsági mezővárosok, digital edition: <http://terebess.hu/keletkultinfo/bellon3.html#6> Accessed 10.06.2014.

¹¹⁸¹ Bellon, A Nagykunsági mezővárosok, digital edition: <http://terebess.hu/keletkultinfo/bellon3.html#6> Accessed 10.06.2014.

¹¹⁸²Tálas, A Kiskunság népi állattartása, 36-37.

¹¹⁸³ Tálas, A Kiskunság népi állattartása, 38-39.

already may have been a factor in the medieval period as well although our sources focusing on the Cuman area are silent on this matter. Blown sand movements, however, suggest the impact of intensive land use on the natural environment. An increase in soil erosion was observed by geological examinations at Csengele. This soil erosion may be associated with the arrival of the Cumans and their livestock. A parallel decrease in woodland vegetation is also suggested by pollen analyses: in thirteenth-fifteenth-century layers from Lesser Cumania where the ratio of tree pollen drops to under 15%, while grasses (Gramineae) become dominant.¹¹⁸⁴ Vegetation became more open and sand formations that had been stable started to erode. In later periods, pollens of grain species dominate. It seems that land cultivation as well as large-scale animal keeping encouraged soil erosion and this posed a limiting factor on land cultivation.¹¹⁸⁵ In a more recent study, Márta Tóber argued that the frequent fights over land and pasture ownership and the dominance of animal herding in the Plain in itself excludes the possibility that larger, closed forested areas would have existed in the surroundings of settlements.¹¹⁸⁶

The presence of certain commensals, especially small rodents and amphibians, in the archaeological record have the potential to reveal the presence of narrow environmental niches they inhabit; these species are typically associated with pastures, arable land and grain storage.¹¹⁸⁷ Unfortunately, these animals sometimes dug their burrows into past habitation layers and in such cases it becomes difficult to say if they constitute part of the past fauna or represent intrusive deposits. On the other hand, they were certainly present in the medieval landscape. Matthias Bel mentions that after the Tisza floods, small rodents, hamsters and mice appeared in great numbers in the cultivated fields as well as around the houses, and did huge damage to crops as well as reeds.¹¹⁸⁸

¹¹⁸⁴ Pál Sümegi, “A Kiskunság a középkorban – geológus szemmel” [Lesser Cumania in the Middle Ages – through the eyes of a geologist.] in Horváth, A csengelei kunok ura és népe, 313-317: 316.(henceforth: Sümegi, A Kiskunság a középkorban)

¹¹⁸⁵ Sümegi, A Kiskunság a középkorban, 314, 316-317.

¹¹⁸⁶ Tóber, Fa és erdő megjelenése, 360.

¹¹⁸⁷ The hedgehog, although not a typical commensal of agricultural fields, has an interesting connection to dairy production. According to the ethnographic literature, it was customary in Lesser Cumania to put a special halter on calves which were already able to feed themselves by grazing. In order to prevent the calf from sucking (and to ensure milk would be left for human consumption), hedgehog skin, with the spikes intact, was applied to the noseband; this way, the cow did not permit the calf to suckle as the spikes hurt her udder. Tálasi, A Kiskunság népi állattartása, 209-210.

¹¹⁸⁸ Matthias Bel ed. Zombori, 17; Matthias Bel ed. Bán, 77.

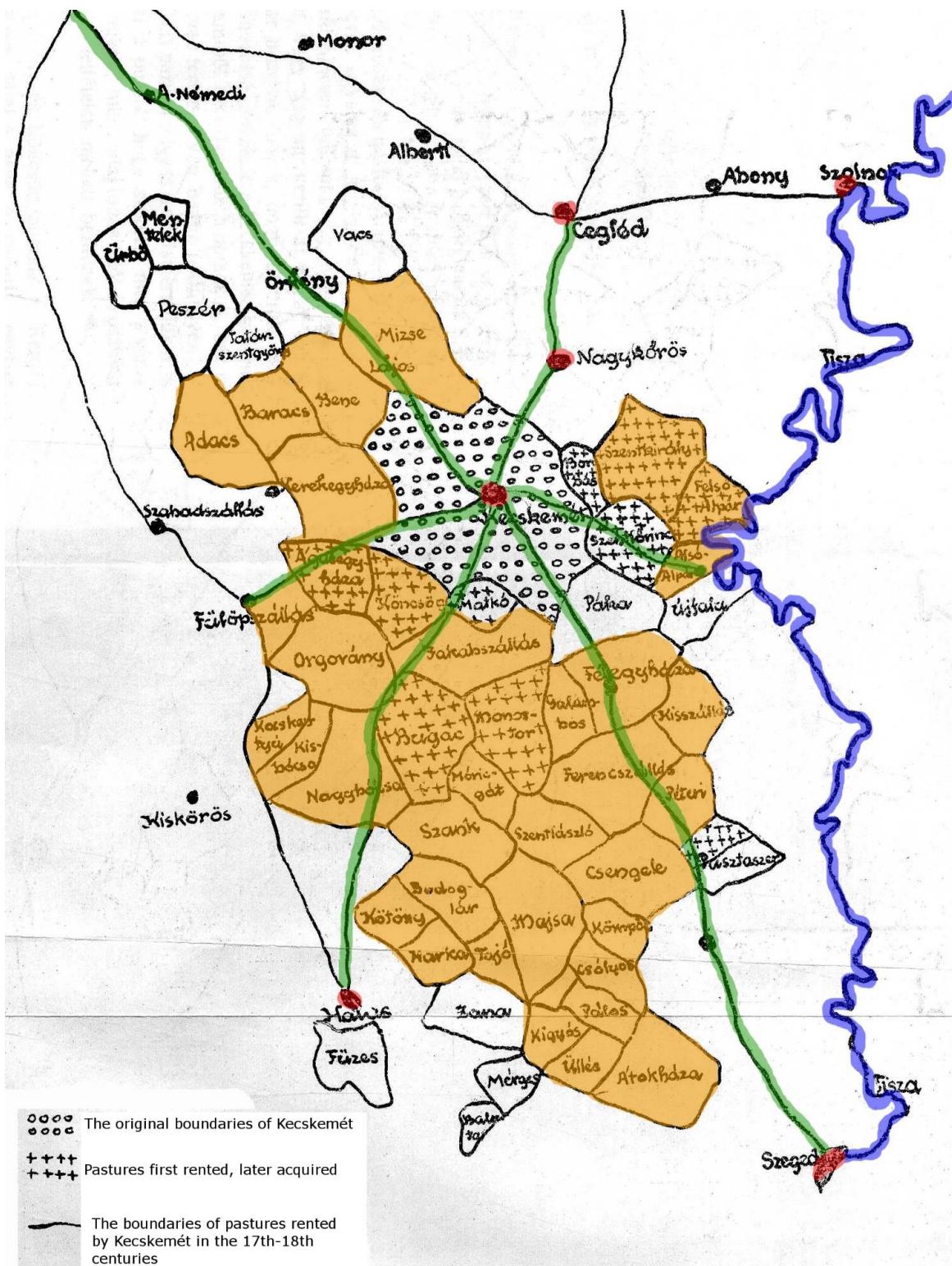


Fig. . 4.1.1 Pastures used by the town of Kecskemét in Lesser Cumania. The areas marked in brown are former Cuman villages whose lands were later rented and/or acquired by Kecskemét. The Tisza River is marked in blue, market towns in red. After Sándor Lipótzy, Kecskemét város birtokszerzése és a szabad királyi városság kérdése [Land Acquisition of Kecskemét and the Question of the Free Royal Town] Szeged, 1935

4.1.2 Hay and other plant fodders

Hay had long been used as means to feed livestock. Hay is mentioned as something to be sold as well as an item for taxation already in the twelfth-thirteenth centuries,¹¹⁸⁹ and there is data that fields used for hay cultivation were sometimes rented out.¹¹⁹⁰ In the fourteenth century, other plants such as bitter vetch (*Vicia ervilia*) also started to be used as fodder along with hay.¹¹⁹¹ A new technological invention, the long scythe used for harvesting hay, brought rapid development to hay cultivation in the thirteenth-fourteenth century: this tool was more efficient than its smaller predecessors, but it also made regular maintenance of the fields necessary. On the other hand, it accelerated the harvesting process and increased the yield (harvesting was more efficient), and the long grass cut this way was easier to organize into stacks and dry.¹¹⁹² Hay cultivation was a strictly organized activity. Deforested areas were first used for hay cultivation before they were ploughed. In the fourteenth century, wetlands were also increasingly often transformed for hay cultivation purposes.¹¹⁹³ Fields used for harvesting hay were not grazed from the springtime on, and harvesting started when the weeds began to bloom. Hay was first harvested on the hills and later in the valleys; different types of hay were suitable for different species, horses being deemed most particular on the food they will accept. In most cases, hay could be harvested twice a year (except if oxen used in everyday hauling and plowing was fed on those fields after the first harvest).¹¹⁹⁴ Modern records suggest, however, that hay could be harvested once or twice a year on the Great Plain, but single harvests were most typical.¹¹⁹⁵ In some cases, it was rather draught conditions that damaged the hay: according to a 1770 account from the area of Hódmezővásárhely, hay could be harvested in late June and early July but not later, as the weather was too hot and irrigation of the fields was not possible.¹¹⁹⁶ Although these ethnographic data were recorded in a later period, biological needs and limitations must have

¹¹⁸⁹ Paládi Kovács, A magyar parasztság rétgazdálkodása, 33.

¹¹⁹⁰ Paládi Kovács, A magyar parasztság rétgazdálkodása, 38

¹¹⁹¹ Belényesy, Állattartás a XIV. században Magyarországon, 44.

¹¹⁹² Paládi Kovács, A magyar parasztság rétgazdálkodása, 41.

¹¹⁹³ Belényesy, A földművelés fejlődésének alapvető kérdései a XIV. században, 397-398.

¹¹⁹⁴ István Tálasi, *A Kiskunság népi állattartása* [Animal Husbandry of Peasants in Lesser Cumania] Néprajzi Füzetek 6. (Budapest, 1936), 172 (henceforth: Tálasi, *A Kiskunság népi állattartása*)

¹¹⁹⁵ Three harvests per year were only possible in Transdanubia. Paládi Kovács, A magyar parasztság rétgazdálkodása, 149, map IX.

¹¹⁹⁶ Novák, Határhadszál és állattartás az Alföldön, 39.

resulted in similar patterns of exploitation in the earlier centuries as well. The importance of hay is testified to by the tax records of villages lying in Cuman areas, which also suggests a given settlement's participation in large-scale animal breeding (discussed in Chapter 3). Hay was mainly cultivated in wetlands, and sometimes forests were clear cut in order to gain new territories suitable for cultivating hay. The military also needed huge amounts of hay.¹¹⁹⁷ The growing importance of hay, signaled by the Turkish tax rolls, was not only due to the increase in the number of animals, but also to a shift in the sixteenth-seventeenth century when hay as a fodder became more emphasized, also in terms of raising animals for the market.¹¹⁹⁸ In his 1536 travel account, Nicolaus Olahus mentions that Hungary's lands are abundant in hay, and there is such a surplus of this resource that it is sometimes left on the meadows to rot, or set ablaze.¹¹⁹⁹ This, however, seems an exaggeration. (He also mentions at one point that agricultural fields are scarcely manured¹²⁰⁰ which seems highly unlikely).

Pastures are sometimes mentioned in Cuman donation charters as parts of the donated property. In these texts, not only *terræ pascuales* (pastures proper) but also *fenilia* (*faenilia*, hayloft, or a place where hay is stored or harvested) and *prati* (meadows, plain lands) are specified, testifying to the importance of lands where hay was harvested and collected. In most cases, however, nothing is specifically said about these possessions, and they are listed in a rather general manner (usually using the same words), without giving a detailed description of the use and nature of these landed properties.¹²⁰¹ Grazing rights, as well as the right to harvest

¹¹⁹⁷ István Szabó, *A magyar mezőgazdaság története a XIV. századtól az 1530-as évekig* [The History of Hungarian Agriculture from the fourteenth century to the 1530s] (Budapest: Akadémiai Kiadó, 1975). 33 (henceforth: Szabó, *A magyar mezőgazdaság története*)

¹¹⁹⁸ Paládi Kovács, *A magyar parasztság rétgazdálkodása*, 47-48.

¹¹⁹⁹ Nicolaus Olahus ed. Szigeti, digital edition, chapter 18: <http://mek.oszk.hu/06000/06072/html/gmolah0003.html> Accessed 02.20.2015

¹²⁰⁰ Nicolaus Olahus ed. Szigeti, digital edition, chapter 18,: <http://mek.oszk.hu/06000/06072/html/gmolah0003.html> Accessed 02.20.2015

¹²⁰¹ 1405: *terræ eciam arabiles et pascuales, fenilia, arundineta*; 1422: *arabilibus cultis et incultis, pratis, pascuis, foenetics*; 1450: *terræ cultis et incultis pascuis, pratis*; 1454: *Terris scilicet arabilibus cultis et incultis, Agris, pratis, pascuis, campis fenetics, silvis*; 1457: *terræ scilicet arabilibus, cultis et incultis, agris, pratis, pascuis, fenetics*; 1457: *terræ scilicet arabilibus cultis et incultis, agris, pratis, campis, fenetics pascuis*; 1465: *terræ scilicet arabilibus cultis et incultis, agris, pratis, pascuis, campis, foenetics*; 1484: *terræ scilicet arabilibus, cultis et incultis, agris, pratis, pascuis, campis, fenetics*; 1489: *terræ scilicet arabilibus cultis et incultis, agris, pratis, pascuis, campis, fenetics*; 1506: *terræ cultas et incultas, et ad pascua pertinentes*; 1513: *pratorum, ac sylvarum, feniliumque, et similium terrarum Arabilium*; 1517: *terræ scilicet arabilibus cultis et incultis, agris, pratis, pascuis, campis, fenetics*; 1520: *terræ scilicet arabilibus, cultis et incultis, agris, pratis, pascuis, campis, foenetics*; 1521: *terrarum arabilium cultarum et incultarum ac pratorum foeniliumque et pascuorum (...) terras arabiles, cultas et incultas, ac prata foeniliaque et pascua*; 1521: *terræ arabiles cultas et incultas, praeterea foenilia, prata et cuncta pascua*; 1521:

hay, however, must have been an important factor, and this issue pops up here and there in the written records from the fifteenth century. In 1423, King Sigismund prohibited the people of Körös and Kecskemét to harass the Cumans of Szombatszállás and Buzgánszállás in the use of their pastures, and *fenilia* or *foeneta* (“haylofts”) are again specified along with cropfields and orchards.¹²⁰² In 1448, Cumans of Kajtorszállása complain that their hay was set ablaze by a servant of the Pauline order.¹²⁰³ An assault between the Cumans of the Seat of Halas and Kecskemét and peasants of Ágasegyháza was recorded in 1509: when the latter went to collect hay in a possession called *Nyakvágóhám*, in the vicinity of their village, the Cumans attacked and harassed them.¹²⁰⁴ Hay theft is mentioned again in 1513.¹²⁰⁵ In the long debate over the possessions around Kenderes, the issue of grazing rights is touched upon in a charter issued in 1521.¹²⁰⁶ Matthias Bel mentions in his account that collecting hay was remunerative in dry summers, but periods with much precipitation and flood could destroy the hay-stacks.¹²⁰⁷ Such unlucky seasons must have made the competition for resources even more harsher.

Other systems of animal husbandry, however, which were still based on grazing alone, coexisted with this trend. Ethnographic literature reveals that in Lesser as well as in Greater Cumania even in the eighteenth and nineteenth centuries, much of the livestock was fed solely by grazing, even in the wintertime if snow was not too thick on the ground; only in particularly harsh winters was the hay, which was collected during the summer fed to the grazing livestock. Of course, animals used in everyday work or dairy production were properly fed throughout the winters as well in order to maintain performance; these animals were only sent to the pastures during the winter if the weather was not too harsh and there was enough grass to feed on.¹²⁰⁸ Otherwise, the livestock was kept on the pastures as long as possible, and even if the animals

terras arables cultas et incultas preterea foenilia paludes, stagna, arundineta ac prata et cuncta territoria pascualia; 1522: terris scilicet arabilibus cultis et incultis, aquis, pratis, pascuis, campis; 1535: terris scilicet arabilibus cultis et incultis, agris, pratis, pascuis, campis, foenetics; 1537: terris scilicet arabilibus cultis et incultis, agris, pratis, pascuis, campis; Gyárfás, A jász-kunok, vol. 3, 541, 574, 623, 630, 635, 636, 649, 742 685, 700, 724, 732, 743, 746, 749, 753, 756, 757, 762, 767

¹²⁰² 1423: *segetes seu fruges et fenilia*, Gyárfás, A jász-kunok, vol. 3, 579.

¹²⁰³ Gyárfás, A jász-kunok, vol. 3, 252.

¹²⁰⁴ Gyárfás, A jász-kunok, vol. 3, 353.

¹²⁰⁵ Gyárfás, A jász-kunok, vol. 3, 357.

¹²⁰⁶ 1521: pecudes et pecora ac equi et equaces nobilium et colonorum de Kenderes libere semper pascantur nec easdem in eadem Comani regii impediendi habeant facultatem... Gyárfás, A jász-kunok, vol. 3, 755-756

¹²⁰⁷ Matthias Bel ed. Zombori, 41.

¹²⁰⁸ Tálasi, A Kiskunság népi állattartása, 170; Bellon, A Nagykunsági mezővárosok, digital edition: <http://terebess.hu/keletkultinfo/bellon3.html#6> Accessed 10.06.2014.

were driven back from the pastures for the winter, in the early spring they were sent out again. The timing depended on the weather and the condition of the pasture and so could not really be fixed.¹²⁰⁹ The fourteenth-century Italian chronicler Matteo Villani mentions that Hungarian horses that were taken to the military campaigns of Louis I (this was a period when Cuman light cavalry constituted a crucial part of the military!) were fed on grass, some hay and straw, and did not need any other fodder; “grain” (that is, oats) was only given to them when they crossed the Eastern Steppe regions.¹²¹⁰ Ethnographic records from the late eighteenth-century suggest that occasions when extra fodder had to be given to the wintering stock were thought of as especially tough periods.¹²¹¹ It seems that complementary fodder was only provided when absolutely necessary, and the natural environment was extensively exploited for various kinds of edible plants for the livestock.

A key factor in choosing winter pastures was the presence of tall vegetation which allowed the animals to scratch it out from beneath the snow. Wetlands were particularly favored as the vegetation here always grew high, enabling cattle to feed on it; thus, water plants were could often be used as a substitute for complementary fodder.¹²¹² The animals “cleaned up” all edible plants left on the plow lands, and in the wetlands they ate reeds and even the branches of poplar trees if there was nothing else left.¹²¹³

¹²⁰⁹ Bellon, A Nagykunsági mezővárosok, digital edition: <http://terebess.hu/keletkultinfo/bellon3.html#6> Accessed 10.06.2014.

¹²¹⁰ Alajos Miskulin, *Magyar művelődéstörténeti mozzanatok Giovanni és Matteo Villani krónikái alapján* [Bits and Pieces of Hungarian Cultural History in the Chronicles of Giovanni and Matteo Villani] (Budapest: Stephaneum, 1905), 71-72.

¹²¹¹ Tálasi, A Kiskunság népi állattartása, 169-170.

¹²¹² József Szabadfalvi, *Az extenzív állattenyésztés Magyarországon* [Extensive Animal Breeding in Hungary] Műveltség és Hagyomány 12. (Debrecen: Kossuth Lajos Tudományegyetem, 1970), 62-63. (henceforth: Szabadfalvi, Az extenzív állattenyésztés)

¹²¹³ László Nagy Czirok, *Pásztorélet a Kiskunságon* [Pastoralism in Lesser Cumania] (Budapest: Gondolat, 1959), 192.



Fig. 4.1.3 Bodies of water and swampy areas on the Great Hungarian Plain before the modern river regulation, after the map of the First Military Survey (late eighteenth century)

4.1.3 Forests and wetlands

Winter pasturing took place partly in forests as well. Although grass hay was already more crucial than forest foliage already in the twelfth-thirteenth centuries in terms of feeding the livestock,¹²¹⁴ forests still played a pivotal role in flock management in the winter. In the Great Plain, where mining was not a factor, grazing animals and harvesting firewood for household purposes must have been the predominant form of forest exploitation. Not only swine, but also cattle and sheep, were driven into the forest for the winter, and fed on foliage and acorns;¹²¹⁵ straw may also have been used as complementary fodder as well as bedding. Verbőczy's *Tripartitum* from 1514 mentions the damage caused by livestock (he specifies horses, sheep, oxen and swine) in the forests, showing that this must have been a common problem whose legal consequences had to be regulated.¹²¹⁶ (Goats were especially prone to causing damage as these animals are able to scale trees and eat the upper leaves as well. Therefore, they were specifically banned from all forests that belonged to mines in the mid-sixteenth century.¹²¹⁷) Forests were sometimes rented just like pastures. In the area of Debrecen, wintering in the forest was typical from the mid-sixteenth century onwards, and the main income these forests provided for their owners was not the money paid after firewood, but rather the sum paid after winter grazing.¹²¹⁸ Systematic collecting and feeding foliage to cattle is known from a prohibition issued in 1650,¹²¹⁹ but in all probability this was a much older technique for providing fodder.¹²²⁰ As acorn was especially important in terms of fattening swine, and other species posed competition for the resources, attempts were made to ban the cattle and sheep from the forests in favor of swine. Such regulations are known from the eighteenth century.¹²²¹

In the charter record associated with the Cumans, forests are usually mentioned in general

¹²¹⁴ Paládi Kovács, A magyar állattartó kultúra korszakai, 136.

¹²¹⁵ Szabadfalvi, Az extenzív állattenyésztés, 64-68; Belényesy, Állattartás, 39, 43.

¹²¹⁶ Károly Tagányi, *Magyar Erdészeti Oklevélkötő* [Hungarian Charters on Woodland Management], vol. 1 (Budapest: Pátria, 1896), 33-34. (henceforth: Tagányi, Magyar Erdészeti Oklevélkötő)

¹²¹⁷ Tagányi, Magyar Erdészeti Oklevélkötő, vol. 1, 50. This prohibition was re-issued in 1567, 1584 and 1585, but then cattle and sheep were also banned. Magyar Erdészeti Oklevélkötő, 168-170, 240-242, 245-247.

¹²¹⁸ Szabadfalvi, Az extenzív állattenyésztés, 64.

¹²¹⁹ Ottó Herman, *A magyarok nagy ösfoglalkozása* [The Ancient Occupation of the Hungarians] (Budapest, 1909), 215. (henceforth: Herman, A magyarok nagy ösfoglalkozása)

¹²²⁰ However, this was a pretty expensive and labor-intensive work, and therefore it was only utilized if no other form of fodder was available. Szabadfalvi, Az extenzív állattenyésztés, 73.

¹²²¹ Szabadfalvi, Az extenzív állattenyésztés, 65.

terms as parts of the possession donated.¹²²² However, the terminology used to describe them reveals some interesting things. Márta Tóber reconstructed the forested areas in the Danube-Tisza Interfluve, and came to the conclusion that forests were scarce (concentrated rather in the northern part of the region), and mainly dominated by oak.¹²²³ The term *virgultum* (bushy thicket, brushwood) is frequently used; its Hungarian counterpart, *haraszt* also appears occasionally. These areas were covered by new growth of brushwood that came into being due to the irregular, intermittent use of forests,¹²²⁴ and mainly consisted of oak tree varieties.¹²²⁵ In the area of Cuman Hontosegyháza in Transdanubia, a forest is referred to as *Honthoserdeye* (“the forest of Hontos”) in a 1537 charter; another place is mentioned that is referred to as *virgultum*, thicket, but whether it is the same as to the forest is not clear. Another geographical term in the same document, *Hontosharazthya* also refers to a forested area, probably an oak forest, that was transformed by intermittent use such as occasional wood collecting and grazing.¹²²⁶ This suggests this forest was intensively used, but in a rather disorganized manner, either for pasturing animals or for collecting wood, although none of these uses is specified in the texts. The undergrowth of plain woodlands, especially oak forests was also cut and stored as fodder; this is already known from fourteenth century practice.¹²²⁷ It is worthwhile remembering here as well that oak forests were present in the vicinity of Szentkirály in Lesser Cumania, too. Forests provided fodder not only in terms of foliage but also in the form of fruits: crab apple, wild pear, wild cherry, sloe, strawberry, thornapple, blackberry, plum, walnut, hazelnut, and above all, acorns were eaten not only by wild animals but also by domesticates grazed in the forest. These

¹²²² 1354: *parvum virgultum*; 1397: *silvis et nemoribus*; 1399: *arboris piri sylvestris*; 1410: *silvis nemoribus*; 1419: *virgulto ab ipsum Hontos spectantem*; 1420: *nemoribus, et sylvis*; 1438: *virgultis, silvis, nemoribus*; 1441: *silvis, nemoribus, rubetis*; 1450: *silvis, memoribus [nemoribus?]*; 1451: *ad virgultum Kerews*; 1454: *silvis, rubetis, virgultis, nemoribus*; 1457: *silvis, nemoribus, virgultis*; 1457: *silvis, nemoribus*; 1465: *silvis, rubetis nemoribus*; 1489: *silvis, nemoribus*; 1493: *Sylvam vero Cholias nuncupatam*; 1517: *silve Honthoserdeye vocate*; 1520: *silvis, nemoribus*; 1522: *silvis, nemoribus*. Gyárfás, A jász-kunok, vol. 3, 492, 528, 536, 561, 566, 569, 605, 612, 623, 626, 630, 635, 636, 649, 700, 709, 739, 741, 743, 757.

¹²²³ Márta Tóber, “Fa és erdő megjelenése a középkori Homokhátságban az egykorú források tükrében”, [Trees and forests in the medieval Homokhátság as reflected in the sources], in Középkortörténeti tanulmányok 7 [Studies on the Middle Ages 7] eds. Attila Kiss P, Ferenc Piti and György Szabados (Szeged: Szegedi Középkorász Műhely, 2012), 357-374 (henceforth: Tóber, Fa és erdő megjelenése)

¹²²⁴ Csőre, A magyar erdögazdálkodás története, 105.

¹²²⁵ Reuter, Tölgy és *haraszt*, 80-89. Reuter considers “*haraszt*” to designate oak species only; Csőre argues, however, that it was a much more general term in the Middle Ages which was rather connected to the character of the growth than to specific species. Csőre, A magyar erdögazdálkodás története, 109-110.

¹²²⁶ Gyárfás, A jász-kunok, vol. 3, 766-768; Hatházi, A kunok régészeti emlékei, 11.

¹²²⁷ Belényesy, Állattartás, 45.

fruits were also utilized as complementary fodder, and in the late medieval period a new species was introduced (mulberry). In fact, fruit trees were already planted in wild game reserves at the time of King Matthias, suggesting the conscious use of these trees to feed game animals.¹²²⁸ Horse chestnut was also served as suitable fodder after some minor preparation (soaking, peeling).¹²²⁹ Fruits and yields of trees could serve as fodder from July to November.¹²³⁰ It should also be remembered that grazing was not the only way the forests were exploited: in 1451, a case of cutting wood illegally in a forest was taken to court in Halas.¹²³¹ Interestingly, Nicolaus Olahus writes that Hungary has extensive woodlands and thus firewood is sufficient for all peasants, moreover, they sometimes collect it and sell in nearby towns for small amounts of money.¹²³² On the other hand, he writes that the eastern part of the Plain around Nádudvar was short of wood, and fire was rather fuelled with grass and reed; firewood was transported from a considerable distance.¹²³³ Matthias Bel writes the same, and in one of his manuscripts he adds that the Cuman market town of Szentmiklós in Lesser Cumania bought wood from the area of Gödöllő, which lay at a considerable distance; the wood was probably rafted down the Danube and carted over land.¹²³⁴ Wet- and woodlands also provided wattle and wand, used for making various fishing tools and utensils (fishing tackles, baskets).¹²³⁵

All the various aspects of woodland management must have been coordinated: animals could damage the trees by gnawing the bark or eating the fresh shoots, while intensive wood cutting and foliage collection influenced the amount of fodder a forest could provide. Unfortunately, only sporadic written sources testify to this form of environment exploitation, and so it is difficult to say to what extent medieval deforestation, overgrazing in forests and natural desertion processes influenced the size, character and use of woodlands in the Cuman habitation areas. Archaeobotanical finds have the potential to reveal forest management issues in the past;

¹²²⁸Dezső Surányi, "Feledésbe merülő hagyomány: a gyümölcsfélék mint állati takarmány" [A tradition almost forgotten: fruits as animal fodder] In *Az Alföld gazdálkodása. Állattenyésztés.* [Agriculture in the Great Hungarian Plain. Animal Husbandry] Ed. Ferenc Novák (Nagykörös: Arany János Múzeum, 2004) 133-165: 137-138. (henceforth: Surányi, Feledésbe merülő hagyomány)

¹²²⁹Surányi, Feledésbe merülő hagyomány, 143-144.

¹²³⁰Surányi, Feledésbe merülő hagyomány, 157-158, Table 2.

¹²³¹Gyárfás, A jász-kunok, vol. 3, 626.

¹²³²Nicolaus Olahus ed. Szigeti, chapter 18, digital edition: <http://mek.oszk.hu/06000/06072/html/gmolah0003.html> Accessed 02.20.2015

¹²³³Nicolaus Olahus ed. Szigeti, chapter 16, digital edition: <http://mek.oszk.hu/06000/06072/html/gmolah0003.html> Accessed 02.20.2015

¹²³⁴Illyés, Kiskunsági krónika, 23.

¹²³⁵Bellon, A Tisza néprajza, 50-51.

such studies, however, are generally yet to be carried out. So far, only Szentkirály in Lesser Cumania was investigated from this point of view. As it has been mentioned in Chapter 3, this settlement was partly surrounded by a wet gallery forest, and species typically associated with woodland clearing were found to be present in the site's archaeobotanical material, testifying to a conscious, deliberate alteration of the environment.

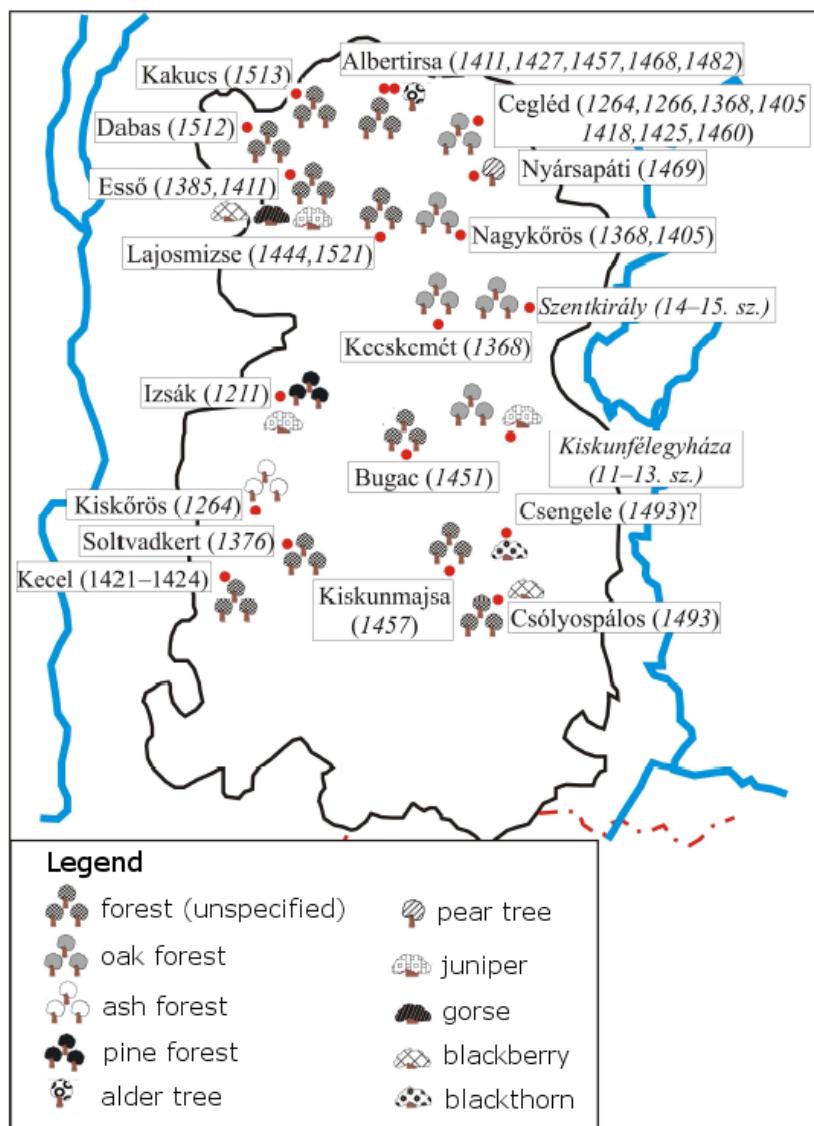


Fig. 4.1.2 Forests in the area around Kecskemét, mentioned in textual sources (after Tóber).¹²³⁶ The two rivers are the Danube (on the left) and the Tisza (to the right); the dates indicate when a woodland was mentioned in connection with a certain settlement.

¹²³⁶ Tóber, Fa és erdő megjelenése, 365.

Swine fattening must have taken place on wetlands, but also in forests. Here, woodland management and fattening must have been properly synchronized, because one fattening swine is able to consume up to 10-15 kg of acorn in a single day. If all the acorns are consumed no seedlings will appear the following year. Moreover, oak acorn has a great nutritive value but the fruit of beech is not suitable for horses and donkeys, although ruminants and swine can eat it without problems.¹²³⁷ Thus, various areas where acorn was available would have been suitable for different species. Acorn was often collected and given also to cattle and sheep; soaking and peeling made it easier for them to digest.¹²³⁸ Interestingly, ethnographic data presented by László Nagy Czirok suggests that swine was not fed on acorn in Lesser Cumania, but this is probably due to the disappearance of woodlands in the later times. It is not likely that oak extant forests, although they were definitely present, would not have been utilized this way. Nagy Czirok mentions, however, that in the eighteenth century, swine was sometimes fed on blackthorn in the winter.¹²³⁹

Ethnographic data from eighteenth-nineteenth-century Greater Cumania reveal that swine, and especially piglets, were also sometimes driven to arable land areas in the summer after harvest to “clean it up”.¹²⁴⁰ However, this sometimes resulted in agricultural damage, and older swine were usually not allowed to graze in these fields.

There are also examples when different agricultural activities were re-organized in order to gain new pastures: pieces of arable lands were left uncultivated, smaller wetlands or watercourses were deliberately drained, or the harvest was carried out as quickly as possible so that animals could have access to these lands; some areas were reserved for animals raised for market.¹²⁴¹ Although nothing similar is preserved in our medieval documents, it cannot be excluded that expanding animal keeping had already resulted in such measures in the fourteenth-sixteenth centuries. Again, demonstrating such expansion of pasture lands depends on consistent application of archaobotanical research through use of modern excavation sampling during

¹²³⁷ Surányi, Feledésbe merülő hagyomány, 143

¹²³⁸ Surányi, Feledésbe merülő hagyomány, 144; Paládi-Kovács, A magyarországi állattartó kultúra korszakai, 188-190.

¹²³⁹ Nagy Czirok, Pásztorélet a Kiskunságon, 195.

¹²⁴⁰ Bellon, A Nagykunsági mezővárosok, digital edition: <http://terebess.hu/keletkultinfo/bellon3.html#6> Accessed 10.06.2014.

¹²⁴¹ Bellon, A Nagykunsági mezővárosok, digital edition: <http://terebess.hu/keletkultinfo/bellon3.html#6> Accessed 10.06.2014.

excavations.

Reed exploitation was a crucial part of land management in the extensive wet areas of the Great Plain. Bodies of water supplied the population not only with fish and waterfowl but also with reeds, which was used as a building material, in basketry, making fishing equipment as well as for fuel.¹²⁴² There are, however, data on systematic reed distribution and use only from the eighteenth-nineteenth centuries when this practice was already well-organized and centralized.¹²⁴³ Matthias Bel mentions that reed was used also as fuel.¹²⁴⁴ It is telling that in 1789, 70,000 sheaves of reed were harvested around Karcag in Greater Cumania (3,000 of which came from a place called *Disznórét* (swine pasture), probably identical to the place known as *Disznosreth*, close to Orgondaszentmiklós, mentioned in the medieval charter known from the Cuman record).¹²⁴⁵ In the early nineteenth century, Greater Cumania was so rich in reed belts that this material was transported to markets in other regions; it was typically cut during the winter and then transported on the river.¹²⁴⁶ However, mentions of reed appear only sporadically in the medieval written sources, probably because its exploitation was such a commonplace. A 1521 charter mentions a pond with a reed belt around it (*stagnorumque arundinetorum*)¹²⁴⁷ as part of the possessions the villages of Gyanda, Hegyes, Tomaj and Bánhalma were fighting over. In the same year, the Cumans of Asszonyszállás and the Hungarian landlords fought over another piece of land, where a similar reed belt was located (*Zágör réthe satis arundinosum*).¹²⁴⁸ Again in 1521, the villagers of Kakat, Kenderes and Turgonypéterszállása were competing for lands, and a reedy pond is mentioned again (*arundineta et stagna Nagh Reeth*).¹²⁴⁹ These places were obviously valued for their manifold resources: they provided fish, waterfowl, eggs and reed alike, and may also have served as wintering areas for the livestock.

4.1.4 Grazing rights

¹²⁴² Matthias Bel ed. Zombori, 13.

¹²⁴³ Bánkiné Molnár, Vízi haszonvételek a Kiskunságban, 46-49.

¹²⁴⁴ Matthias Bel ed. Zombori, 45, 49.

¹²⁴⁵ Györfy, Nagykunsági krónika, 51.

¹²⁴⁶ Bellon, A Tisza néprajza, 57.

¹²⁴⁷ Gyárfás, A jász-kunok, vol. 3, 744.

¹²⁴⁸ Gyárfás, A jász-kunok, vol. 3, 752.

¹²⁴⁹ Gyárfás, A jász-kunok, vol. 3, 756.

Grazing rights, the use of woodlands and the availability of these resources were locally regulated. All we know of this issue may be found in the charter material in which pastures and meadows are donated or their ownership clarified, although there was no general regulation pertaining specifically to Cumans. A very interesting document, however, dated to 1522, reveals that a certain János Andorkó asked for permission to pasture his animals and cultivate land in the Cuman area; even though he was not a Cuman, he had lived there long enough and thus, such permission was granted.¹²⁵⁰

In a 1238 charter, Bela IV, as part of his attempt to settle the Knights of St John, allowed them to use the forests for swine fattening for free.¹²⁵¹ Although nothing similar is recorded for the Cumans, it is worth remembering that the Knights were invited for similar reasons (that is, to settle and replace missing populations after the Mongol Invasion and to serve as military allies). Deforestation as a means to create arable land and pasture may have been a factor as well. King Ladislaus the Cuman donated a piece of forested land to a Hungarian family so that they could cut down the trees in the area, making it suitable for habitation, and settling people there, as this land would be much more useful this way.¹²⁵² It is uncertain if such means were used by the Cumans themselves when they created their new settlements; however, as they usually settled in places where an infrastructure was already in place (that is, in former Árpád Period villages), they probably did not need to take such measures.

4.2 Fishing, fowling and hunting

4.2.1 Fishing

Only a few fish remains came to light from the sites due to the above-mentioned methodological problems connected to the lack of sieving and flotation methodologies employed during most medieval excavations. In fact, Orgondaszentmiklós was the only Cuman site to yield

¹²⁵⁰ Gyárfás, A jász-kunok, vol. 4, 48.

¹²⁵¹ Tagányi, Magyar Erdészeti Oklevéltár, vol. 1, 7.

¹²⁵² Tagányi, Magyar Erdészeti Oklevéltár, vol. 1, 15.

any fish remains; these exclusively came from species of the carp family. On the other hand, Tiszagyenda and Gorzsa yielded a lot of fish bones (for a detailed species list see Tables 3.5.1 A and B, and 3.5.8 A and B in chapter 3 for the different sites). These sites are both located in wet areas close to the Tisza River. Tiszagyenda in fact, is in the same micro-region as the Cuman sites of Greater Cumania, and thus, it must be taken as representative for that region. Gorzsa, although it was situated on the other side of the Tisza River, exemplifies the potentials of fishing in the southern Tisza area. Although these are not Cuman sites, their inhabitants probably exploited the same, or very similar, resources.

The sample is not rich in taxonomic terms: only a few species occur, and most of the fish bones come from carp or carp family species. Wels (a catfish-like species), pike, common bream, sterlet and tench are also present, showing that these species were all available, caught and consumed in the Tisza region. Fish of all sizes and age cohorts are present in the sample. This suggests that the small fish, especially small species of the carp family, were collected after floods. These were presumably used, not only to feed people, but also to feed livestock, especially swine. In the preamble that first mentions the village of Orgondaszentmiklós, places such as *Disznósrét* (Swine meadow) and *Disznóshalom* (Swine Hill) are specified.¹²⁵³ Georg Wernher in his 1551 travel account, mentions that pigs were taken to the floodplains after floods so that they could feed on the small fish left behind when the water receded, but that there was so much fish that most of it was left to rot on the meadows even after the pigs fed on them.¹²⁵⁴ The same is also reported by Matthias Bel, who wrote that pigs fed on fish and plants of the floodplains were often much fatter than those fattened in households.¹²⁵⁵ At one point he adds that sometimes even poultry was fed on the abundant small fish which was very cheap.¹²⁵⁶ Ethnographic analogies reveal that swine kept on the wetlands of Cumania and fed on fish and snails were usually, more or less, feral, and often crossbred with wild swine as well.¹²⁵⁷ (Unfortunately, swine remains from the Cuman sites were too fragmented to carry out a proper craniometric analysis to support this by archaeological means; however, a skull of an adult sow found by Körösi at Szentkirály indeed exhibits a primitive, wild swine-like profile with a straight

¹²⁵³ Gyárfás, A jász-kunok, vol. 3, 749-753

¹²⁵⁴ Erdősi, Wernher, 139-140.

¹²⁵⁵ Matthias Bel ed. Zombori, 69.

¹²⁵⁶ Matthias Bel ed. Zombori, 16.

¹²⁵⁷ Szabadfalvi, Nomád típusú teleltetési rendszer, 51.

snout.)¹²⁵⁸ This kind of swine fattening undoubtedly represents a common practice, and the geographical names in Orgondaszentmiklós' vicinity suggest that Cumans picked it up relatively quickly, probably along with other practices of swine keeping they learnt from the Hungarian population. It would be interesting to see if this practice ever resulted in epidemics among swine; there is, however, no information revealed on this matter in our sources.

The small fish in our archaeological bone sample may have been caught by trapping them in flooded areas, without actually having to utilize proper nets and utensils for fishing. Trapping fish in dead branches of streams was also a known practice.¹²⁵⁹ However, river fishing was certainly practiced as well. Some species present at the sites (such as the pike) require slow-moving, sluggish but clean water. A few shell fragments of a freshwater lobster (probably European crayfish, *Astacida* sp.) were found at Gorzsa in an Árpád Period feature. This animal also lives in clean, fresh water habitats with large amounts of cover and burrow space (rocky streambeds).¹²⁶⁰ It seems that freshwaters were exploited for a wide range of edible species both for human consumption and for livestock. The Cumans were certainly acquainted with the means of fishing when they migrated to Hungary, as shown by a few words connected to fishing in the Codex Cumanicus.¹²⁶¹ Otherwise, no source testifies to fishing customs practiced by Cumans on the steppe, although rivers there must also have at least occasionally been exploited this way.

The 1551 travel account of Georg Wernher mentions that the Tisza River was abundant in fish, especially carp and pike, which were caught in large numbers and sold cheaply without even selecting them; there was actually so much fish available that some of it was simply left not only on the meadows, but also in the marketplace to rot (stallholders had to be fined by the authorities due to the horrible smell).¹²⁶² Matthias Bel also mentions the great abundance of fish in the Tisza River, especially carp, pike, catfish and small-sized species of the carp family (that is, exactly the species found in the archaeological material).¹²⁶³ He also mentions the Lake of Hód, close to Gorzsa, which was especially rich in carp and pike, on which a great number of

¹²⁵⁸ Körösi, Szentkirály, 366-368, see also 369, Fig.1.

¹²⁵⁹ Györfy, Magyarország történeti földrajza vol.1, 881.

¹²⁶⁰ J. Stanley Cobb and Denis Wang, "Fisheries Biology of Lobsters and Crayfishes" in *Economic Aspects: Fisheries and Culture*, ed. Anthony J. Provenzano, The Biology of Crustacea 10. (Orlando, Florida: Academic Press, 1985), 168-248: 183.

¹²⁶¹ Györfy, A kipcsaki kun társadalom, 245.

¹²⁶² Erdösi, Wernher, 140.

¹²⁶³ Matthias Bel ed. Zombori, 16-17.

waterfowl fed as well.¹²⁶⁴ As seen earlier, the name Halas (in Hungarian ‘related to, associated with fish’) may go back to the clan name Chertan, meaning ‘pike’ in the Cuman language, but another possibility is that the town was named after a fishpond.¹²⁶⁵ Nicolaus Istvánffy writes that around 1514 ca. 3,000 fishermen lived around Szeged. This number, however, must be an exaggeration or a synonym for “many”,¹²⁶⁶ in fact, Istvánffy himself estimates the same number as 700 in 1552.¹²⁶⁷ As tax was only collected after fish if it was sold, it is clearly revealed by the tax rolls that fish caught in the Tisza at Szeged not only served the town’s own consumption requirements but was marketed and used by people in nearby settlements.¹²⁶⁸ Interestingly, fish was not sold by the fishermen themselves but by merchants who sometimes also specialized in cattle trade.¹²⁶⁹ The importance of environmental exploitation in terms of water habitats is also testified to by family names in Szeged: according to the 1522 lists families going by the names Halász (fisher), Varsás (someone who has fishing nets), Gémes (heron hunter), Fürjekes (quail hunter), Varjas (crow hunter), Madarász (fowler), Rákos (crayfish catcher) and, Kerepes (one who handles vessels that are drawn by horses).¹²⁷⁰ The traveler Bertrandon de la Brocquiére also mentions the herons, bustards and an abundance of fish he saw for sale on the Szeged market.¹²⁷¹ In the 1585/1588 toll record of Szeged, a growing amount of fish was registered; their value almost tripled in three years’ time.¹²⁷² The Turkish forces also used the fishermen of Szeged and obliged them to supply the military with their catch.¹²⁷³ Matthias Bel writes that the people of Szeged, even though they may have had different occupations during the day, went boating and fishing in the Tisza at night,¹²⁷⁴ and the poorer families ate fish as a substitute for meat which they could not afford.¹²⁷⁵

Fishponds are reported from a number of places in the Danube-Tisza Interfluve; the dead

¹²⁶⁴ Matthias Bel ed. Zombori, 12.

¹²⁶⁵ Hatházi, Halas kun székközpont, 185; Horváth, A csengelei kunok, 221.

¹²⁶⁶ Kulcsár, A szabad királyi város, 448.

¹²⁶⁷ János Reizner, *Szeged története* Vol. III. [The History of Szeged, Vol.3.] (Szeged, 1900), 138.

¹²⁶⁸ Szakály, Török megszállás alatt, 605-606.

¹²⁶⁹ Szakály, Török megszállás alatt, 593.

¹²⁷⁰ Bálint, Az 1522. évi tizedlajstrom szegedi vezetéknévei, 22

¹²⁷¹ Brocquiére, ed. Johnes, 308.

¹²⁷² Szakály, Török megszállás alatt, 583.

¹²⁷³ Szakály, Török megszállás alatt, 692.

¹²⁷⁴ Matthias Bel ed. Zombori, 41.

¹²⁷⁵ Matthias Bel ed. Zombori, 42.

branches of the Tisza and Maros Rivers were often used as half-natural fishponds.¹²⁷⁶ At Tiszaug, a village situated close to Cuman Szentkirály, a fishpond is mentioned in 1341, in which 200 large fish and one sturgeon were caught illegally by the peasants of nearby Ság.¹²⁷⁷ Halas also had a small lake where fishing was an everyday practice. (However, according to the 1699 report of Pentz, the pike and tench caught here was not sufficient to feed the locals so fish had to be brought here from Szeged.)¹²⁷⁸ Fishponds were sometimes constructed in wetlands. An Árpád period fishpond, 1-2 ha in size and 1.5 m deep, was reconstructed in a swampy area in the southern part of the Great Plain. Its water was supplied by floods and temporary springs. This pond operated until the Turkish-Ottoman Occupation.¹²⁷⁹ Fishponds of this kind were identified in various places throughout the country. It cannot be excluded that this technique was also learned and used by the Cumans when they arrived in the Hungarian Kingdom.

Greater Cumania as well as the southern part of the Danube-Tisza Interfluve was abundant in water. The charter dated to 1405 which put an end to the debate between Cumans and Hungarian landlords over the possession of Kenderes, lists the incomes of the village, among which closed waters used for fishing are specified.¹²⁸⁰ Charters from 1401 and 1408 mention Cumans from Kolbazszállás who took over landed properties in the village of Kakath, including three fishponds called *Kéthkazmerfoka*, *Sebesér* and *Karazus* (Kárászos);¹²⁸¹ the latter bears the name of the crucian carp (*Carassius sp.*), suggesting that this fish species was raised in abundance here. A charter from 1385 which reinforces the ownership of two Cumans named Kondam and Juhpogo from the village of Beeb, also mentions a village called *Halazmorotva* (“halász morotva”, in Hungarian ‘a small lake used for fishing’) in the vicinity.¹²⁸² Perambulation documents regularly mention fishponds, forests and wetlands. Place names such

¹²⁷⁶ Györrfy, Az Árpád-kori Magyarország történeti földrajza, vol.1, 835.

¹²⁷⁷ “200 pisces magnos et 1 usonem...” Györrfy, Az Árpád-kori Magyarország történeti földrajza vol 1, 906.

¹²⁷⁸ Nagy Szeder, Adatok Kiskun-Halas város történetéhez, 48.

¹²⁷⁹ István Knipl and Pál Sümegi, “Két rendszer határán – Az ember és a környezet kapcsolata a sárközi dunai alluvium és a Duna-Tisza köze peremén” [On the border of two systems – Human connections with the environment on the border of the Danube alluvial plain of Sárköz and the Danube-Tisza Interfluve] in *Környezeti változások és az Alföld*. [Environmental Changes and the Great Hungarian Plain] ed. János Rakonczai, A Nagyalföld Alapítvány kötetei 7. (Békéscsaba: Nagyalföld Alapítvány, 2011), 45-54: 53.

¹²⁸⁰ “...terras eciam arabiles et pascuales, fenilia, arundineta, loca palutosa, clausurasque piscibus aptas, aquas, lacus, census eciam seu collectas ex parte Comanorum provenientes...” Gyárfás, A jász-kunok, vol.3, 540.

¹²⁸¹ Gyárfás, A jász-kunok vol 3, 184, 528, 538, 556-558.

¹²⁸² Gyárfás, A jász-kunok, vol.3, 508.

as *Horgasermelyeke* (“Horgas-ér melléke”, a small tributary of the Horgas Stream),¹²⁸³ *piscinam Monyasto vocatam* (“Monyos tó”? in Hungarian ‘a lake where eggs can be collected’),¹²⁸⁴ *Chokashegeharaszthya* (‘woodland in the mountain where jackdaws live’),¹²⁸⁵ *Haraszth* (‘woodland’) and *Halaztelek* (‘fishermen’s plot’),¹²⁸⁶ *Horogzeg* (‘horog’ means fish hook),¹²⁸⁷ *Darvasér* and *Darvashalom* (‘a stream and a hill where cranes live’);¹²⁸⁸ or *Rekethyes ferthew* (“rekettyés fertő”, ‘bushy wetland’)¹²⁸⁹ also reveal the character of environmental niches that were available to the Cumans. (These place names deserve a proper linguistic and historical study; this is, however, unfortunately beyond my competence.) The map of the second military survey shows a larger lake called “Aszonyszállás-fenek” (Lake of Asszonyszállás), close to the village of Asszonyszállás. As already mentioned earlier, there was a dead branch of the Tisza River, the so-called Üllő, which was used as a fishpond in the mid-fourteenth century, but commoners (including Cumans living around the villages of Tomajmonostora and Abád) were not allowed to fish here.¹²⁹⁰ This prohibition suggests that there were attempts made to exploit these resources.

Some bodies of water, however, must have been legally used for fishing, but unfortunately, the legal standing of most watercourses is unknown. Many fishing places came into private ownership from the eleventh century onwards, and charters limiting fishing rights started to be issued in the twelfth century. In many cases, it was permitted to use the waters although a certain number of the fish caught had to be given to the owner of the lake or stream: this could be a seventh or a third.¹²⁹¹ Although King Coloman tried to curtail fishing rights and make fishing into a royal privilege, this attempt failed.¹²⁹² From the thirteenth century, however, when Cumans arrived in the country, waters freely accessible for fishing became more and more limited, although their ownership was often shared by a community.¹²⁹³ These rights, however,

¹²⁸³ 1357; in the Iasian area, close to Berény. Gyárfás, A jász-kunok, vol.3, 495.

¹²⁸⁴ 1399, Gyárfás, A jász-kunok, vol. 3, 536.

¹²⁸⁵ 1423; in Lesser Cumania, close to Kecsemét. Gyárfás, A jász-kunok, vol. 3, 578.

¹²⁸⁶ 1424; in Lesser Cumania, close to Kecskemét. Gyárfás, A jász-kunok, vol. 3, 580-581.

¹²⁸⁷ 1428, 1451; in Greater Cumania. Gyárfás, A jász-kunok, vol. 3, 588, 624.

¹²⁸⁸ 1521; in Greater Cumania, close to Orgondaszentmiklós. Gyárfás, A jász-kunok, vol. 3, 753.

¹²⁸⁹ 1521; Greater Cumania, close to the villages of Hegyes and Tomaj. Gyárfás, A jász-kunok, vol.3, 747.

¹²⁹⁰ Gyárfás, A jász-kunok, vol. 3, 483.

¹²⁹¹ Alajos Degré, *Magyar halászati jog a középkorban* [Fishing Rights in Hungary in the Middle Ages] (Budapest, 1939), 27. (henceforth: Degré, Magyar halászati jog a középkorban)

¹²⁹² Degré, Magyar halászati jog a középorban, 34.

¹²⁹³ Degré, Magyar halászati jog a középkorban, 49-50; Márta Belényesy, “A halászat a XIV. században” [Fishing in

were not unified, but rather locally defined; in some cases fishing was free in bodies of water situated in the lands that belonged to a village, sometimes the tools used for fishing were limited by law, and sometimes the settlements needed royal permission to construct and use fishponds.¹²⁹⁴ Fishing in watercourses and fishing in swamps, floodplains or dead branches were sometimes differently regulated and taxed, as these provided access to different qualities of fish.¹²⁹⁵ Not much is known about what fishing rights looked like in Cuman areas. Cumans only appear in the record in this regard when fishponds or places suitable for fishing were donated to them by the king, typically along with other possessions; otherwise, it seems that no specific regulation was made to control the Cumans' fishing activities. In most cases, as was usual in donation charters, fishing rights were not specified or elaborated upon, but fishponds or waters suitable for fishing were only listed among the possessions donated, as *piscinae et piscaturae*, with no further specifications, but using almost the same wording.¹²⁹⁶ These terms may have referred to a number of things, from fishponds to dead branches of rivers, or even fish cages.¹²⁹⁷ Prohibition of fishing is mentioned in a charter concerning the dispute focused on the boundaries of the Cuman villages of Asszonyszállás and Karcagújszállás and the Hungarian settlements of Püspökladány, Nádudvar and Szentágota.¹²⁹⁸ This document suggests that Cumans sometimes must have attempted to use these waters for fishing although it was not in their possession.

Fishing techniques used in the area of Szeged were described by Matthias Bel. According

the fourteenth century] *Ethnographia* 64 (1953), 148-166: 160. (henceforth: Belényes, A halászat a XIV. században)

¹²⁹⁴ Degré, Magyar halászati jog a középkorban, 59-60.

¹²⁹⁵ Belényes, A halászat a XIV. században, 163.

¹²⁹⁶ 1405: clausurasque piscibus aptas, aquas, lacus; 1410: aquis, piscinis aquarumque decursibus; 1420: aquis, piscinis; 1465: aquis, flexys, piscinis, piscaturis, aquarumque decursibus molendinis, molendinorumque locis; 1438: aquis, aquarumque decursibus, piscinis, piscaturis; 1441: aquis, fluviiis, piscinis, piscaturis, et aquarum decursibus; 1449: stagnis, fluvys, molendinis, piscinis; 1449: aquis fluviiis piscinis piscaturis aquarumque decursibus; 1450: aquis, stagnis; 1454: Aquis, fluviiis, piscinis piscaturis Aquarumque decursibus; 1457: aqua Danubiali, insulis, ceterisque fluviiis, piscinis, piscaturis; 1457: aquis, fluviiis, piscinis, piscaturis, aquarumque decursibus; 1465: aquis, flexys, piscinis, piscaturis, aquarumque decursibus molendinis, molendinorumque locis; 1468: piscinarum; 1503: terrarum ac fenilium et piscinarum; 1517: aquis, fluviiis, piscinis, piscaturis, aquarumque decursibus, molendinis et eorundem locis; 1520: aquis, fluviiis, piscinis, piscaturis, aquarumque decursibus, molendinis et eorundem locis; 1522: aquis, fluviiis, piscinis, piscaturis, aquarumque decursibus, molendinis, et eorum locis; 1535: aquis, fluviiis, piscinis, piscaturis, aquarumque decursibus; 1537: aquis, fluviiis, piscinis, piscaturis, aquarumque decursibus. Gyárfás, A jász-kunok, vol. 3, 541, 561, 569, 605, 612, 621, 622, 623, 630, 635, 636, 649, 661-662, 717-718, 742, 757, 762, 767

¹²⁹⁷ Degré, Magyar halászati jog a középkorban, 77-78.

¹²⁹⁸ 1506: *infra decursum ipsius fluvii Comani dictorum Descensuum videlicet de Azzonzallasa et Wyzallasa, supra vero dictum fluvium usque metas dicte possessionis Ladan, et non ulterius populi de Ladan lacunis et alys modis piscare valerent...* Gyárfás, A jász-kunok, vol. 3, 725.

to his account, fishing was pretty simple, one or two people sat in a boat and used a single large net. In some cases, the net was fastened to two boats and was stretched out between them as the boats floated in different directions. Sturgeons were killed with harpoons, but several people in at least three to four boats were needed for this enterprise.¹²⁹⁹ Early modern ethnographic observations suggest that small fish could even be caught by hand.¹³⁰⁰ Matthias Bel also reports such occasions.¹³⁰¹ He also describes the practice that in flood periods, fish were trapped with nets that kept them from swimming back to the river, and then the fish were easily collected after the flood in bottomless baskets (so-called ‘pot-fishing’).¹³⁰² In fact, ethnographic studies present a good number of different fishing techniques in the Great Plain, which probably had their roots in the medieval period;¹³⁰³ however, the extent to which these techniques were taken up by the Cumans is impossible to say as no surviving document testifies to these customs and archaeological materials offer no relevant information in this regard. It is certain, however, that fish not only provided fresh food, but was also dried and sold or consumed in the winter. The manner of drying fish was also observed by Matthias Bel in the southern region of the Great Plain: they could be dried in the sun, sometimes hung on the roof, or salted and stored in jars.¹³⁰⁴

4.2.2 Fowling

Not only fish, but also fowl associated with water habitats were brought to light in abundance both at Tiszagyenda and at Gorzsa showing that wet environs were exploited for the wild birds and presumably also their eggs. A wide range of birds living close to water was identified from both sites (for a detailed species list see Tables 3.5.1 A and B and 3.5.8 A and B in chapter 3, respectively). With this faunal list, both sites classify as being particularly abundant in wild bird bones, as these are usually found in low numbers at archaeological sites and come from a few taxa.¹³⁰⁵ Bones of greylag goose, common coot (Eurasian coot) and rook were

¹²⁹⁹ Matthias Bel ed. Zombori, 20-21.

¹³⁰⁰ Illyés, Kiskunsági krónika, 45; Bellon, A Tisza néprajza, 41.

¹³⁰¹ Matthias Bel ed. Bán, 75.

¹³⁰² Matthias Bel ed. Bán, 75.

¹³⁰³ Kálmán Szabó, “Ősi halászat nyomai Kecskemét környékén” [Traces of ancient fishing techniques around Kecskemét] *Ethnographia* 29 (1918), 115-128.

¹³⁰⁴ Matthias Bel ed. Zombori, 20.

¹³⁰⁵ Erika Gál, “A középkori madarászat régészeti állattani emlékei” [Archaeozoological evidence of medieval

brought to light in greater numbers at Tiszagyenda, while at Gorzsa various species of waterfowl were most frequent.

As mentioned before, the Danube-Tisza Interfluve was interspersed with small bodies of water in the Middle Ages, providing a natural habitat for a number of bird species. These resources were most certainly exploited. Although not much has been preserved on fowling rights in the Cuman areas, in all probability the general principle according to which the captured animal belonged to the person on whose lands it was caught, applied here as well.¹³⁰⁶

The birds species brought to light from the archaeological contexts of Tiszagyenda and Gorzsa testify to a wide range of natural habitats. The greylag goose inhabits a wide range of niches, and is even found in the steppe region; however, it prefers reedy marshes and wetlands for nesting. It is present almost all year round, and only migrates in December,¹³⁰⁷ so it must have been abundantly available along the Tisza River and even in the drier areas of the Danube-Tisza Interfluve. The coot is more directly bound to water, especially deep lakes, and is commonly found in watery habitats on the Great Plain. It nests in reedy marshes similarly to the greylag goose, but sometimes makes its nest in dead branches of rivers, wet trenches, or even wet pits on the outskirts of settlements,¹³⁰⁸ which may explain why it was found in great numbers at Tiszagyenda. It is present in the Carpathian Basin from March to October. The third most common bird found at Gorzsa, the rook, is found not in watery habitats but in open, lightly forested regions and floodplain woodlands. It is commonly found in cultivated lands for several reasons: visual contact with each other is important for these birds and thus, they prefer more

falconry] In: *Gazdaság és gazdálkodás a középkori Magyarországon: gazdaságtörténet, anyagi kultúra, régészeti* [Economy and Farming in Medieval Hungary: Economic History, Material Culture, Archaeology] eds. Sndr's Kubinyi, József Laszlovszky, and Péter Szabó (Budapest: Martin Opitz Kiadó, 2008), 109-112: 109. (henceforth: Gál, A középkori madarászat régészeti állattani emlékei)

¹³⁰⁶ A lawsuit on fowling rights in the village of Pécel in 1356-1359 shows that rights may have been regulated locally in accordance with the immediate natural environment. In this lawsuit, birds were caught in a reedy area beside a mill dam, and the parties fought as they could not decide to whom the birds rightfully belonged. Finally, it was decided that the ownership of the place where the net is placed and the bird is caught is decisive in terms of rights. The same lawsuit also demonstrates that fowling may have provided a considerable income: a rent had to be paid to the owner of the mill after all fowls caught in the reed. The lawsuit started exactly because the landowner also wanted to exploit this financial resource. István Tringli, "Adalék a magyar vadászati jog középkori történetéhez" [Notes on hunting rights in Hungary in the Middle Ages] A Herman Ottó Múzeum Évkönyve 52 (2013), 213-219: 215-216. (henceforth: Tringli, Adalék a magyar vadászati jog középkori történetéhez)

¹³⁰⁷ László Haraszthy ed, *Magyarország madarai* [Birds of Hungary] (Budapest: Mezőgazda, 1998), 44-45. (henceforth: Haraszthy, Magyarország madarai)

¹³⁰⁸ Haraszthy, Magyarország madarai, 117.

open areas, and arable lands that provided grain as well as the small rodents that rooks frequently consume. Although they nest on trees making the nests difficult to approach, the fact that rooks form nesting colonies that may constitute hundreds of birds¹³⁰⁹ implies that a harvest of their eggs may have been a difficult, but remunerative enterprise. They were probably unwanted neighbors in the cultivated fields, because they not only consume grain but also root up sprouting seeds and thus, can damage the crops.¹³¹⁰ The night heron, which was present at Gorzsa, sometimes also nests on trees, but prefers wet habitats, especially floodplains. This species is widespread along the Danube and Tisza Rivers.¹³¹¹

The great crested grebe is a common waterfowl in the Carpathian Basin. It prefers swampy habitats, fishponds and larger lakes and mainly consumes fish. Its close relative, the red-necked grebe, also lives in wetland habitats and in the vicinity of ponds; it is found most commonly around the Tisza River.¹³¹² Both species nest in the reeds, and thus, their eggs must have been easy to collect. These are migratory birds that arrive in March and leave in October-November,¹³¹³ so they must have been hunted during the summer. The ferruginous duck, the mallard, the common pochard, the gadwall, the garganey, the white-fronted goose, the mute swan and the Dalmatian pelican, represented at these sites by a few fragments, are also typical birds in swampy and lake habitats.¹³¹⁴ The Western jackdaw, the hooded crow, and the grey partridge found in the faunal materials of these same sites, however, live in open woodlands and agricultural fields alike.¹³¹⁵ The stock dove, however, which was found at Gorzsa, lives in woodlands; interestingly, this species is more common in mountainous areas, although it is also known to live on the Great Plain.¹³¹⁶

Mallard were not only hunted but their eggs may also have been collected, taken to households and put under the domestic poultry so that hens could hatch them. They were raised as “substitutes” for domestic duck.¹³¹⁷ (In fact, duck was domesticated relatively late, and

¹³⁰⁹Haraszthy, Magyarország madarai, 355-356.

¹³¹⁰ Haraszthy, Magyarország madarai, 356.

¹³¹¹ Haraszthy, Magyarország madarai, 20-21.

¹³¹² Haraszthy, Magyarország madarai, 11-12.

¹³¹³ Haraszthy, Magyarország madarai, 11-12.

¹³¹⁴ Haraszthy, Magyarország madarai, 17-18, 35, 53-57, 60-61.

¹³¹⁵ Haraszthy, Magyarország madarai, 108, 353, 357.

¹³¹⁶ Haraszthy, Magyarország madarai, 204.

¹³¹⁷ Béla Hankó, *Ősi magyar háziállataink* [Our Ancient Domestic Animals] (Debrecen: Tiszántúli Mezőgazdasági Kamara, 1940), 149.

domestic forms do not appear in Hungary earlier than the fourteenth-fifteenth century.¹³¹⁸ Acquiring birds and eggs from the wild population could be a reasonable practice to ensure a supply of ducks if needed.) Györffy also mentions this practice in Greater Cummania, and adds that although these tamed birds were docile, they were likely to try to migrate in the fall or winter and leave with the rest of their wild counterparts and therefore they had to be locked up or killed before bird migration started (which also suggests their wings were not clipped).¹³¹⁹ Matthias Bel mentions in his description of Heves County that the masses of birds that lived along the Tisza River were not afraid of humans at all, but sometimes even preferred to nest in the vicinity of villages. He himself mistook mallards (or grebes?) for domestic ducks. Eggs of the waterfowl were collected in huge numbers every year, but this exploitation does not seem to have impacted the size of the bird population.¹³²⁰ Matthias Bel mentions that waterfowl eggs were also consumed during Lent, and peasants collected thousands of these eggs during the period of fasting.¹³²¹

This great abundance and taxonomic richness of the waterfowl fauna was also noted by Bel, who wrote that coot, grebes, greylag geese, mallards and all kinds of waterbirds inhabited the swampy areas and reedy marshes of the Plain, and they were sometimes even considered vermin as they damaged crops.¹³²² It is telling that in 1786, in a quest to procure new species, the zoo of the Holy Roman Emperor Joseph II asked the Cuman towns of the Great Plain to send different waterfowl species to the Schönbrunn zoological garden.¹³²³

Not much is known about the techniques used to catch birds. Various forms of traps, nets and primitive snares were certainly utilized. A variety of simple trapping tools and snares has been documented by ethnographers throughout the country (but these are in fact quite similar in different cultures and geographical areas). Some of these were used to catch small mammals, such as rodents or fur bearing animals while others were also utilized to catch birds or even

¹³¹⁸ Erika Gál, "Madárleletek a bajcsai váról", in *Weitschawar / Bajcsa- Vár. Egy stájer erődítmény Magyarországon a 16. század második felében* [The Fortress of Bajcsa. A Styrian Fortification in Hungary in the Second Half of the sixteenth Century] ed. Gyöngyi Kovács (Zalaegerszeg: Zalaegerszegi Múzeumok Igazgatósága, 2002), 101-105: 102.

¹³¹⁹ Györffy, Nagykunsági krónika, 50.

¹³²⁰ Matthias Bel ed. Bán, 73.

¹³²¹ Béla Szabó, tr. and ed. *Bél Mátyás Pest megyéről* [Matthias Bel On Pest County] Pest Megyei Múzeumi Füzetek 10. (Szentendre: Pest Megyei Múzeumok, 1977), 29. Henceforth: (Matthias Bel ed. Szabó)

¹³²² Matthias Bel ed. Zombori, 16.

¹³²³ Györffy, Nagykunsági krónika, 49-50.

fish.¹³²⁴ In the Codex Cumanicus, the term *tutt(u)ruq*, meaning a glue-like, adhesive substance made from the *Loranthus europaeus* (a parasitic plant of oak trees) and used to catch birds, reflects that this practice was known.¹³²⁵ As oak forests were present in the Great Plain, Cumans also probably utilized this resource to prepare the glue and the bird-catching sticks on which the sticky substance was applied. This bird catching technique is also mentioned in Matthias Bel's account of Pest County.¹³²⁶ In a mid-fourteenth-century lawsuit in Pécel focused on fowling rights, one of the witnesses described the method of catching waterfowl. First they were driven out from their hiding places with loud noise (*a tonitu seu terrore, necnon vociferationibus*), and then caught in nets.¹³²⁷

Although only a few of these species are considered edible and are exploited for their meat today, they were certainly consumed in the Middle Ages. A cookbook from 1680 includes recipes for crane, pelican, swan, great bustard, greylag goose, mallard, grebe, and dove, and even rook is mentioned as a bird suitable for cooking.¹³²⁸ A rook bone with cutmarks from Turkish Period Szendrő-Felsővár also suggests that this species was also occasionally consumed.¹³²⁹ Rook consumption is also recorded in the ethnographic literature of the Tisza area as a widespread custom; these birds were usually eaten when they were very young.¹³³⁰ Some waterfowl, such as the coot and the grebe, could be consumed along with fish during fast times.¹³³¹ As mentioned earlier, Bertrandon de la Brocquiére reports that on his 1433 journey through the Hungarian Kingdom cranes and great bustards were caught in large numbers by the locals, and also sold on the market, because these birds were regularly eaten; he also mentions that the Tisza River is abundant in fish that are especially large.¹³³² The stork and great bustard present at the village of Móric¹³³³ may also be considered kitchen refuse. Ethnographic examples

¹³²⁴ Bertalan Korompay, "A csiklétől a csikkentőig" [From traps to snares] *Néprajzi Értesítő* 38 (1956), 5-22.

¹³²⁵ Györffy, A kipcsaki kun társadalom, 246.

¹³²⁶ Matthias Bel ed. Szabó, 29.

¹³²⁷ Tringli, Adalék a magyar vadászati jog középkori történetéhez, 216.

¹³²⁸ This book, however, reflects German traditions 100 years earlier. Elemér Lakó, *Bornemisza Anna szakácskönyve 1680-ból* [The Cookbook of Anna Bornemissza from 1680] (Bucuresti: Kriterion, 1983), 135-159 (henceforth: Lakó, Bornemisza Anna szakácskönyve)

¹³²⁹ Márta Daróczi-Szabó, "Szendrő-Felsővár kora újkori állatcsontanyagának vizsgálata" [Analysis of the Early Modern faunal material from Szendrő-Felsővár] in *Csontvázak a szekrényből* [Skeletons from the Cupboard] eds. László Bartosiewitz, Erika Gál, and István Kováts (Budapest: Martin Opitz, 2009), 151-171: 155

¹³³⁰ Bellon, A Tisza néprajza, 67.

¹³³¹ Gál, A középkori madarászat régészeti állattani emlékei, 110.

¹³³² Brocquiére, ed. Johnes, 308.

¹³³³ Bökonyi, History of Domestic Mammals, 460.

reveal that waterfowl was disemboweled, rolled in mud and simply roasted; feathers came off easily with the dried mud, and then the fowl was grilled with bacon, similarly to fish. In the hatching period, children were sent to the marshlands to look for the eggs of waterfowl.¹³³⁴ There were even people specialized in crane hunting (the so-called *darvászok*); they not only hunted these birds but knew where their nests were, inspected the eggs and calculated when to come back to collect the young which they took home and raised in the household. Adult cranes were caught with snares and sometimes these were kept in households, too. Although their primary use must have been their eggs and meat, these birds were present in wealthy houses as pets. They also signaled if strangers approached at the house, which made them useful; cranes were thought to signal coming rain. Feathers of cranes were also popular items worn on hats.¹³³⁵ According to a 1554 conscription, 20 tame cranes were kept in the village of Magyarszállás in Greater Cumania. When the Turks occupied the town of Szolnok in Greater Cumania, they also took six tame cranes with them as booty.¹³³⁶ Other uses of birds cannot be excluded either; Matthias Bel recorded that in Pest County, peasants preferred underwear made from swan skin, as they considered it to be very healthy.¹³³⁷

Although medieval data is scarce, fowling and bird catching was certainly a well-known and practiced activity by Cumans in the Middle Ages. Falconry was a widespread and highly developed form of hunting in the thirteenth-century Mongol Empire,¹³³⁸ and the Cumans were certainly acquainted with it: the Codex Cumanicus lists a range of words in connection with falconry.¹³³⁹ A 1371 charter mentions a Cuman of the Kuncheġ family (an influential family in the Halas region), a certain Ladislaus, who was a Cuman “captain” and a royal fowler.¹³⁴⁰ (Interestingly, he appears later as the landlord of a village called Madaras¹³⁴¹ (in Hungarian:

¹³³⁴ Illyés, Kiskunsági krónika, 45.

¹³³⁵ Attila Selmeczi Kovács, *Elfeleddett magyar mesterségek és népélet* [Forgotten Hungarian Occupations and Peasant Life] (Budapest: Cser Kiadó, 2009), 16-17; Györffy, Nagykunsági krónika, 47-48; Takáts, Sándor. *Rajzok a török világóból* [Pictures from the Turkish-Ottoman Period] Vol. 3. (Budapest, 1917), 85-92. (henceforth: Takáts, Rajzok a török világóból)

¹³³⁶ Takáts, Rajzok a török világóból, vol. 3, 89.

¹³³⁷ Matthias Bel ed. Szabó, 29.

¹³³⁸ Pál Csőre, *A solymászat története* [The History of Falconry] (Budapest: TerraPrint, 1996), 17 (henceforth: Csőre, A solymászat története)

¹³³⁹ Györffy, A kipesaki kun társadalom, 246.

¹³⁴⁰ 1371: *Ladislaum Cumanum aucupem nostrum, filium Nicolai nigri, generationis Kuncheġ...* Gyárfás, A jász-kunok, vol. 3, 98, 506.

¹³⁴¹ Gyárfás, A jász-kunok, vol.3, 99. This village is not identical to the settlement by the same name in Greater Cumania, but was located south of the Cuman settlement area, near the present-day Hungarian-Serbian border.

‘related to, associated with birds’). This name may be rooted either in the landlord’s occupation, or the abundance of fowl in that particular region. The word used by the charter is *auceps*, which, according to Pál Csőre, meant an occupation that involved capturing birds of prey¹³⁴² and possibly supplying hawks and falcons for hunting purposes to the aristocracy. Birds of prey to be tamed were probably caught in a similar manner to the waterfowl that were raised in households. In his early fifteenth century treatise on falconry Eberhard Hicfelt discusses separately the ways and means of taming and training birds that were taken from the nest at a very early age, those that were caught when they had already left the nest but were unable to fly perfectly, and those that were captured as youngsters fully capable of flying. These different age groups required different training methods. Interestingly, Hicfelt often refers to another treatise, written by a certain Ladislaus of Hungary; this text has been lost, but it was probably widely known in the medieval period.¹³⁴³ Tamed birds of prey were sometimes also sold on the market. In mid-fourteenth-century Bártfa, falcons (or hawks?) were sold for 50-300 denars (horses were sold for ca. 50 denar).¹³⁴⁴

The bones of two species of birds of prey from Tiszagyenda are particularly interesting. The griffon vulture in the Árpád Period and the levant sparrowhawk in the late medieval/early modern (sixteenth-eighteenth century pit) material may signify a practice of hunting with birds, or killing them because they preyed on small wild game. However, the griffon vulture was less likely to have been fit for falconry as it feeds on carrion (and thus have no intent to kill), although it may have been hunted (or even tamed) for the purposes of self-representation, as it is evidenced from medieval England.¹³⁴⁵ Hawks were hunted as vermin in the late eighteenth-century in the County of Heves.¹³⁴⁶ Birds of prey were also considered edible; the above

Gyárfás, A jász-kunok, vol.3, 105.

¹³⁴² Csőre, A solymászat története, 34.

¹³⁴³ Csőre, A solymászat története, 38-40.

¹³⁴⁴ Csőre, A solymászat története, 47.

¹³⁴⁵ László Bartosiewicz, “Show me your hawk, I’ll tell you who you are”, in *A Bouquet of Archaeozoological Studies, Essays in honour of Wietske Prummel*, eds. D. C. M. Raemaekers, E. Esser, R. C. G. M. Lauwerier and J.T. Zeiler (Groningen: Bakhuys & University of Groningen Library, 2012), 181–190: 184.

¹³⁴⁶ Gyula Nagy, “A XVIII. és XIX. század vadászati, vadgazdálkodási emlékei Heves megyében” [Data on hunting and wild game management in eighteenth and nineteenth-century Heves County] in *Vadászattörténet* [The History of Hunting] Ed. Gábor Izrael, A vadgazdálkodás fejlesztése 13. (Budapest: MÉM Vadászati és Vadgazdálkodási Főosztálya, 1974), 47-99: 50, 53. (henceforth: Nagy, A XVIII. és XIX. század vadászati, vadgazdálkodási emlékei Heves megyében)

mentioned seventeenth-century cookbook has recipes for eagles.¹³⁴⁷ Ethnographers observed in Greater Cumania that falcons were used in hunting smaller birds, although snares were more widespread.¹³⁴⁸ In this respect, the presence of hamsters and voles at both Gorzsa and Tiszagyenda is interesting, as these species could potentially have also been used to feed domesticated birds of prey.

As we have seen, the fish and wild bird species identified at these sites were either originally present in the natural environs, or attracted by agricultural fields, which – as e.g. in the case of the site excavated at Kiskunhalas-Dong -ér – MOL5 – may have been lands that only started to be cultivated at the end of the Árpád Period. These species were native to the area, certainly locally caught and available in abundance, and thus, they must reflect the environmental niches that were exploited. The data presented above suggests that fishing and fowling must have been a critical activity and source of food for the region's medieval population. Hopefully, meticulous excavations in the future will bring to light bone assemblages with more fish and bird bones.

4.2.3 Hunting and wild game management

Robert of Clari mentions that during his travels in the fourth crusade, he observed Cuman hunting expeditions. The Cumans wore sheep skins, carried bows and arrows, and each of them took 10-12 tough horses to the hunt.¹³⁴⁹ The Codex Cumanicus, in fact, features a broad terminology for the hunt, especially in connection with fur bearing animals.¹³⁵⁰ Hungarian sources, however, reveal almost nothing on hunting and wild game in connection with Cumans, not even in charters in which – along with other possessions - woodlands are donated to them or fought over. Their ownership may have included the right to hunt in them. Hunting rights were probably locally regulated everywhere; hunting only started to be observed as a royal privilege from the sixteenth century. A 1504 regulation of King Vladislaus II ordered that it should be forbidden for all peasants to hunt deer, hare, wild swine, pheasants, partridges and hazel grouses,

¹³⁴⁷ Lakó, Bornemisza Anna szakácskönyve, 134.

¹³⁴⁸ Györfy, Nagykunsági krónika, 65.

¹³⁴⁹ Spinei, The Great Migrations, 222.

¹³⁵⁰ Györfy, A kipcsaki kun társadalom, 246.

and those caught hunting should pay a fine.¹³⁵¹ This was, however, probably not strictly observed, and the fine to be paid by those breaking the regulation was surprisingly small.¹³⁵² Moreover, it was a rare but not unknown practice that peasants had to pay their tax partly in the form of wild game. In the manor of Világos in 1525, peasants were compelled to provide hare and squirrels to the landlord.¹³⁵³ In 1642, peasants of Egyházas Terenni also had to give their landlord one pheasant and one roe deer along with a neutered fattened swine.¹³⁵⁴ Such a practice, however, was not recorded at any Cuman settlement. Interestingly, Nicolaus Olahus in his mid-sixteenth century account reported that Hungary is abundant in all kinds of wild game, and these are consumed by the nobility and commoners alike;¹³⁵⁵ however, remains of wild game rarely show up in large quantities in village excavations.

Although not much is said in the written sources on the wild game population living in the Cuman habitation area, the woodlands certainly must have provided habitats for the characteristic species of the Hungarian mammalian fauna regularly hunted in medieval times: red and roe deer, wild swine and hare. These game species are also present in the faunal material of Cuman settlements, even though in small numbers. (See the tables in chapter 3 at the respective sites for the ratio of different species.) The ratio of wild mammals in the Cuman faunal material corresponds to their generally observed proportion in the medieval Kingdom of Hungary. Just as at other contemporary settlements, hunting occasionally complemented the diet but was not an everyday meat resource, and wild game proportions remain below 5% in the faunal ratio at settlements.¹³⁵⁶ This may also be explained by the so-called Schlepp-Effekt, when the wild game killed outside the settlement is deboned at the kill-site and only the meat, wrapped in the hide, is transported to the settlement along with bones remaining in the skin (skull bones, phalanges, metapodia).¹³⁵⁷ However, a tibia of red deer has also been found at Orgondaszentmiklós, which contradicts such a practice. Antler remains are also very scarce at these sites. In the case of antler

¹³⁵¹ Tagányi, Magyar Erdészeti Oklevélétár, Vol. 1, 31.

¹³⁵² Csőre, A magyar erdőgazdálkodás története, 88; Szabó, A magyar mezőgazdaság története, 37.

¹³⁵³ Szabó, A magyar mezőgazdaság története, 37.

¹³⁵⁴ László Makkai, I. Rákóczi György birtokainak gazdasági iratai, 1631-1648 [Economic Documents from the Landed Properties of George Rákóczi I, 1631-1648] (Budapest: Akadémiai Kiadó, 1954), 167.

¹³⁵⁵ Nicolaus Olahus ed. Szigeti, digital edition, chapter 18: <http://mek.oszk.hu/06000/06072/html/gmolah0003.html> Accessed 02.20.2015

¹³⁵⁶ Vörös, Adatok az Árpád-kori állattartás történetéhez, 105.

¹³⁵⁷ This concept was introduced in archaeozoology by Perkins and Daly (Dexter P. Perkins and Patricia Daly, “A Hunters’ Village in Neolithic Turkey”, *Scientific American* 219 (1968), 96-106.

it is often impossible to say if it was collected after the animal shed it or whether it comes from a killed deer. The scarcity of antler fragments may signify that antlers were collected and processed elsewhere in urban workshops.

In some cases, placenames are indicative of some form of wild game management, or at least the presence of wild game. A village called *Vadkerth* (in Hungarian, ‘game preserve’) is mentioned in the area of Halas in a 1493 charter.¹³⁵⁸ A place called *Zarwasháth* (Deer Hill) is named in the vicinity of the village of Hegyes in Greater Cumania in a 1521 document.¹³⁵⁹ Another place name, *Rawazlywk*¹³⁶⁰ may be interpreted as ‘ravasz lyuk’ (that is, a place where foxes burrow) although a proper etymology is yet to be established. Interestingly, Matthias Bel’s eighteenth-century account reports that wild game, especially red deer and wild swine, was particularly scarce in Csongrád County, although the locals said they had previously been present in abundance; the drop in the numbers of game animals may be a consequence of overhunting and/or the destruction of their natural habitat.¹³⁶¹ He says the same about Heves County, and explains the lack of wild game by extensive hunting by the military, which was permitted in all seasons; later, however, deer hunting was banned. Only hares were said to be abundant. Bel reports that these were hunted with greyhounds instead of traps or weapons.¹³⁶² He also mentions the burning of reeds as way to smoke out animals as wild game preferred to hide in the reedy marshlands. Therefore, the reed was sometimes deliberately burnt so that the animals that fled the fire (deer, hare, but also wolves, foxes, beavers and otters) could be captured and killed.¹³⁶³ The latter four species were probably exploited for their fur.

Fur processing in these villages is also suggested by the bones of a badger and a least one weasel in the material of Gorzsa. Two family names in Szeged, Hőgye and Hőgyes are, according to Kulcsár, connected to the ermine/stoat (called *hölgy* or *hölgymenyét* in old Hungarian)¹³⁶⁴ and possibly to the processing of its fur. In fact, the fur of stoats and martens are mentioned several times in the chronicle of Ottokar von Steiermark in his description of the

¹³⁵⁸ Gyárfás, A jász-kunok, vol. 3, 333.

¹³⁵⁹ Gyárfás, A jász-kunok, vol.3, 748.

¹³⁶⁰ 1521, in Greater Cumania. Gyárfás, A jász-kunok, vol. 3, 755-756.

¹³⁶¹ Matthias Bel ed. Zombori, 15.

¹³⁶² Matthias Bel ed. Bán, 71.

¹³⁶³ Matthias Bel ed. Zombori, 15.

¹³⁶⁴ Kulcsár, A szabad királyi város, 462. Bálint, however, lists this family name among those he could not explain etymologically. Bálint, Az 1522. évi tizedlajstrom szegedi vezetéknévei, 25.

wedding of Prince Béla (the son of Béla IV) in 1264, as a piece of attire associated with high status.¹³⁶⁵ Fur is found as a recorded ware in the toll register of Szeged from 1585/1588, along with cattle and sheep hides and sheep wool.¹³⁶⁶ The ground squirrel, which was present both in Gorzsa and Tiszagyenda, may also have been hunted for this purpose. The weasel, on the other hand, was included as “vermin” in a late eighteenth-century document that listed the wild animals hunted and killed in the lands of the bishopric of Eger; in 1790, 58 weasels were killed by three hunters, as animals potentially damaging the woodland fauna.¹³⁶⁷ The beech marten was traditionally caught with traps; its fur was sometimes used as a form of tax to be paid to the landlord.¹³⁶⁸ One fox mandible from Perkáta exhibiting small cut marks testify that this species was also hunted for its fur. A wolf bone from the same settlement may also show the use of wolf skin and fur.¹³⁶⁹

4.3 Summary

In this chapter I have reviewed the available evidence for the exploitation of the natural environment in the Cuman areas. Information on environmental exploitation in the past mainly concerns pasturing, forest management, fishing, fowling and hunting. These activities were closely connected to animal keeping as dung was used as fertilizer and animals used for power, traction and speed. Hay, forest fruits, acorn and small fish were used as fodder, and hunted game supplemented the meat diet otherwise provided by domesticates and provided another way of showing social distinction.

Evidence for pastures, hay cultivation and forest use is found in textual sources although archaeobotanical data would have great potential for illuminating this issue as well. Extensive animal keeping in the Great Plain resulted in a settlement structure in which gardens, orchards,

¹³⁶⁵ Gray and white furs of ermine were bought for 20,000 Forints for the wedding ceremony. The fur of a marten decorated the bride's clothing at the neck. Ermine and marten were preferred by the Hungarian aristocracy, who wore the furs of these on ceremonial occasions. András Vizkelety, “Béla hercegnek, IV. Béla király fiának menyegzője” [The wedding of Prince Béla, the son of King Béla IV] *Irodalomtörténeti Közlemények* 97/5-6 (1993), 571-584: 576, 578.

¹³⁶⁶ Szakály, Török megszállás alatt, 583.

¹³⁶⁷ A XVIII. és XIX. század vadászati, vadgazdálkodási emlékei Heves megyében, 50, 53.

¹³⁶⁸ Csóre, A magyar erdőgazdálkodás története, 157.

¹³⁶⁹ Biller, Perkáta, 26.

vegetable gardens and inner pastures played a stable role, but external pastures had a growing importance with the expansion of animal keeping for market purposes. The number of animals pastured could only grow if new pastures were annexed; the size of the herd stock on one pasture must also have been regulated, although there are no medieval records on this practice from the Cuman areas, only later ones. Instances of hay theft in the late medieval sources suggest the importance of complementary fodder. The long scythe used for harvesting, introduced in the thirteenth - fourteenth century, improved the efficiency hay cultivation; Turkish tax rolls also reveal that in some areas of Greater and Lesser Cumania, hay was produced in large quantities.

Forests were first and foremost used for pasturing swine, but also other species including cattle, sheep, goats or horses, all of whom could be driven to the woods. Donation charters often mention woodlands or thickets, however, these are usually only listed along with other possessions, and their use is not specified. Geographical names sometimes reveal the type and possible use of woodlands in the Cuman areas, but there seems to be no difference in this regard between Cuman and Hungarian communities. Grazing rights and the use of forests was locally regulated. By the late medieval period, overgrazing and a decrease in forest vegetation started to be a factor for environmental change. This was partly due to extensive animal husbandry, but impacted Cuman and Hungarian areas alike.

Fishing and fowling may be reconstructed, not only on the basis of written sources, but also from archaeological finds. Although the older excavations in the Cuman areas did not utilize sieving or flotation, the medieval natural environment of these areas may be partially reconstructed from the abundant fish and bird bone finds produced by the Tiszagyenda and Gorzsa excavations. The former is especially interesting, as this village lay in the immediate vicinity of the Cuman community of Greater Cumania. The written accounts suggest an abundance of fish and that a large number of people engaged in fishing activities. The archaeological bone sample yielded mostly small individuals of freshwater fish species. These fish may have been caught by trapping them in flooded areas, without having to use proper fishing tools. Taking pigs to the floodplains after floods and feeding them on small fish was also a known practice. Proper fishponds under Cuman possession are sometimes mentioned in the charters, but the medieval legal standing of most bodies of water is unknown. These, similarly to the access to pastures and haylofts, were locally regulated. The Cuman areas were no different from the rest of the country in this regard.

Wild bird bone that came to light from these sites are typically species that are bound to water, and prefer wetlands, ponds, lakes, river branches or swampy habitats. The abundance of waterfowl in the Cuman areas is also touched upon in travelers' accounts. Not only their meat but also their eggs could be exploited. Some waterfowl were also considered as food that could be eaten on fasting days.

Woodlands must have served as habitats for a wide range of wild mammals, nevertheless, there is almost nothing revealed in textual sources on medieval hunting in the Cuman areas. Although hunting only started to be observed as a royal privilege from the early sixteenth century onwards, the ratio of wild game in the Cuman material is the same as what is usually found at medieval settlements in Hungary: their contribution to the diet remains under 5%. Antler collecting and fur processing must have been known, however, so far there is no clear archaeological evidence for such practices, probably because finds associated with these were accumulated in urban workshops that have not yet been excavated.

After having seen in the last two chapters how animals were kept, herded, caught or hunted, in the next chapter I will discuss what happened to the animals after their death. Chapter 5, Processing the animal body will show how animals were consumed, used in ritual practices, and how their bodies were utilized as raw material for tool and ornament production.

Chapter 5

Processing the animal body

When an animal dies, the human-animal relationship is not finished at all. Animal bodies provide food and raw material resources, but also serve as objects and symbols reflecting human concepts, whether it is a horse buried next to its master or a sheep prepared for a ceremonial feast. Carcasses imbued with different meanings are approached and handled differently; however, all activities involving a dead animal are embedded in the culturally defined framework of human-animal relations, and are, in fact, interconnected. The value placed on a certain species may be expressed through the circumstances under which the animal is slaughtered, its meat is consumed, the way the remains are connected to rituals, symbolically or emotionally loaded activities, or through the way a skeletal element is chosen for modification and made into a tool. As the animal body was processed in various ways, aspects of daily life and ritual naturally operated together. However, sorting out patterning connected to practical, everyday life and sacred aspects is very difficult. Horses were placed into elite warriors' graves, but were occasionally consumed at the household level just like cattle; sheep was kept as "pocket money" and mutton is an important source of everyday protein, but at the same time, the sheep's head, given to an honored guest at a feast, was an object that symbolized social bonds. In fact, even meat preferences, from the individual avoidance of certain parts to institutionalized taboos, reveal much more than simple food choices. These customs are deeply rooted in a community's social psychology and ideology, are intertwined with concepts of cleanliness, social reproduction, wealth, status, or even with notions about cosmology, and may reflect dynamics of cultural change.¹³⁷⁰

The arbitrary dichotomy between "ritual" and "functional" deposits threatens arguments with circular reasoning as it involves an inherent interpretation in itself. To the archaeologist, ritual is often a phenomenon that seems difficult to explain by rational reasoning. However, such features should not be distanced from everyday life events in which they must, in most cases,

¹³⁷⁰ Naomi Sykes, *Beastly Questions. Animal Answers to Archaeological Issues* (London: Bloomsbury, 2014), 149-155. (henceforth: Sykes, Beastly Questions)

have been deeply and organically embedded in most cases. Therefore, these aspects will be discussed within one chapter, even if the puzzle of the medieval past is not complete enough to explore all the interconnections between these phenomena.

5.1 Beasts for the feast. Production patterns of carcass parts, meat preferences and animal-related food products

Animal remains excavated from archaeological sites mainly represent food refuse, and thus, along with coeval historical reports, they have the potential to reveal information on past diets. Food, however, is not only fundamental to sustenance, but also has multiple symbolic meanings: types of food, as well as the animals used for food purposes can reflect status, in accordance with factors including the rarity of a certain food, religious concepts and ideologies associated with it, and economic limitations. Consumption practices are different among the rich and the poor, moreover, food can be gender and age specific. Events centered on food, from cooking at the household to large-scale feasts, are deeply interwoven with various social mechanisms, and imply different levels of actions and relationships among preparers and consumers – or, in the context of food trade, producers and receivers. In a broader sense, a wide range of activities belongs to this sphere from the collection of plant and animal resources to the maintaining of the artifacts used in food preparation. Butchery, carcass partitioning and cooking are also important taphonomic agents that profoundly influence the nature of the animal assemblage.¹³⁷¹ In this subchapter I investigate the possibility of reconstructing meat processing and food consumption patterns in the medieval Cuman community on the Great Hungarian Plain, and the special cultural / traditional filters that may have impacted these activities.

As we have seen earlier, communities living in settlements on the Great Hungarian Plain were often involved in animal herding and presumably also in trade with animals and animal products. An increase in livestock must have meant not only a growing number of beasts to care for and trade in, but also easier access to animal-based products. Although written sources are

¹³⁷¹ Sandra Montón Subias, “Cooking in zooarchaeology: is this issue still raw?” in *Consuming Passions and Patterns of Consumption*. Eds. Preston Miracle and Nicky Milner, McDonald Institute Monographs. (Cambridge: McDonald Institute for Archaeological Research, University of Cambridge. 2002), 7-15: 8-12.

silent on this matter, and these activities are virtually invisible in the archaeological record, it may be hypothesized that milk/dairy, wool, manure etc. were utilized on a larger scale after the upswing in animal production in the Plain.

Only limited information is available from written sources on cooking, butchering and carcass partitioning practices, although certain coeval remarks exist on earlier Cuman food preferences. These typically emphasize the importance of meat in the nomads' diet, which in some cases – although rooted in real practicalities – seems to be a *topos* or at least an exaggeration in some cases. However, the way meat is handled, and how this process is entangled with socio-economic factors such as the expected outcome of meat processing, the fluctuation of demand for meat products, or the preference for certain species and certain body parts and their association with status, may be approached through patterns of carcass processing. Meat as a resource has played a special role in shaping cultural identities, and traditions often overwrite mere practicalities in terms of nutrition vs. costs (the most nutritional parts are not always the most valued).¹³⁷² Besides, in communities where professional meat production is not yet a factor, the whole process of butchering, carcass partitioning, cooking and food storage (as well as the production of hide or bone tools) usually belongs to the realm of the household, that is, one of the most conservative (and most problematically accessed) segments of daily life.¹³⁷³ The situation is further complicated by the fact that – as Seetah pointed out - meat is also a question of “aesthetics”, and the nutrition versus cost relationship is not a straight forward one: the most nutritional parts of the carcass may not be the most valued or most

¹³⁷² Krish Seetah, “Meat in history – The butchery trade in the Romano-British period,” *Food & History* 2/2 (2004), 19-33: 20-21. (henceforth: Seetah, Meat in history)

¹³⁷³ This has been discussed in a number of studies; here only a couple of them can be listed. Brian Hesse, “Animal Use at Tel Miqne-Ekron in the Bronze Age and Iron Age”, *Bulletin of the American Schools of Oriental Research* 264 (Nov, 1986), 17-27; Elizabeth Reitz and Nicholas Honerkamp, “British Colonial Subsistence Strategy on the Southeastern Coastal Plain”, *Historical Archaeology* 17/2 (1983), 4-26; Pam J. Crabtree, “Zooarchaeology and Complex Societies: Some Uses of Faunal Analysis for the Study of Trade, Social Status, and Ethnicity”, *Archaeological Method and Theory* 2 (1990), 155-205; Lauren Bigelow, “Zooarchaeological Investigations of Economic Organization and Ethnicity at Late Chalcolithic Hacinebi: a Preliminary Report”, *Paléorient* 25/1 (1999), 83-89; Alice M. Choyke, “Bronze Age bone and antler working at the Jászdózsa-Kápolnahalom tell”, in *From hooves to horns, from mollusc to mammoth: Manufacture and use of bone artifacts from prehistoric times to the present: Proceedings of the 4th Meeting of the ICAZ Worked Bone Research Group at Tallinn, 26th-31st of August 2003*, eds. Colleen E. Batey, Alice M. Choyke, Lembi Lougas, and Heidi Luik (Tallin: University of Tartu - University of Tallinn, 2005), 129-156; Catherine P. Foster, “The Uruk Phenomenon: A View from the Household”, in *New Perspectives on Household Archaeology*, eds. Bradley J. Parker and Catherine P. Foster (Winona Lake, Indiana: Eisenbrauns, 2012), 437-472.

expensive ones.¹³⁷⁴

The precise food traditions Cumans brought with them to the Carpathian Basin are impossible to reconstruct from written sources alone. Stereotypes of Eurasian steppe nomads as meat-eating barbarians appear quite often, and some inherent contradictions are present. E.g. Plano Carpini reports on the Mongols that they eat any kind of meat, but in the winter they live mostly on millet:

“Their food consists of everything that can be eaten for they eat dogs, wolves, foxes and horses and, when driven by necessity, they feed on human flesh. (...) They eat the filth which comes away from the mares when they bring forth foals. Nay, I have seen them eating lice. They would say, “Why should I not eat them since they eat the flesh of my son and drink his blood?” I have also seen them eat mice.

They do not use table-cloths or napkins. They have neither bread nor herbs nor vegetables or anything else, nothing but meat, of which, however, they eat so little that other people would scarcely be able to exist on it. (...) They drink mare’s milk in very great quantities if they have it; they also drink the milk of ewes, cows, goats and even camels. (...) In the winter, moreover, unless they are wealthy, they do not have mare’s milk. They boil millet in water and make it so thin that they cannot eat it but have to drink it. Each one of them drinks one or two cups in the morning and they eat nothing more during the day; in the evening, however, they are all given a little meat, and they drink the meat broth. But in the summer, seeing they have plenty of mare’s milk, they seldom eat meat, unless it happens to be given to them or they catch some animal or bird when hunting.”¹³⁷⁵

Henry of Livonia reports similar things on the Tatars in the mid-thirteenth century: he writes they eat no bread, only the raw meat of their own flocks.¹³⁷⁶ Robert of Clari writes that the Cumans eat meat, cheese and milk,¹³⁷⁷ that is, animal-related products. Modern ethnographic observations may confirm the importance of dairy products made of mare’s milk in the nomads’

¹³⁷⁴ Seetah, Meat in history, 21.

¹³⁷⁵ Plano Carpini ed. Dawson, 16-17.

¹³⁷⁶ Spinei, The Great Migrations, 222; James A. Brundage tr. and ed., *The Chronicle of Henry of Livonia* (Madison: The University of Wisconsin Press, 1961), 205

¹³⁷⁷ Spinei, The Great Migrations, 222; Edgar Homles McNeal tr. and ed. *Robert of Clari’s The Conquest of Constantinople* (New York: W.W. Norton – Columbia University Press, 1964), 87. (henceforth: Robert of Clari ed. McNeal)

diet, but it is a question whether meat was really consumed (and animals were slaughtered) in such huge quantities as suggested by the medieval sources. Almásy, in his early twentieth-century journey to the Semirechye area in present-day southeastern Kazakhstan, observed that the local nomadic population also ate and appreciated camel meat,¹³⁷⁸ although sheep and horses were the most important sources of animal-based protein. On the other hand, he noted that meat played a much less important role in their diet than he had expected; his informants estimated the number of slaughtered animals within one household to 3-4 horses and 20-30 sheep a year. Otherwise, they consumed the meat of animals that died in accidents or by natural causes but were still edible.¹³⁷⁹ He reported that the Kirghiz live almost solely on koumiss (mare's milk) and other dairy products made from the milk of cows, sheep and goats during the summer,¹³⁸⁰ and eat meat almost exclusively during the winter.¹³⁸¹ This surprisingly coincides with medieval observations, although it is clear that vegetable-based food and grains also must have played a (however minor) role in the nomadic diet.

The crucial role of mare's milk in the diet was recorded by Júlia Bartha as well among the modern Kazakh nomads in the Tien Shan region. She explained the popularity of koumiss by the fact that this is the only beverage that is possible to preserve in leather sacks in the summer heat,¹³⁸² and its somewhat sour taste helps quench thirst. Mares usually give birth in April, but they are first milked in midsummer when the foals are older than two months and do not suckle

¹³⁷⁸ György Almásy, *Vándorutam Ázsia szívébe* [My Journey to the Heart of Asia] (Budapest, 1903), 131 (henceforth: Almásy, Vándorutam Ázsia szívébe)

¹³⁷⁹ Almásy, Vándorutam Ázsia szívébe, 318.

¹³⁸⁰ He observed that young foals were not allowed to roam around freely as it was considered bad for them, but they were tied in one row during the day. The free-ranging mares came back to them in the morning and evening, and before the foals could suckle, 1/2-3/4 liters milk was milked from each mare. The fresh milk was then poured into a huge container made of hide, in which older koumiss was stored; then the bacteria already present in the latter started the fermentation process. In order to have a properly fermentation, the milk had to be regularly stirred Almásy, Vándorutam Ázsia szívébe, 316-318.

¹³⁸¹ It must be kept in mind, however, that this is partly due to modern historical and economic processes. Population growth – and, consequently, the growth of livestock – in the Semirechye region resulted in a shortage of pastures and conflicts between tribes. Pasturing and feeding the animals in stables must be both utilized in order to have enough meat to live on. Natural disasters and epidemics in the livestock may cause loss of up to 80-90% in the domestic animal stock; and this occurs once every 30-40 years. Land cultivation, however, requires great investment in terms of money and labor due to the poor quality soil; thus, animal husbandry and land cultivation coexist but not within the same economic unit, rather as complementary means of food production, in which the population does not partake equally. Almásy, Vándorutam Ázsia szívébe, 686-687.

¹³⁸² The ready-made koumiss can be stored for seven to ten days. Consequently, it is continuously produced and consumed. Júlia Bartha, "Fejezetek a Tien-san vidékének néprajzához" [Chapters on the ethnography of the Tien-Shan region] in *Keleti tanulmányok* [Studies on the East] (Karcag: Barbaricum, 1998), 9-66: 23. (henceforth: Bartha, Fejezetek a Tien Shan vidékének néprajzához)

that much. At least four mares have to be milked to get the necessary amount of milk from which koumiss can be made; if a family did not have enough dairy mares, they could lend mares to each other.¹³⁸³ Mares can be milked for a four to five month period, but if there is good quality fodder available, they may even be milked for eight months. One mare may provide three to four liters of milk at a time.¹³⁸⁴ Other dairy products, however, are neglected by the modern nomads of Central Asia.¹³⁸⁵ This contradicts Robert of Clari's observation that Cumans ate cheese and milk; however, it is not clear what he was actually referring to by the term cheese.¹³⁸⁶

Almásy described a hierarchy in the meaty parts of sheep as observed in a Kirghiz household. The meat on the skull, especially the tongue, the chin, the ears and the fatty parts around the eyes are considered delicacies and are usually given to the guest, along with some ribs, a big portion of the thigh, the sternum and the fat accumulated in the sheep's tail.¹³⁸⁷ Although it goes without saying that modern ethnographic reports should not be projected back directly to the medieval Cuman community, such data provides a warning that culturally embedded preferences can overwrite practicalities, and parts that are usually associated with best meat quality may not be listed among delicacies, while those skeletal parts thought to carry medium quality meat or almost inedible tissues, may be preferred. The meat on the skull is similarly appreciated by modern inhabitants of Greater Cumania, and it is also often offered to guests, or given to the groomsman at a wedding; in contrast in the adjacent areas of modern Pusztamonostor and Jánoshida, however, the skull is today given to the poor as a piece of almost no value.¹³⁸⁸ This is difficult to interpret; it would be tempting to connect the value placed on the

¹³⁸³ Bartha, Fejezetek a Tien Shan vidékének néprajzához, 19. Bartha, however, does not specify in her study if there was a minimum amount of milk worth fermenting.

¹³⁸⁴ Bartha, Fejezetek a Tien Shan vidékének néprajzához, 21.

¹³⁸⁵ Bartha, Fejezetek a Tien Shan vidékének néprajzához, 25.

¹³⁸⁶ Robert of Clari ed. McNeal, 87. He probably refers to the same dairy product that Rubruck describes in his account: "From cow's milk they first of all extract the butter, and boil it until it is completely boiled dry; then they store it in sheep's paunches which they keep for this purpose. Though they do not salt the butter, it does not go rancid because it has been subjected to such boiling, and they keep it for the winter. As for the milk that is left over from the butter, they let it turn as sour as it possibly can, and boil it so that it curdles in boiling. The curd is dried in the sun, where it goes as hard as iron slag, and is then stowed in bags until winter. In the winter season, when they are short of milk, they put this sour curd, called *grut*, into a skin, pouring hot water over it, and stir it vigorously until it dissolves in the water, which as a result turns completely sour. This water they drink as a substitute for milk." (Rubruck ed. Jackson and Morgan, 82-83.)

¹³⁸⁷ Almásy, Vándorutam Ázsia szívébe, 322.

¹³⁸⁸ László Szabó, "A birkaperzsélo nyárs. Egy sajátos nagykunsági tárgy s egy ételkészítési mód keleti kapcsolatai" [The skewer used for scorching mutton. A special object from Greater Cumania and its connections in the East] in *Kunok és jászok 700 éve a Kárpát-medencében. Konferencia Karcagon, az I. Kun Világtalálkozó alkalmából*. [700 years of Cumans and iasians in the Carpathian Basin. Conference held in Karcag on the occasion of the 1st

sheep's head in some places of present-day Cumania to the Central Asian custom, but it must be kept in mind that the modern Cuman identity was deeply informed by the study of nomads, and this culinary phenomenon may well prove to be a secondary custom. There is, unfortunately, no data on this custom for the previous centuries. The modern Central Asian analogies may also have been influenced by the Islamic tradition, which also prescribes the slaughter and consumption of a sheep, cattle or camel at *qurban* ceremonies.¹³⁸⁹

Interestingly, how bones are broken up seems to have been subjected to certain prohibitions. Plano Carpini reports that in the Mongol community it was strictly forbidden to break a bone with another bone.¹³⁹⁰ Almásy mentions that among modern Kirghiz of Inner Asia, a young horse is slaughtered for the funeral feast, and here, the long bones should not be broken up to extract the marrow, as opposed to the regular custom.¹³⁹¹ (This also shows that butchering traces and even percussion marks on the bones may differ between an everyday context and a feasting context.)

Centralized meat distribution in market towns required, on the one hand, the presence of professional butchers, and on the other hand, a continuous, predictable demand for animals. The everyday work in the slaughterhouse in the town of Kecskemét in Lesser Cumania was sporadically documented from the sixteenth century onwards. Meat distribution was centralized and monopolized in this market town to the extent that butchers from neighboring villages who came to town to slaughter animals at households were fined.¹³⁹² This also meant that the animals to be slaughtered and sold to the inhabitants were bought up in an organized and institutionalized way, usually at the weekly markets and big fairs held by the market town.¹³⁹³ In the seventeenth century, meat supply posed a problem because of the devastating Turkish-Ottoman War, and

Cuman World Meeting] ed. Júlia Bartha (Szolnok: Kun Összefogás Konzorcium and Jász-Nagykun-Szolnok Megyei Múzeumok Igazgatósága, 2011), 302-312: 307. (henceforth: Szabó, A birkaperzelő nyárs)

¹³⁸⁹ Bartha, however, sees this as an element deeply rooted in the Kazakh tradition, and not really influenced by Islam. Bartha, Fejezetek a Tien Shan vidékének néprajzához, 27.

¹³⁹⁰ Plano Carpini, ed. Dawson, 11.

¹³⁹¹ Almásy, Vándorutam Ázsia szívébe. 729.

¹³⁹² Such a case was documented from 1596, when a butcher called János Mészáros from the village of Kerekegyháza performed this service in the house of György Baratnak so that the meat of the slaughtered cow could be sold. This means that although the slaughter was carried out in the household, it served low level commercial purposes.. Not only the butchers and sellers but also those who bought meat from unauthorized persons had to pay a fine. Tibor Iványosi-Szabó, "A városi mészárszék üzemeltetése Kecskeméten a XVI-XVII. században" [The operation of the urban slaughterhouse in Kecskemét in the 16th-18th centuries], *Bács-Kiskun megye múltjából* 23 (2009), 237-260: 239.(henceforth: Iványosi-Szabó, A városi mészárszék)

¹³⁹³ Iványosi-Szabó, A városi mészárszék, 240.

prices had to be maximized as a steep increase in meat prices attracted opportunist merchants trying to sell with animals in poor condition.¹³⁹⁴ This, however, was definitely not the situation in previous centuries when small villages around the town were still inhabited and could provide a steady supply of livestock. Two short notes dated to 1596 report that in one case, 23 and in another case, 70 cattle were bought to supply the slaughterhouse.¹³⁹⁵ The way these animals were butchered is not revealed. It is clear however, that operating a slaughterhouse that served hundreds of families was a complex task. At the end of the sixteenth century, two assistants were employed in the slaughterhouse, while the administration associated with meat distribution as well as the coordination of the tasks was carried out by members of the town council.¹³⁹⁶

Differences between the food consumption traditions of commoners and the élites of eighteenth-nineteenth century Kiskunfélegyháza in Lesser Cumania, although focused on a much later period and a somewhat differently stratified society (after the re-purchasing of the Cuman lands from the Teutonic Order), may cast some light on available food resources and their place as indicators of social hierarchy. This issue was studied by the ethnographer Erzsébet Bánkiné Molnár. The data she collected reveals that there was a shift in the local agriculture in the late eighteenth century, when plants not produced locally up to that point started to be cultivated (e.g. melon, corn, potato and various fruits), but the basic types of grain, beans, lentils, cabbages and peas had already been cultivated, at least from the eighteenth century. Environmental change (linked partly to overgrazing) was certainly a factor that influenced the carrying capacity of land as well as the plants that could be potentially cultivated. The village of Kiskunfélegyháza – slowly developing into a market town – was mainly self-sufficient, the inhabitants were mostly involved in animal husbandry and plant cultivation, and artisans were few. The importance of bacon in the commoners' diet is testified to by its occurrence in last wills, and that it was kept in boxes that could be locked along with bread. Swine and sheep were the main species kept for the villagers own consumption purposes, and the poorest families that could not afford to keep pigs on their own bought small pieces of bacon or mutton in the butcher's shop. Otherwise, beef was usually sold at the butcher's, but it was more expensive and usually unavailable for poor folk. Mutton and pork, however, could also be purchased from households when household slaughter

¹³⁹⁴ It was explicitly stated that sick or injured cattle should not be slaughtered and its meat should not be sold. Iványosi-Szabó, A városi mészárszék, 242.

¹³⁹⁵ Iványosi-Szabó, A városi mészárszék, 239.

¹³⁹⁶ Iványosi-Szabó, A városi mészárszék, 240.

of sheep and swine was an everyday practice and there was enough surplus meat to sell. Bacon was the basic food workers took with themselves when they went to the plowlands and it was consumed even if it was already old and rancid. Cabbage and *tarhonya*, a special type of pastry that could be stored for a long time without becoming spoilt and used to enrich various dishes, were also consumed daily by the simple village folk.¹³⁹⁷

In the early modern period at Kiskunfélegyháza, the élite consumed considerable amounts of imported food, e.g. spices and freshwater fish that was not available locally (especially sturgeon). Beef represented a much bigger proportion of their diet than in the diet of commoners. (This was, of course, not necessarily the case in the medieval period. In fact, beef must have had a bigger role in the commoners' diet in the earlier period when the animal trade was in an upswing and cattle were available for slaughter in greater abundance.) Hare and partridge also appear in the written records as élite food. The custom of eating three times a day started with the élite in the late seventeenth-early eighteenth century in general, but at Félegyháza it only started to come into fashion at the end of the eighteenth century. Simple villagers followed this custom only later.¹³⁹⁸ Interestingly, pond turtles were considered not only edible, but a special élite food. Tálasi mentions that pond turtles were sold to the nobility, but its shell was used by the peasants, although they would not have eaten these animals.¹³⁹⁹

It is obvious that only a fraction of food consumption will leave any trace in the archaeological record, and this may even be so for the consumption of meat. Giovanni Villani, a fourteenth-century chronicler, reports that people in Hungary eat a lot of dried beef which they ground into a powder-like substance that they mix with water and use for making broth.¹⁴⁰⁰ Such forms of consumption will not be perceptible in the archaeological record. Moreover, the consumption of intestines or any soft tissue not associated with bones is a blind spot for archaeologists; although it is suspected that the sheep's eye was considered a delicacy, it can never be proven by archaeological means. The excavations in question unfortunately did not permit food choices in individual households to be compared as bones from different contexts

¹³⁹⁷ Erzsébet Bánkiné Molnár, "Azonosságok és különbségek a közlakosok és a hivatali elit táplálkozásában Félegyházán, 1745-1850" [Similarities and differences between diets of the commoners and the élite at Félegyháza, 1645-1850] *Cumania* 22 (2006), 79-95: 79-84. (henceforth: Bánkiné Molnár, Azonosságok és különbségek)

¹³⁹⁸ Bánkiné Molnár, Azonosságok és különbségek, 86-93.

¹³⁹⁹ Tálasi, Kiskunság, 162.

¹⁴⁰⁰ Herman, A magyarok nagy ösfoglalkozása, 149.

were not stored and documented separately (in the case of older excavations), or households could not be identified. In Szentkirály's case, the bone sample of plot no. 4-4a may provide insight into the meat preferences of one household, although phases within the habitation phase cannot be separated. Another problem is posed by the fact that bone weights were not measured in most cases (as proper scales were not available) and thus, the dietary contribution has to be evaluated on the basis of skeletal frequencies. The amount of available skeletal muscle and associated fat may be estimated through MNI, although this only serves for a rough estimation, and in cases where the sample is small, it has little informative value. The analysis of lipid residues on pottery, using mass spectrometry, has the potential to reveal ways animal fat was exploited, from adipose fat to milk and dairy products.¹⁴⁰¹ Unfortunately, such an analysis was out of the question for this research due to simple financial limitations.

Here, Uerpmann's meat quality categories¹⁴⁰² were used here to provide an overview of

¹⁴⁰¹ A number of publications have been dedicated to this method in the past decade. So far, research has mainly focused on prehistoric, especially Neolithic pottery and the emergence of dairy making in Europe (which is probably associated with the appearance of lactose resistance in humans). More recently this has been researched within the framework of the NeoMilk project at the University of Exeter. Although for older excavations of Cuman sites, the way potsherds were cleaned and stored would probably adversely affect such an analysis (lipids and milk proteins being damaged by acidic cleaning materials frequently used in Hungarian archaeology), for future research this method has great potentials, e.g. in terms of seeing the role of mare's milk and horse meat in the Cuman diet. Such an analysis may also shed light on differences between individual households in terms of consuming different animal products. For the method, see, e.g. H.R. Mottram, Stephanie N. Dudd, G.J. Lawrence, A.W. Stott and Richard P. Evershed, "New chromatographic, mass spectrometric and stable isotope approaches to the classification of degraded animal fats preserved in archaeological pottery", *Journal of Chromatography A* 833/2 (1999), 209-221; Stephanie N. Dudd, Richard P. Evershed and Alex M. Gibson, "Evidence for Varying Patterns of Exploitation of Animal Products in Different Prehistoric Pottery Traditions Based on Lipids Preserved in Surface and Absorbed Residues", *Journal of Archaeological Science* 26/12 (1999), 1473-1482; M.S. Copley, R. Berstan, A.J. Mukherjee, S.N. Dudd, V. Straker, Sebastian Payne, and Richard P. Evershed, "Dairying in antiquity. I. Evidence from absorbed lipid residues dating to the British Bronze Age", *Journal of Archaeological Science* 32/4 (2005), 485-503; M.S. Copley, R. Berstan, A.J. Mukherjee, S.N. Dudd, V. Straker, Sebastian Payne, and Richard P. Evershed, "Dairying in antiquity. II. Evidence from absorbed lipid residues dating to the British Bronze Age", *Journal of Archaeological Science* 32/4 (2005), 505-521; M.S. Copley, R. Berstan, A.J. Mukherjee, S.N. Dudd, V. Straker, Sebastian Payne, and Richard P. Evershed, "Dairying in antiquity. III. Evidence from absorbed lipid residues dating to the British Neolithic", *Journal of Archaeological Science* 32/4 (2005) 523-546; Sven Isaksson and Fredrik Hallgren, "Lipid residue analyses of Early Neolithic funnel-beaker pottery from Skogsmossen, eastern Central Sweden, and the earliest evidence of dairying in Sweden", *Journal of Archaeological Science* 39 (2012), 3600-3609; O.E. Craig, G. Taylor, J. Mulville, M.J. Collins and M. Parker Pearson, "The identification of prehistoric dairying activities in the Western Isles of Scotland: an integrated biomolecular approach", *Journal of Archaeological Science* 32/1 (2005), 91-103; Tania F.M. Ouderman, Gert B. Eijkel and Jaap J. Boon, "Identifying biomolecular origins of solid organic residues preserved in Iron Age Pottery using DTMS and MVA", *Journal of Archaeological Science* 34/2 (2007), 173-193; Jorge E. Spengenberg, Stefanie Jacomet and Jörg Schibler, "Chemical analyses of organic residues in archaeological pottery from Arbon Bleiche 3, Switzerland – evidence for dairying in the late Neolithic", *Journal of Archaeological Science* 33/1 (2006), 1-13;

¹⁴⁰² Uerpmann, Animal bone finds and economic archaeology, 307-322.

the anatomical distribution of skeletal elements and their meat carrying capacity. Although this classification has been criticized as biased and oversimplified,¹⁴⁰³ and Kretzoi's more detailed meat quality categories¹⁴⁰⁴ may indeed provide a more precise picture, the data published on the sites is not always sufficient to use the latter classification. The low number of finds also makes this simpler method more appropriate. However, it must be kept in mind that the terms 'good' ('A'), 'medium' ('B') and 'low' ('C') quality meat are used here only as objective descriptions for the amount and natural character of the meat specific skeletal parts carry and definitely not as synonyms for the value medieval Cumans put on these carcass parts.

Although there are considerable differences between the sites in terms of body part distribution, there is no clear clustering of finds (Diagram 5.1.1). Body parts associated with 'good' and 'medium' quality meat are present in higher ratios in case of cattle, sheep and swine, species that were definitely consumed and whose carcass must have been processed with mainly food purposes in mind. Horse bones reveal somewhat different patterns, with a higher ratio of bones carrying 'low' ('C') quality meat (see the question of horse consumption later). There is a striking similarity between the Cuman sites and the sites on the periphery, suggesting that identical factors were in play (partly because horses were primarily ridden not eaten in both groups), and carcasses were processed within the households. This seems to hold true, not only for smaller villages, but also for the regional market center Szentkirály.

Bones in category 'C' ('low'), that is, the metapodia, phalanges, carpal and tarsal bones, and the facial skull, are more abundant among cattle and horse bones than among the pig and caprine bones. This may be due – in addition to taphonomic factors (size and chances of recovery) – to different potential ways of using them. The strong metapodia of large herbivores provide good quality raw material that may be utilized even after the bone is broken up and the marrow is extracted (large pieces of compact bone tissue used in bone working often comes from cattle or horse metapodia). The foot bones of sheep and swine, on the other hand, may either be cooked, used for preparing jelly, or utilized in glue making. The gnawing marks present on bones (see Table 5.1.3 in the Appendix) suggest that dogs (and probably also swine) had access to the

¹⁴⁰³ István Vörös, "Egy archeozoológiai rekonstrukciós módszer: állatcsont-maradványok Kretzoi-féle felosztása." [A reconstruction method in archaeozoology: body part distributions according to Kretzoi] *Archeometriai Műhely* 1 (2007), 31-35: 34.

¹⁴⁰⁴ Veronika Gáboriné-Csánk and Miklós Kretzoi, "Zoologie archéologique" in *La station du la paléolithique moyen d'Érd, Hongrie*, ed. Veronika Gáboriné Csánk (Budapest: Akadémiai Kiadó, 1967), 223-244.

refuse before it was buried. The small foot bones of pigs and sheep could be easily picked up by these scavengers (the tendons and ligaments attached to them makes them even more likely to be picked up), which resulted in their deposition (and perhaps digestion) elsewhere.

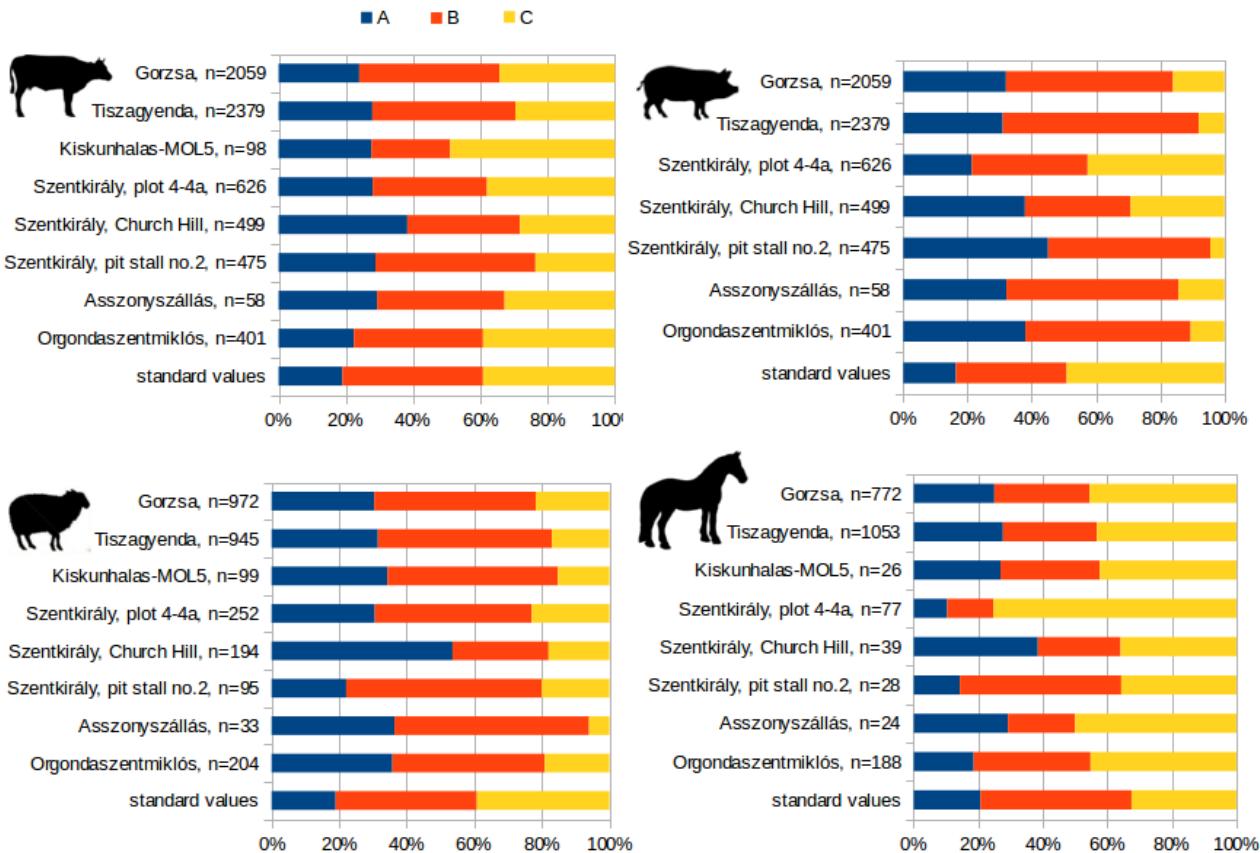


Diagram 5.1.1. Carcass part distribution according to Uerpmann's meat quality categories (A – best meat quality, B – medium quality, C – poor quality). Standard values are calculated as the normal distribution of body parts in a complete skeleton, without fragmentation. N stands for the number of bones identified for the given species.

Similar ratios were observed in the material of Perkáta. Body part ratios were included in Biller's report based on Kretzoi's more detailed classification (Table 5.1.1). The trunk and the meaty limbs are dominant in this assemblage as well. The dry limbs and phalanges are also present, suggesting similar household production and processing of meat. Similarly to the other sites, the meaty limbs region (more-or less corresponding to Uerpmann's category 'B') is overrepresented. The high ratio of finds from the head region may be explained by the heavy fragmentation of the skulls. Only ca. 5% (95 pieces) of the 1906 animal bones had been

gnawed,¹⁴⁰⁵ which means that scavengers had access to the garbage bone although not extensively.

	Cattle		Sheep and goat		Swine	
	n	% of the species	n	% of the species	n	% of the species
Head region	186	26.3	50	23.5	47	38.2
Trunk region	99	14	25	11.7	5	4
Meaty limbs region	235	33.3	94	44.1	60	48.8
Dry limbs	135	19.1	42	19.7	7	5.7
Terminal bones	51	7.3	2	1	4	3.3

Table 5.1.1 Anatomical distribution of medieval finds at Perkáta, according to Kretzoi's meat quality categories. (Based on Biller, Perkáta, 26, Diagram 7.) Standard values are calculated as the normal distribution of body parts in a complete skeleton, without fragmentation.

	Cattle, 150 kg		Sheep and goat, 25 kg		Swine, 50 kg		Horse, 150 kg	
	MNI	Calc. amount of meat, kg	MNI	Calc. amount of meat, kg	MNI	Calc. amount of meat, kg	MNI	Calc. amount of meat, kg
Orgondaszentmiklós	13	1,950	7	175	11	550	7	1,050
Asszonyszállás	5	750	4	100	5	250	2	300
Móric	56	8,400	48	1,200	21	1050	40	6,000
Szentkirály (Takács)	7	1,050	4	100	4	200	7	1,050
Kiskunhalas-MOL5	4	600	8	200	4	200	2	300
Tiszagyenda	110	16,500	41	1,025	98	4,900	52	7,800
Gorza	92	13,800	37	925	66	3,300	36	5,400

Table 5.1.2 The minimum calculated amount of meat provided by animals whose remains were excavated, based on the minimum number of individuals. The weight (that is, the amount of meat one slaughtered animal provides) used in the calculation is the estimated useable weight of adult medieval animals estimated by Vörös (Vörös, Adatok az Árpád-kori állattartás történetéhez, 98). Kiskunfélegyháza-Templomdomb is left out due to the small sample size. Kőrösi, Nyerges, Somhegyi and Nyerges & Bartoiewicz did not publish MNI values for the Szentkirály animal bone material.

Although several methods of calculating useable meat and live weight exist,¹⁴⁰⁶ here I prefer to use István Vörös' calculation, simply because he took measurements used in medieval Hungary into consideration (according to which one cattle was equal to six sheep or three pigs).¹⁴⁰⁷ Obviously, the useful meat weight also depended on the animal's condition, and could

¹⁴⁰⁵ Biller, Perkáta, 7-9, Table 2.

¹⁴⁰⁶ Reitz and Wing, Zooarchaeology, 234-242.

¹⁴⁰⁷ Vörös, Adatok az Árpád-kori állattartás történetéhez, 98.

have substantially increased with fat and suet. Possibilities of secondary exploitation also influence which animal is slaughtered and consumed and which is left alive longer.

The calculated meat quantity provided by the animals, although it is by definition only a rough estimation, sheds light on the dominance of beef and pork (Table 5.1.2). Móric is the only village where sheep (mutton) seems to outnumber swine (pork) in terms of meat weight, which is somewhat surprising in the light of the general *topoi* concerning the importance of mutton on the Great Plain, and its presumed steppe connections. In fact, this contradicts skeletal frequencies in some cases, e.g. at Szentkirály.¹⁴⁰⁸ Horse, even though it seems that this species ranked second after cattle in terms of meat production, was certainly handled differently. As seen in Table 5.1.3 (in the Appendix), skeletal elements associated rather with leather production rather than meat consumption are highest in number among the horse bones, and the consumption of horse meat as a steppe heritage has been a debated issue.

Of course, the meat quantities included here were accumulated over a longer period of time, and in most cases, represent the food consumed in various households. However, meat consumption in Hungary was relatively high. Kisbán calculated the per capita meat consumption as 100 kg annually,¹⁴⁰⁹ however, in sixteenth-century Kassa and Sopron consumed meat was only 65-70 kg.¹⁴¹⁰ (Interestingly, much less meat seems to have been consumed in the cities of medieval and early modern Western Europe where meat was expensive and in short supply compared to meat availability on the Great Hungarian Plain).¹⁴¹¹ The amount of meat consumed in the villages is almost impossible to estimate as there are no records. Social stratification is also an important factor here: wealthier households most likely have consumed more meat than poor ones.

¹⁴⁰⁸ Nyerges and Bartosiewicz described Szentkirály as an example where mutton was more crucial in the diet than pork. Nyerges and Bartosiewicz, Szentkirály állattartása, 340-343.

¹⁴⁰⁹ Eszter Kisbán, “Táplálkozásokultúra” [Food Consumption], in Magyar Néprajz IV. [Hungarian Folklore, Vol.4], ed. István Balassa (Budapest: Akadémiai Kiadó, 1997), 517-583: 423.

¹⁴¹⁰ Zimányi, Magyarország az európai gazdaságban, 133.

¹⁴¹¹ Václav Smil, “Eating meat: Evolution, patterns, and consequences”, *Population and Development Review* 28/4 (2002), 599-639: 608; Melitta Weiss Adamson, *Food in Medieval Times. Food Through History*. Westport, Connecticut – London: Greenwood Press, 2004. 174.

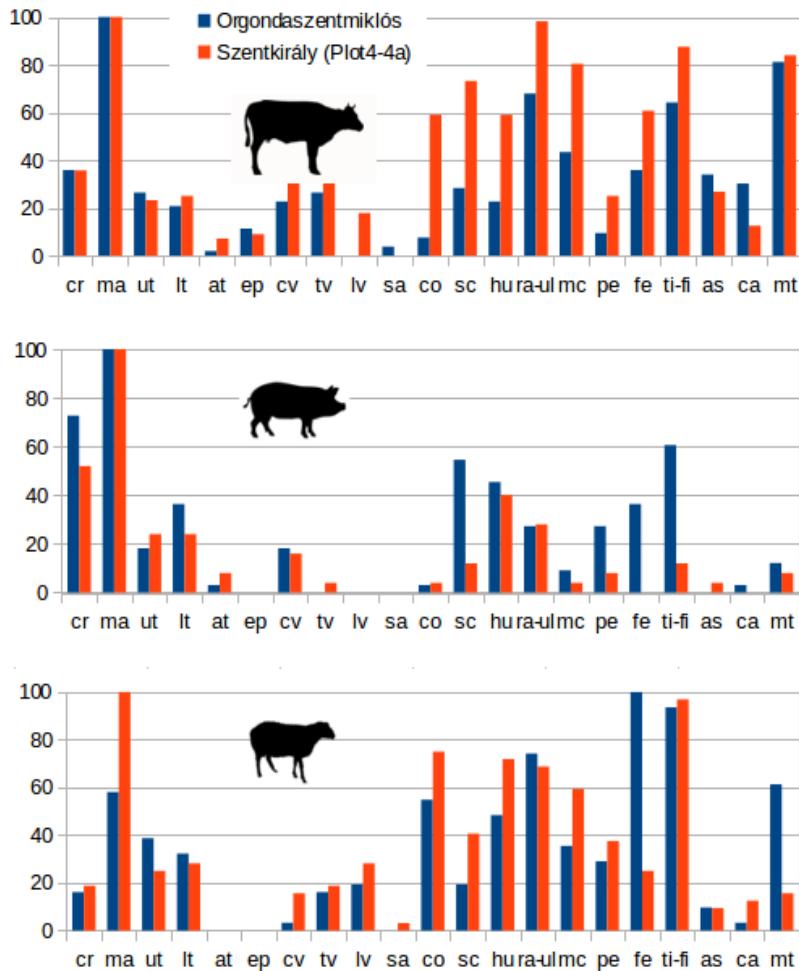


Diagram 5.1.2. The distribution of skeletal elements of cattle, swine and sheep/goat at Szentkirály and Orgondaszentmiklós. Elements are calculated as a percentage of the most common bone. (Cr – cranium, ma – mandible, ut –upper tooth (loose), lt –lower tooth (loose), at – atlas, ep – epistropheus, cv – cervic vertebra, tv – thoracic vertebra, lv – lumbar vertebra, sa – sacrum, co – coccygeal vertebra, co – rib, sc – scapula, hu – humerus, ra-ul – radius and ulna, mc – metacarpal, pe – pelvis, fe- femur, ti-fi – tibia and fibula, as – astragalus, ca – calcaneus, mt – metatarsal)

It is worthwhile comparing the various carcass parts of cattle recovered on plot 4-4a in Szentkirály and Orgondaszentmiklós (see Diagram 5.1.2). These samples are large enough and they represent two different economic environments, with Szentkirály being an important village in the network while Orgondaszentmiklós a small settlement. However, in terms of cattle bones there is only a slight difference between the body parts distribution at these sites. Virtually all skeletal elements are present, and in both cases, mandible is the most common skeletal element, followed by the metatarsal, the radius and the tibia. The meaty parts of the limbs and the metapodia dominate the assemblage, while the vertebral column and the pelvis are

underrepresented in both cases. This may be due to identification issues: if heavily fragmented, these bones are sometimes difficult to differentiate from those of horses and thus, may end up in the “large ungulate” category instead of a more precise taxonomic identification. Thus, this phenomenon is inherent rather in our methodology than in the material itself. The rather similar pattern confirms that household slaughters were carried out at both sites and the carcass was processed locally, without clustering. Although the small number of astragali and calcanei may hint to a tendency to spare the bones of the feet and relocate them to some workshop (hide processing, glue making etc), this is contradicted by the presence of metapodials.

Swine, however, displays a different distribution pattern. While mandibles are still overrepresented at both sites, the forelimb, especially the humerus, radius and ulna were much more common at Szentkirály than at Orgondaszentmiklós, where the skeletal elements were recovered in a more balanced ratio. At plot 4-4a at Szentkirály, however, the hind limb is almost absent. This is strange, as the backyard structures have been clearly associated with swine keeping (see chapter 3.3), and thus, household slaughters with more balanced skeletal frequencies would be expected. Nevertheless, if the household was involved in small-scale trade with pork (e.g. within the village or the larger family), they may have kept what they personally preferred, while other – still valuable – cuts could be sold or traded for other goods. This is, of course, only one of many possible explanations. It must also be kept in mind that the forequarter and the rib-vertebrae section have much more edible meat on them than the hindquarter of pigs.¹⁴¹² The virtual absence of swine vertebrae at both sites may be due to the way the carcass was cut up, with the spine removed in one piece and preserved to be stored (see later in this chapter).

The large number of swine mandibles is interesting. While in the case of cattle it is clear that the mandibles were cut up (Fig. 5.1.1), no cut marks were observed on swine mandibles from the Cuman sites. This suggests that these were broken up along with the other complete bones, although it may have taken more effort to break a mandible than to break a diaphysis shaft which tends to fracture spirally when fresh.

The skeletal frequencies observed for small ruminants resembles the frequencies for cattle. Interestingly, the ratio of hind limb bones is much higher at Orgondaszentmiklós than at

¹⁴¹² R. Lee Lyman, “Available meat from faunal remains: A consideration of techniques,” *American Antiquity* 44/3 (1979), 536–546: 542, Table 5.

Szentkirály, although in both cases the frequencies are, more-or-less, balanced. The small ratio of cranial fragments may be due to practices surrounding cooking / roasting the sheep's head (documented ethnographically both among modern-day Eurasian nomads and contemporary culinary practices in Cumania, see above), which must have influenced the level to which cranial fragments could be identified to taxon.

Cut marks on the bones have the potential to reveal not only the way the animals were butchered, but also the scale on which this activity was practiced, the tools used in the process, or the time that was needed to complete these tasks. On the one hand, carcass partitioning methods are defined by practicalities and animal anatomy, but on the other hand, all segments of food preparation, including slaughter and butchery, are deeply embedded in traditions and intertwined with culturally defined concepts of what is edible and desirable and what is not. It is even more the case in communities where slaughter and butchery still belongs to the household sphere.

Cut marks may also reflect the economic environment in which food production was carried out. Krish Seetah demonstrated how the growing market demand for meat products in Romano-British communities resulted in an accelerated butchering process and the development of specifically manufactured, sophisticated tools that made it possible for one person to perform the whole process.¹⁴¹³ Thus, the cut marks on bones recovered from Cuman sites may shed light on the extent to which a given community was part of a centralized meat distribution system.

Unfortunately, cut marks on the bones have not always been included in the publications on our sites; this information, however, is available for study on sites processed by the author. Butchering patterns on cattle bones, observed on Cuman sites and those sites on the periphery, reveal that strong, good quality tools (proper axes or cleavers) were only occasionally utilized and the number of cut marks on the bones is generally very low (Table 5.1.4 in the Appendix). Interestingly, the same situation would be found even in the Szentkirály assemblage examined by Nyerges, albeit it is considered to be the kitchen refuse of a big village or market town where cattle production was an important factor and professional butchers were probably present. However, cut marks observed on medieval assemblages (other than assemblages from large centers) are usually low frequency in Hungary; while in cities and forts with central meat

¹⁴¹³ Seetah, Meat in history, 26-32; Krish Seetah, "Multidisciplinary Approach to Romano-British Cattle Butchery" in *Integrating Zooarchaeology. Proceedings of the 9th ICAZ Conference*, ed. Mark Maltby (Oxbow Books, Oxford, 2006), 111-118.

distribution, the ratio of cattle bones with butchering marks sits around 30%, it hardly rises over 10% in villages and peripheral places. These ratios are usually even lower in sheep and swine.¹⁴¹⁴

As seen in Figs. 5.1.1. 5.1.3 and 5.1.4, cut marks inflicted with strong and heavy tools (axes, cleavers) mainly targeted anatomical regions where carcass partitioning is extremely labor intensive if such tools are not utilized (big joints of the extremities, the pelvic region, the scapula, the occipital region of the head, the neck). Cleavers were more frequently utilized when cutting up the carcass of cattle, for obvious reasons, while it was usually possible to partition sheep and pig carcasses with large knives. Axes were only occasionally used. Many fewer cut marks were observed on the bones of sheep and swine, while many bones of these species were simply broken up. Cut marks made by knives were also observed on the strong joints of cattle along with cleaver marks. This means that although tools needed for a quicker (and probably easier) carcass partitioning were known and occasionally utilized, the more traditional method, already generally associated with small-scale butchery in the Iron Age,¹⁴¹⁵ was still employed. This observation is in accordance with the idea that the presence of all skeletal elements at these sites indicates animals were slaughtered on the household level (Diagram 5.1.2).

At Orgondaszentmiklós, the analysis of butchering marks reveals an interesting pattern. The fragments must represent household slaughters here as well, as all skeletal elements are present. This would not be possible if professional butchers had been part of a centralized meat distribution system. It is also clear that the villagers must have mostly lacked good quality, professional tools for portioning animal carcasses. There are some cut marks made by sharp axes, typically at spots where a knife would not be sufficient to cut up the carcass (at the joints), that is, butchering marks from the first phase of the butchering process. But these tools were only occasionally used, even though they make the other butchering phases easier (as seen, e.g. in Roman assemblages, where filleting marks and chopping marks made with axes on the bones meat processing are common). Moreover, most of the long bones are spirally broken and there are smaller but still visible cut marks around (below or above) the broken surface of the diaphysis. This means that the bones were hit several times until they broke up spirally. In many cases, there are no cut marks, but only a characteristic spiral break. This method does not really

¹⁴¹⁴ Daróczi-Szabó, Az Árpád-kori Kána falu, 66.

¹⁴¹⁵ Seetah, "Meat in history", 26.

differ from the prehistoric practice of breaking up the bones by striking them against or with a heavy object.

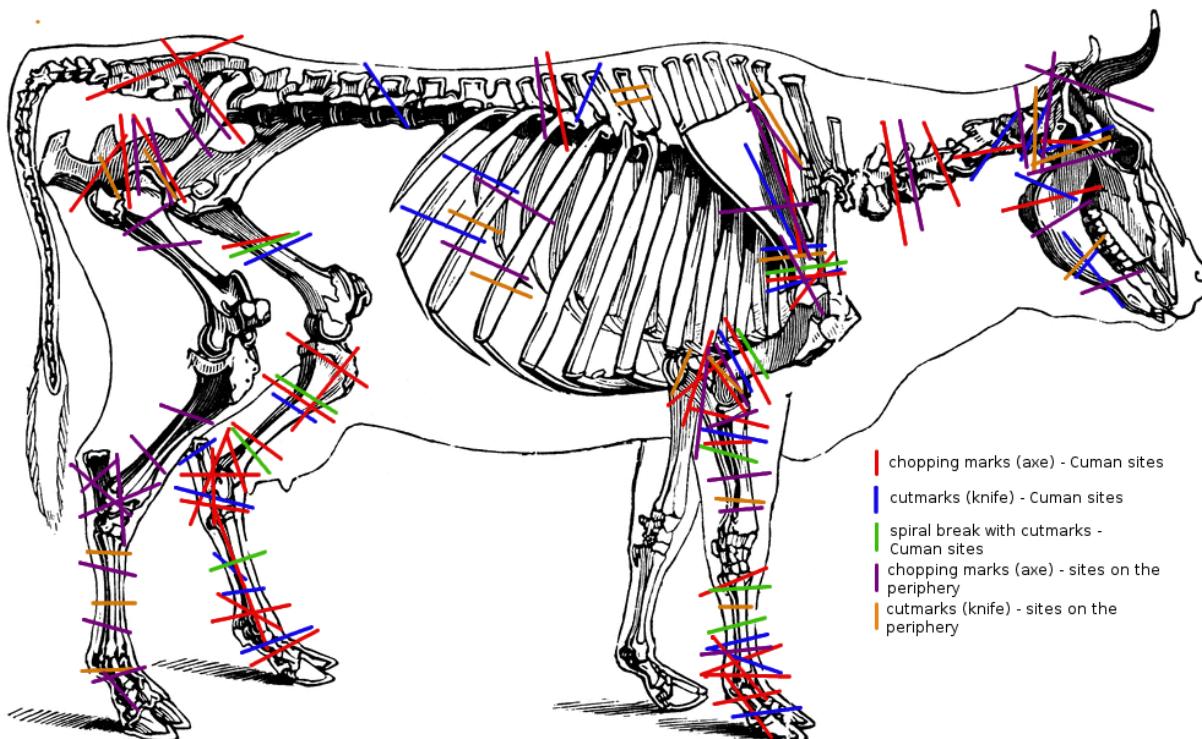


Fig. 5.1.1 Cut marks on cattle bones observed at Cuman sites and sites on the periphery of the Cuman regions.

Traces of breaking up long bones in the middle of the diaphysis were observed at all sites, both those in the Cuman area and those sites located on the periphery. At the Cuman sites this seems to be at least as important a butchery method as cutting up the carcass with knives. These spiral breaks were probably made on fresh bone; later fragmentation after deposition tends to have a different pattern as the bone dries.¹⁴¹⁶ Moreover, small chopping and / or percussion marks are often visible around the fracture surfaces, and in most cases, the bones broke along these marks. This clearly signifies deliberate fragmentation during which the diaphyses were hit several times by heavy but not necessarily sharp tools, or even rocks, until they were broken up.

¹⁴¹⁶ Natural fragmentation patterns and the typical spiral fractures exhibited by fresh bones when broken up were studied by Alan K. Outram. (Alan K. Outram, "Bone fracture and within-bone nutrients: an experimentally based method for investigating levels of marrow extraction" in *Consuming Passions and Patterns of Consumption*, eds. Preston Miracle and Nicky Milner, McDonald Institute Monographs (Cambridge: McDonald Institute for Archaeological Research, University of Cambridge, 2002), 51-64. (henceforth: Outram, Bone fracture and within-bone nutrients)

These marks are usually located around the mid-diaphysis for obvious reasons: a blunt but heavy tool will break the bone more easily in the middle than by the more compact epiphyses. There is no clear sign of pot-sizing (breaking the bones to fit the size of cooking pots): long bones with good quality meat attached (cattle humerus, radius, femur, tibia) display similar butchering marks and the length of the fragments vary between 5 and 25 cm, probably in accordance with further processing (for cooking or for preservation). In some cases, there were finer, characteristically horizontal cut marks on the diaphyses as well as on the epiphyses of the bones of the extremities, which were presumably made when the sinews were cut with knives or when the meat was removed during cooking or consumption.

At Szentkirály, butchering marks reflect the use of good quality – and expensive – butchering tools¹⁴¹⁷ and professional butchers on the one hand; the presence of all body parts, however, might signify household slaughter on the other hand. Therefore, much debate has been focused on the interpretation of these butchering patterns. István Takács hypothesized that the house actually belonged to the village's professional butcher¹⁴¹⁸ to whom the inhabitants brought their own animals for slaughter. This would indeed explain the presence of all body parts in the assemblage as well as the traces of standardized butchering. This theory might be supported by the presence of a small (agricultural?) building in the backyard, as well the two wooden poles situated at the entrance of the building, 25-30 cm in diameter, ca. 1 m from each other. Takács interpreted these as poles as part of a structure for hanging up the carcasses and the building as a possible butcher's shop (its entrance opened to the street). However, Pálóczi-Horváth disagreed and connected the building and the poles with horse keeping; according to his view, the building served as a small stall for horses and the poles served to tie up the animals.¹⁴¹⁹ Another problem of interpretation is that no water source was found in the plot; however, professional butchering cannot be imagined without continuous supply of water and therefore Takács' theory does not seem to hold.

When they investigated the Szentkirály material, both Somhegyi and Takács paid special

¹⁴¹⁷ Nyerges, A szentkirályi kunok állattartása, 40.

¹⁴¹⁸ Takács, Szentkirály középkori falu zoológiai leletei, 102.

¹⁴¹⁹ Pálóczi Horváth, Agrártörténeti emlékek, 69; Pálóczi Horváth, Élet egy középkori faluban, 18; Pálóczi Horváth, Lakóház és telek rekonstrukciója, 130. If we accept Pálóczi's interpretation and take the building as a stall for horses, the building could have held four horses (as calculated by Aszt, Gödörőlak, 139). Nevertheless, it is worth mentioning that based on ethnographic data, the walls of a horse stall are always plastered, but here there was no sign of plastering. (Aszt, Gödörőlak, 140.)

attention to traces of butchering and processing. Takács observed traces of a systematic butchering pattern on the heads of cattle (see Fig. 5.1.2) and swine, both in a lengthwise and in a traversal direction; the horn cores were typically cut off the skull. A longitudinal cut was made in order to extract the brain; the skull was transversally cut into three or four bigger pieces so that the meaty nose and the caudal third of the head were separated from the dry facial part with low meat value. Takács observed similar cut marks on some of the horse skulls as well.¹⁴²⁰ (In connection with consuming the head, it is worth mentioning a delicacy known in present-day Greater Cumania, that is, the cooked sheep's head. The head is longitudinally cut into two, with the brain left inside, then seasoned and tied up (to prevent the brain falling out) before cooking.¹⁴²¹) Whole limbs and associated skeletal parts of cattle and swine (such as the forelimb of a calf and associated vertebrae and ribs of a piglet) were interpreted by Takács as meat probably treated by some preservation method, or they were simply prepared for consumption this way.¹⁴²²

The presence of cut marks on cattle skulls described by Takács in the Szentkirály material were also confirmed by Nyerges, who again proposed the presence of professional butchers at the village; she was even able to identify some of the systematic butchering patterns with analogy to modern-day carcass partitioning.¹⁴²³ Some minor standardization may be explained by the presence of semi-professional butchers who produced similar pieces. Even if meat distribution was not centralized, there could have been professionals who came to the households and carried out the slaughter. Thus, all skeletal parts remained in the environs of the household but carcass partitioning was at least partially carried out following, more-or-less, standardized means.

Similarly systematic, although different traces of carcass partitioning were observed on two sheep skulls from Tiszagyenda on the Cuman area's periphery. First the neuro- and viscerocranial parts were separated (and the brain probably removed), and then the neurocranial part was longitudinally sawed into two, thus, creating two symmetrical pieces (probably for processing the horns). No such butchering technique was observed at the Cuman sites; at Szentkirály, however, Nyerges identified the traces of removing the sheep's head by a cut

¹⁴²⁰ Takács, Szentkirály középkori falu zoológiai leletei, 100-103.

¹⁴²¹ Szabó, A birkaperzsélo nyárs, 306.

¹⁴²² Takács, Szentkirály középkori falu zoológiai leletei, 101.

¹⁴²³ Nyerges, A szentkirályi kunok állattartása, 40.

inflicted by a cleaver on the occipital region of the skull. She also associated cuts on the third-seventh cervical vertebrae to the removal of the head.¹⁴²⁴ However, it seems more likely that evidence of this process will be found on the skull's occipital region, on the atlas and the epistropheus, but not on the cervical vertebrae below these elements. Interestingly, the patterns of carcass partitioning in sheep more resembles the ones observed on cattle than the one seen on pigs (Fig. 5.1.4).

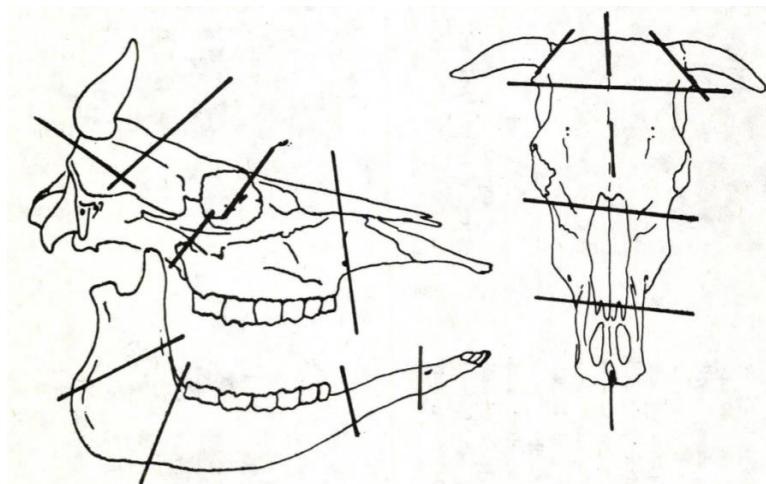


Fig 5.1.2 Cut marks on cattle skulls as described by Takács on the Szentkirály material (after Takács, Szentkirály középkori falu zoológiai leletei, 103, fig. 12)

It was observed at both sites on the periphery that the scapulae of pigs and sheep were cut in half transversally. This was not the case at the Cuman sites. In the Cuman material, cut marks were only found on sheep and swine scapulae at the joint with the humerus; these cuts are probably associated with primary carcass partitioning, while chopping up the scapulae into smaller pieces, as observed at Gorzsa and Tiszagyenda, may have been connected to pot-sizing and secondary partitioning.

Marrow extraction seems to have been one of the main objectives in breaking up the long bones' diaphyses. This probably happened before any other processing of the bones took place. Outram proved by experimental methods that diaphysis shafts were easiest to break up when fresh, and the boiled and oven heated bones were in fact more difficult to crack open.¹⁴²⁵ This

¹⁴²⁴ Nyerges, A szentkirályi kunok állattartása, detailed dataset in the Appendix.

¹⁴²⁵ Outram, Bone fracture and within-bone nutrients, 59.

means that a high level of bone fragmentation was typical even before the actual cooking took place. As mentioned earlier, a high number of spiral fractures were present on the bones, some of them accompanied by cut marks or traces of percussion. However, there may also have been other methods of extracting the grease (e.g. by boiling the bones and skimming the fat from the water's surface).

It seems that the way animal carcasses were disjointed at the Cuman sites was quite similar to the way animal bodies were partitioned in Hungarian villages. Differences are probably inherent to settlement type, size, and the presence or absence of centralized meat markets and professional butchers. Systematic cut marks appear in Szentkirály, a bigger and commercially more important village, however, this sample is also still very different from the systematically butchered bones with a high number of cut marks, typical in urban centers. The practice of breaking up the bones and the preference for breaking them even when proper tools are occasionally utilized is a custom that needs further investigation. Unfortunately, no detailed studies have been made on cut mark / percussion mark analyses from Hungarian village assemblages, although similar research was done on bone materials from central places.¹⁴²⁶ Breaking up the bones was also observed at the sites on the Cuman area's periphery (see Tables 5.1.4.4-5.1.4.7 in the Appendix). It is not clear, however, to what extent this was a practical or culturally defined practice.

¹⁴²⁶ László Daróczi-Szabó and Péter Csippán, “Újkori mészárszék nyomai Debrecen belvárosából” [Traces of an early modern slaughterhouse in the downtown of Debrecen.] *Déri Múzeum évkönyve* 2006, 43-57; István Vörös, “Egy 15. századi budavári ház állatcsont leletei. A budavári középkori piacok húsellátása a csontleletek alapján.” [Animal bone remains from a 15th-century house in Buda Castle. Meat distribution in the Buda markets in the Middle Ages based on the animal bone findings] *Communicationes Archaeologicae Hungariae* 1992, 227-239.

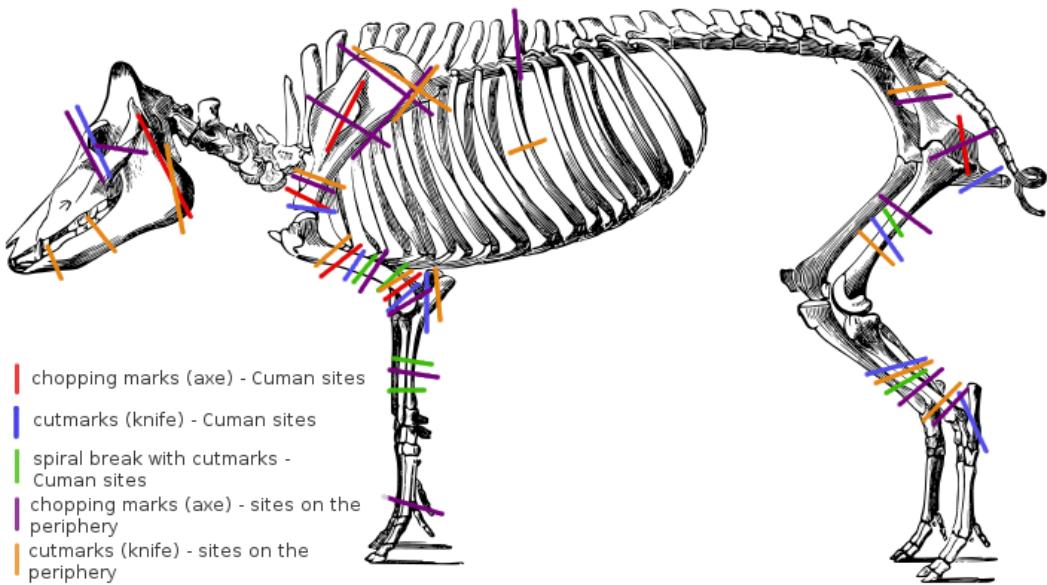


Fig. 5.1.3 Cut marks on swine bones observed at Cuman sites and the sites on the periphery.

Takács found evidence in the Szentkirály material for singeing the pigs, in the form of burnt tooth ends.¹⁴²⁷ Pig skull fragments with traces of burning on the incisivum were also found at Orgondaszentmiklós, Kiskunhalas-MOL5 and at Tiszagyenda; this phenomenon was absent, on the other hand, at Gorzsa. This means that hair was removed from the swine carcasses by fire rather than with hot water. This may be interesting from the point of view of processing raw materials: if the subcutaneous fat and the skin were not consumed, the animal could be skinned and the hair could easily be removed with hot water.¹⁴²⁸ If the fat is consumed, however, then the skin is an important part of the bacon, not only in culinary terms but also because it holds the tissues together. Takács described the process of singeing on the basis of his own ethnographic observations of traditional household pig slaughters as follows: straw is spread out to form a thick bedding on which the slaughtered animal is placed, the body is covered by straw again and set on fire. Depending on the thickness of the hair to be removed, straw may be added several times. The carcass is washed with water afterwards. With this method, not only the hair but also the external, upper layer of the skin is removed. As the upper and lower lips shrink under the

¹⁴²⁷ Takács, Szentkirály középkori falu zoológiai leletei, 101; István Takács, "The history of pig (*Sus scrofa dom. L.*) butchering and the evidence for singeing on subfossil teeth," *A Magyar Mezőgazdasági Múzeum Közleményei* 1990-1991, 41-56: 50. (henceforth: Takács, The history of pig butchering)

¹⁴²⁸ Takács, The history of pig butchering, 41. However, Takács mentions that this seems to be a rather new method that was not necessarily used in the past. (Takács, The history of pig butchering, 45.)

influence of the fire, the incisors, canines and sometimes also the premolars are exposed to the flames.¹⁴²⁹ In fact, this method is also evidenced by medieval visual representations of pig slaughter. In some images there is a heap of straw or other flammable material present when the animal is stabbed and its blood is collected;¹⁴³⁰ the straw may be associated with singeing, the next step after killing the swine. Singeing is also documented in written sources.¹⁴³¹ It is presumably this phenomenon that was observed by Takács on the pig teeth of the Szentkirály material. It seems that this method was widely used in medieval Hungary: Takács identified its traces in assemblages from the Árpád Period to the Turkish-Ottoman Era, at various types of sites.¹⁴³² Márta Daróczi-Szabó also observed it in the Árpád Period Hungarian village of Kána.¹⁴³³

It has already been mentioned that associated vertebrae of swine were interpreted by Takács as pieces stored or consumed in this form. Surprisingly, only very few thoracic and lumbar vertebrae of swine were discovered in the material from Orgondaszentmiklós and Szentkirály (Diagram 5.1.2); this may again suggest that this part was removed and possibly stored for later consumption instead of being processed with the rest of the carcass. As we have seen in Chapter 3, paying taxes in the form of food goods, including bacon, was a known practice, at least in Greater Cumania.¹⁴³⁴ This also means that bacon was an important part of the diet. In fact, swine was usually consumed in this form; bacon was preserved with salt (smoking was a known but not widespread method), and kept as “white fat”. Takács suggests that pork may have had a more seasonal role in the diet, mainly being consumed during the winter months due to meat preservation problems, while bacon could be consumed throughout the year.¹⁴³⁵ This also means that the primary objective of swine exploitation was probably to obtain the largest possible flitch of bacon, even at the expense of pork production. This aim must have had an impact on the butchering techniques, too. Takács described on the basis of his ethnographic

¹⁴²⁹ Takács, The history of pig butchering, 42.

¹⁴³⁰ Takács, The history of pig butchering, 52.

¹⁴³¹ István Szabó, *A középkori magyar falu* [Hungarian villages in the Middle Ages] (Budapest: Akadémiai Kiadó, 1969), 227.

¹⁴³² Takács, The history of pig butchering, 46-50.

¹⁴³³ Daróczi-Szabó, Az Árpád-kori Kána falu, 64.

¹⁴³⁴ In 1577-79 Kolbázsék paid its taxes in the form of money and labor, but also in the form of grain, butter, cheese, cottage cheese, fattened oxen and bacon for the Eger castle (that is, Hungarian royal authorities). (Gyárfás, A jász-kunok... vol. 4, 132; Botka, A Nagy- és Kiskunság az egri vár 1577-1579. évi összeírásában, 205-252).

¹⁴³⁵ Takács, The history of pig butchering, 50.

observations a method during which the carcass is laid on the floor or on a table, and it is split on the ventral side from chin to tail. Then, the intestines are removed and the vertebral column is cut out in one piece by cutting along the spine on both sides, but without splitting the corpus of the vertebrae in two. The spine is thus separated and used for a special type of soup. Then the head is longitudinally split, removed and the meaty parts including the ham and the ribs are “peeled off”.¹⁴³⁶ Interestingly, the archaeological data seem to support this butchery model for swine. As mentioned earlier, associated swine vertebrae were found by Takács. Nyerges did not find cut marks on swine vertebrae at all;¹⁴³⁷ she found, on the other hand, traces of systematic carcass partitioning on the head.¹⁴³⁸ In general, very few swine vertebrae were present at the Cuman sites, and no swine vertebra with cut marks was found. These were present, however (even if only in small numbers) at Gorzsa and Tiszagyenda, in the peripheral area of the Cuman region. Thoracic vertebrae cut in half longitudinally were found in the Tiszagyenda sample, indicating a different carcass partitioning process.

It would be tempting to look for ethnic distinctions in this; however, it is not likely that the Cumans, who did not have a long tradition in swine keeping, would have been attached to a distinct form of “traditional” butchering of this species. It seems that Cumans adapted the custom of pig keeping, exploitation and butchering from the Hungarian population; the same is suggested by the agricultural structures associated with pig keeping, found at Szentkirály (see Chapter 3). Different objectives and a different desired outcome is a more likely explanation behind this; animals raised and fed / fattened in different ways may have been exploited for their meat and fat in different forms. Daróczi-Szabó concluded that in the Árpád Period village of Kána, two methods of swine carcass partitioning may have been present: the one described above when the spine is spared and another, when the carcass was longitudinally cut in two.¹⁴³⁹ Swine slaughter was probably not something one person could manage on their own; assistance was needed not only for the killing itself, but also when the partitioning was carried out. Interestingly, Seetah mentions in his study on Romano-British butchering methods that suspending the carcass was of pivotal importance in terms of speed and professionalized

¹⁴³⁶ Takács, The history of pig butchering, 45-49, Figs. 6-12.

¹⁴³⁷ Nyerges, Ethnic tradition in meat consumption, 268; Nyerges A szentkirályi kunok állattartása, appendix: detailed records of finds.

¹⁴³⁸ Nyerges, A szentkirályi kunok állattartása, 67.

¹⁴³⁹ Daróczi-Szabó, Az Árpád-kori Kána falu, 65.

butchering, as it (combined with sophisticated tools) made it possible for one person to complete the partitioning process.¹⁴⁴⁰ Here, however, there is no trace of such innovations (not even in Takács' ethnographic report), which again supports the hypothesis that swine was raised for and consumed within the household, and processing the carcass was probably a family enterprise. This also implies that although tax records suggest swine breeding far exceeded the actual needs of the village, professionalized production and trade in their meat is not evidenced. Surplus animals may have been sold alive and butchered in other households where pigs were not kept, or driven to markets in other settlements and towns. It would be interesting to see if systematic butchering patterns exist for this species in the nearby big towns, especially Kecskemét; however, no such study has been carried out so far.

Juvenile and subadult swine must have been slaughtered for their meat rather than for bacon, as bacon production required fattening. In this regard, reports on Szentkirály suggest different practices. Altogether 46% of the swine identified by Nyerges were adults;¹⁴⁴¹ Somhegyi, however, noted a higher number of subadult and juvenile swine that clearly outnumbered adults.¹⁴⁴² This may be rooted in the sub-assemblages of medieval Szentkirály being associated with different households perhaps together with different practices and preferences. In the Turkish-Ottoman Period, when tax was levied only on swine older than one year, the slaughter of piglets must have increased; however, older pigs are still present, not only suggesting there may have been swine breeding going on but also bacon production, for which the animals were fattened for a longer period of time. The amount of fat accumulated by medieval swine is rather impossible to estimate; it is interesting, however, that pigs found at the Cuman sites, and also at Szentkirály (where the evidence for singeing and the written records also attest the importance of swine keeping) were rather small and primitive, with skull profiles that rather resemble the wild form.

Takács proposed that small bone fragments that also exhibit traces of cooking may be connected to glue production.¹⁴⁴³ Nyerges also noticed the small average length of pig bones.¹⁴⁴⁴ This, however, may also be connected to food preparation techniques or taphonomic agents and

¹⁴⁴⁰ Seetah, Meat in history, 29.

¹⁴⁴¹ Nyerges, A szentkirályi kunok állattartása, 65, Fig. 6.

¹⁴⁴² Somhegyi, A húsfogyasztás és -feldolgozás jelei, 11, 20, Table 5.

¹⁴⁴³ Takács, Szentkirály középkori falu zoológiai leletei a középkori Szentkirályon, 102.

¹⁴⁴⁴ Nyerges, A szentkirályi kunok állattartása, 67.

is typical for most medieval village sites.

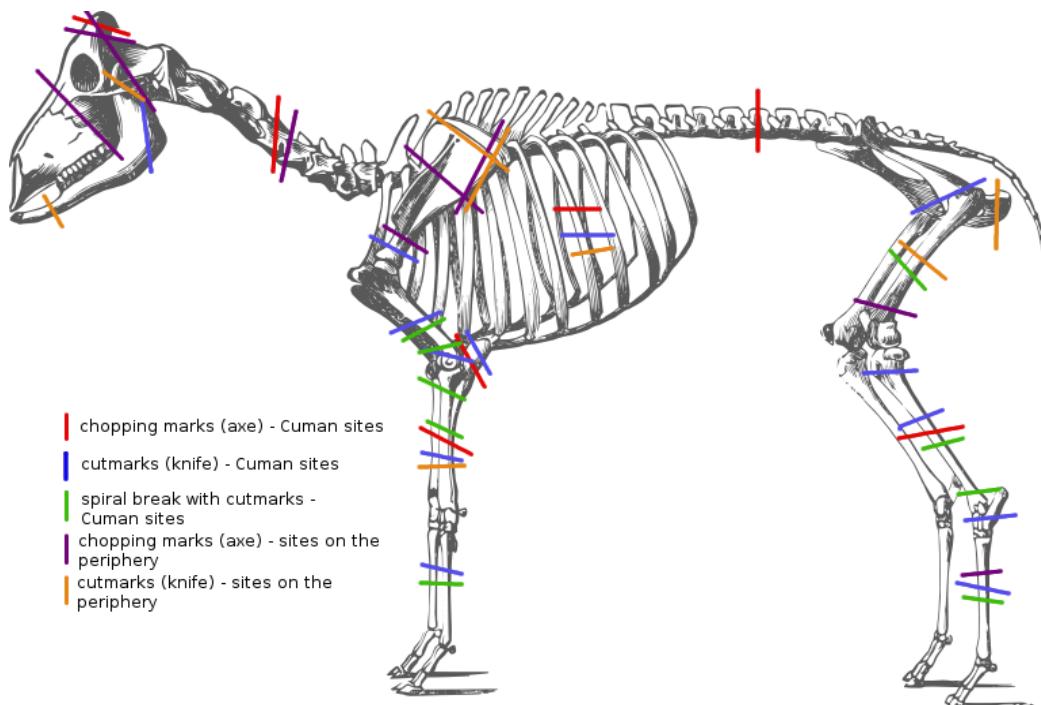


Fig. 5.1.4 Cut marks on sheep and goat bones observed at Cuman sites and the sites on the periphery.

Scorching may also have been a method used when preparing mutton. Ethnographic studies from modern Cumania described a distinct custom associated almost exclusively with these areas where the sheep's head and legs are singed before they are cooked, a tradition which is supposed to give mutton a special taste.¹⁴⁴⁵ This custom was also observed by Almásy among the Kirghiz in Central Asia.¹⁴⁴⁶ Interestingly, femur and tibia fragments were the highest in number among the burnt the bones of sheep at the Cuman sites (Table 5.1.6 in the Appendix) which may be connected to these skeletal elements being exposed at the ends; the number of finds, however, are far too low to draw firm conclusions based on them alone.

The question of horse consumption, a topic that has sparked a lot of debate, must be discussed here in more detail. This question is debated not only in the Cuman but in the medieval Hungarian material in general as well.¹⁴⁴⁷ As we have seen earlier, horse bones are present in the

¹⁴⁴⁵ Szabó, *A birkaperzelő nyárs*, 305.

¹⁴⁴⁶ Almásy, *Vándorutam Ázsia szívébe*, 320.

¹⁴⁴⁷ Horse consumption and the associated religious taboo is a widely debated topic all over Europe. Recently, Poole has revised the textual as well as archaeological evidence for eating horse meat in Anglo-Saxon England and

refuse excavated from Cuman sites. In the secondary literature, these finds have been associated with nomadic customs from the steppe. Takács concluded that the high number of horse bones in the Szentkirály material must reflect surviving nomadic practices of horse consumption;¹⁴⁴⁸ he even found traces of partitioning on horse skulls similar to those observed on cattle skulls.¹⁴⁴⁹ Nyerges, however, found no clear and unambiguous evidence for hippophagy in the Szentkirály assemblage, and rather connected the cut marks present to skinning, although she and Bartosiewicz did not exclude the practice of horse consumption.¹⁴⁵⁰ Somhegyi also noted that the horse bones he examined originated from skeletal parts carrying low quality meat and were probably not connected to horse consumption.¹⁴⁵¹ Körösi came to the same conclusion when she examined the animal bones from pit stall no. 2 at Szentkirály.¹⁴⁵² The rest of the material is, in fact, similarly controversial. Although horse bones are present, including skeletal elements that carry greater amounts of meat with occasional butchering marks are observed on them (see Fig. 5.1.3), they are not available everywhere in quantities that would unambiguously demonstrate that there was a regular custom of eating horse meat. Body part distributions would suggest that horses were not or only very rarely consumed, as bones associated with low quality meat (bones of the feet, facial skull) are highest among horse bones (Diagram 5.1.1). However, as seen in Table 5.1.4 (in the Appendix), cut marks on horse bones appear in various regions of the skeleton, not only on the lower extremities. Cut marks inflicted by the typical heavy tools used in carcass partitioning (axes) were also observed on bones such as the scapula, the ulna, the femur or the radius. These butchery marks are definitely associated with horse consumption. Interestingly, most of these phenomena were seen in the Orgondaszentmiklós material, that is, in a smaller Cuman village; here, horse consumption was definitely practiced. A few axe marks

found that Christianity brought a considerable drop in horse consumption. Although Christianity definitely had an impact on this custom, horse consumption persisted and the ratio of horse bones in the kitchen refuse remained around 10% in the Middle Anglo-Saxon Period as well (Kristopher Poole, "Horses for Courses? Religious Change and Dietary Shifts in Anglo-Saxon England", *Oxford Journal of Archaeology* 32/3 (2013), 319-333.)

¹⁴⁴⁸ Takács, Szentkirály középkori falu zoológiai leletei, 99.

¹⁴⁴⁹ Takács, Szentkirály középkori falu zoológiai leletei, 100-101. Takács, however, did not provide a detailed analysis of cut marks.

¹⁴⁵⁰ Nyerges, Ethnic traditions in meat consumption, 268; Nyerges and Bartosiewicz, Szentkirály állattartása, 338.

¹⁴⁵¹ He, however, failed to recognize in this argument that parts described today as less valuable may have been considered delicacies in past cultures. Somhegyi, A húsfeldolgozás és -fogyasztás jelei a középkori Szentkirályon, 11.

¹⁴⁵² Körösi, Szentkirály, 372.

were seen on bones from Szentkirály, published in the MA thesis of Éva Nyerges.¹⁴⁵³ Although she did not include a detailed analysis of butchering patterns in her report on Perkáta, Biller mentions that cut marks were found on horse bones here as well.¹⁴⁵⁴ Sites on the periphery exhibited minimal or no cut marks on horse bones. Interestingly, no cut horse bone was brought to light from the medieval layers of Gorzsa, although many horse bones were used for bone tool manufacture at this site (see subchapter 5.3 Animals as raw material). Although these numbers are generally too low to allow more sophisticated methods of calculation (as they remain under 10 cut marks), they suggest that there was a conscious carcass partitioning of horses at Cuman sites and especially at Orgondaszentmiklós. This pattern targeted the strong joints that were sometimes cut through with an axe (similarly to what is observed in cattle). This practice was absent from the sites on the periphery. This does not necessarily mean that horse was not consumed in the latter villages, but it seems that the carcass was differently handled.

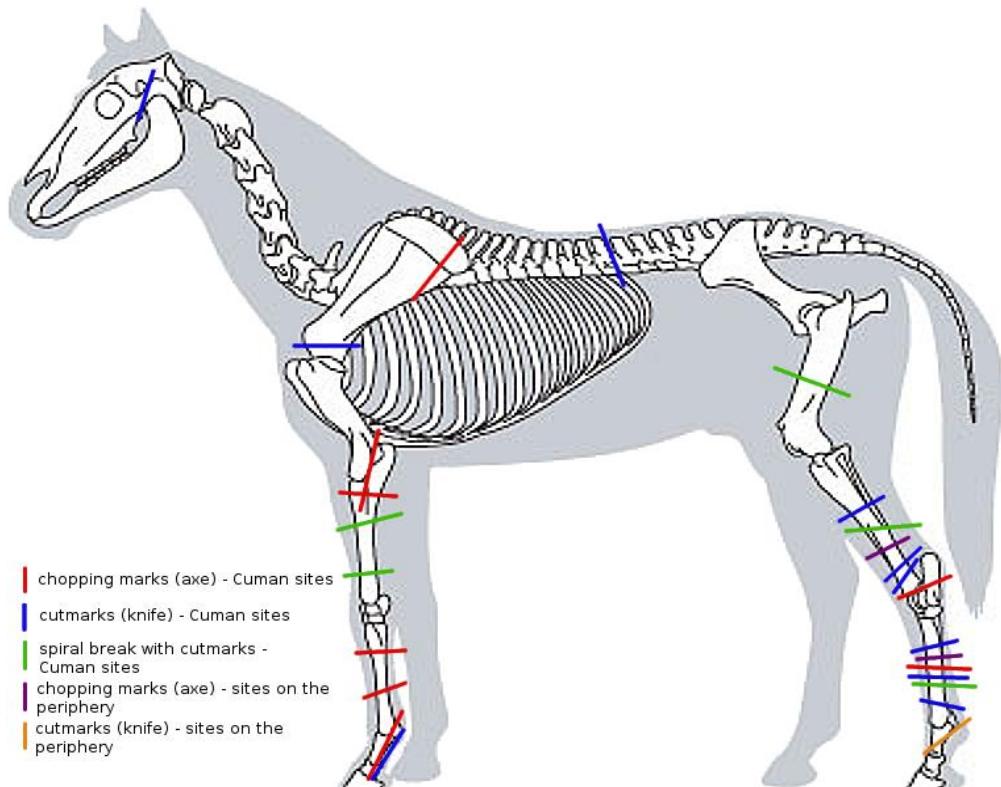


Fig. 5.1.5 Cut marks on horse bones observed at Cuman sites and the sites on the periphery.

On the basis of the cut marks observed in the Orgondaszentmiklós material, it can be

¹⁴⁵³ Nyerges, A szentkirályi kunok állattartása, appendix

¹⁴⁵⁴ Biller, Perkáta, 25.

stated that Cumans living in this area of Greater Cumania definitely ate horses, at least once in a while. Horse consumption may also be suspected at Szentkirály and Perkáta. The smaller assemblages did not provide enough bone material to be decisive in this regard. It is a question, however, if this form of horse consumption was identical or even reminiscent of the customs reported as being practiced on the steppe, as suggested by Bökönyi and Takács.¹⁴⁵⁵ Herd management, species ratios and animal exploitation strategies were completely different in a settled community (involved in continuous land cultivation) from subsistence practices in early Cuman history. On the other hand, the rarity of butchered horse bone finds does not necessarily indicate that horses were not eaten at all. Prohibitions may or may not have been present;¹⁴⁵⁶ but animals not consumed on an everyday basis but only occasionally may also serve as a distinguished cornerstone of gastronomy associated with an ethnic group or tradition.

Almásy observed in the modern Semirechye area that the Kazakh and Kirghiz valued horse meat to the extent that very old horses in poor condition, providing low quality meat, could be killed for consumption purposes when they were no longer able to work anymore. On the other hand, horses were rather used for dairy production as koumiss was a basic food during the summer. As he put it: these people used their horses as capital which they tried to preserve and use only its “carried interests”.¹⁴⁵⁷ As mentioned earlier, the tribes Almásy observed did not slaughter more than three-four horses a year, although the meat of foals was considered a special delicacy. Wealthier families may have had horse herds that consisted of 3-4,000 or even 10,000 animals, and most of them were not trained in any way, although stallions and neutered individuals were sometimes sold as riding horses. However, mares were used mainly for

¹⁴⁵⁵ Bökönyi, History of Domestic Mammals, 40; Takács, Szentkirály középkori falu zoológiai leletei, 99.

¹⁴⁵⁶ A short summary of this debate was provided by Vörös (Vörös, Ló az Árpád-kori Magyarországon, 176-180). In previous decades, Bökönyi considered the practice of horse consumption to be a remnant pagan custom (Bökönyi, *History of Domestic Mammals*, 40; Bökönyi, Die Haustiere in Ungarn im Mittelalter, 106. In another article on the faunal assemblage of thirteenth-century Mende-Leányvár, Bökönyi writes that although horse consumption was widespread in small Hungarian villages in the medieval period, there was no unambiguous evidence for this practice in that particular assemblage. (Sándor Bökönyi, “Mende-Leányvár Árpád-kori – 13. századi – állatmaradványai” [Árpád Period (13th-Century) Animal Bone Finds from Mende-Leányvár] *Archaeologai Értesítő* 108 (1981) 251–258: 256). As in most cases only a few cut marks are observed on animal bones in village assemblages, it is difficult to demonstrate horse consumption beyond any doubt. Vörös warns that almost all texts that advise against horse consumption refer to sacrificial contexts, that is, the consumption of horses sacrificed to pagan deities; the meat of “everyday horses”, however, was permitted to be and was, in fact, consumed on a regular basis in medieval Hungary, as clearly shown by the horse bones present in the kitchen refuse. (Vörös, Ló az Árpád-kori Magyarországon, 180; Vörös, Adatok az Árpád-kori állattartás történetéhez, 96-97.)

¹⁴⁵⁷ Almásy, Vándorutam Ázsia szívébe, 111, 689.

breeding and only those mares that could not breed or produce milk anymore are killed for food consumption purposes.¹⁴⁵⁸ Bartha noted that horse meat was rather used as an occasional food for ceremonial occasions and feasts by modern Kazakh communities, while sheep provided the meat for everyday consumption.¹⁴⁵⁹ This again raises the question of whether horse exploitation for consumption purposes should necessarily be reflected in the bone material in a clearly perceptible way, even if Cumans brought this custom with them from the steppe region.

It is difficult to unambiguously say whether horse consumption had a special importance for the late medieval Cuman communities in Hungary. Textual evidence is absent on this matter, although it would probably turn up in the sources if this custom had been viewed as distinct from the rest of the country's population, or associated with paganism. In fact, the ratio of horse bones in Árpád Period Hungarian settlements varies between 2 and 35%,¹⁴⁶⁰ and evidence for occasional horse consumption is available from a number of Hungarian sites, even from high status contexts.¹⁴⁶¹ Evidence of occasional horse consumption was found at the Árpád Period Hungarian village of Kána as well, in similarly low numbers as at our Cuman sites.¹⁴⁶² If horse consumption was occasionally – if not regularly – practiced in the host society, Cumans could have maintained this custom without problem, although economic necessities certainly limited the number of horses slaughtered. In this regard it is strange that butchered horse remains mostly came to light from Orgondaszentmiklós, a simple “single road” Cuman village. It cannot be excluded that horse consumption actually had a pagan ritual element in smaller villages, where central power was not that strong; however, it is now impossible to show whether horse remains represent small-scale feasts. As written data on this phenomenon is nonexistent and small feasts that are conducted at a household level are often obscured by regular domestic activities,¹⁴⁶³ especially if the feast’s garbage is mixed into the rest of the household refuse, this remains simple speculation.

¹⁴⁵⁸ Almásy, Vándorutam Ázsia szívébe , 690.

¹⁴⁵⁹ Bartha, Fejezetek a Tien Shan vidékének néprajzához, 26.

¹⁴⁶⁰ Vörös, Adatok az Árpád-kori állattartás történetéhez, 80, Table 2.

¹⁴⁶¹ E.g. from the Buda Palace. János Matolcsi, “A budai királyi palota északi előudvarában feltárt XIV-XV. századi állatesontok” [14th-15th-century animal bones excavated from the northern forecourt of the Royal Palace in Buda] *Budapest Régiségei* 24/3 (1977), 179-197: 183; Daróczi-Szabó, Az Árpád-kori Kána falu, 68.

¹⁴⁶² Daróczi-Szabó, Az Árpád-kori Kána falu, 68.

¹⁴⁶³ Large feasts result in larger deposits of refuse that are more easily recognizable. Small-scale feasts, however, may be indicated by unusual taxa present in the refuse, or unusual patterns of skeletal elements. (Thomas J. Pluckhahn, Matthew Compton, and Mary Theresa Bonhage-Freund, “Evidence of small-scale feasting from the Woodland Period site of Kolonoki, Georgia” *Journal of Field Archaeology* 31/3 (2006), 263-284: 264.)

5.2 Beasts for the afterlife: Animal bodies in Cuman ritual contexts

Animals involved in so-called ‘ritual contexts’ in the steppe cultures is a vast topic which cannot be addressed here in its full complexity. In fact, contexts labeled as ritualistic at Cuman sites are relatively few – or not recognized. In the past years, more and more publications aimed to challenge the traditional dichotomy between ritual and functional deposits, revealing the arbitrary nature of these terms and the inherent interpretational bias associated with them. Moreover, ritualistic behavior was an organic part of everyday life and should not – and cannot – be separated from it. Ethnographic analogies serve as warnings that animal related rituals are found everywhere in societies outside modern Western culture, and not all of these result in the death – and deposition – of the animal. Thus, some of these behavioral patterns will not be perceptible at all, or at least not in the form of deliberately deposited animal bodies in a clearly recognizable context.¹⁴⁶⁴ Associated bone groups (ABGs), depositions of articulated skeletal remains, have usually been considered special contexts; however, their interpretation tended to fluctuate according to the contemporary norm of interpretational framework, from merely functional to mixed and ritualistic.¹⁴⁶⁵ The situation is somewhat different when there is textual evidence on past ritualistic behavior that can be matched with archaeological deposits. In the Cuman case, nevertheless, the disappearance of popular beliefs from the steppe region and phenomena related to paganism, many of which involved animals – either in the form of the whole body, or a body part, a bone, or even only symbolically – marks an important shift and a milestone in the integration process of the Cuman community. In this subchapter, I will address the most important animal-related contexts that have been described as rituals.

Before I turn to this topic, some minor methodological questions must be raised. The problems of identifying ritual contexts are well-known to every archaeologist: most probably only a fraction of activities that were performed and perceived in the past as a ritual, leave unambiguous traces in the archaeological record. This is even more so in the case of the Cumans,

¹⁴⁶⁴ Sykes, Beastly Questions, 114-121.

¹⁴⁶⁵ James Morris, “Associated bone groups; one archaeologist’s rubbish is another’s ritual deposition”, in *Changing Perspectives on the First Millennium*, eds. Oliver Davis, Kate Waddington and Niall Sharples (Oxford: Oxbow, 2008), 83-98; James Morris, „Associated bone groups; beyond the Iron Age”, in *Integrating Social and Environmental Archaeologies; Reconsidering Deposition*, ed. James Morris and Mark Maltby (Oxford: Archaeopress, 2010), 12-23; James Morris, *Investigating Animal Burials. Ritual, Mundane and Beyond*, BAR British Series 535. (Oxford: Archaeopress, 2011), 1-11. (henceforth: Morris, *Investigating Animal Burials*)

whose early material culture is yet to be explored thoroughly in the Carpathian Basin. Moreover, the Cuman rituals we know in detail are almost exclusively associated with the élite and therefore these acts of representation must have been embedded in contemporary power plays in the early stage of Cuman integration. Although they form crucial evidence in terms of the nobility's level of integration, these finds do not reveal much about rituals on the commoners' level, and the notion that Cuman commoners were preoccupied with pagan rituals should not be readily accepted at face value.

Morris and Jervis warn that archaeological contexts classified as ritualistic or associated with religious beliefs do not constitute a homogenous category but are finds interwoven with a huge range of human decisions and actions: although some deposits can seem strange from our modern point of view, they may have been completely logical within past cultural frameworks.¹⁴⁶⁶ In the case of Cuman contexts labeled ritualistic, it is often a big problem that the precise circumstances of recovery are not known, and the finds themselves have also been lost or destroyed (this is the case with most horse burials discovered in the nineteenth century). Therefore, it is sometimes not possible to re-investigate these clusters, but one has to rely on the (often unsatisfactory) data published in the literature. This, in fact, poses some limitations on the possibilities for interpretation. The only properly excavated, unambiguously ritualistic animal-related Cuman context with analogies in the written sources and in the archaeological material from the steppe as well, was, the warrior's grave and associated features discovered at Csengele and excavated by Ferenc Horváth in the late 1990s. The lack of reliable data prevents proper re-investigation of these finds from a more up-to-date point of view. A better approach seems to be to dismiss the theoretical paradigm of the label "ritual" and attempt to build a "biography" for each of these deposits. The varied and diverse nature of these contexts is in many cases impossible to explore as their documentation is insufficient and it is not feasible to investigate the transformations that created them.¹⁴⁶⁷

Another problem is posed by the limited and often contradictory information we have on the Cumans' belief system and everyday activities associated with it. Comments and observations were made by fourteenth-century travelers while other, similarly shamanistic

¹⁴⁶⁶ James Morris and Ben Jervis, "What's So Special? A Reinterpretation of Anglo-Saxon 'Special Deposits,'" *Medieval Archaeology* 55 (2011), 66-81.

¹⁴⁶⁷ Morris lists the necessary steps to record animal bone groups properly. Most of these, unfortunately, cannot be carried out with the Cuman contexts. (Morris, *Investigating Animal Burials*, 183.)

traditions (such as that of the Mongols) may be used as analogies. However, not a single written source is at hand concerning the religious tradition of the Cuman groups who entered the Hungarian Kingdom, and thus, only some distant analogies can be used. From earlier centuries, there are various, but not very detailed and sometimes contradictory accounts of their religious beliefs, including their worship of the god Tengri and other deities, celestial bodies, or fire; influences of Nestorianism, Manichaeism, Judaism, Buddhism and the Islamic tradition have also been proposed.¹⁴⁶⁸ Robert de Clari, on the other hand, wrote in the early thirteenth century that the Cumans “do not worship anything except the first animal encountered in the morning, and the one who encounters it worships it all day, whatever animal it may be”¹⁴⁶⁹ - which seems to be a probable misunderstanding. Even though the church addressed their Christianization over and over again (as discussed in Chapter 1) and there is extensive information on the attempts to Christianize them, their ancestral beliefs are referred to only in general terms. The taxes they had to pay to the church were probably as important as their attachment to their original beliefs in terms of their apparent initial reluctance to lead a proper Christian life.¹⁴⁷⁰ Fourteenth-century charters mention that Cumans needed follow proper Christian ways, but these strictures are again rather general formulations that do not reveal anything on practicalities. This also means that phenomena associated with the beliefs of everyday Cumans are difficult to recognize in the archaeological record as there is not much hint as to what one should look for. Moreover, traces of popular belief are present at Hungarian sites as well (such as the eggs and iron, pike, puppies and kittens buried in upside down urns at Árpád Period Kána and sporadically by other fourteenth century sites in the region.¹⁴⁷¹). These customs are still not fully understood either.

¹⁴⁶⁸ Spinei, The Great Migrations, 237.

¹⁴⁶⁹ Robert of Clari ed. McNeal, 88.

¹⁴⁷⁰ In fact, the pope forbade the clergy to force Cumans to pay tithes as it would keep them from baptism. Gyárfás, A jász-kunok, vol. 3, 470.

¹⁴⁷¹ Daróczi-Szabó, Az Árpád-kori Kána falu, 97-107; Márta Daróczi-Szabó, “Pets in pots: Superstitious belief in a medieval Christian (twelfth-fourteenth c.) village in Hungary”, in *Anthropological Approaches to Zooarchaeology: Colonialism, Complexity, and Animal Transformations*, eds. Douglas Campana, Pam Crabtree, S.D. deFrance, Justin Lev-Tov and Alice M Choyke (Oxford: Oxbow, 2010), 244-249 (henceforth: Daróczi-Szabó, Pets in pots); Márta Daróczi-Szabó and György Terei, “Szájával lefele fordított edények és tartalmuk az Árpád- kori Kána faluból” [Pots buried upside down and the material contained in them] *Budapest Régiségei* 44 (2011), 198-226.

5.2.1 Animals involved in burial contexts

The killing of animals in ritualistic contexts is usually perceived in the archaeological record as animal bodies recovered from funerary features, and if they are encountered in such deposits they are typically interpreted as sacrifices. These acts, however, had meanings well beyond the actual popular beliefs behind them: such customs also served as a form of self-representation as well as performances of collective memory, were deeply embedded in the social network of the given community, and contributed to the framework within which these communities understood themselves, their past and the connection to their ancestors.

Ancestral cult was an important element of the Cuman belief system, although it is difficult to perceive it through the archaeological record. The *kamennaya baby* statues erected in the honor of the deceased and/or the ancestors, always facing to the East and typically holding a cup or bowl in his/her hands, were well-known landmarks in the steppe region.¹⁴⁷² They were closely associated with the cult of ancestors. In the nineteenth century János Jerney noted them in the steppe region throughout his journeys and pointed out their possible Hungarian origin.¹⁴⁷³ Later, Géza Nagy discussed their analogies in the Volga and Altay region and Siberia and connected these statues to the Cuman population.¹⁴⁷⁴ Their connection with Turkic peoples (the Scythians, the Asian Turkic tribes and the Cumans, respectively) is clear from their chronological and geographical distribution: from the Altay, Kazakhstan and the Semirechye region in the sixth-twelfth centuries, they range up to Southern Russia in the eleventh-thirteenth centuries.¹⁴⁷⁵ These statues often marked ceremonial places: in many cases, they were surrounded with stone structures and sacrificial contexts, involving animal bones and pots, were recovered from around

¹⁴⁷² András Pálóczi Horváth, “Kurgánsirok és ősök szobrai. A kun steppe művelődéstörténeti emlékei” [Kurghan burials and statues of ancestors. The cultural heritage of the Cuman steppe], in *Keleti népek a középkori Magyarországon. Besenyők, úzok, kunok és jászok művelődéstörténeti emlékei* [Peoples of Eastern Origin in Medieval Hungary. The Cultural Heritage of Pechenegs, Uzes, Cumans and the Jász] (Budapest: Archaeolingua, 2014), 87-100: 93-98.

¹⁴⁷³ János Jerney, *Keleti utazása a magyarok őshelyeinek kinyomozása végett* [Journey to Asia in Search of the Ancient Places of Hungarians] Vol 2. (Pest, 1851), 13-14, 45-46, 63-64, 70-71, 90-115

¹⁴⁷⁴ Géza Nagy, “A régi kunok temetkezése” [Burial of the ancient Cumans] *Archaeologai Értesítő* 13 (1893), 105-117: 105-107 (henceforth: Nagy, A régi kunok temetkezése)

¹⁴⁷⁵ Turkic sculptures in the sixth-sevenths centuries that represented deceased tribe members and ancestors are seen as the predecessors of this art form. Pálóczi Horváth, Pechenegs, Cumans, Iasians, 98.

them.¹⁴⁷⁶ They were usually not erected at the place of the burial itself but on a prominent place on the steppe and appeared clustered in groups, emphasizing their roles as mnemonic objects instead of tools used to mark the graves. These statues were also noted by William of Rubruk.¹⁴⁷⁷ Thousands of these memorials were erected north of the Black Sea, a former habitation area of the Cumans, in the eleventh-twelfth centuries. These statues are, however, completely missing from the Hungarian material of the Cumans, although some vague references may testify to their past existence. In Fodor's view, these were the "Cuman images" mentioned in sources.¹⁴⁷⁸ Possibly, these images were formed from wood, and thus, they were not preserved;¹⁴⁷⁹ however, there are eighteenth-century references to "Cuman images" made of stone and still standing.¹⁴⁸⁰ Horváth, following ethnographer Sándor Solymossy and archaeologist Gyula László, suggested that these statues may have had metal coverings on their faces, which phenomenon is preserved in the "iron-nosed witch" figure in folktales, known only in Western Asian Turkic and Hungarian folklore.¹⁴⁸¹ Such metal covers have not yet been identified in the archaeological record, but they may well have ended up in metal working workshops in villages and market towns as valuable objects that had lost their original meaning and value. Interestingly, similar metal plates were recorded by ethnographers on cultic wooden statues by the Mansi people (in north-western Siberia); here the iron "face" was smeared with the blood of sacrificial animals.¹⁴⁸² It is strange that non-Christian burial rites seem to have been followed by the Cuman élite at least into the thirteenth century, but such statues of the deceased - which constituted an organic part of the

¹⁴⁷⁶ István Fodor, "A sírszobrok szerepe a kunok halottas szokásaiban" [The role of funeral statues in the burial customs of Cumans] in "Kun-kép". *A magyarországi kunok hagyatéka. Tanulmányok Horváth Ferenc 60. születésnapja tiszteletére* [Cuman Image. Heritage of the Cumans in Hungary. Studies in Honor of Ferenc Horváth's 60th Birthday], ed Szabolcs Rosta (Kiskunfélegyháza: Bács-Kiskun Megyei Önkormányzat Múzeumi Szervezete, Kiskun Múzeuma, 2009), 49-66: 50 (henceforth: Fodor, A sírszobrok szerepe); István Fodor, "A sírszobrok kérdéséhez" [On the funeral statues], *Folia Archaeologica* 21 (1970), 113-126 (henceforth: Fodor, A sírszobrok kérdéséhez); Pálóczi Horváth, Hagyományok, kapcsolatok és hatások, 71-73

¹⁴⁷⁷ Rubruck ed. Jackson and Morgan, 95.

¹⁴⁷⁸ Fodor, A sírszobrok kérdéséhez, 124-125

¹⁴⁷⁹ István Fodor, "Lehetnek-e kun sírszobrok Magyarországon?" [On the possibilities of Cuman funeral statues in Hungary] In *A Jászkunság kutatása 1985* [Studies on Iasnia and Cumania, 1985], eds. István Fazekas, László Szabó and István Sztrinkó (Kecskemét-Szolnok: Kiskunfélegyházi Városi Tanács, 1987), 3-10

¹⁴⁸⁰ Horváth, A csengelei kunok, 151; Fodor, A sírszobrok kérdéséhez, 124

¹⁴⁸¹ Interestingly, the Hungarian name of this figure, "vasorrú bába" probably goes back to the Turkic word baba, father, ancestor.

¹⁴⁸² Sándor Solymossy, "A vasorrú bába és mítikus rokonai" [The iron-nosed witch and its mythical analogies] *Ethnographia* 38 (1927), 217-235: 230-235; Gyula László, *A honfoglaló magyar nép élete* [The Life of the Conquering Hungarians] (Budapest: Püski, 1997), 368-369 (henceforth: László, A honfoglaló magyar nép élete); Horváth, A csengelei kunok, 151-152.

ritual, as a mnemonic device that served as a place for the cult of ancestors and also loaded the landscape (and the community's habitation space) with aspects of a common identity – are somehow missing. It was previously thought that these statues disappear from the steppe region as well after the Mongol Invasion, even from areas still inhabited by a Cuman population. Pálóczi Horváth therefore raised the possibility that the disappearance of these statues may mark a shift in beliefs: intensifying social stratification may have brought a transformation of ancestral cult into a hommage to the tribal and clan aristocracy. Thus, their absence in the Hungarian material may be due to a transition that started earlier, and which was only accelerated by the control of the Christian church.¹⁴⁸³ However, it was later made clear that the custom did not disappear in the thirteenth century, but only in the first half of the fourteenth century, when the Islamic religion took over.¹⁴⁸⁴ Lajos Takács raised the possibility that these statues could have been used as objects marking borders between landed properties, even after they had lost their original cultic meaning. In this regard, the eighteenth-century data presented by Takács on the beliefs of evil powers present by these landmarks are of special interest, although the connection between these superstitions and the ancient cultic context of these objects is yet to be explored.¹⁴⁸⁵

Sources are relatively abundant on burial customs of Cumans and other steppe peoples of the thirteenth century. These spectacular acts of status representation immediately caught the eye – and fantasy – of medieval travelers and were included in travel journals. It is however, still difficult to match the diversity of practices reported in written accounts with the phenomena observed in the archaeological record, and may even be unnecessary. It should not be forgotten that some of the findings I will discuss below are known only from the excavators' interpretation, which must have been loaded down, not only with general concepts of steppe customs biased by various modern *topoi*, but also with descriptions in the above mentioned written accounts, whose details are inevitably forced onto the identification of such depositional clusters.

Here, I will discuss the equestrian graves, a group of discoveries of special importance in the Cuman record as well as the dog burials, which have fewer analogies in the steppe record. Animal bones placed in graves as food offerings and amulets will also be touched upon.

¹⁴⁸³ Pálóczi Horváth, Pechenegs, Cumans, Iasians, 100-101

¹⁴⁸⁴ Fodor, A sírszobrok szerepe, 49

¹⁴⁸⁵ Lajos Takács, "A bálvány mint határjel" [Idols as landmarks of borders], *Népi kultúra- népi társadalom* 13 (1983), 173-192.

5.2.1.1 The equestrian graves

The most spectacular finds of this kind are the equestrian graves of the Cuman élite. This custom was widespread in steppe cultures and is also present in the archaeological record of the Hungarian Conquest Period, although in a somewhat different form (e.g. the whole body of the horse was never buried in Hungarian graves).¹⁴⁸⁶ Thus, although this custom was no longer practiced by Hungarians at the time of the Cuman arrival, these practices must have been familiar, or at least, not unheard of in the host society, even if only on the level of oral tradition. Although such burials from the time of the Magyar Conquest are well-documented and explored, there is an unfortunate loss of information in case of the few Cuman graves.

So far, 14 Cuman élite burials have been discovered on the Great Hungarian Plain: at Balatonszállás, Csólyospálos, Erdőtelek, Kígyóspuszta (two graves), Kunfehérvár – Inoka - Pincehegy, Kunszentmárton – Jaksorépart, Nagykamarás – Bánkút - Rózsamajor, Felsőszentkirály, Tiszaföldvár - Homok-Óvirághegy, Ásotthalom – Bilisics, Csengele and Kiskunmajsa – Kuklis tanya; one grave at Kunfehérvár-Debeák is known from an early nineteenth-century report, but its contents have been lost.¹⁴⁸⁷ Eight additional sites have been considered possibly Cuman (Table 5.2.1); Pálóczi Horváth, however, dismissed most of them as Cuman finds or classified them as assemblages whose ethnic connections are impossible to establish.¹⁴⁸⁸ Horváth considered only nine of these graves to be absolutely authentic (Balatonszállás, Csólyospálos, Inoka, Kunszentmárton - Jaksorépart, Bánkút, Felsőszentkirály, Homok-Óvirághegy and Csengele; later he added Kiskunmajsa-Kuklis tanya to his list).¹⁴⁸⁹ The eighth site, Csanádpalota is a more recent excavation that will be discussed in more detail later.

These graves were all identified as burials of the Cuman nobility, discovered at a distance from the commoners' cemeteries. These finds constitute a separate cluster of Cuman finds in

¹⁴⁸⁶ Csanád Bálint, "A honfoglalás kori lovastemetkezések néhány kérdése" [Some questions concerning the horse burials dated to the Period of the Hungarian Conquest] *A Móra Ferenc Múzeum Évkönyve* 1969/1, 107-114.

¹⁴⁸⁷ For the sake of simplicity, sites with long names are referred to in the text by a shorter name: Nagykamarás – Bánkút – Rózsamajor is simply called Bánkút, Tiszaföldvár – Homok – Óvirághegy is called Homok-Óvirághegy, and Kunfehérvár – Inoka - Pincehegy is called Inoka.

¹⁴⁸⁸ Pálóczi Horváth, Hagyományok, kapcsolatok és hatások, 124-137.

¹⁴⁸⁹ Horváth, A csengelei kunok, 215; Ferenc Horváth, "Újabb kun vezéri sír leletei a Kiskunságból" [A new élite Cuman grave from Lesser Cumania] *A Móra Ferenc Múzeum Évkönyve – Studia Archaeologica* IX (2003), 369-386: 369-376 (henceforth: Horváth, Újabb kun vezéri sír leletei)

Pálóczi Horváth's classification (type "A", "isolated graves").¹⁴⁹⁰ However, the Csengele burial questions the theory of stand-alone graves, as this burial was located close to a cemetery of commoners.¹⁴⁹¹ In fact, many of the excavated graves may be associated with (supposedly Cuman) villages in the vicinity. However, the fact that in many cases the circumstances of discovery and the precise location of the graves are unknown makes it impossible to answer this question given the present state of scholarship.

As most of these finds come from old excavations from the late nineteenth, early twentieth century, they were not properly documented in modern terms. Thus, it cannot be excluded that horse bones were also present in other graves but not reported. In some cases, the find circumstances are completely unknown; the dating and ethnic associations of these grave assemblages have also been debated. Here, it is not possible to address the immensely complex question of steppe analogies to the different types of grave goods found in these assemblages; the typological analysis of these pieces of jewelry, weapons and elements of the attire is beyond the limits of this study. Therefore, I accept the dating and ethnic identification provided by András Pálóczi Horváth in his summary and re-evaluation of these assemblages,¹⁴⁹² except for the burial at Ásotthalom-Bilisics, which has recently been classified by Horváth as a Cuman grave,¹⁴⁹³ although Pálóczi did not include it in his list.

The possibilities of this analysis are limited due to the finds being unavailable in most cases. At Homok-Óvirághegy, Inoka-Pincehegy, Bánkút and Csengele the reports include whole horse skeletons. Bánkút, Homok-Óvirághegy and Inoka are especially interesting, as these were probably women's graves; unfortunately, the animal bones recovered from these three excavations are no longer accessible. The grave at Kunfehértó-Debeák is known only from a short report, but Wicker, and after her, Hatházi and Horváth accepted that it was possibly a Cuman grave.¹⁴⁹⁴ This grave also fits into the hypothetical circle of burials suggested by Horváth.¹⁴⁹⁵ However, Csengele is the only properly excavated and well-documented horse

¹⁴⁹⁰ Pálóczi Horváth, Hagyományok, kapcsolatok és hatások, 105-137.

¹⁴⁹¹ Horváth, A csengelei kunok, 216.

¹⁴⁹² Pálóczi Horváth, Hagyományok, kapcsolatok és hatások, 105-123.

¹⁴⁹³ Horváth, A csengelei kunok, 308.

¹⁴⁹⁴ Erika Wicker, *Halasi Múzeum I. A "Halasi Múzeum" alapításának 115. évfordulójára*. [The Museum of Halas. For the 115th Anniversary of the Museum of Halas] Halasi Téka 9. (Kiskunhalas: Kiskunhalas Város Tanácsa, 1989), 23 (henceforth: Wicker, Halasi Múzeum); Hatházi, Halas kun székközpont, 178-179; Horváth, A csengelei kunok, 219-220.

¹⁴⁹⁵ Horváth, A csengelei kunok, 219-220.

burial so far. A zoological analysis of the sacrificial horse of Csengele was discussed in Chapter 3.

As already mentioned in Chapter 3, Ferenc Horváth suggested that the graves known from Lesser Cumania, that is, Inoka, Balotapuszta, Kígyóspuszta, Csólyospálos, Kiskunmajsa, Debeák and Csengele, form a regular circle within the territory of the Chertan clan.¹⁴⁹⁶ He argued that these burials may designate areas occupied by different tribal groups and, thus, they reveal an early settlement pattern associated with a strict tribal/military organization.¹⁴⁹⁷ The other graves so far do not seem to fit into any recognizable geographical pattern.

Identified as Cuman						
	Site name	Dating	Sex	Horse / harness	Orientation	Type
1	Balotaszállás – Balota pusztá ¹⁴⁹⁸	Mid-thirteenth c.	F	Not reported	unknown	
2	Csólyospálos – Csólyos pusztá ¹⁴⁹⁹	Late thirteenth c.	M	Saddlery: two stirrups	unknown	Symbolic horse burial (harness)
3	Erdőtelek ¹⁵⁰⁰	twelfth, early thirteenth c.	M	Harness: bit	unknown	Symbolic horse burial (harness)

¹⁴⁹⁶ Horváth, *A csengelei kunok*, 218-220; Horváth, *Újabb kun vezéri sír leletei*, 374-375

¹⁴⁹⁷ Horváth, *A csengelei kunok*, 222-224.

¹⁴⁹⁸ The finds were discovered in 1892, but were first recorded in 1893; the circumstances of discovery are unknown. The assemblage, which consists of mainly silver objects, was taken to the local museum by the police, and the area where the skeleton was found was dug up to see if anything was left. It is not certain if the assemblage we have now is complete or not. Horse remains or harness equipment are not mentioned in any of the reports. (József Hampel, "A Nemzeti múzeumi régiségtár gyarapodása az április-juniusi évnegyedben" [New acquisitions of the Archaeological Collection of the National Museum in April-June] *Archeologiai Értesítő* 13 (1893), 366-370: 368-370; András Pálóczi Horváth, "A Balota pusztai középkori sírlelet" [The medieval grave finds from Balota pusztá] *Cumania* 11 (1989), 95-148; Gábor Hatházi and Aurél Szakál, "Adatok a Kiskunhalas – Balota pusztai kun sírleletről" in *A népvándorláskor fiatal kutatói 8. találkozójának előadásai* (Veszprém, 1997 november 28-30) [Proceedings of the 8th Meeting of Young Researchers of the Migration Period in Veszprém, November 28-30, 1997] Ed. Ágota S. Perémi (Veszprém: Veszprém Megyei Múzeumi Igazgatóság, Laczkó Dezső Múzeum, 1999), 221-226.)

¹⁴⁹⁹ The grave was discovered in 1903, but was not properly excavated. István Éri re-investigated the site and localized it in the area of medieval Cuman Csólyosszállása. Pálóczi Horváth reconstructed the grave. Only the remains of a belt have been preserved; the rest of the finds were destroyed during WWII. (Éri, Adatok a kígyóspuszta csat értékeléséhez, 147-149; Pálóczi Horváth, *A felsőszentkirályi kun sírlelet*, 177-202; Pálóczi Horváth, *Hagyományok, kapcsolatok és hatások*, 118-122.)

¹⁵⁰⁰ Although Géza Nagy classified the Erdőtelek grave as Cuman in the late nineteenth century (Nagy, *A régi kunok temetkezése*, 116), Árpád Nagy later identified it as belonging to the Pecheneg ethnic group. (Árpád Nagy, "Eger környéki és tiszavidéki besenyő települések a X.-XI. században" [Pecheneg settlements around Eger and in the Tisza region in the tenth-eleventh centuries] *A Móra Ferenc Múzeum Évkönyve* 7 (1969), 129-151.) István Fodor in the 1970s proposed a dating to the twelfth-thirteenth centuries, and viewed the assemblage as probably Cuman (István Fodor, "Az osztrigózsszki lelet" [The grave finds from Ostrogoshsk] *Cumania* 4 (1976), 255-261). András Pálóczi Horváth accepted this view and also classified Erdőtelek as a Cuman assemblage. (Pálóczi Horváth, *Hagyományok, kapcsolatok és hatások*, 110.)

4	Kígyóspuszta 1 ¹⁵⁰¹	Late thirteenth, early fourteenth c.	M?	Not reported	unknown	
5	Kígyóspuszta 2 ¹⁵⁰²	thirteenth c.?	M?	Not reported	unknown	
6	Kunfehérvári-Inoka-Pincehegy ¹⁵⁰³	Third quarter of the thirteenth c. (first generation of Cumans in Hungary)	F	Whole horse skeleton, in the same pit as the woman, on her left side; harness: stirrups.	Both the human and the horse oriented to the E?	Proper horse burial
7	Kunfehérvári-Jaksorépart ¹⁵⁰⁴	Late thirteenth, early fourteenth c.	M	Saddlery: bit, two stirrups, a strap buckle; situated at the head of the deceased	NE-SW	Symbolic horse burial (harness)
8	Nagykamarás- Bánkút-Rózsamajor, ¹⁵⁰⁵	Late twelfth, early thirteenth c. (first generation of Cumans in Hungary)	F	Whole skeleton, placed on the right side of and oriented opposite to the human; saddle and harness was put on. The bones have been lost.	Human: head to SE, horse: head to NW	Proper horse burial
9	Felsőszentkirály ¹⁵⁰⁶	Late thirteenth,	M	Not reported	SE-NW	

¹⁵⁰¹ A belt was discovered in the early nineteenth century by locals; in all probability it came from a warrior's grave. The precise circumstances of the discovery are unknown. The belt buckle, now stored in the Hungarian National Museum, received a lot of attention as it reflects western influences on a Cuman object. (Éri, Adatok a Kígyóspusztai csat értékeléséhez, 138-151; Pálóczi Horváth, Hagyományok, kapcsolatok s hatások, 110-111)

¹⁵⁰² Pieces of mail armor were found here in the first half of the nineteenth century which probably belonged to a grave assemblage. Éri tried to identify the finds that were supposedly transported to the local museum but was unable to actually find these objects in the museum's collection. (Éri, Adatok a kígyóspusztai csat értékeléséhez, 139-140; Pálóczi Horváth, Hagyományok, kapcsolatok és hatások, 111-112.)

¹⁵⁰³ The assemblage was discovered in the mid-nineteenth century (in fact, it was unearthed by a herd of swine!) and was partly taken to the collection of the antiquarian György Révész in Kiskunhalas. The finds were destroyed in 1944. (Pálóczi Horváth, Hagyományok, kapcsolatok és hatások, 112-113.) Now, only a sketch made by László Nagy Czirok is available. In the drawing, the grave is depicted as being oriented to the East. The horse lies in a ventral position on the left side of the human, and both bodies are oriented in the same direction. (Pálóczi Horváth, Hagyományok, kapcsolatok és hatások, 158, fig. 43)

¹⁵⁰⁴ The grave was discovered in 1967. The finds were first examined by Gyula Kapovári, head of the Dajmanich Museum, and the grave was later reconstructed by László Selmeczi. (Selmeczi, Adatok és szempontok, 107; Pálóczi Horváth, Hagyományok, kapcsolatok és hatások, 113-115.)

¹⁵⁰⁵ The grave was discovered in 1931 during sand extraction work, and was excavated by János Banner; the skeleton was examined by the physical anthropologist, János Gáspár. The assemblage is now stored in the National Museum. An ornamented bronze mirror whose origins can probably be traced back to China is a particularly interesting piece from this assemblage. The object is decorated with the image of two ornamental fish. (János Banner, "A bánkúti lovassír" [The horse burial of Bánkút] *A Magyar Királyi Ferencz József Tudományegyetem Tudományos Közleményei a Földrajz és Történettudományok Köréből* 1 (1932), 14-32; István Fodor, "Újabb adatok a bánkúti sír értékeléséhez" [New data on the grave at Bánkút] *Folia Archaeologica* 23 (1972), 223-242; Pálóczi Horváth, Hagyományok, kapcsolatok és hatások, 115-118.)

¹⁵⁰⁶ The grave was discovered in 1929-30, but it was only a few years later, in 1934, that some finds (a sword and some belt plates) were transported to the museum in Kecskemét. The original documentation as well as parts of the assemblage was destroyed during WWII. Pálóczi Horváth attempted to localize the grave and carry out an authentication excavation in 1970. (Pálóczi Horváth, A felsőszentkirályi kun sírlelet, 177-180; Pálóczi Horváth,

		early fourteenth c.				
10	Kunfehértó-Debeák ¹⁵⁰⁷	thirteenth-fourteenth c.?	M	Not reported	unknown	
11	Ásotthalom-Bilisics ¹⁵⁰⁸	thirteenth-fourteenth c.	M	Some of the reports include reference to a horse or horse bones (a tooth and a vertebra), but these finds are not preserved. Saddlery: stirrups, bit.	unknown	Proper, partial or symbolic horse burial?
12	Tiszaföldvár- Homok-Óvirághegy ¹⁵⁰⁹	Mid-thirteenth – early fourteenth c.	F?	Whole skeleton, harnessed; its position is unknown, the bones have been lost	Human: W-E, horse: unknown	Proper horse burial
13	Csengele ¹⁵¹⁰	Second half of the thirteenth c.	M	Whole skeleton, situated in a separate pit on the man's left side	Human: head to NE; horse: head to SW	Proper horse burial
14	Kiskunmajsa – Kuklis tanya ¹⁵¹¹	Second half of the thirteenth c.	M?	Harness: bit and stirrups	unnwn	Symbolic horse burial (harness)?

Hagyományok, kapcsolatok és hatások, 118-122.

¹⁵⁰⁷ The grave at Kunfehértó-Debeák is known only from a short report by György Révész, who collected nineteenth-century archaeological data on the Halas region. His notes, however, were lost in WWII, and are known only from a copy made by László Nagy Czirok. According to these notes, the grave of an armed warrior was found in 1816 by locals, but the finds were destroyed by those who found it. The find circumstances are also unknown. However, Wicker, and after her, Hatházi and Horváth, accepted that this burial was probably a Cuman grave. (Wicker, Halasi Múzeum, 23; Hatházi, Halas kun székközpont, 178-179; Horváth, A csengelei kunok, 219-220.)

¹⁵⁰⁸ This burial was discovered at the beginning of the 1900s. It was removed by Pálóczi Horváth from the list of definitely Cuman graves although Horváth has classified it part of the Cuman record (Horváth, A csengelei kunok, 308). Although the reports mention a horse or horse bones, the texts are contradictory, and the bones were not picked up. According to István Tömörkény, the leading archaeologist who first evaluated the find, the workers first said the deceased was found "sitting on his horse" although at some later point it was reported that only one horse vertebra and one horse tooth was actually found. (István Tömörkény, "Bilisicsi és egyéb újabb leletekről" [On new findings from Bilisics and other places] *Archaeologai Értesítő* 25 (1905), 251-257, 252.) It is unfortunately impossible to say if this was really a proper horse burial.

¹⁵⁰⁹ Selmeczi, Adatok és szempontok a kunok régészeti kutatásához Szolnok megyében, 107. Selmeczi dated the grave between the late thirteenth and late fourteenth centuries. Pálóczi Horváth raised the possibility that it was, in fact, a woman's grave, and proposed a more precise dating between the mid-thirteenth and early fourteenth century. (Pálóczi Horváth, Hagyományok, kapcsolatok és hatások, 123.) Although it was published as a female grave, Horváth concluded on the basis of the grave goods that it was probably a man's grave. (Horváth, A csengelei kunok, 204.)

¹⁵¹⁰ The grave's excavation, grave goods, and analogies to them are extensively discussed in the monograph of the site (Horváth, A csengelei kunok).

¹⁵¹¹ The grave was discovered in 1934; however, proper attention was given to it only recently by Ferenc Horváth, who identified it as a Cuman grave. He suggested that the deceased was probably buried together with his horse, although there is no reference to horse bones in the original reports. (Horváth, Újabb kun vezéri sír, 369-376.)

Identified as possibly Cuman						
	Site name	Dating	Sex	Horse / harness	Orientation	Type / Possible identification
1	Ártánd-Zomlin puszta ¹⁵¹²	Late tenth – early eleventh c.	M	Harness: bit	unknown	Symbolic horse burial? / Uz? Cuman? Varangian?
2	Demecser-Földvár ¹⁵¹³	thirteenth c.? eighteenth c.?	?	Not reported	unknown	
3	Gyomaendrőd ¹⁵¹⁴	Medieval? Migration Period?	M?	Not reported	unknown	
4	Gyula ¹⁵¹⁵	twelfth-thirteenth c.?	M?	Whole skeleton	unknown	Proper horse burial
5	Gyula-Szentbenedek ¹⁵¹⁶	twelfth-	M?	Whole skeleton, next to	unknown	Proper horse

¹⁵¹² Károly Mesterházy proposed an identification of the grave as being that of an Oghuz Turk warrior who entered Hungary together with the Cumans. (Károly Mesterházy, "Az Ártánd-Zomlin pusztai uz sírlelet" [The Ughuz grave find from Ártánd-Zomlin puszta], *A Debreceni Déri Múzeum Évkönyve* 1976. A Debreceni Déri Múzeum Kiadványai 57. 69-79; 77-79) His arguments were dismissed by Pálóczi Horváth, who sees this assemblage as a late tenth – early eleventh-century Russian-Varangian grave. (Pálóczi Horváth, Hagyományok, kapcsolatok és hatások, 128.)

¹⁵¹³ Weapons and mail armor were found here in the early 1900s. These finds were later interpreted by Péter Németh as being the remains of a thirteenth century 'nomadic' warrior's grave. (Péter Németh, "Egy XIII. századi nomád sír Szabolcs megyéből" [A 13th-century nomadic grave from Szabolcs County] In *Királyok, ispánok, jobbágyok. Vázlatok a magyar középkor történetéből* [Kings, Comes, Peasants. Sketches on the Medieval History of Hungary.] Folklór és etnográfia 48 (Debrecen: Kossuth Lajos Tudományegyetem, 1983), 85-94.) Pálóczi Horváth re-investigated the finds and concluded that the objects of this assemblage date to different periods and probably have no connection to the Cumans. (Pálóczi Horváth, Hagyományok, kapcsolatok és hatások, 128-130.)

¹⁵¹⁴ The grave was discovered in the mid-nineteenth century. It contained a skeleton and a sword with a gilded hilt. The latter was broken into pieces by the locals. Later, Dénes Jankovich re-investigated the documents and concluded that the grave cannot be dated. It cannot be excluded that it was in fact a Cuman grave, although it is impossible to say for sure as the finds have since been lost; it may well be medieval or even date to the Migration Period. (Dénes Jankovich B., János Makkay and Béla Miklós Szőke, *Békés Megye régészeti topográfiaja. A szarvasi járás IV/2.* [An Archaeological Topography of Békés County. The Region of Szarvas] Magyarország régészeti topográfiája 8. (Budapest: Akadémiai Kiadó, 1989), 184; Pálóczi Horváth, Hagyományok, kapcsolatok és hatások, 131.)

¹⁵¹⁵ The grave was discovered in 1867; the documents report on a human and a horse skeleton, pieces of iron and a bit. There is, however, not enough information to date the finds. The circumstances of discovery are unknown. Géza Nagy proposed its possible identification as a Cuman grave, and he dated the assemblage to the twelfth-thirteenth century. Pálóczi Horváth, however, questioned this dating. (János Mogyoróssy, "Két gyulai lelet" [Two findings from Gyula] *Archeologiai Közlemények* 8 (1871), 141-142; Nagy, A régi kunok temetkezése, 117; Pálóczi Horváth, Hagyományok, kapcsolatok és hatások, 131)

¹⁵¹⁶ The burial was discovered in 1859; it contained a human and a horse skeleton, remains of saddlery, weapons and ceramic sherds. Géza Nagy raised the possibility that this was a Cuman grave, and dated it to the twelfth-thirteenth centuries. Pálóczi Horváth disagreed and concluded that the grave may have been Cuman, but an Avar or Hungarian Conquest Period identification is also possible. The horse itself is only briefly mentioned. (János Mogyoróssy, "1859-dik évi békésmegyei puszta-szent-benedeki lelet" [The find from Puszta-Szent-Benedek from 1859] *Archeologiai Értesítő* 3/13 (1870), 280-282; Nagy, A régi kunok temetkezése, 116; Pálóczi Horváth, Hagyományok, kapcsolatok és hatások, 131-132.)

		thirteenth c.?		the human body		burial
6	Ásotthalom-Bilisicsi erdő ¹⁵¹⁷	twelfth-thirteenth c.?	?	Not reported	unknown	
7	Ópusztaszer-Monostor ¹⁵¹⁸	twelfth-thirteenth c.?	?	Not reported	unknown	
8	Csanádpalota ¹⁵¹⁹	thirteenth century	-	Whole skeleton, saddle	NW-SE	Proper horse burial

Table 5.2.1 Cuman horse burials in the Great Plain and finds that may possibly be associated with such graves. Proper horse burials are highlighted in yellow, the symbolic ones (involving only saddlery) are highlighted in blue.

As seen in Table 5.2.1, four proper horse burials and four symbolic ones have been identified as Cuman; in the rest of the cases the involvement of a horse or saddlery is uncertain although it cannot be excluded either. To this record, three proper burials and one symbolic burial are added as possibly being Cuman but which cannot certainly be identified.

Graves involving horse burials and associated with the Cumans have firm analogies from the Russian steppe area. Of the 60 graves identified as Cuman by Fedorov-Davydov and dated to the eleventh-thirteenth centuries, 70% was associated with horses in some form. Only seven of them contained whole horse bodies although body parts (and probably remnants of the hide) were discovered in 35 graves. There is a great variability in grave orientation and arrangement; sometimes the horse was placed in the same pit as the human, but in other cases, separate pits were prepared for the human and the animal body.¹⁵²⁰ The southeast-northwest orientation is

¹⁵¹⁷ This is, in fact, not a grave, only a stirrup that was discovered in 1979. Although Horváth identified it as probably Cuman, Pálóczi Horváth is more cautious and concluded that it may be dated before the arrival of the Cumans. As it is only a single find, it is not advisable to classify it as a grave find. The relation between this find and the Cuman grave discovered in 1902 at the same location is unknown. (Ferenc Horváth, "Régészeti adatok a kunok dél-alföldi történetéhez", in *A Jászkunság kutatása 1985* [Studies on Iasia and Cumania, 1985], ed. István Fazekas, László Szabó and István Sztrinkó (Kecskemét: Szolnok: Kiskunfélegyházi Városi Tanács, 1987), 66-74: 67-68 (henceforth: Horváth, Régészeti adatok a kunok dél alföldi történetéhez); Pálóczi Horváth, Hagyományok, kapcsolatok és hatások, 135-136.)

¹⁵¹⁸ This find also consists of a single stirrup, found in 1973. Horváth classified it as probably Cuman; Pálóczi Horváth is more cautious. (Horváth, Régészeti adatok a kunok dél alföldi történetéhez, 68; Pálóczi Horváth, Hagyományok, kapcsolatok és hatások, 136.)

¹⁵¹⁹ This is a recent excavation so the interpretation of the findings is still in progress.

¹⁵²⁰ Pálóczi Horváth, Hagyományok, kapcsolatok és hatások, 55. A great variability was observed in twelfth-thirteenth-century Cuman burials from the steppe. Fedorov-Davydov identified five types and 15 variants through the analysis of 60 kurghan graves. In 35 cases with partial horse burials, the horse's head and legs were placed in the grave in anatomical order, with the head oriented to the west, placed south or north of the human body, or above it. In two further cases, the horse bones were placed on a small elevation within the grave. Whole horse skeletons were only found in seven cases; the horse's head was always situated in the western corner of the grave pit. In one case, the horse was buried in a separate pit, north of the human body. (German Alexeyevich Fedorov-Davydov, *Kocevniki Vostocnoj Evropy pod vlastu zoloto-ordynskikh hanov*. [The Nomads of Eastern Europe Under the Rule of the Golden Horde Khans] (Moscow, 1966), 120-133, 142-150 (henceforth: Fedorov-

typical for the Cumans in Southern Russia,¹⁵²¹ but a great variability has been observed both in the Russian and the Hungarian record.

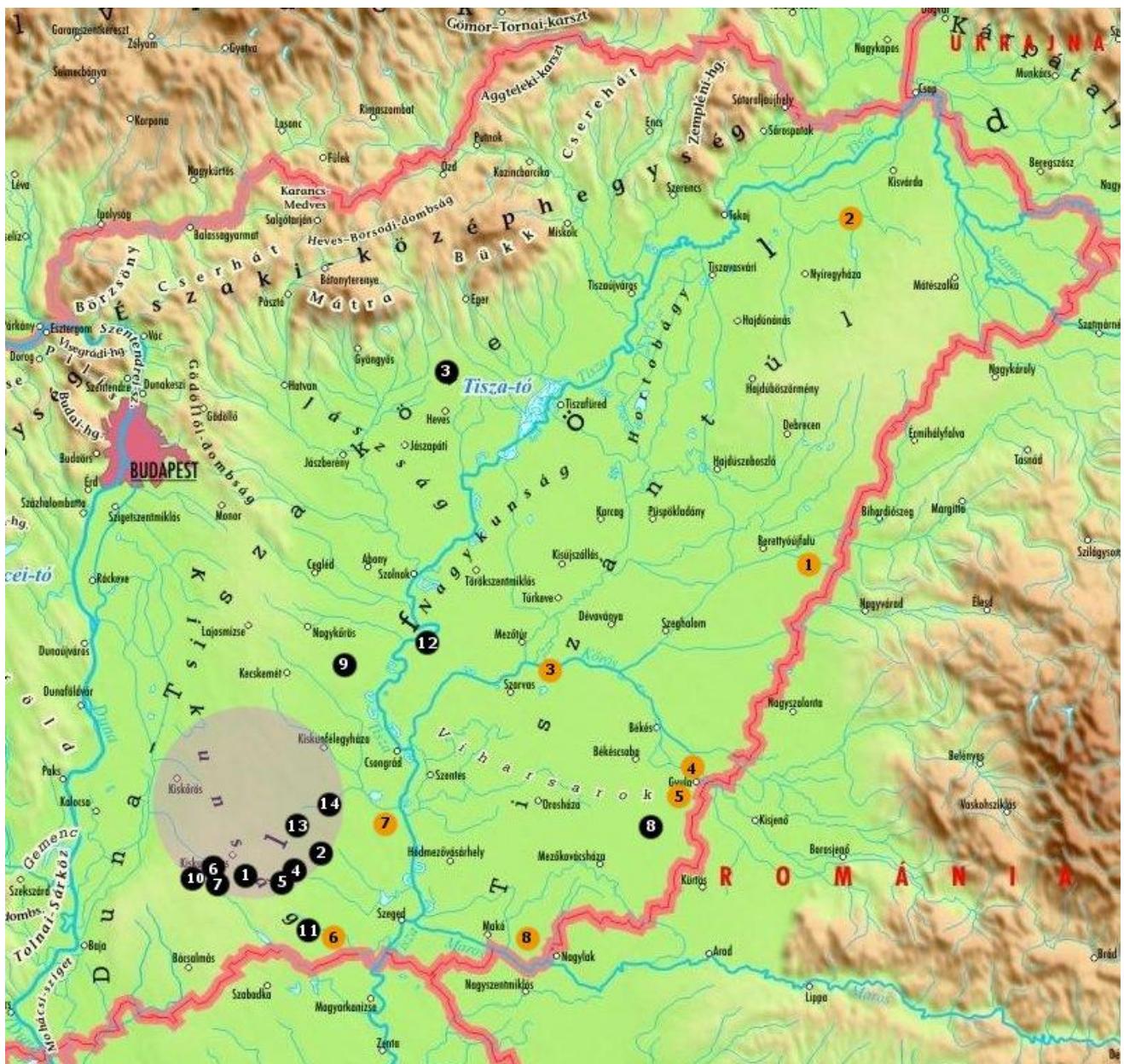


Fig. 5.2.1 (Horse) burials associated with the Cumans, shown in the map of present-day Eastern Hungary. The black dots mark the graves undoubtedly Cuman, while the brown ones those that are hypothetically connected to them. The circle in Lesser Cumania shows Horváth's hypothetical circle of noble burials. The numbers correspond to those in Table 5.2.1.

Davydov, Kochevnični Vostochnoy Evropy pod vlastyu zolotoordynskih hanov), Selmečzi, A magyarországi kunok temetkezése, 27-31)

¹⁵²¹ Pálóczi Horváth, A magyarországi kunok, 244.

These horse burials are relatively well known from written accounts as well. Alberich of Troisfontaines shortly reports on such a ceremony. A certain Ionas or Ioan, a Cuman chieftain (*maior in regibus Comanorum*) also mentioned in a 1274 charter of Bela IV,¹⁵²² made an alliance with Constantinople and died in 1241. As he was not baptized, he was buried outside the city walls of Constantinople in a “high mound”, together with eight servants who voluntarily chose to follow their master into death as well as 26 horses, all buried alive.¹⁵²³

Perhaps the best known description of such a ritual is found in Joinville’s chronicle of St Louis. He wrote down a report he heard from Nariot de Toucy, who had family ties to the Cuman élite: his foster mother was the daughter of the above mentioned Cuman chieftain Ioan. He supplied Joinville with first-hand information on Cuman burial customs when they met in 1252, and the ceremony revealed in his account is very similar to the one briefly mentioned by Alberich.

“Further he told as a great marvel that he saw while he was in their camp: that a rich knight lay dead, and they had made him a great grave and wide in the ground, and had set him very nobly and well arrayed in a chair, and they put with him the best horse that he had and the best man-at-arms, both alive. The man, before he was put in the grave with his lord, took his leave of the King of the Comans and of the other rich lords; and at the leave-taking that he made with them, they put in his scarf great plenty of gold and of silver, and told him: ‘When I come into the other world shalt thou give me back what I entrust to thee.’ And he said: ‘So will I, right willingly.’ The great King of the Comans gave him a letter for their first King, which brought him word that this worthy man had led a good life and had served him passing well, and that he should give him the

¹⁵²² He was probably a chieftain of the Cumans living in the region of the Olt River (in present-day Romania). In 1247, Béla IV donated Ioan’s former lands to the Knights of St John. Béla IV refers to these lands as *Kenezatus Joan et Farcasii usque ad fluvium Olth*. This charter is included in Gyárfás’ collection, but with a different wording that does not refer to Ioan (Gyárfás, A jász-kunok, vol. 2, 405); the version with Ioan’s name is only briefly mentioned by Kuun and Nagy (Géza Kuun, *A kúnok nyelvéről és nemzetiségről* [On the Language and Ethnicity of the Cumans] Értekezések a Nyelv- és Széptudományok köréből 12. (Budapest: Magyar Tudományos Akadémia, 1885), 12, footnote 1; Nagy, *A régi kunok temetkezése*, 107.) This piece of information, however, is particularly interesting, because the Cumans who left Hungary in 1241 and moved back in 1246 probably came into contact with these Cuman groups living in the Olt region.

¹⁵²³ “*Mortuus est hoc anno rex Ionas predictus nondum baptizatus, et idcirco sepultus est extra muros civitatis in altissimo tumulo, et octo armigeri suspensi sunt vivi a dextris et a sinistris et ita voluntarie mortui, et 26 vivi equi similiter ibi fuerunt appensi.*” Paulus Scheffer-Boichorst ed, *Chronica Albrici Monachi Trium Fontium*. (ed.) *Monumenta Germaniae Historica: Scriptorum*. Vol. 23. (Hannover: Hahnian, 1874), 950. (henceforth: Alberic de Troisfontaines ed. Scheffer-Boichorst)

guerdon of his service. When this was done, they put him in the grave with his lord and with the horse, all alive; and then threw over the mouth of the grave planks well joined, and all the host ran for stones and earth; and before they sleep had they made in remembrance of those that they had buried a great mound above them.”¹⁵²⁴

These customs were varied. In Joinville’s account, the deceased was placed on a chair and buried in a sitting position, as opposed to the graves excavated in Hungary and the Russia steppe, the majority of which contained bodies lying on their backs. William of Rubruk’s account mentions horses in a burial context, but not animals buried with their masters, but those killed, skinned (and perhaps eaten at the feast) with their skins hung on poles:

“The Comans raise a large mound over the deceased and set up a statue to him, facing eastwards and holding a cup in its hand in front of the navel. In addition, for the rich they build pyramids, namely little pointed houses; and in some places I saw large towers of baked tiles, and in others houses of stone, although stone is not to be found there. I saw a man recently dead for whom they had hung up between high poles sixteen horse hides, four towards each quarter of the earth, and they laid down *comos*¹⁵²⁵ for him to drink and meat for him to eat – and for all that they were claiming that he had been baptized.”¹⁵²⁶

The twelfth-century Byzantine chronicler Niketas Choniates also mentions that a Cuman nobleman was buried with his fastest horse, his bow and double-edged sword while his Byzantine captive was buried with him alive.¹⁵²⁷ Plano Carpini wrote about Mongol burial customs that not only was a riding horse buried with the deceased, but also a mare and a foal:

“When he is dead, if he is one of the less important men, he is buried in secret in the open country wherever it seems good to them. He is buried with one of his dwellings, sitting in the middle of it, and they place a table in front of him, and a dish filled with meat and a goblet of mare’s milk. And they bury with him a mare

¹⁵²⁴ Natalis de Wailly and Joan Evans tr. and ed. *Jean Sire de Joinville - The History of St. Louis* (London – New York – Toronto: Oxford University Press, 1938), 150-151. (henceforth: Joinville ed. Wailly and Evans)

¹⁵²⁵ Koumiss, fermented mare’s milk.

¹⁵²⁶ Rubruck ed. Jackson and Morgan, 95-96.

¹⁵²⁷ Györffy, A kipcsaki kun társadalom, 265.

and her foal and a horse with bridle and saddle, and another horse they eat and fill its skin with straw, and this they stick up on two or four poles, so that in the next world he may have a dwelling in which to make his abode and a mare to provide him with milk, and that he may be able to increase his horses and have horses on which to ride. The bones of the horse which they eat they burn for his soul; also the women often assemble to burn bones for the men's souls, as we saw with our own eyes and learned from others there.”¹⁵²⁸

Rubruk’s journey dates to 1253, Joinville’s to the 1240s, and that of Plano Carpini to 1245-46. Thus, these reports represent a narrow chronological window in the thirteenth century.

Other, similar descriptions of funeral rites testify to the variety of horse-related burial customs in the steppe region. In the Book of Tang it is written about the funeral customs of sixth-century Turkic tribes that the catafalque is erected in a yurt, the family of the deceased kills horses and sheep as sacrifices, and cut their own faces with knives as a sign of mourning. On a chosen day, they take all belongings of the deceased, including the horse he rode, and burn it; they collect the ashes, and bury them on another chosen day, on which the above ceremonies are repeated. The head and skin of the sacrificed horses and sheep are put on poles on display.¹⁵²⁹ Byzantine sources also mention the custom of sixth-century Turks who buried horses and servants along with a deceased nobleman;¹⁵³⁰ the Khitans also performed horse sacrifices and burnt the dead man’s possessions at the funeral.¹⁵³¹ To establish a typology and provide detailed interpretation of these manifold and complex traditions associated with horses in funeral rites of steppe cultures would be a topic for another PhD thesis, nevertheless, it is certain that Cumans who came to in Hungary brought similar – and probably similarly varied – traditions with themselves.

It is worth mentioning here that horse burial was practiced by a number of groups in the steppe region, including the Scythians while similar customs were reported by Antique authors

¹⁵²⁸ Plano Carpini ed. Dawson, 12-13.

¹⁵²⁹ István Erdélyi, Ázsiai lovas nomádok. *Régészeti expedíciók Mongóliában* [Horse Riding Nomads of Asia. Archaeological Expeditions to Mongolia] (Budapest: Gondolat, 1982), 153 (henceforth: Erdélyi, Ázsiai lovas nomádok); István Vásáry, *A régi Belső-Ázsia története*. [The History of Ancient Inner Asia] Magyar Östörténeti Könyvtár 7. (Szeged: József Attila Tudományegyetem, 1993), 81. (henceforth: Vásáry, A régi Belső-Ázsia története)

¹⁵³⁰ Vásáry, A régi Belső-Ázsia története, 70.

¹⁵³¹ Vásáry, A régi Belső-Ázsia története, 101.

which should set off scholarly alarm bells. Reports on such customs practiced by Cumans and other steppe people could well have been influenced by these Antique texts. In fact, the passage on Scythian burial customs provided by Herodotus is very similar to those by Joinville and Rubruck.¹⁵³² Of course, it is not possible to address the complex topic of borrowed elements in the written sources concerning the Cumans here; however, it must be kept in mind that there existed in scholarly circles an image of the nomadic steppe warrior, which must have been used at least as a mental reference. Although the discussion of the survival of such customs and beliefs is beyond the scope of this study, it is worth mentioning here that although proper horse sacrifices are no longer practiced, it seems that some of these concepts have been preserved in Inner Asian cultures. In Kazakh and Kirghiz folklore, horses often appear in a sacrificial contexts, and the word used for a three year-old stallion (*baytal*) also means sacrificial animal.¹⁵³³

In the case of the Csengele burial, it was clear that the burial rite itself took place in different phases. The warrior was buried first, along with his armor and weapons. Another pit was excavated for the horse, which was sacrificed and buried later.¹⁵³⁴ This burial is also special because a stone wall separated the horse and the warrior, which had never been observed in the Hungarian material before, although it was widespread in the area of present-day Kirghizistan and Kazakhstan in the seventh-thirteenth centuries.¹⁵³⁵ Horváth interpreted this stone structure as a marker that made it easier to dig the horse's grave later without damaging the grave of the warrior.¹⁵³⁶ In Pletneva's view it was customary for the Cumans to bury the horse in a separate

¹⁵³² Herodotus writes about the Scythians: "There the body of the dead king is laid in the grave prepared for it, stretched upon a mattress; spears are fixed in the ground on either side of the corpse, and beams stretched across above it to form a roof, which is covered with a thatching of osier twigs. In the open space around the body of the king they bury one of his concubines, first killing her by strangling, and also his cup-bearer, his cook, his groom, his lacquey, his messenger, some of his horses, firstlings of all his other possessions, and some golden cups; for they use neither silver nor brass. After this they set to work, and raise a vast mound above the grave, all of them vying with each other and seeking to make it as tall as possible." Herodotus ed. Rowlinson, Book IV. Digital edition: <http://classics.mit.edu/Herodotus/history.4.iv.html> (Accessed 06.18.2014.)

¹⁵³³ Bartha, Fejezetek a Tien-san vidékének néprajzához, 56.

¹⁵³⁴ Horváth, A csengelei kunok, 107, 116-123. The warrior was buried with his helmet, a mail armor, arrows and a knife. (Horváth, A csengelei kunok, 96-99, 153-172.) Interestingly, the two stirrups have different forms and structures. This, however, is not due to some religious belief, but has a simple, practical reason: the left stirrup, whose tread piece was straight, was used to mount the horse and to support the rider's balance while using the bow; the right stirrup, on the other hand, was round, which made it easier for the rider to put his foot into it when the horse was already on the move, right after the rider mounted. (Horváth, A csengelei kunok, 175-178.)

¹⁵³⁵ Horváth, A csengelei kunok, 113.

¹⁵³⁶ Horváth, A csengelei kunok, 118.

grave close to its master.¹⁵³⁷ The later horse sacrifice raises the possibility that in this case, the animal was not simply meant to be company for its master, but some kind of an offering to the deceased, who already had entered the line of ancestors.¹⁵³⁸

The way these animals were killed is unknown; there is no trace of a killing blow on the bones of the Csengele individual. Ethnographic analogies suggest a number of ways the beast could be killed. The Beltir of Minusinsk (who are, interestingly, Christians) tie up the horse to be sacrificed and one man pierces a knife through the neck, between the ear and the nape of the neck.¹⁵³⁹ The sacrificial horse is often eaten at the feast. The Tatars of Minusinsk consume the horse of the deceased 40 days after his death.¹⁵⁴⁰ (A 40 days' period was observed by the Cumans as well; this is the approximate time needed for a body to decompose and thus, it was believed that the journey of the deceased to the other world took 40 days.¹⁵⁴¹) In fact, elements of such horse burials still exists in present-day Kazakhstan: Mihály Benkő observed with the Kazakh communities in Bayan-Ölgii province (in present-day Mongolia) that if someone dies, in the

¹⁵³⁷ Svetlana Alexandrovna Pletneva, “Pecenegi, torki i polovcy v juznorusskikh stepyah” [Pechenegs, Turks and Polovtsy in the South Russian Steppes.] In: *Trudy Volgo-Donskoj arheologiceskoj ekspedicii.* [Proceedings from the Volga-Don Archaeological Expedition] ed. Mikhail I. Artamonov, Materialy i issledovanija po arheologii SSSR 62. (Moscow, 1958), 151-226: 173. (henceforth: Pletneva, Pecenegi, torki i polovcy v juznorusskikh stepyah)

¹⁵³⁸ Horváth, A csengelei kunok, 123.

¹⁵³⁹ László, A honfoglaló magyar nép élete, 351. Horváth mentions the custom of strangling the horse, practiced by the Tatars of Minusinsk, but I was unable to find this piece of data in the references he provided. It seems that he misread Gyula László's text (and read “megföjtják”, strangle, instead of “megfogják”, take the horse). In fact, huge physical strength would be necessary to strangle a horse that tries to escape. (Horváth, A csengelei kunok, 121; László, A honfoglaló magyar nép élete, 351.) Interestingly, this way of killing the beast may have a functional aspect as well. Namely, this is the way a relatively large animal can be disposed of using a blade of only ca 10 cm in length as in the finale of bull fights. This has been demonstrated in faunal material dated to the Migration Period, as well as on cattle cervical vertebrae from Scotland. Ethnographic analogies suggest that the intervertebral opening between the atlas and the epistropheus was a weak point well known in archaic cultures. (László Bartosiewicz, Maureen Vaughan and Zsuzsanna Tóth, “Roman Period Evidence for a Special Form of Perimortem Trauma in Large Livestock”, *Archeometriai Műhely* 10/4 (2013), 301-305.)

¹⁵⁴⁰ László, A honfoglaló magyar nép élete, 351. The fortieth day is also observed by the Kazakhs in the Tien-Shan region: they hold a ceremony in commemoration of the deceased on the third, seventh, fortieth and fifty-second day after his death, as well as on the first anniversary. (Bartha, Fejezetek a Tien-san vidékének néprajzához, 54). The Kirghiz of the Issyk-Kul region put a horse's tail on a pole on display to honor the deceased, and the funeral ceremonies last for seven, twenty or forty days. (Almásy, Vándorutam Ázsia szívébe, 728.)

¹⁵⁴¹ Horváth, A csengelei kunok, 121; Györffy, A kipcsaki kun társadalom, 265. The importance of this 40 days' period in burial customs was even observed by Herodotus by the Scythians: “Such, then, is the mode in which the kings are buried: as for the people, when any one dies, his nearest of kin lay him upon a wagon and take him round to all his friends in succession: each receives them in turn and entertains them with a banquet, whereat the dead man is served with a portion of all that is set before the others; this is done for forty days, at the end of which time the burial takes place.” Herodotus ed. Rawlinson, Book IV, digital edition: <http://classics.mit.edu/Herodotus/history.4.iv.html> (Accessed 06.18.2014.)

morning of the funeral day, the favorite horse of the deceased is sacrificed and consumed, and its head and four legs are disposed of on a mountain top on the seventh day after the burial. The head is sometimes put on a pole with the leg bones under it.¹⁵⁴²

How was the animal to be sacrificed chosen? An answer to this question would cast light on the Cuman perception of the human-animal bond in general. The written sources do not reveal anything on this matter; they do not specify if the horses put in the grave were the most beloved or most beautiful beasts in the nobleman's possession, or whether horses of not much use to the family were picked to be killed this way. Obvious economic considerations would suggest the latter; however, it must be kept in mind that these are burials of the élite, and financial factors may have been secondary to those of status representation. In Joinville's text it is explicitly said that nobles of the Cuman community were present at the burial rite, and also contributed to the grave goods in the form of gold and silver objects. Moreover, the rite was also perceived as a form of communication with the ancestors (in the form of a letter sent to the first king of the Cumans, probably a mystical ancestor figure). Therefore, it is more logical to assume that status display was a crucial factor at these ceremonies. If the deceased was an influential figure in the community; the family's continuity in this position had to be shown and justified. As we have seen in Chapter 3, the individual buried with the warrior at Csengele was a fine horse whose DNA exhibited correlations with the Arab Seglawi bloodline. This animal was probably used for purposes of representation rather than actual military campaigns, as the pathologies observed on the lumbar region of its spine probably adversely affected its agility. Even though an emotional bond between horse and master may well have been a factor, something which does not appear in the archaeological record, after all, in this case it seems that a beast that was probably expensive, difficult to acquire and embodied some concept of nobility, was chosen. Such reasoning must be even more important in cases when the animal was separately sacrificed and buried, not as part of the human burial ceremony but as a distinct offering.

According to Pletneva (following Vitt's study), the horses buried in the Cuman cemetery of Sharkel-Belya-Vezha represented two types: a massive legged horse type with a relatively big skull, and another, more refined type with long and slender leg bones, smaller head and

¹⁵⁴² Mihály Benkő, *Nomád világ Belső-Ázsiában. Látogatóban öseinknél. - Nomadic Life in Central Asia. Visit at Our Ancestors* (Budapest: Timp, 1998), 126. (henceforth: Benkő, *Nomád világ Belső-Ázsiában*)

narrow snout.¹⁵⁴³ The latter type resembles the individual excavated at Csengele; however, only a systematic biometric study would reveal a connection between these animals; Vitt's readiness to connect the animals' stature with social status should be revised. It cannot be excluded, however, that the type of the animal placed in the grave depended on the status of the deceased.

It would be particularly interesting to know if there were any gender-defined differences between the horses found in the graves. It is noteworthy that in the case of one female grave containing a horse whose orientation is known (the one from Inoka), the human and the animal bodies were both oriented toward the East, while in the case of male graves the man and the beast are typically placed opposite to each other. However, this woman's grave is only known from a sketch whose authenticity is uncertain. At Bánkút, the woman and the horse were oriented in the opposite direction, and the beast lay on the human's right side. So far, no clear pattern can be established in this regard in the Hungarian material; nevertheless, the dataset is not complete and in many cases the circumstances under which the finds were discovered and their original situation is unknown. The opposing orientation of man and beast may have various explanations including the separation of animal and human, or different routes awaiting them in the afterlife; it also may have been believed that it was easier for the dead to mount his horse if they were positioned facing opposite directions.¹⁵⁴⁴ Interestingly, of the ca. 600 burials examined by Fedorov-Davydov, only in 39 cases were the man and the beast oriented in opposite directions, and not more than 16 of these involved the burial of a whole horse.¹⁵⁴⁵ Horváth suggests that this custom was not really characteristic for the Russian steppe region in the tenth-fourteenth

¹⁵⁴³ Vitt investigated ca. 60 horses from kurgan burials, and found a relatively large variability in their size as well as cranial character. Their metacarpal slenderness indices, however, varied only between 14.1 and 15, signifying slender legged and slightly slender legged animals based on Brauner's categories. According to Vitt, the second horse type with thin and slender legs was also locally bred, but it was a distinguished horse type used by the nobility, and was taken care of with special attention. Such animals were found in burial mounds with a rug placed beneath them. (O. V. Vitt, "Loshadi Pazyrykskikh kurganov" [Horses of the Pazyryk kurgans] *Sovetskaja Arheologija*, 16 (1952), 163-205: 172-173, table 1; 173, table 2; 174, table 4 and 5; 181, fig. 15; Pletneva, Pecenegi, torki i polovcy v juznorusskikh stepjakh, 188. (When discussing this issue, Horváth cites Pletneva's 1981 article (Svetlana Alexandrovna Pletneva, "Pecenegi, torki, polovcy" [Pechenegs, Turks and Cumans] in *Stepi Evrazii v epohu srednevekovaya* [The Eurasian Steppes in the Middle Ages], ed. Svetlana Alexandrovna Pletneva, Arheologija SSSR. Moscow, 1981, 213-223), however, it seems to be a mistake, and he probably wanted to refer to her 1958 work (Horváth, A csengelei kunok, 173-174.))

¹⁵⁴⁴ Erdélyi, Ázsiai lovas nomádok, 194.

¹⁵⁴⁵ German Alekseyevich Fedorov-Davydov, *Kochevniki Vostochnoy Evropy pod vlastyu zolotoordynskikh hanov* [The Nomads of Eastern Europe Under the Rule of the Golden Horde Khans] (Moscow: Izdatelstvo Moskovskogo Universiteta, 1966), 124-129.

centuries, but has firm analogies in Inner Asia.¹⁵⁴⁶ He raised the possibility that this particular grave is not necessarily associated with the Cumans themselves, but rather with a larger conglomerate of steppe people, in which various ethnic and cultural elements coexisted; perhaps the warrior buried at Csengele originated from an Inner Asian tribe that joined the Cuman military alliance on their move to the West: the Kimeks, Karlucks or the Oghuz.¹⁵⁴⁷

Although a precise ethnic identification cannot be provided – and it would be, above all, meaningless to discuss such levels of “ethnicity” within the complexity of intertwined (and perhaps even artificially constructed and arbitrarily differentiated) steppe cultures – it is a warning that the community known to us as Cumans may have had customs as varied as the tribes living in the vast area from Inner Asia to the western edges of the steppe region. A community of refugees brought together mainly by necessities could not have been constituted a homogenous unity, even though as outsiders they may have been perceived as such by their contemporaries, given the relatively huge distance between cultures of the steppe and that of the feudal Hungarian state.

Symbolic horse burials may be explained in various ways, one of them being the considerable wealth a horse must have represented. In connection with Hungarian horse burials, Kornél Bakay raised the possibility that the custom of burying harnesses and / or saddles may be rooted rather in purely economic rather than spiritual reasons.¹⁵⁴⁸ The loss to the horse herd or other financial issues are also suspected behind cases in the Russian steppe when the stone wall separating human and beast is there, but the horse was not sacrificed and buried and that part of the grave was left empty.¹⁵⁴⁹ On the other hand, differences in burial customs, such as burying a whole horse, only parts of it, or only its saddlery, may reflect differences in social status, or even in family origins. Bartha reports that even in modern Kazakh communities (although they are converted to Islam), the deceased is buried with his saddle.¹⁵⁵⁰ Symbolic horse burials are also

¹⁵⁴⁶ Horváth, A csengelei kunok, 242-244.

¹⁵⁴⁷ Horváth, A csengelei kunok, 239-250, 258-262.

¹⁵⁴⁸ The value of horses is expressed e.g. in the strict legal regulation of their trade. Both László and Bakay mention that the horse of the deceased could be offered to the church as an alternative, possibly a remnant of the old custom of sacrificing the horse of the deceased. (László, A honfoglaló magyar nép élete, 344-345; Kornél Bakay, “Archäologische Studien zur Frage der ungarischen Staatsgründung,” *Acta Archaeologica Academiae Scientiarum Hungaricae* 19 (1967), 105-173: 149-150; Vörös, Ló az Árpád-kori Magyarországon, 187-188, 196-198)

¹⁵⁴⁹ Horváth, A csengelei kunok, 120.

¹⁵⁵⁰ Bartha, Fejezetek a Tien-san vidékének néprajzához, 49.

present in modern-day Kirghiz: they place saddle and a horse's mane along with a bow and arrows on the grave. Similar customs were recorded by the modern Beltir and Karagas in the Minusinsk region.¹⁵⁵¹

A horse skeleton recently excavated at Csanádpalota may be associated with the Cumans as well. The animal was found in 2013 by the archaeologist, Zsolt Gallina,¹⁵⁵² and was examined by the author; the finding has partly been published since then.¹⁵⁵³ This animal was placed in a pit alone; the pit's bottom is 15-19 cm higher under the horse's head and buttocks. Thus, its head was placed in an upright posture in an elevated part of the pit. The animal lay with its abdomen in a ventral position, with its legs flexed under the body. The skull was mostly destroyed by the machine excavator but the mandibles and some of the teeth are preserved. The skeleton belonged to a ca. 13 year-old stallion that was 134 cm tall at its withers. Pathological lesions were observed on the spine, on the last seven thoracic and all lumbar vertebrae: exostoses on the spineous and articular processes ("kissing spine" syndrome); the two last lumbar vertebrae are fused. The horse was saddled, but interestingly, no girth buckle was found, although the stirrups clearly signify that a saddle must have been placed on the horse's back. What makes this find particularly interesting is the presence of small, gilded brass plate fragments on the animal's body. On the basis of their position and the size of their holes, the small ornamental brass plates were sewn onto some textile with which the horse was covered or wrapped. In Gallina's view, these were too small and too delicate to be attached to the harness. As there was no human found with the horse, this grave is probably not a proper horse burial but rather the animal was deliberately deposited separately; the supposedly expensive textile with which the body seems to have been covered may signify the value placed on this individual, or even an emotional bond. The archaeological and art historical investigation of the grave goods are still ongoing. According to the excavators, the burial is probably associated with a Mongolian or Cuman presence in this area in the mid-thirteenth century, and most probably with the Mongol

¹⁵⁵¹ László, A honfoglaló magyar nép élete, 351.

¹⁵⁵² I hereby thank Zsolt Gallina for his permission to describe this find in my thesis; I also thank him for providing his preliminary interpretation of the assemblage.

¹⁵⁵³ Kyra Lyublyanovics, "A csanádpalotai ló archeozoológiai vizsgálata" [The archaeozoological analysis of the horse from Csanádpalota], in *Carmen Miserabile – A tatárjárás magyarországi emlékei. Tanulmányok Pálóczi Horváth András 70. születésnapja tiszteletére* [Carmen Miserabile – The Memory of the Mongol Invasion in Hungary. Studies in the Honor of András Pálóczi Horváth's 70th Birthday], ed. Szabolcs Rosta and György V. Székely (Kecskemét: Katona József Múzeum, 2014), 175-180.

Invasion.¹⁵⁵⁴ Hopefully, a C14 analysis will provide a precise dating which will help to identify the burial's historical context. It is clear, however, that this animal is very different from the one excavated at Csengele. Not only is it much smaller, but it is rather massive legged (the metacarpals' slenderness index is 16.9). Judged from the back pathologies, this animal was probably overridden.¹⁵⁵⁵

As we have seen, these burials certainly constituted a crucial part of steppe culture and were probably perceived as a conclusive act of social identity, date to the early fourteenth century at the latest. There is no trace of this custom in the later periods. The fact that there are relatively few of these graves in relation to the mass of Cumans who migrated into the Hungarian Kingdom, suggests that this act of self-representation was only performed by a small circle of élites, and was, in fact, not a widespread custom. The disappearance of these phenomena signifies a change in the élite's view of themselves, and possibly also a change in the community's status. The time when these burials disappear from the record, more or less, correspond to the period when the Cuman Laws were implemented and when the Cuman military troops lost their former importance in the royal army. Hungarians came into more intense contact with mercenaries equipped with the best, most up-to-date weapons during the military campaigns in Italy, and a modernization of the Hungarian royal army was unavoidable.¹⁵⁵⁶ This also meant that Cuman light cavalry lost its former value, which marked a significant change in their relations with the host society.

5.2.1.2 Dogs in burial contexts

Dogs had a similarly manifold role in the belief systems of steppe cultures as horses. The importance of dogs was not unknown in the Hungarian population either; the material culture of Conquest and Árpád Period cemeteries and settlements yielded dog-related phenomena labeled

¹⁵⁵⁴ Gyöngyi Gulyás and Zsolt Gallina, "Magányos kun lósír Csanádpalotáról" [Cuman Horse Burial from Csanádpalota] in *Carmen Miserabile – A tatárjárás magyarországi emlékei. Tanulmányok Pálóczi Horváth András 70. születésnapja tiszteletére* [Carmen Miserabile – The Memory of the Mongol Invasion in Hungary. Studies in the Honor of András Pálóczi Horváth's 70th Birthday], ed. Szabolcs Rosta and György V. Székely (Kecskemét: Katona József Múzeum, 2014), 151-168: 153.

¹⁵⁵⁵ Frances M.D Henson and Jessica A. Kidd, "Overriding dorsal spinous processes," in *Equine Back Pathology. Diagnosis and Treatment*, ed. Frances M.D. Henson (Oxford: Wiley-Blackwell, 2009), 147-156.

¹⁵⁵⁶ Pálóczi Horváth, Pechenegs, Cumans, Iasians, 84.

ritualistic in a number of cases, although they are scarce on the Great Hungarian Plain.¹⁵⁵⁷ These sometimes involved whole dog skeletons, sometimes only the head. The dogs could be buried between the graves, close to the humans but not in the same pit, or next to the human in the same grave.¹⁵⁵⁸ In Árpád Period Hungarian settlements, dog heads are sometimes found in houses, ovens, pits or trenches, and sometimes even in pots; dog or wolf canines and astragali are typically associated with a protective function and were placed into the graves of women and children as amulets.¹⁵⁵⁹

Dog burials were widespread in the steppe region, and were supposedly associated with a wide range of complex beliefs, which are today mostly beyond reconstruction. Some 32% of the tenth-eleventh-century kurgan burials excavated at Yaroslavl yielded dog bones.¹⁵⁶⁰ Fedorov-Davydov mentions that at Chokrak, in one of the central habitation areas of the Cumans in the Crimea, archaeologist P. N. Schultz recovered a dog skeleton in a kurgan, from under a stone near a grave pit in which relics of other animal sacrifices (horse, ox and sheep) were found beside two *kamennaya baby* statues of two warriors.¹⁵⁶¹

The Cumans seem to have brought similar customs with them from the steppe region. The Csengele excavations brought to light not only the horse but also several dog skeletons deposited in strange contexts. The remains of two wooden houses, encircled by a fence, were brought to

¹⁵⁵⁷ Dog burials and sacrifices in medieval Hungary were extensively discussed by István Vörös in two studies (István Vörös, "Kutyaáldozatok és kutyatemetkezések a középkori Magyarországon. I." [Dog sacrifices and dog burials in medieval Hungary. Part 1] *Folia Archaeologica* 41 (1990), 117-145; István Vörös, "Kutyaáldozatok és kutyatemetkezések a középkori Magyarországon. II." [Dog sacrifices and dog burials in medieval Hungary. Part 2] *Folia Archaeologica* 42 (1991), 179-193; henceforth: Vörös, Kutyaáldozatok és kutyatemetkezések I. and II).

¹⁵⁵⁸ Finds where whole dogs were buried along with the deceased are known only from the literature, and the circumstances of their discovery and the finds' position in the grave(s) are not always clear. The dogs are typically placed in a different pits (sometimes above the deceased), or only some bones were placed in the grave, possibly as amulets. (Vörös, Kutyaáldozatok és kutyatemetkezések I., 128-136, 139.) The site of Eperjes – Ifjú Gárda TSZ is especially interesting. This dog was buried between two rows of graves, and is dated to the eleventh century. The animal was probably strangled before it was buried, as it is suggested by the unnatural *in situ* position of the neck and head. Vörös, Kutyaáldozatok és kutyatemetkezések I.", 128-129; Csanád Bálint, "A kutya a X-XIII. századi magyar hitvilágban" [The dog in the tenth-thirteenth centuries beliefs of Hungarians] A Móra Ferenc Múzeum Évkönyve 1971/1, 295-315: 304. (henceforth: Bálint, A kutya a X-XIII. századi magyar hitvilágban)

¹⁵⁵⁹ Daróczi-Szabó, Pets in pots, 244-249; Vörös, Adatok az Árpád kori állattartás történetéhez, 101; Vörös, Kutyaáldozatok és kutyatemetkezések I, 136-138.

¹⁵⁶⁰ Bálint, A kutya a X-XI. századi magyar hitvilágban, 306, footnote 22.

¹⁵⁶¹ Fedorov-Davydov, Kochevnički Vostochnoy Evropy pod vlastyu zolotoordynskih hanov, 191-192. Cited also by Pálóczi Horváth, A Lászlófalu 1969-70-ben végzett régészeti ásatások eredményei, 293, footnote 49, and by Peter Benjamin Golden, "Wolves, Dogs and the Qipcaq Religion" in *Nomads and Their Neighbours in the Russian Steppe. Turks, Khazars and Qipcaqs*, Varia Collected Studies Series (Aldershot – Burlington, VT: Ashgate, 2003), 87-97: 96. (henceforth: Golden, Wolves, Dogs and the Qipcaq religion)

light south of the warrior's grave, in its close vicinity. Their structure and size was almost identical and were probably built at the same time. In the northern house, an oven yielded the skeleton of a headless dog. A huge stone situated in the middle of the house was interpreted by Horváth as a sacrificial stone.¹⁵⁶² The other house, discovered in the eastern part of the enclosed area, featured a hearth in which burnt animal bones were found. Horváth suggested that these structures were not used as dwellings but for religious purposes, and animal burning rituals were carried out in them.¹⁵⁶³

Several other dog skeletons were found in the fill of the trench that surrounded the Árpád Period church (destroyed in the Mongol Invasion and later rebuilt), at a 8-10 m distance from the encircled area associated with the "houses" and the warrior's grave. The remains of altogether nine dogs were brought to light; their zoological evaluation was discussed in Chapter 3. Horváth argued that this area was probably not used to simply deposit animal carcasses, as the warrior's grave is very close by. Bárány, however, is more cautious and concludes that a ritualistic context cannot be demonstrated.¹⁵⁶⁴ However, the fact that the dogs' heads were oriented to the south or southwest in all cases probably indicates a deliberate deposition (moreover, the warrior's horse was also oriented to the southwest). Interestingly, some of the skeletons were only partial, but the missing parts seem to have been removed cautiously, with a detailed knowledge of the animal's anatomy. (Another explanation is that the carcass had already partly disintegrated when it was deposited.) One pit contained only a dog's head. In another case, only the pelvis and the femurs are missing, all other bones were found in place. Neither István Vörös, nor Annamária Bárány, the archaeozoologists who investigated the remains found traces of cut marks, which also suggests that the missing body parts were removed carefully.¹⁵⁶⁵

The relationship between these burials and the Christian church is a perplexing question. The church was rebuilt in the second half of the thirteenth century, and a cemetery of commoners

¹⁵⁶² Horváth cites Benkő's ethnographic observation he made among the Kazakhs of the Altay region that any stone of an interesting shape and large size can function as a sacrificial stone. (Horváth, *A csengelei kunok*, 132.) It is not clear, however, if Benkő refers to sacrificial places close to the graves of ancestors or those used by shamans on the mountains. (Benkő, *Nomád világ Belső-Ázsiában*, 118.)

¹⁵⁶³ Horváth, *A csengelei kunok*, 126-141.

¹⁵⁶⁴ Bárány, Cumanian dogs from Csengele, 295-297.

¹⁵⁶⁵ Horváth, *A csengelei kunok*, 143; Bárány, Cumanian dogs from Csengele, 295. It is worth mentioning here that Plano Carpini reports on the Mongols eating the meat of dogs, wolves and foxes (Plano Carpini ed. Dawson, 16); this is, however, probably an exaggeration or a stereotypical image of the barbarian nomads. There is no evidence that the Cumans or other steppe peoples consumed dogs on a regular basis (although it may have been practiced in times of necessity).

was established around it. Horváth concluded, however, that the two wooden buildings erected close by were built after the warrior and his horse were buried, and were used for a longer period of time for sacrificial purposes.¹⁵⁶⁶ He proposed that these may have been connected to ancestor worship, and cites sixth-century analogies of Turkic peoples from the Altai region, who erected the stone sculptures for the dead, the *kamennaya babies*, in areas encircled by fences. Animal sacrifices involving burning were carried out here, testified to by horse and sheep bones found in the ash.¹⁵⁶⁷ Pletneva also reports on the bones of horses, sheep and cattle found at the feet of these statues of ancestors erected within these encircled areas used as sanctuaries.¹⁵⁶⁸ Horváth raises the possibility that the houses excavated in the vicinity of the Csengele warrior's grave were, in fact, "houses of the dead",¹⁵⁶⁹ places where various ceremonies were carried out, and they had to be encircled and hidden by a fence because the actions undertaken in them were not accepted by the church authorities. Statues of the dead / the ancestors, the *kamennaya baby*, well-known from the steppe region but not present in the Hungarian material, may have been erected here as well. Horváth adds, however, that these are only possibilities. The fact that these houses were wooden constructions is somewhat perplexing as Cumans did not use wooden buildings until the twelfth century.¹⁵⁷⁰ Their function, however, seems to be associated with their beliefs, as there was no trace of them having been used as dwellings. Rubruk reports that the Mongols used similar small houses for soothsaying, carried out by burning animal bones and interpreting the cracks on them.¹⁵⁷¹ The act of burning animal bones for the soul of a deceased person is also

¹⁵⁶⁶ Horváth, A csengelei kunok, 147.

¹⁵⁶⁷ Horváth, A csengelei kunok, 147-148; Pálóczi Horváth, Hagyományok, kapcsolatok és hatások, 73-74. Plano Carpini also reports that when the Mongols performed an animal sacrifice in the honor of the idol of their first emperor (an ancestral cult), "they do not break any of their bones but burn them in a fire." (Plano Carpini ed. Dawson, 9.)

¹⁵⁶⁸ Svetlana Alexandrovna Pletneva, "Pecenegi, torki, polovcy" [Pechenegs, Turks and Cumans] in *Stepi Evrazii v epohu srednevekova* [The Eurasian Steppes in the Middle Ages.] Arheologia SSSR. Moscow, 1981. 213-223 In Pletneva, S.A. (ed) *Stepi Evrazii v epohu srednevekova*, ed. Svetlana Alexandrovna Pletneva, Arheologia SSSR. (Moscow, 1981), 213-223: 221; Horváth, A csengelei kunok, 148.

¹⁵⁶⁹ These are also known from the Codex Cumanicus. Györffy, A kipcsaki kun társadalom, 267.

¹⁵⁷⁰ Horváth, A csengelei kunok, 138; 150-151.

¹⁵⁷¹ "While we were on our way in, an attendant emerged carrying some sheep's shoulder-blades, charred until they were as black as coal. I was extremely curious as to what he was doing with them, and when I later enquired about it I learned that (the Chan) does nothing in the world unless he has first consulted these bones, with the result that he does not allow a man to enter his residence without previous reference to the bone. This kind of divination is performed as follows. When he has some enterprise in mind, he has them bring him three of these bones that have not yet been burnt, and while he is holding them he ponders the matter concerning which he wants guidance whether to act or not; and then he passes the bones to a slave to burn. (There are always, near the residence where he is staying, two small dwellings where the bones are burnt; and a careful search is made for (such bone)

reported by Plano Carpini among the thirteenth-century Mongols.¹⁵⁷²

Dogs were found in other Cuman burial contexts as well. In the cemetery of Orgondaszentmiklós, in grave no. 40, there was a dog buried together with the deceased; moreover, the dog was placed under the head of the dead. (It is worth repeating here that several contexts suggested the presence remnants of pagan customs in the cemeteries of Asszonyszállás and Orgondaszentmiklós,¹⁵⁷³ which may signify that such customs survived longer in Greater Cumania; see chapter 3.2.)

Dog burials were also present at Szentkirály. Three dog skeletons were brought to light, and one animal was probably strangled, and another was placed into the burial pit with its legs tied together.¹⁵⁷⁴ One of these burials was interpreted by Pálóczi Horváth as the grave of a pet, as the pit was properly dug and the animal carefully placed within it. This animal was discovered 200 m from the church, next to a medieval well. Pálóczi Horváth discovered that the dog and the early graves of the cemetery around the church were similarly oriented.¹⁵⁷⁵ In Vörös' view, this animal was strangled, as the head was turned under the body in an unnatural position.¹⁵⁷⁶ A second dog was found in a natural, sleeping posture.¹⁵⁷⁷ Two additional dog bones may testify to the survival of dog-related popular beliefs: a dog pelvis and a mandible were brought to light from plot no. 4-4a, both with cutmarks on them. According to Nyerges, the mandible may have had been cut at the coronoid process when the head was removed. These finds are difficult to interpret; however, Nyerges and Bartosiewicz warn that these were secondary or tertiary

throughout the whole encampment.) When they have been charred black, then, they are brought to him again, and he looks to see whether the heat of the fire has split them cleanly lengthwise. In that case the way is clear for him to act; if, on the other hand, the bones are cracked horizontally or round fragments have splintered off, then he refrains. The bone always cracks in the fire, or I covered with what looks like a network (of cracks), and should one out of the three be split cleanly, he acts." Rubruck ed. Jackson and Morgan, 192-193.

¹⁵⁷² Plano Carpini ed Dawson, 13.

¹⁵⁷³ In six graves of both men and women, an Artemisia plant was placed beside the head of the deceased. In one grave (Asszonyszállás, grave no. 179) rye infected with ergot fungus (*Claviceps purpurea*) was placed around the deceased's head. Interestingly, all recovered textile remains from the Asszonyszállás and Orgondaszentmiklós cemeteries were dyed purple; therefore Selmeczi identified purple as the color of mourning in the Cuman community (purple color dye was pretty expensive; however, Selmeczi did not address this issue). (Selmeczi, *A magyarországi kunok temetkezése*, 39-42.)

¹⁵⁷⁴ Vörös, *Kutyaáldozatok és kutyatemetkezések I*, 138; Pálóczi Horváth, *A Lászlófalfán 1969-70-ben végzett régészeti ásatások eredményei*, 292-293, fig. 16; Pálóczi Horváth, *Pechenegs, Cumans, Iasians*, 141 (record 71), photo 71.

¹⁵⁷⁵ Pálóczi Horváth, *A Lászlófalfán 1969-70-ben végzett régészeti ásatások eredményei*, 292.

¹⁵⁷⁶ Vörös, *Kutyaáldozatok és kutyatemetkezések I*, 138.

¹⁵⁷⁷ Pálóczi Horváth, *A Lászlófalfán 1969-70-ben végzett régészeti ásatások eredményei*, 293.

deposits, and one should be cautious with interpreting these as ritual contexts.¹⁵⁷⁸ However, the mandible may be associated with leather working and the pelvis is not likely to have been cut during skinning. The pelvis originated from a large dog of the size of the modern Hungarian *kuvasz* breed.¹⁵⁷⁹

5.2.1.3 Animal bones as food offerings and amulets in graves

Animal bones found in graves are sometimes interpreted as food offerings, usually based on the species, body part and position of the bone(s). Bones of species kept for their meat, especially if they are associated with meaty body parts, are generally considered food offerings. Small, drilled animal bones, which supposedly constituted part of a necklace or were attached to the clothing, are typically associated with a protective function and are classified as amulets. While the latter group of finds was almost exclusively recovered from the graves of Cuman women and children, food offerings may appear in any grave regardless of gender or age.¹⁵⁸⁰

There was a sheep vertebra in the Csengele warrior's grave, placed beside – or perhaps under – the helmet.¹⁵⁸¹ This small piece, although it was clearly a form of food offering, represented only a symbolic amount of food (however, it cannot be excluded that other forms of food offerings which had been completely decomposed were given to the deceased as well). Unfortunately, Horváth does not specify what kind of vertebra this is precisely; however, it may be suggested that it was probably a thoracic or lumbar vertebra carrying first class quality meat.

Sheep sacrifices have been recorded among modern steppe people;¹⁵⁸² sheep bones are,

¹⁵⁷⁸ Bartosiewicz and Nyerges, Szentkirály állattartása, 339.

¹⁵⁷⁹ Nyerges, Ethnic traditions, 268.

¹⁵⁸⁰ Unfortunately, not much attention should be paid to animal bones classified as food offerings in the Hungarian literature, although they have the potential to reveal age- and gender-related concepts as well as the seasonality of burials. An attempt was made by István Takács to develop a method for the latter in connection with the Hungarian Conquest Period cemetery of Algyő. He took the age of death of the animals whose bones were placed into the grave as a basis, and calculated the probable season when the burial took place. (István Takács, "Összefüggés vizsgálata az állatok életkora, a sírok tájolása és az emberek elhalálozásának szezonális között honfoglalás kori temetőben" [The study of connections between the age of animals, the orientation of graves and the seasonality of burials in a Hungarian Conquest Period cemetery] *A Nyíregyházi Jósa András Múzeum Évkönyve* 30-32 (1987-1989), 375-383.) In the case of the Cuman graves, however, I was not able to apply this method as these animal bones were not accessible for study. Such an examination might be in the focus of a future analysis.

¹⁵⁸¹ Horváth, A csengelei kunok, 95.

¹⁵⁸² Benkő noted a ceremony where a sheep was sacrificed when a new shaman was initiated; he also reported that

however, scarce in the Cuman material in contexts other than food refuse. A sheep's head was found in grave no. 28 of an adult man in the cemetery of Szeged-Öttömös (west of Szeged and south of Csengele).¹⁵⁸³ Márta Széll raised the possibility that this cemetery is associated with Cumans.¹⁵⁸⁴ Such a food offering is without parallel in the Hungarian material. The sheep's head as a delicacy has already been touched upon in chapter 5.1. In present-day Kazakhstan the sheep's head is a crucial element in the funeral feast: it is distributed by the oldest male in the community, and the eyes are given to the widow.¹⁵⁸⁵ Two additional animal bone fragments were brought to light in graves at Szeged-Öttömös; although these are not described in detail, the published drawings suggest that these finds included a sheep tibia and perhaps a sheep femur¹⁵⁸⁶ and can probably be interpreted as food offerings. Their positions in the graves are, unfortunately, unknown. A sheep pelvis was placed in Cuman grave no. 141 (a 18-22 year-old woman, the same grave from which seven hare astragali were also brought to light in the cemetery of Perkáta-Kőhalmi dűlő). This find is particularly interesting because it was placed under the body possibly reflecting the fact that this custom was forbidden by the church and had to be performed in secret.¹⁵⁸⁷ A custom which was still openly practiced at the Csengele warrior's burial, had to be hidden from the eyes at the commoners' cemetery of Perkáta, although there is not a huge chronological distance between the two graves: grave no. 141 at Perkáta was dated to the first third of the fourteenth century,¹⁵⁸⁸ while the Csengele burial took place in the mid-thirteenth century, and thus, only two generations probably lay between the two persons. This not only signifies a transition period but perhaps also a difference between social groups: when the pagan type burials were still practiced by the élite, the commoners may have been under the more strict control of the church.

sacrificial places on mountains were used for horse and sheep sacrifices. (Benkő, Nomád világ Belső-Ázsiában, 120, 124)

¹⁵⁸³ Ferenc Móra, "Ásatás a szeged-öttömösi Anjou-kori temetőben" [Excavations in the Anjou Period cemetery of Szeged-Öttömös] *Archeologai Értesítő* 26 (1906), 18-27: 22. Benkő also observed that the sheep's head was simply roasted and consumed by the modern Kazakhs. (Benkő, Nomád világ Belső-Ázsiában, 65.)

¹⁵⁸⁴ Öttömös is first mentioned in a charter as Hytemes, a piece of land used by Cumans. Márta Széll, "Elpusztult falvak, XI-XVI. századbeli régészeti leletek Szeged és Hódmezővásárhely határában" [Destroyed villages, archaeological findings dated to the eleventh-sixteenthsixth century in the vicinity of Szeged and Hódmezővásárhely. *Dolgozatok a Magyar Királyi Ferencz József Tudományegyetem és a Magyar Királyi Horthy Miklós Tudományegyetem Régiségtudományi Intézetéből* 16 (1940), 159-180: 164. (henceforth: Széll, Elpusztult falvak)

¹⁵⁸⁵ Bartha, Fejezetek a Tien-shan vidékének néprajzához, 56.

¹⁵⁸⁶ Széll, Elpusztult falvak, plate XXIX.

¹⁵⁸⁷ Hatházi, A kunok régészeti emlékei, 40.

¹⁵⁸⁸ Hatházi, A kunok régészeti emlékei, 40.

In the cemetery of Csengele-Bogárhát, in grave no. 31 (of a young woman?), a bone was deposited by the right elbow of the deceased. According to Horváth, this piece represents a food offering, and was identified by István Takács as a cattle bone.¹⁵⁸⁹ It is interesting that such a late grave (it was dated by an obulus of King Matthias, to the second half of the fifteenth century) yielded an animal bone. However, as it was a proximal phalanx,¹⁵⁹⁰ it was probably not a food offering but a simple toy or tool, and thus, it may have been perceived differently by the church. The precise age of the deceased is, unfortunately, not clear.

Eggs – as symbols of fertility as well as food offerings – appear in burial contexts as well. In the cemetery of Perkáta-Kőhalmi dűlő, grave no. 216 (46-55 year-old woman) also yielded an egg which was placed on the breast of the deceased, on the right side.¹⁵⁹¹ The cemetery of Hinga (in present-day Voyvodina) and probably also associated with a Cuman presence, showed evidence of this custom as well.¹⁵⁹² Egg remains were also found at Szeged-Öttömös in four women's graves, and in one occasion in a child's grave. The eggs were found beside the head in every case.¹⁵⁹³

Although eggs were discovered, hens are not present in the graves. At the twelfth-thirteenth-century cemetery at Berény-Benepuszta, one rooster and one hen were placed into pots and into graves as food offerings.¹⁵⁹⁴ Ferenc Horváth associated these sacrifices with the Cuman tradition.¹⁵⁹⁵ Poultry bones, however, were not found at any other Cuman cemetery.

Horse bones appear occasionally as grave goods in the Cuman material in Hungary suggesting horses were consumed as food, as well as being survivals of the value and spiritual concepts attached to the horse. In the fourteenth-sixteenth century cemetery of Asszonyszállás in

¹⁵⁸⁹ Horváth, Régészeti adatok a kunok dél-alföldi történetéhez, 67, footnote 3. A previous publication on the Csengele cemetery (Horváth, Csengele középkori temploma, 104), mentions “a swine bone” found in the grave. This was a misidentification, later corrected by Horváth and the archaeozoologist István Takács to cattle. The skeletal element is not specified.

¹⁵⁹⁰ Although it is not specified in the publications' text, a drawing of the object makes it clear that it is a proximal phalanx. Horváth, Csengele középkori temploma, 105 (plate no. 4).

¹⁵⁹¹ Hatházi, A kunok régészeti emlékei, 48.

¹⁵⁹² This was interpreted by the excavators as a pagan custom. However, the dating of this find was questioned: although most graves at Hinga were dated to the thirteenth-fourteenth century, an eleventh-century Hungarian analogy is presented for this particular grave, and the excavators warn that this grave may be earlier. (Olga Shafarik and Mirko Shulmann, “Hinga. Srednovekovna nekropola kod Subotice - The Medieval Necropolis Hinga near Subotica” *Rad Vojvodanskih Muzeja* 3 (1954), 5-55: 53.) Horváth, however, mentions this find as an analogy for the Cuman traditions in Hungary. (Horváth, Régészeti adatok a kunok dél-alföldi történetéhez, 67.)

¹⁵⁹³ Széll, Elpusztult falvak, 164.

¹⁵⁹⁴ Szabó, Az alföldi magyar nép művelődéstörténeti emlékei, 36.

¹⁵⁹⁵ Horváth, Régészeti adatok a kunok dél-alföldi történetéhez, 67, footnote 5.

Greater Cumania, two of the 240 graves contained horse teeth.¹⁵⁹⁶ At Perkáta-Kőhalmi dűlő, grave no. 68 (27-31 year-old woman) contained a burnt and butchered horse proximal metatarsal from an adult individual; this grave, however, has an earlier date than the thirteenth-fourteenth century, and probably belongs to the Árpád Period Hungarian settlement that was located here before the Cumans arrived.¹⁵⁹⁷

A special group of finds is represented by bone amulets found in children's and women's graves, among which dogs, wolves and foxes are also represented. Perkáta – Kőhalmi dűlő was especially rich in such phenomena. A wolf canine was found in grave no. 48 (33-41 year-old woman).¹⁵⁹⁸ Grave no. 64 (of a 6-8 year-old child) yielded a drilled fish vertebra that was probably used as an amulet.¹⁵⁹⁹ In grave no. 128 (9-14 year-old child) a drilled and polished astragalus of a hare, as well as a cattle tooth were found. Both were interpreted as amulets.¹⁶⁰⁰ Drilled bone amulets: a left astragalus of a fox and a fish vertebra were placed into grave no. 140, where a 12-14 year-old child was buried;¹⁶⁰¹ a hare astragalus and a fish vertebra were found in grave no. 51 (10-14 year-old child) as well.¹⁶⁰² A 18-22 year-old woman was also equipped with an amulet comprising seven hare astragali, all of them from the right side (grave no. 141).¹⁶⁰³ A drilled fossilized snail shell (*Clavatula sp.*) and a drilled canine tooth of a dog were placed in the grave of a 35-55 year-old woman (grave no. 171).¹⁶⁰⁴ In grave no. 48 at Perkáta – Kőhalmi dűlő, the canine tooth of a wolf was found, probably functioning as an amulet; the canine tooth was drilled and put on a necklace with other beads. The deceased was a 37-41 year-old woman.¹⁶⁰⁵ Many of the graves excavated at Perkáta date before the Cuman migration, but these are mostly from the fourteenth century or later, and thus, they are probably associated with the Cumans; graves no. 51, 64, 128, 140 and 141 were classified as Cuman by Hatházi.¹⁶⁰⁶ Similar amulets were observed in the Iasian cemetery of Négyszállás as well, although not in great numbers; this is again interesting as the Iasians also brought a very similar

¹⁵⁹⁶ Selmeczi, Adatok és szempontok, 111.

¹⁵⁹⁷ Hatházi, A kunok régészeti emlékei, 33.

¹⁵⁹⁸ Hatházi, A kunok régészeti emlékei, 30.

¹⁵⁹⁹ Hatházi, A kunok régészeti emlékei, 33.

¹⁶⁰⁰ Hatházi, A kunok régészeti emlékei, 37.

¹⁶⁰¹ Hatházi, A kunok régészeti emlékei, 38.

¹⁶⁰² Hatházi, A kunok régészeti emlékei, 31.

¹⁶⁰³ Hatházi, A kunok régészeti emlékei, 40.

¹⁶⁰⁴ Hatházi, A kunok régészeti emlékei, 42.

¹⁶⁰⁵ Hatházi, A kunok régészeti emlékei a Kelet-Dunántúlon, 30.

¹⁶⁰⁶ Hatházi, A kunok régészeti emlékei, 68, fig. 16.

steppe culture to Hungary. Here, however, food offerings are completely missing from the grave goods.¹⁶⁰⁷

5.2.2 Animals in other ritual contexts

The dog / wolf was an important (sometimes even totemistic) element in the shamanistic Cuman religion and with Turkic tribes in general.¹⁶⁰⁸ Dogs were protective animals, and various cults associated with them are known from the steppe cultures. The Khitans e.g. sacrificed white dogs in order to keep the tents where they slept protected;¹⁶⁰⁹ as we have seen, dog or wolf bones or teeth were sometimes placed into graves of women and children as protective amulets.

Another aspect of the cult of dogs is revealed by a well-known Cuman custom, in which the oath was “made on a dog”. When the Cuman noblemen swore the oath to protect Hungary and its king at the wedding of Prince Stephan (later king Stephan V) and Elizabeth, the daughter of the Cuman khan, they slaughtered a dog (so that anyone who broke the oath should die the same death):

“At this wedding-feast, ten of the Cumans came together and made an oath according to their custom, with their swords on a dog that

¹⁶⁰⁷ Grave no. 1: a fish vertebra placed under the left shoulder; grave no. 77: two sheep astragali, one drilled and filled with lead, placed on the left side of the right humerus; grave no. 87: astragalus of a hare, drilled, found beside an iron cross under the jaw of the deceased; grave 160: a horse tooth placed under the neck of the deceased (on the basis of the drawing it seems to be an upper M3); grave no. 337: one piece of “drilled animal bone” (species and bone not specified, 1.7 cm long), as part of a necklace; the drawing that was provided does not permit a more precise identification; grave 420 (child’s grave): sheep astragalus on the right side of the body, at the breast; grave no 439 (child’s grave): 4 sheep astragali, placed on the right side of the left humerus. Cowry shells were found in graves no. 1, 45, 70, 84, 86, 121, 12, 174, 222, 251, 267, 334, 337, 340, 363, 373, 375, 393, 417, and 447. Needle holders made of bird bones were found in graves 70, 76, 78, 117, 160, 179, 197, 215, 251, 287, 346, 363, 379, 397, and 421. Selmeczi interpreted the astragali toys, the needle holders, as well as the knives and swords found in some of the graves as an indication of a surviving tradition of equipping the deceased with tools he or she might possibly need in the afterlife. (László Selmeczi, *A négyiszállási I. számú jász temető* [The Iasian Cemetery No. 1 at Négyiszállás] Die Wissenschaftliche Werkstatt des Historischen Museums der Stadt Budapest 4. (Budapest: Budapesti Történeti Múzeum, 1992), 18-77, 93, plates 8 (p. 110), 13 (p. 117) Although in the case of knives and swords, the grave goods could not have been easily hidden, the fact that the sheep astragali were in all cases placed between the arm and the body may indicate that these were hidden by the clothing.

¹⁶⁰⁸ Peter Benjamin Golden, “The dogs of the medieval Qipcaqs”, in *Varia Eurasiatica. Festschrift für Professor András Róna-Tas* (Szeged: József Attila Tudományegyetem Bölcsészettudományi Kar Altajisztikai Tanszék, 1991), 45-56; Golden, Wolves, dogs and the Qipcaq religion, 87-89.

¹⁶⁰⁹ Vásáry, A régi Belső-Ázsia története, 101.

had been sundered in two, that they would defend the lands of the Magyars as would the king's own supporters against the Tartars and barbarian peoples.”¹⁶¹⁰

A very similar act is described by Joinville when the Cumans living on the Balkans entered into an alliance with Baldwin II of Constantinople:¹⁶¹¹

“In order that the one should aid the other faithfully, it was needful that the Emperor and the other rich men that were with him should be bled and should give their blood into a great cup of silver. And the King of the Comans and the other rich men that were with him did likewise and mixed their blood with the blood of our folk and tempered it with wine and water, and drank thereof, and our men likewise; and then they said that they were blood-brothers. Further, they made a dog cross from our folk to theirs and cut up the dog with their swords, and so did our men likewise; and said that thus should they be cut up if they failed one another.”¹⁶¹²

As we have seen, the slaughter of the dog was accompanied with a blood oath. In fact, this ceremony was widespread among the Turkic peoples and known for the Hungarian tribes as well.¹⁶¹³ The Byzantine emperor Leo V performed the same ceremony when he entered into alliance with Omurtag, khan of the Bulgars in AD 815. Juhász interpreted the dog cult of Turkic peoples as a remnant of totemism; in this context, the slaughter of a dog equals a sacral killing of the father or the ancestor.¹⁶¹⁴ The fact that this custom was widespread among steppe peoples and

¹⁶¹⁰ *In his autem nuptiis Comanorum convenerunt iurantes super canem gladio bipartitum iuxta eorum consuetudinem, quod terram Hungarorum tamquam regis fideles contra Thartharos et barbaras nationes obtinebunt.* This piece text is only preserved in one manuscript of Plano Carpini's *Ystoria Mongolarum*. (Pálóczi Horváth, Pechenegs, Cumans, Iasians, p. 53; Gyula Pauler, *A magyar nemzet története az Árpádházi királyok alatt* [The History of the Hungarian Nation in the Time of the Árpád Dynasty] (Budapest: Akadémia, 1899), vol. 2, 205)

¹⁶¹¹ Sándor Eckhardt, “Kun analógiák a magyar ősvallásban”, *Magyar nyelv* 34/7-8 (1938), 242-244: 242-243. (henceforth: Eckhardt, Kun analógiák a magyar ősvallásban)

¹⁶¹² Joinville ed. Wailly and Evans, 150.

¹⁶¹³ János Ifj. Horváth, “Török politikai intézmények nyomai a középkori magyar állam életében” [Traces of Turkic political elements in the medieval Hungarian state] *Ethnographia* 81 (1971), 265-275: 270-272. Sándor Eckhardt also interpreted this custom as analogous to the blood oath described by Anonymus, the chronicler of King Béla IV. (Eckhardt, Kun analógiák a magyar ősvallásban, 243.) In pit no. 23 of the Árpád Period Hungarian cemetery of Jánosszállás, a half skeleton of a dog testifies to the custom of taking oath on a slaughtered dog, at least according to the archaeologist Csanád Bálint. (Bálint, *A kutya a X-XIII.századi magyar hitvilágban*, 308.) István Vörös interpreted the dog skeletons excavated at ninth-century Mosaburg-Zalavár as remnants of this custom or as building offerings. (Vörös, *Kutyaáldozatok és kutyatemetkezések I*, 138-139.)

¹⁶¹⁴ Péter Juhász, “A totemizmus csökevényei a magyar és a bolgár hitvilágban (A kutyával és farkassal kapcsolatos

also known in Christian political circles, may explain why it was accepted by Béla IV as a form of pledging alliance (apart from his urgent need for allies). This ceremony as reported in our sources signals not only the animal's conceptual importance, but also that the Cumans – at least, partly – relied on their own customs and religious tradition in defining their relationship to the king. They probably saw their integration in Hungary as an allegiance to the crown established by oath and marriage, and this by no means meant total submission. In fact, they were used to form military alliances on the steppe and preserve their own internal affairs and identity intact at the same time. Interestingly, on the seal of Elizabeth, the daughter of the Cuman khan and the wife of Stephen V, she is depicted sitting on a throne decorated with wolfs' heads.¹⁶¹⁵

Horse bones at Cuman sites were sometimes also interpreted as ritualistic phenomena, but in some cases this seems to be a generalization rooted in the concept of a pagan (or not properly Christianized) population. The skulls of two young horses found in the fill of pit-stall no. 1 in Szentkirály were presented as cult objects by Takács. According to his view, the damage done on the nasal part of these skulls may be traced back to their function as magical objects put on a pole in order to protect the animals in the stall.¹⁶¹⁶ In fact, placing horse skulls on poles has been a long debated custom in the Middle Ages, supposedly brought by the Hungarians from the steppe region. Such skulls were reported, by Méri (among other scholars) from Tiszalök-Rázompuszta,¹⁶¹⁷ and Sándor Bökönyi found analogies in the Kopet Dag region (modern-day

hiedelmek)" [Remnants of totemism in the beliefs of Hungarians and Bulgars (Beliefs associated with dogs and wolves)] in *Tanulmányok a bolgár-magyar kapcsolatok köréből. A bolgár állam megalapításának 1300. évfordulójára* [Studies on the Hungarian-Bulgarian Connections. In the Honour of the 1300th Anniversary of the Bulgarian State] Ed. Péter Juhász, Chavdar Dobrev and Petar Mijatev (Budapest: Akadémiai Kiadó, 1981), 145-175.

¹⁶¹⁵ Pálóczi Horváth, Pechenegs, Cumans, Iasians, 78, fig. 47. Pálóczi Horváth interpreted the animals in the image as wolves. More recently, however, Imre Takács described them as lions (Imre Takács, Az Árpád-házi királyok pecsétjei [Seals of Kings of the Árpád Dynasty] (Budapest: Magyar Országos Levéltár, 2012), 132-133; henceforth: Takács, Az Árpád-házi királyok pecsétjei). Stephen V, Elizabeth's husband, was also depicted on his seal sitting on a throne decorated with lions' heads (Takács, Az Árpád-házi királyok pecsétjei, 129). Unfortunately, the queen's seal is in pretty poor condition and, thus, a proper evaluation of the animal figures is challenging. On her later, second seal (ca. 1280-1290), the animal figurines are gone (Takács, Az Árpád-házi királyok pecsétjei, 134). If these animal figurines are indeed wolves, this image has no analogy in the record of Hungarian royal seals in the period; on the other hand, thrones decorated with animals' heads are common iconographic elements.

¹⁶¹⁶ Takács, Szentkirály középkori falu zoológiai leletei, 102-106; Pálóczi Horváth, Pechenegs, Cumans, Iasians, 141 (record 70), photo 70.

¹⁶¹⁷ This find was particularly interesting as 11 regular (but not identically sized), square or trapezoid-shaped holes were made on the forehead. The occipital condyles were cut off, probably when the head was removed from the body. The skull was found in the settlement's center, and was associated by Méri with an eleventh-thirteenth-century dwelling. He raised the possibility that skulls found in Bashalom and Csóngrád-Felgyő may be

Turkmenistan), which he associated with the observed Árpád Period archaeological phenomena.¹⁶¹⁸ Vörös, however, doubts the popular religion aspect of these finds, and emphasizes that the injuries on the bones interpreted as signs of putting them on poles may well have had other causes.¹⁶¹⁹ It cannot be excluded that Cumans, as Takács suggests, used horse skulls for similar purposes, as part of their steppe heritage.¹⁶²⁰ Horse skulls indeed have a special importance in the beliefs of nomads of modern-day Kazakhstan,¹⁶²¹ but the Cuman archaeological material examined so far has yielded no clear evidence to support this theory. Even though István Takács might have been right about the purpose of the skulls, there is no reason to think that the bones recovered from the fill had any connection to the animals kept in the stall as they probably rather represent simple garbage mixed in the fill and deposited later; thus, the feature itself and its fill may represent different chronological contexts.¹⁶²²

Clusters of horse phalanges were brought to light at Szentkirály both from pit-stall no. 1 and from other parts of the plot; Takács interpreted these as cult objects as well.¹⁶²³ Some of them, in fact, had incisions or scratch marks on them. Unfortunately, they were never properly published, only mentioned in passing. In my view, nevertheless, these finds may have several other interpretations, from remains of leather working to simple toys. Their interpretation as cult objects was also questioned by Nyerges and Bartosiewicz; they suggested that the incisions

associated with this custom as well. (István Méri, “Kiaggatott lókoponyák Árpád-kori falvainkban” [Horse skulls put on poles in or Árpád Period villages] *Archeologiai Értesítő* 91 (1964), 111-115.) Although there are ethnographic analogies for using skulls to keep evil at bay, in this particular case it is more likely that the holes were made either when the animal was slaughtered, or later when the skull was used as a bone anvil. A very similar find, the skull of a one-year old stallion, with identical, rectangular holes on the forehead was published by István Takács. He interpreted the holes as traces of blows of various intensity made with a sharp but not too heavy object. (István Takács, “A Kajárpéc-pokolfadombi 13. századi ép lókoponya” [The well-preserved thirteenth-century horse skull from Kajárpéc-pokolfadomb] *Communicationes Archaeologicae Hungariae* 1993, 229-230.)

¹⁶¹⁸ His informant said that horse skulls are the best for protecting humans, animals or the crops. There are, however, no rules how the horse whose skull is picked for this purpose should be chosen. If horse skulls are not available, sometimes the skulls of cattle and even swine are used as substitutes. According to Bökönyi, the latter fact suggests that this custom must predate the Islamic religion in the region, as it would have kept people from using the skulls of swine, generally considered loathsome and unclean in Islam. (Sándor Bökönyi, “Árpád-kori magyar szokás analógiája: kiaggatott lókoponyák közel-keleti falvakban” [Analogy of an Árpád Period Hungarian custom: horse skulls put on poles in villages of the Near East] *Archaeologiai Értesítő* 105 (1978), 91-94.)

¹⁶¹⁹ Vörös, Adatok az Árpád-kori állattartás történetéhez, 97.

¹⁶²⁰ Takács, Szentkirály középkori falu zoológiai leletei, 107.

¹⁶²¹ Benkő noted that the head of the sacrificial horse was adorned with a white scarf and was considered a symbol of purity. (Benkő, Nomád világ Belső-Ázsiában, 129.)

¹⁶²² Aszt, Gödörőlak, 47

¹⁶²³ Takács, Szentkirály középkori falu zoológiai leletei, 102

observed on them were more likely associated with leather production.¹⁶²⁴

5.3 Animals as raw material: worked bones, hide and wool

Different types of animal-based raw material were utilized in the past for making tools, utensils, amulets and decorative pieces: animals were exploited not only for their meat, working power, milk or manure, but certain parts of their bodies were further processed after primary carcass partitioning, and were used in manufacturing objects. Some bones were set aside for tool making, and hide was used to make leather while other body parts were chosen in a more *ad hoc* manner. Hide and wool is difficult to perceive archaeologically as these materials only preserve in special circumstances. Thus, bone and antler tools form the main corpus of direct evidence for exploiting animal bodies for raw materials.

Codes in the text refer to the items in the catalogue in the Appendix.

5.3.1 Bone working

Ca. 130 bones were identified as exhibiting traces of some working and/or use. Bones with signs of deliberate – and planned – modification are specified here as proper bone tools (Class I according to Choyke)¹⁶²⁵. Bones that exhibit wear marks and, in some cases, traces of minor (but not particularly planned) modification are categorized as *ad hoc* or opportunistic tools (Class II according to Choyke). Tools in both categories can be heavily used, but those in Class I are usually made from the same skeletal element(s) which are chosen deliberately, normally multi-stage manufactured objects and tend to be used for longer periods of time.¹⁶²⁶

Unfortunately, I did not have access to high quality microscopes for the inspection of the tools, and thus, this should be seen as a preliminary study which hopefully will someday be complemented by a proper investigation of microscopic manufacture and use polish and

¹⁶²⁴ Bartosiewicz and Nyerges, Szentkirály állattartása, 338.

¹⁶²⁵ Choyke, Alice, "The bone manufacturing continuum," *Anthropozoologica* 25-26 (1997): 65-72. (henceforth: Choyke, The bone manufacturing continuum)

¹⁶²⁶ Choyke, The bone tool manufacturing continuum, 68.

striations in the future. Moreover, not all bone tools were available for study, as most tools from Tiszagyenda were taken out of the zoological material in order to inventorize them.¹⁶²⁷ The tools from Szentkirály, Csengele and Perkáta were not examined in person. I know them only from publications, and these usually do not provide a full description (let alone microwear analysis) of these objects. Very often the less elaborated or barely worn bone tools remain unrecognized in the faunal sample or are possibly never even collected.

The first step in the *chaîne d'opératoire* is, in fact, raw material selection. The choice which bone is picked for what purpose is not always driven by efficiency, but is intimately intertwined with the concepts associated with a given species: the piece has to be appropriate not only in practical but also in cultural and social terms. Although practical considerations (strength of a skeletal element, the thickness of cortical tissue, natural form, frequency, other possible ways of use, local traditions if butchering, the expected outcome, the available methods of bone manufacturing etc.) obviously influence manufacturing, there are observable (if not always exclusive) preferences in raw material selection that cannot be explained solely by practical means.¹⁶²⁸ Besides, the connection between raw material selection and artifact design is not unilateral: not only does the expected outcome of bone manufacturing influence raw material selection, but the raw material itself may inspire design and manufacturing techniques.¹⁶²⁹ These objects are results of multiple human actions and therefore they provide valuable data on the medieval concepts of raw material as well as on the techniques applied in their making and the technological level of the bone manufacturing craft.

It seems that some bones were deliberately set aside for manufacturing purposes, but in other cases debris was simply picked up and used in an *ad hoc* way. Interestingly, no antler tools were found in the assemblages, although pieces testifying to antler processing were brought to

¹⁶²⁷ These are objects that were recognized as bone tools during excavation and were separately stored. However, the excavation documents suggest that these are few in number, and would not significantly influence the picture. Most of these objects were “bone skates”; only a bone whistle and some bone beads (section 191, feature no. 82, fifteenth-seventeenth c.), and a polished bone plate (section 256, feature no. 126, 14th-15th c.) that come from dated layers and were removed from the original bone collection would perhaps belong to the category of meticulously planned and enhanced bone tools, which is otherwise underrepresented in the sample. (Alice M. Choyke, “Hidden Agendas. Ancient Raw Material Choice for Worked Osseous Objects in Central Europe and Beyond,” in *From These Bare Bones: Raw Materials and the Study of Worked Osseous Objects*, eds. Alice M. Choyke and Sonia O’Connor (Oxford: Oxbow, 2013), 1-13)

¹⁶²⁹ Adam Allentuck, “Raw Material Availability and Technological Choice: Modified Metapodia from an Early Bronze Age Site in Central Israel,” *International Journal of Osteoarchaeology* 23/ 4, 379–394. 380.

light. This may be explained by several factors: availability may have been limited, or it was simply easier to utilize bones of domesticates right from the ever-present household debris than to search for antler. This also means that the tools unearthed at our sites do not represent a level of bone manufacturing when a more delicate choice of material is essential for functionality. It is also very likely that antler was more profitable to sell to urban workshops than to keep for household goods.¹⁶³⁰

Bone objects from the Cuman sites and from the sites on the periphery exhibit similar patterns of raw material selection and manufacture. With a few exceptions (belt buckles and ornamented pieces found in graves), the observed modifications were minimal. This means that no special effort was invested in tool making: the process was kept as simple as possible and sometimes bone working was probably limited to the *débitage* (primary partitioning and shape formation), after which the tool was immediately used. This suggests household production without professional bone working instruments or particular aesthetic considerations in mind. These objects typically have a low exploitation index, meaning that the labor invested in manufacture was probably much smaller than the intensity of use. The raw material exploited came from domestic species, which means it was widely available and acquirable simply from household refuse. Curation was not observed on any of the tools.

The tools were almost exclusively made from bones of adult individuals, which may be explained by practical considerations (fully grown bones of adults are stronger than those of juveniles). One horse metatarsal, one horse metacarpal, and one horse and one cattle radius came from subadult animals.

5.3.1.1 Class I bone tools

“*Bone skates*”

Objects specified as skates and sledge runners are found in archaeological contexts from the Iron Age onwards, often almost in the same form. There is a scholarly debate on the function

¹⁶³⁰ In the case of Árpád Period village of Kána, all worked antler pieces were elaborate objects that probably came from urban workshops. (Darócz-Szabó, Az Árpád-kori Kána falu, 90-93.)

and dating of early Late Bronze Age double “skates”; the early manifestation of these objects is followed by a total obscurity in the archaeological record for one and a half millennia (the Sarmatians living on the great Hungarian Plain had these).¹⁶³¹ They were definitely known by the Cumans, as such objects already appear in the steppe region from the Northern Pontic Area all the way to the Hungarian Plain in the second millennium BC. They are also typical for medieval, Árpád Period sites, and are frequently found in village assemblages as locally produced, simple pieces. The way they were used is only possible to be certain of with a proper analysis of wear and polish with high magnification microscopes. However, there are good ethnographic reports of skates and runners from bone in historic Hungary.¹⁶³²

These objects are discussed together due to their similarities in shape and formation. They are named here “skates” because this object type is usually identified as such – however, it must be emphasized that a number of different interpretations may be given to them. They may also have been sledge runners, leather smootheners (to make the leather more supple and denser in water-proofing), and in some cases long bones were even used as fishnet floats, depending on the individual traces of wear and working. They are discussed together because a similar manufacturing process was necessary to produce them, but I use here the term “skate” as a typological category and not as a description of function and use.

These types of objects are typically made of horse or cattle metapodia and radius. In some cases the two ends are modified, trimmed or flattened to form a smoother, upturned surface or a more regular shape; the ulna is usually chopped off. Sometimes they have fixing holes at the two ends of the palmar surface. The surface of the runner or skate that contacts the ice, straw or soil (that is, the cranial surface of the radius’ diaphysis) becomes polished and worn, and strong, criss-crossing striations are visible along the vertical axis, with a few random scratches appearing in all directions.¹⁶³³ Objects used for leather or textile smoothening usually exhibit more

¹⁶³¹ Hans Christian Küchelmann and Peter Zidarov, “Let’s skate together! Skating on bones in the past and today”, in *From Hooves to Horns, From Molluscs to Mammoth – manufacture and Use of Bone Artefacts from Prehistoric Times to the Present. Proceedings of the Fourth Meeting of the ICAZ Worked Bone Group at Tallin, 26th-31th of August, 2003*, eds. Heidi Luik, Alice M. Choyke, Colleen E. Batey and Lembi Lougas, Muinasaja Teadus 15. (Tallin: Cultural Endowment of Estonia, 2005), 425-445. (henceforth: Küchelmann and Zidarov, Let’s skate together)

¹⁶³² Ottó Herman, *Ősfoglalkozások. Halászat és pásztorélet* [The Ancient Crafts. Fishing and Pastoralism] (Budapest 1909), 60. (henceforth: Herman, *Ősfoglalkozások*)

¹⁶³³ Arthur MacGregor, “Problems in the interpretation of microscopic wear patterns: the evidence from bone skates”, *Journal of Archaeological Science* 2/4 (1975): 385-390: 387-389, Figs. 2 and 3. (hereafter: MacGregor,

rounding, and the striation on their surface may be transversally oriented. Most of these objects were modified in a number of ways: their ends were cut off, flattened or up-curving to a point at the front end to create a smoother and leveled surface with less surface resistance; many of them exhibit strong wear on the cranial side (similarly to the “gliding surface” of a skate). The methods of production were very similar at the sites and do not suggest any kind of sophisticated manufacturing technique. However, there were modifications that occurred only at the sites on the Cuman area’s periphery but not at the Cuman sites themselves (see Table 5.3.1). Of course, this may be due to the small sample size in the Cuman material. Nevertheless, it is striking that much simpler, minimalistic modifications were made on the objects recovered from Cuman sites. The epiphyses were sometimes chopped off or flattened, and there are cut marks on the palmar side in several cases, but otherwise no other alterations were made. At the sites on the periphery, however, a number of different modifications were present, including various holes and trimming at the edges. These, of course, are still pretty rough and merely functional tools, but they are much more varied than those that came to light from the Cuman sites.

All finds follow a pattern of manufacture that must have been closely connected to their use and the expected outcome of the production process; the perception of these objects seems to have been similar in all communities: they were produced at home, and discarded when they broke.

	Szentkirály	Orgonda-szentmiklós	Asszony-szállás	Kiskunhalas-Dongér - MOL5	Gorza	Tiszagyenda
Clearly visible stripe of wear striations and polish on the cranial surface(strongly marked “gliding surface”)	2	2			14	7
Slight wear marks and polish on the cranial surface		1	1	1	8	6
Flattened epiphyses		2	1		12	6
Chopped-off epiphyses	1	2				1
“Wedge-shaped” end(s)					9	1
Spherical-shaped end(s)					3	
Cranio-caudal hole					6	2

Medio-lateral hole					5	
Irregularly oriented hole					2	1
Cut marks on palmar surface		4			2	2
Cut marks on dorsal surface					1	2
Polish on palmar surface					2	2
Ulna cut off					5	3

Table 5.3.1. Modifications on objects categorized as “bone skates”. The numbers stand for the instances when these phenomena were observed (in most cases, each object had several modifications).

While there is a clear preference for horse radii and metapodia to produce these objects, there is no difference in the species and bone preferences between the Cuman sites and the sites on the Cuman area periphery (Diagram 5.3.1). This may signify functional considerations behind tool planning as well as similar cultural concepts. There was, however, one exception in the sample found at Tiszagyenda (fifteenth to seventeenth c. pit): a red deer metatarsal was modified in an irregular way to form a spoon-like surface at the distal end, into which a hole was drilled (A77). The function of this object is uncertain.

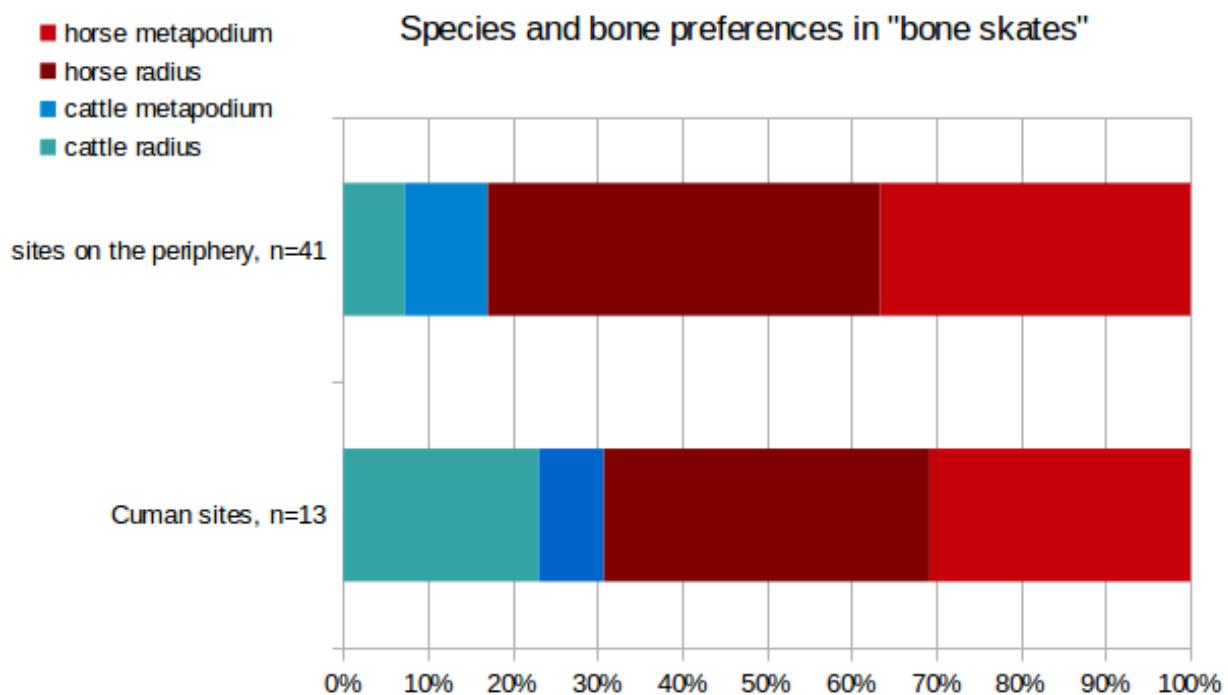


Diagram 5.3.1 Species and bone preferences in objects categorized as “bone skates” at the Cuman sites and the

sites on the periphery.

Although no particular clustering of finds was observed, two features are worth mentioning. The Turkish Period feature no. 140 (section 286) at Tiszagyenda yielded five “bone skates” which were probably used in leather or textile working not transportation. They exhibit rounding and polish but no “stripe” of striation with clear edges; three were made from cattle radii, one from cattle metacarpal, and one from horse radius. These finds are possibly connected to the same activity.

Feature no. 511 at Gorzsa yielded two (A52 and A53) and feature no. 339 yielded one (A36) object with a similar design not found at any other site. These are two horse radii and one horse metacarpal where the end was trimmed into a round, almost spherical shape. They have no holes or other modifications; one of them exhibits an expressed stripe of striations on the caudal surface. It is not clear if these were used in the same way and whether the spherical-shaped end had functional or only aesthetic, stylistic meaning.

Concerning the use and function of the “skates”, there are several possibilities. It must be kept in mind that a detailed study of their microstriations is indispensable to verify this function, and so now only the possibility is raised that they may have been used this way. Their use as proper skates and sledge runners seems justified in cases when longitudinal scratching marks are present. Küchelmann and Zidarov found that most modifications on objects identified as bone skates were in fact connected to their use as skates or runners, and were made in order to enhance the attachment to the foot.¹⁶³⁴ Cut marks made on the palmar side, as well as chopping off the ulna may be interpreted this way. A typical modification found in objects recovered from Gorzsa was that they were trimmed into a wedge-like shape at the distal end (a bit like an upswept tip). This could help the forward movement of the skate by reducing surface friction.

The use of such objects as sledge runners and bone skates is well-known in the historical and ethnographic literature, and in fact survived even to the nineteenth-twentieth century. These tools are known in practically all regions of Europe; one of the best known descriptions comes from Olaus Magnus, the sixteenth-century archbishop of Uppsala, who noted in 1555 how handy these objects were and recorded the practice of applying grease to the skates in order to reach

¹⁶³⁴ Küchelmann and Zidarov, Let’s skate together, 428.

maximum speed.¹⁶³⁵ Ottó Herman, the Hungarian ethnographer found modern analogies in Hungary¹⁶³⁶ as well as in Germany.¹⁶³⁷ Although similar descriptions are not known for the medieval Cumans, the fact that these objects had been present in the steppe zone for many centuries suggests that they must have been acquainted with their use.

¹⁶³⁵ Olaus Magnus wrote in his *Description of the Northern Peoples*: “The other kind of men are those who attach to the soles of their feet a piece of flat, polished iron, a foot long, or the flat bones of deer and oxen, the shin bones, that is. These are slippery by nature because they have an inherent greasiness and achieve a very great speed, though only on smooth ice, and continue shooting forward without pause as long as the ice remains level. Among this sort too there are found everywhere men who take pleasure in racing for a prize. (...) The rest are outrun by those competitors in the race who attach to the soles of their feet the shin-bones of deer thoroughly smoothed and greased with pork fat, since, when the cold drops of water rise as it were through the pores of the ice during fierce cold, the bones smeared in this way cannot be hampered or kept in check, as iron can however much it is polished or greased. For no greasing suits iron as much as it does the shin-bones of deer and bullocks, which have an innate slipperiness of their own.” (Peter Foote, Peter Fisher and Humphrey Higgens tr. and ed. *Olaus Magnus' Description of the Northern Peoples*, Vol. 1, with annotations by John Granlund (London: Hakluyt Society, 1996) 58. Interestingly, Olaus Magnus mentions only deer and cattle bones, but no horses. Ottó Herman refers to Olaus Magnus’ work one time and states that the archbishop mentions bones of sheep as skates as well, but I was unable to locate that reference (Ottó Herman, “Ironga, szánkó, kecze” [Skate, sledge, fishnet weights] *Természettudományi Közlöny* 34 (1902), 5-36: 8). Metapodia of sheep would be too small to be used this way; small children may be an exception.) Another medieval description comes from Willian Fitz-Stephen’s 1180 Description of London: “When the great marsh that laps up against the northern walls of the city is frozen, large numbers of the younger crowd go there to play about on the ice. Some, after building up speed with a run, facing sideways and their feet placed apart, slide along for a long distance. Others make seats for themselves out of ice-slabs almost as large as millstones, and are dragged along by several others who hold their hands and run in front. Moving so quickly, the feet of some slip out from under them and inevitably they fall down flat. Others are more skilled at frolicking on the ice: they equip each of their feet with an animal's shin-bone, attaching it to the underside of their footwear; using hand-held poles reinforced with metal tips, which they periodically thrust against the ice, they propel themselves along as swiftly as a bird in flight or a bolt shot from a crossbow. But sometimes two, by accord, beginning far apart, charge each other from opposite directions and, raising their poles, strike each other with them. One or both are knocked down, not without injury, since after falling, their impetus carries them off some distance and any part of their head that touches the ice is badly scratched and scraped. Often someone breaks a leg or an arm, if he falls onto it. But youth are driven to show off and demonstrate their superiority, so they are inclined to these mock battles, to steel themselves for real combat.” (Henry Thomas Riley, ed. *Liber Custumarum*. Rolls Series, 2/12 (1860), 2-15; William Fitz-Stephen, A Description of London, chapter 22. Digital edition: <http://users.trytel.com/~tristan/towns/florilegium/intro01.html> Accessed 08.07.2014.)

¹⁶³⁶ Herman, Ősfoglalkozások, 60.

¹⁶³⁷ Herman, “A csontos-szánkó” [The bone sledge], in *Halászélet, pásztorkodás* (Fishery and Pastoralism), Ed. L’syl= Kósa (Budapest: Gondolat, 1980), 48-50: 43.



Fig. 5.3.1a and b. Bone “skates” from Gorzsa (above: feature 1247 (late medieval), below: feature 279 (Turkish Period)

Transversally oriented scratch marks suggests they may have been used to smooth out leather and textile products in the finishing stages of production. Biller identified four objects from Perkáta to have been used for this purpose (A7, A8, A10, A11), but only two of them belong to the “bone skates” category (A7 and A8). She identified two further objects as sledge

runners. She does not provide a detailed description of striations though.¹⁶³⁸ Bones are known to have been used to prepare, smoothen, de-hair, straighten, stretch, and soften leather straps in the prehistoric steppe zone, although these tools were mostly made from the mandibles of large ungulates.¹⁶³⁹

In cases when no striation is present, another possibility should be mentioned: the use of these objects as fishnet floats. Objects that may have been used in fishing have holes in one or both ends, which cannot necessarily be associated with their use as runners. Holes may be medio-laterally or crano-caudally oriented, and they pierce through the compact tissue of the bone, so that a smaller object, such as a rope, could be inserted into them to connect them holding the net in a circle floating on or near the surface of the water. These pieces typically exhibit strong rounding and some polish over the whole surface, but have no stripe of heavily polished wearing marks on the cranial side. Kálmán Szabó interpreted some of the fourteenth-century bone tools he found at Lakitelek in the Great Plain as floats used for fishing nets; these were made of horse metapodia. He added that some of the houses yielded six to eight of these tools, enough for the greater part of a net circumference. This net type was still in use in the twenty first century. Interestingly, he writes that these floats were specifically made of horse bones. Net weights made of burnt clay were also found in great numbers here. The three tools he published photos of were all drilled on both ends (regardless of their size: only one is a complete bone, the other two are metapodia broken in half and still used as a whole bone, drilled at both ends).¹⁶⁴⁰ Ethnographic analogies for these pieces were described by Ottó Herman in early twentieth century Hungary. He mentions that objects used as net weights become nicely polished by the sludge, and, thus, the bone will be smoother and loses the grease and protruding parts.¹⁶⁴¹ This raises the possibility that some of these objects changed function during their use. They could initially be used as net weights, and when they become polished, they could then be utilized as skates (which were indispensable for fishing in the winter) without much

¹⁶³⁸ Biller, Perkáta, 36-38, Appendix 2

¹⁶³⁹ Sandra Olsen, "The importance of thong-smoothers at Botai, Kazakhstan," in *Crafting Bone: Skeletal Technologies Through Time and Space. Proceedings of the 2nd Meeting of the (ICAZ) Worked Bone Research Group, Budapest, 31 August – 5 September, 1999*, eds. Alice M. Choyke and László, Bartosiewicz, BAR International Series 937. (Budapest: Archaeolingua, 2001), 197-206.

¹⁶⁴⁰ In the text Szabó specifies that these were made of tibiae, but the photos clearly show one metatarsal and two metacarpal bones from horse. Szabó, Az alföldi magyar nép művelődéstörténeti emlékei, 127, photos 606-608.

¹⁶⁴¹ Herman, Ösfoglalkozások, 16.

modification. This would mean either an opportunistic use of an object originally prepared for different utilization, or a rather planned sequence of use in which use wear resulting from one activity functions as a form of modification itself.

Bone anvils

These objects have been known in the archaeological record since prehistoric times, however, their interpretation as bone anvils to anchor the blade of a sickle while it's working edge was punched out to make a serrated edge is a more recent result.¹⁶⁴² These objects are usually radii or metapodia of large ungulates, which are covered in small, triangular punched holes in lines perpendicular to the central axis of the bone. The artifacts may have one to four active surfaces on which the smith sharpened and serrated the sickles, represented by¹⁶⁴³ the rows of small, triangular holes.¹⁶⁴⁴ Bone anvils have been abundantly found and documented from Central Europe as well, from various periods; such objects were found at Hajdúnánás-Fürjhalom dűlő (Árpád Period, cattle metatarsal),¹⁶⁴⁵ Cegléd-Fertály földék (horse and cattle long bones), Felgyő-Kettőshalmi dűlő (cattle femur, Avar Period),¹⁶⁴⁶ Baj-Öreg-Kovács hegység

¹⁶⁴² Nadal and Roure used ethnographic examples from Spain to interpret such remains. Montserrat Esteban Nadal and Eduard Carbonell Roure, "Saw-toothed sickles and bone anvils: a medieval technique from Spain," *Antiquity* 78/3 (2004), 637–646.

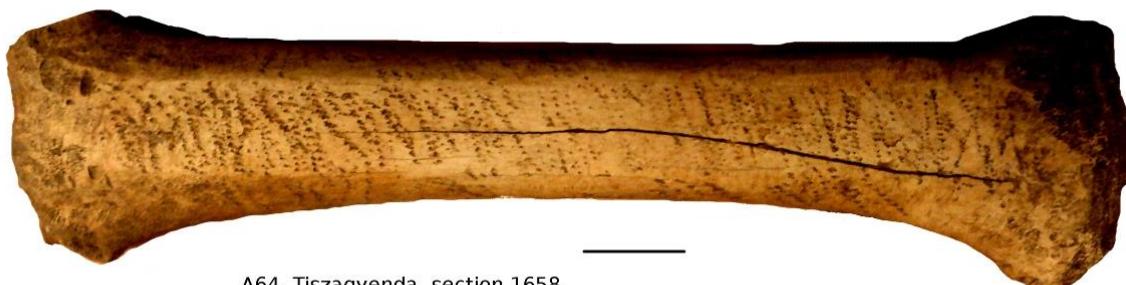
¹⁶⁴³ Erika Gál, Eszter Kovács, István Kováts and Gábor Zimborán, "Kora középkori csontüllők Magyarországról: egy újabb példa az állatcsontok hasznosítására" [Early medieval (10th -13th century) bone anvils from Hungary. Another example for the use of animal bones], in *Csont és bőr Az állati eredetű nyersanyagok feldolgozásának története, régészete és néprajza. Bone and Leather. History, Archaeology and Ethnography of Crafts Utilizing Raw Materials from Animals*, eds. János Gömöri and Andrea Körösi (Budapest: Martin Opitz, 2010), 117-126: 119-120. (henceforth: Gál et al, Kora középkori csontüllők)

¹⁶⁴⁴ Corneliu Beldiman, Diana-Maria Sztancs, Viorica Rusu-Bolindet, and Irina Adriana Achim, "Skeletal technologies, metal-working and wheat harvesting: ancient bone and antler anvils for manufacturing saw-toothed iron sickles discovered in Romania," in *Written in Bones. Studies on Technological and Social Contexts of Past Faunal Skeletal Remains*. Ed. by Justyna Baron and Bernadeta Kufel-Diakowska (Wroclaw: Uniwersytet Wrocławski, Instytut Archeologii, 2011), 173-186: 179.

¹⁶⁴⁵ Erika Gál, "Animal remains from the multi-period site of Hajdúnánás-Fürjhalom dűlő. Part II. Finds from the Árpád Period (10th-13th c.)", *Acta Archaeologica Academiae Scientiarum Hungaricae* 61 (2010), 425-444: 433. Fig 8; 435.

¹⁶⁴⁶ Andrea Körösi, "Szarmata és avarkori csonteszközök Felgyő-Kettőshalmón" [Worked Bone Implements from Felgyő-Kettőshalmi dűlő from the Sarmatian and Avar Periods], in *Csont és bőr Az állati eredetű nyersanyagok feldolgozásának története, régészete és néprajza. Bone and Leather. History, Archaeology and Ethnography of Crafts Utilizing Raw Materials from Animals*, eds. János Gömöri and Andrea Körösi (Budapest: Martin Opitz, 2010), 100-116.

(cattle radius),¹⁶⁴⁷ or Kolon (cattle and horse long bones, Árpád Period).¹⁶⁴⁸ At the time the Cumans arrived in Hungary, these objects were widespread in the country.¹⁶⁴⁹ Similar objects have been discovered on the Black Sea coast as well; however, their complete medieval distribution is still a problem to be solved. Nevertheless, as Bartosiewicz and Gál warns, the haphazard pattern of their geographical distribution may well indicate observer bias, as these non-spectacular tools are unlikely to be spotted unless all refuse bone is carefully identified.¹⁶⁵⁰ It is uncertain if these objects were known for the Cumans in the steppe region (however, these objects have only been recognized as tools recently, which may explain their absence from publications).



A64. Tiszagyenda, section 1658,
feature no. 1552

Fig. 5.3.2 Bone anvil from Tiszagyenda (late Árpád Period, 13th century), with characteristic punched holes in lines

Altogether three bone anvils were found during my research, all of them at Tiszagyenda. Two of them were made from horse radius and the third from horse metacarpal. Two pieces are fragmented; both are 120-140 mm long which means that they probably broke in two pieces (one is a proximal and one is a distal fragment and both pieces exhibit spiral breaks). These tools were

¹⁶⁴⁷ László Bartosiewicz, “Állatmaradványok Baj-Öreg- Kovács-hegy késő középkori udvarházának ásatásából,” [Animal remains from the late medieval manor of Baj-Öreg Kovács-hegy] in *A baji nemesi udvarház gazdasági tevékenységéről, különös tekintettel a tímárkodásra. Adatok a középkori magyar bőripar történetéhez* [On the Economic Activities of the Noble Manor of Baj, With a Special Emphasis on Leather Working], ed. Sándor Petényi (Tata: Kuny Domokos Múzeum, 2010) 30-59.

¹⁶⁴⁸ Judit Kvassay, Judit and István Vörös, “Az Árpád-kori Kolon falu kovácszműhelyének archaeozoológiai bizonyítéka” [The Archaeozoological Proof of a Smithy from the Árpád Period Village of Kolon] in *Csonk és bőr Az állati eredetű nyersanyagok feldolgozásának története, régészete és néprajza. Bone and Leather. History, Archaeology and Ethnography of Crafts Utilizing Raw Materials from Animals*, eds. János Gömöri and Andrea Körösi (Budapest: Martin Opitz, 2010), 127-142: 135-140.

¹⁶⁴⁹ Gál et al, Kora középkori csonttöllök, 117-126.

¹⁶⁵⁰ Erika Gál and László Bartosiewicz, “A radiocarbon-dated bone anvil from the *chora* of Metaponto, southern Italy.” *Antiquity* 86 (2012), digital edition: <http://antiquity.ac.uk/projgall/gal331/> Accessed 08.07.2014.

simply discarded when they broke. The third specimen is more-or-less intact, and has striking marks on all sides, including the medial and lateral surfaces as well, suggesting a long-lasting utilization and full exploitation of its potential (Fig. 5.3.2).

Interestingly, these three pieces were found at three different locations, but not far from each other. One of the pits (feature 290, section 519; fourteenth c.) yielded a considerable amount of iron fragments as well; feature no. 1552, section 1658, however, contained a lot of household waste (kitchen refuse and pottery fragments) along with the anvil. These different contexts suggest that bone anvils were associated with small-scale iron working, possibly carried out in a house equipped with a workshop. As iron working is not possible without some minor infrastructure and background knowledge, it is not likely that these objects were utilized generally on a household level. Although brought to light in various locations, all three anvils were discovered in the northern segment of the excavated village part, which may mean that they are associated with one and the same workshop, whose waste was deposited in different pits at different times.

Gaming pieces

Bones identified as gaming pieces are mostly phalanges with flattened palmar surfaces and polish. Two horse phalanges were included in the catalogue published of the Szentkirály exhibition (A4, A5);¹⁶⁵¹ another one was found at Orgondaszentmiklós. Similar pieces, made of horse and cattle phalanges alike, were found also at Gorzsa and Tiszagyenda.

¹⁶⁵¹ Pálóczi Horváth, Élet egy középkori faluban, catalogue, items 110-111.



Fig.5.3.3 Gaming piece from Tiszagyenda (feature 167, 15th century), made of a drilled cattle phalanx

Four horse phalanges found in Szentkirály under the foundation of the house nr. 4/4a have small cut marks on them, and were described by István Takács as foundation offerings. As the four bones come from at least three individuals, it must have represented considerable expense, if we accept Takács' interpretation. However, Éva Nyerges suggested that the cut marks are rather skinning marks, and there is no cultic aspect to their deposition; she identified them as possible gaming pieces.¹⁶⁵² At another location at the Szentkirály excavation, 26 horse phalanges were found in one pit, two of which had markings on them (A4 and A5 in the catalogue). Interestingly, such marked phalanges were not found anywhere else, although modified phalanges of horse and cattle that were probably used as gaming pieces were recovered also from Orgondaszentmiklós (A16), Gorzsa (A38), and Tiszagyenda (A63, A75, A78). Two swine phalanges, although they were not modified, were included in the list of *ad hoc* tools as possible gaming pieces because they exhibit heavy polish, probably from handling (B3 and B4).

In some cases, holes were made in these objects; these may have indicated the value of a

¹⁶⁵² Nyerges, A szentkirályi kunok állattartása, 70-71; Takács, Szentkirály középkori falu zoológiai leletei, footnote 102

piece in a game or the holes were filled with lead. These objects were used like nine-pins in children's games of various sorts across Europe in this period. These holes cannot be associated with skinning or other types of processing and were deliberately made, so it can be ruled out that the accumulation of such phalanges is the result of some other, different practice (although this is possible in the case of the 26 phalanges found at Szentkirály). It is assumed that these pieces were used as an alternative to astragali, their natural shape allowing them to be stood on end easily¹⁶⁵³ and to be used as figures in a chess-like game. Another possibility is that they were placed in rows on the ground and hit with some throwing stick or ball.¹⁶⁵⁴ Moreover, ethnographic analogies are also known in which horse phalanges are used as substitutes for real horses, pulling a cart: two proximal phalanges are "harnessed" and tied to a piece of wood that represents the "wagon".¹⁶⁵⁵

Sheep astragali, bones well-known to have been used as gaming pieces, and widely documented from the steppe region,¹⁶⁵⁶ were surprisingly not found at the Cuman sites, but were recovered in large numbers at Gorzsa. Ethnographic analogies and written sources reveal that astragalus games were widespread in Mongolia and Kazakhstan where they are played even today; it is certain that Cumans were acquainted with such games. Nevertheless, their use was widespread in medieval Hungary as well: such finds were discovered in great numbers at some sites. In Majs-Udvari Rétek, e.g. 58 sheep astragali were recovered from a child's grave. These objects are usually considered to be children's toys, but they were occasionally used for fortune-telling as well.¹⁶⁵⁷

Small ruminant astragali with flattening and strong wear only on one side but polish on the whole surface may have been used in smoothing ceramic surfaces as well. This was

¹⁶⁵³ Arthur MacGregor, *Bone, Antler, Ivory and Horn: Technology of Skeletal Materials Since the Roman Period* (London: Croom Helm, 1985), 134 (henceforth: MacGregor, Bone, Antler, Ivory and Horn)

¹⁶⁵⁴ MacGregor, Bone, Antler, Ivory and Horn, 135.

¹⁶⁵⁵ István Bárkányi, "Paraszti játékszerek Csongrád megyében" [Peasant toys in Csongrád county, Hungary], in *Játszani jó! Történelmi barangolás a játékok birodalmában* [It's Good to Play! A Historical Journey the Realms of Toys] ed. E. Matuz and A. Ridovics (Budapest: Magyar Nemzeti Múzeum – Móra Ferenc Múzeum, 2004), 117.

¹⁶⁵⁶ Elsie G. Budd and Leslie F. Newman, "Knuckle-Bones". An Old Game of Skill", *Folklore* 52/ 1 (1941), 8-17; E. Lovett, M. Longworth Dames, D. F. de l'Hoste Ranking, C. Violet Turner, E. Linder and E. C. Sykes, "The Ancient and Modern Game of Astragals", *Folklore* 12/3 (1901), 280-293.

¹⁶⁵⁷ Gyöngyi Kovács, "Juh astragalos-játékkockák a szolnoki vár terletéről" [Gaming pieces made of sheep astragali from the Castle of Szolnok], *Archaeológiai Értesítő* 116/1-2 (1989): 103-110.

demonstrated by experimental archaeological methods by Meier.¹⁶⁵⁸ Such objects were found at Gorzsa (A19, A24, A37, A56). Similarly worn astragali were also recorded from the Árpád Period village of Gyál 8.¹⁶⁵⁹

Pin holders / needle holders

Pin holders were fixed on nomad bags (the so-called “*tarsoly*”). As such, these were interpreted by Hatházi as a typical Eastern custom, only associated in fourteenth-century Hungary with the Cumans and Iasians.¹⁶⁶⁰ Such objects were made of bone or metal (by the Cumans, preferably from lead while Iasians used bronze instead; bone was perhaps used as a cheaper alternative to metal). Analogies to this object type were found in the Iasian cemetery of Négyszállás and in Öttömös and Perkáta. The bone pin holder found in Perkáta was identified as the ulna of a crane (in the rest of the cases the taxon is not specified in the publication, but on the basis of photographs these seem to be made from a bird diaphyses, too). The surface of the Perkáta pin holder was polished but the object itself was not decorated. It was placed in the grave of a 53-57 year-old woman, by the right hip of the deceased (attached to the nomad bag as found in Avar contexts as well).¹⁶⁶¹ Interestingly, a pin holder made of lead was also found in the Perkáta cemetery (grave no. 141, 18-22 year-old woman, thirteenth to fourteenth c.),¹⁶⁶² and so it is possible that the bone object was in fact a copy of a metal one, but made from a cheaper and more easily available raw material. Analogies for placing the pin holder on the bag have been recorded in ethnographic material from the nineteenth century: a number of ”accessories” were fixed on the nomad bags, including pins, pin holders, amulets and flints.¹⁶⁶³ However, the connection is weak as ethnographic observations reflect a custom associated with males, while in the archaeological record these objects were found in female graves.¹⁶⁶⁴ Glass beads probably

¹⁶⁵⁸ Jacqueline Meier, “More than Fun and Games? An experimental study of worked bone astragali from two Middle Bronze Age Hungarian sites,” in *From These Bare Bones: Raw Materials and the Study of Worked Osseous Objects*, eds Alice M. Choyke and Sonia O’Connor (Oxford: Oxbow, 2013)

¹⁶⁵⁹ Biller, Vecsés környéki Árpád-kori települések csontanyagának vizsgálata, 52.

¹⁶⁶⁰ Hatházi, A kunok régészeti emlékei, 110

¹⁶⁶¹ Hatházi, A kunok régészeti emlékei, 25

¹⁶⁶² Hatházi, A kunok régészeti emlékei, 39.

¹⁶⁶³ Bartha, A Kunság népi kultúrájának keleti elemei, 120-122

¹⁶⁶⁴ Hatházi, A kunok régészeti emlékei, 119

decorating such bags were also found in several graves at Perkáta.¹⁶⁶⁵ András Pálóczi-Horváth noted a possible analogy with the *kamenneye baby* statues. In some cases, a nomad bag with its accessories (comb, mirror, fringe for decoration etc.) is depicted on such statues of women, fixed on the belt, usually on the right side¹⁶⁶⁶ (as observed in several cases in the graves).

Ornamented plates and buckles

Ornamented buckles, plates and beads made of bones and attached on belts were interpreted by Mária G. Sándor as specifically Cuman objects.¹⁶⁶⁷ Ornamented belts (the so-called *pártaöv*) were typically worn by young girls and unmarried women.¹⁶⁶⁸

However, a systematic review of these finds in the Hungarian archaeological record was made by Sándor Varga in 2005. He concluded that altogether 411 bone buckles were recovered from 62 medieval sites in the country, only 11 of which are associated with areas inhabited by the Cumans (Csengele-Bogárhát, Kecskemét, Kelebia, Kiskunfélegyháza, Kisszállás, Ladánybene, Nyársapát, Orgondaszentmiklós, Subotice, Tiszaújfalu and Móric,¹⁶⁶⁹ A87-90 in the catalogue¹⁶⁷⁰). These new results suggest that these objects must have been widespread in other parts of the Carpathian Basin as well and were used by the Cuman migrants alone. Unfortunately, these pieces were not available for study.

In grave no. 56 of a woman at Kiskunfélegyháza-Templomhalom, eight bone beads were found that were probably fixed on a belt as ornaments.¹⁶⁷¹ Bone ornaments made on a lathe (including buttons) were found in the grave of a girl in the cemetery of Csengele-Bogárhát

¹⁶⁶⁵ Hatházi, A kunok régészeti emlékei, 31, 33, 38, 39.

¹⁶⁶⁶ Pálóczi, Hagyományok, kapcsolatok és hatások, 85

¹⁶⁶⁷ Mária G. Sándor, "Középkori csontosövek a Magyar Nemzeti Múzeumból" [Medieval ornamented belt buckles made of bones in the collection of the Hungarian national Museum] *Folia Archaeologica* 11 (1959), 115-123: 119.

¹⁶⁶⁸ Horváth, A csengelei kunok, 69-70.

¹⁶⁶⁹ Sándor Varga, "Középkori csontveretes övek a Kárpát-medencében," [Medieval belts with bone plates from the Carpathian Basin] *Móra Ferenc Múzeum Évkönyve – Studia Archaeologica* 11 (2005), 277-304: 285. (henceforth: Varga, középkori csontveretes övek)

¹⁶⁷⁰ I only included those pieces discovered at the sites discussed in the thesis in the catalogue. For the other pieces, see the systematic review of Varga. (Varga, Középkori csontveretes övek)

¹⁶⁷¹ Bálint, A Kiskunfélegyháza-templomdombi temető, 60.

(grave no. 11).¹⁶⁷²

These finds are special in terms of their origins: as opposed to the rest of the worked bones, these are not rough products manufactured at the household level but were certainly produced in professional workshops and some of these objects must have been purchased. The fact that they found their way into graves also testifies to their (social and financial) value. Accordingly, these finds usually appear in the assemblages of larger market towns lying along trade routes.¹⁶⁷³

Bone amulets

Some of the bone objects and beads have been interpreted as possibly connected to the above mentioned decoration of the nomadic bag. These objects were usually drilled and strung together on a cord and in most cases are found by the hip of the deceased. Astragali and fish vertebrae, pierced and strung with beads found in such contexts were explained as amulets; these have already been discussed from a ritual point of view in Chapter 5.2.

These bones were usually not worked (except for drilling), and leaving them unmodified may have been an important element of “tool making”. As Selmeczi notes, ethnographic analogies were discovered in Mongolia and Siberia: the protecting spirit, which takes the shape of an animal, is represented by the bone of the animal itself; the bone also serves as a home for the spirit.¹⁶⁷⁴ Selmeczi connected the hare astragali to protecting rites performed in order to make delivery easier for women.¹⁶⁷⁵ Two types of amulets were distinguishable in the material of Perkáta-Kőhalmi dűlő: astragali are rather interpreted as accessories worn on the bag, placed on the hip, while necklaces were made of teeth or shells; the two types don't occur together. Bone

¹⁶⁷² Horváth, Csengele középkori temploma, 101, 115-116.

¹⁶⁷³ Varga, középkori csontveretű övek, 285.

¹⁶⁷⁴ Individual bones represented the whole animal with all its special attributes and cultural associations. One universal concept is the use of head and foot bones to represent the essence of the animal. (Alice M. Choyke, “The bone is the beast: animal amulets and ornaments in power and magic”, in *Anthropological Approaches to Zooarchaeology. Complexity, Colonialism, and Animal Transformations*, ed. Douglas Campana, Pam Crabtree, Susan D. deFrance, Justin Lev-Tov and Alice M. Choyke (Oxford: Oxbow, 2010), 197-209.)

¹⁶⁷⁵ László Selmeczi, “Régészeti adatok a jászok szokásaihoz és hiedelemvilágához” [Archaeological data on the customs and beliefs of the Iasians], in *Régészeti-néprajzi tanulmányok a jászokról és a kunokról* [Archaeological and Ethnographic Studies on the Iasians and Cumans.] Folklór és etnográfia 64. (Debrecen: Kossuth Lajos Tudományegyetem Néprajzi Tanszék, 1992), 185-211: 208

amulets were often accompanied by (glass) beads, both on the bag and on the neck, which is a phenomenon known from Hungarian Conquest period and Avar contexts as well.¹⁶⁷⁶

As we have previously seen, amulets were discovered in the cemetery of Perkáta, mostly in graves associated with the Cuman period of the cemetery. Most of them are astragali of hare and sheep, one astragalus of a fox was also found, as well as horse teeth, wolf and dog canines, snail and kauri shells. The total absence of amulets in male graves here is a strong indication that such objects were connected to women and children; this connection has also been observed in other, Avar, Bulgarian, Hungarian archaeological contexts from the tenth to eleventh centuries.¹⁶⁷⁷

Other bone objects

A shell was found in one of the pits excavated in Perkáta which has been interpreted as a spoon;¹⁶⁷⁸ however, as no detailed description, photography or explanation was provided, this interpretation must be handled with care. The same holds for the “seat” made allegedly of a horse but in fact a cattle skull, found at Karcag-Orgondaszentmiklós.¹⁶⁷⁹

5.3.1.2 Ad hoc, opportunistic tools

Tools that exhibited clear signs of wear and use but were not modified, were mainly projectile points; these, however, were all found at the sites on the Cuman area’s periphery. Cuman sites yielded only a few opportunistic tools, including *ad hoc* handles (B1, B2), possible gaming pieces (B3, B4), and a possible “bone skate” type leather smoother (B5). The analysis of their use would require a proper study of microscopic wear.

In some cases (B7, B8, B12) it seems that spirally broken diaphysis fragments were simply taken out of the kitchen refuse (maybe after marrow extraction) and the natural points of

¹⁶⁷⁶ Hatházi, A kunok régészeti emlékei, 121

¹⁶⁷⁷ Bálint, A Kiskunfélegyháza-templomdombi temető 52-53, Hatházi, A kunok régészeti emlékei, 121

¹⁶⁷⁸ Hatházi, A kunok régészeti emlékei, 54

¹⁶⁷⁹ Selmeczi, Nomád települési struktúra, 54-55.

these fragments were temporarily used as awls of some sort for a single or just a few tasks after which they were discarded.



Fig 5.3.4 Diaphysis fragment used as *ad hoc* point, from Orgondaszentmiklós

5.3.1.3 Debris and unprocessed pieces of raw material

Only four pieces were identified as debris or unprocessed material, which is consistent with the absence of organized workshop activity at these settlements. Three objects of the “bone skate” type, from Orgonaszentmiklós, Asszonyszállás and Gorzsa (C1, C2 and C4) were thrown away before they were completed and before they could be used. One may have broken during processing and was discarded for this reason. The fourth piece is a roe deer antler which was cut off the skull but was not used. If tool production mainly took place at the household level, pieces chosen for processing were separated from the carcass or taken from the garbage and individually manufactured as needed; thus, the typical signs of mass production are missing.

Interestingly, the number of antler remains is generally very low at our sites; this suggests that antlers must have been collected, processed and stored separately in locations not yet excavated (or the antler was sold to workshops in towns which definitely did use antler in production). Cut marks around horn cores (already mentioned in subchapter 5.1 on butchering) testify to the processing of horns both of cattle and small ruminants, but it is again uncertain where this was carried out, as so far no archaeological feature could be associated with this activity at our sites.

The fact that bone tools recovered from Cuman sites do not actually differ from those generally coming from Hungarian sites of the same period suggests two things: either that this segment of material culture went through a profound acculturation and Cumans in the fourteenth through the sixteenth century mimicked the tools used by the original local population, or that the level of bone manufacturing was driven by chiefly practical considerations in village communities, regardless of ethnic background, and thus there was not much room for the expression of cultural through morphology and style during their manufacture (beyond, of course, raw material selection). As this kind of household production belongs to the more intimate and traditional sphere of everyday life, the first explanation is not likely.

5.3.2 Wool and leather

While animal bone used for tool making had no value in itself, as bones were always available everywhere (and, thus, only the end products, processed and carved bone objects, could be considered commodities, not the raw material¹⁶⁸⁰), wool and hides were valuable from the moment they were ‘harvested’. Felt and leather production for everyday purposes probably took place on the household level; merchants involved in trade with wool and hides were probably identical to or associated with those who traded in livestock on a larger scale.

¹⁶⁸⁰ This, of course, does not apply to tusk or ivory in general; however, these raw materials were not available to the everyday commoners at all. Unprocessed antler may have been a commodity in areas where it was not available, but there are no sources to support this hypothesis. It may also be that antler was gathered and sold to urban workshops where it was an important raw material. It is striking how little worked antler was there at the studied sites

Wool and leather (hide) production is difficult or even impossible to trace archaeologically as these materials preserve only under special circumstances. Therefore, information on this aspect of the economy comes almost exclusively from written sources; however, there are not many such sources available, although both products must have been pivotal side-products of animal keeping for the Cuman communities that migrated to Hungary. In fact, the *Codex Cumanicus* lists several words for different types of sheepskins.¹⁶⁸¹ The varied vocabulary of leather production in the Codex involves not only the types of raw material but also the differentiated professions associated with them such as shoemaker, saddler, harness maker and fur-dresser/skinner.¹⁶⁸² This suggests that a rich tradition already existed in the thirteenth century, which is not surprising. Although little is known about Cumans processing wool and hide, plenty of references are made to various nomadic peoples in the steppe zone in this regard. The Chinese annals *Kang mu* notes for the year 1247 that the Kipchaks – probably including the Cumans as well – breed a large number of horses and are especially skilled in working leather and metal.¹⁶⁸³

Mortality profiles of sheep, as discussed in the previous chapters, suggest they were exploited for secondary purposes. Sheep was certainly kept for wool, while skins of basically all main domesticates could be utilized for leather production. Our sources sometimes mention hides of cattle (or oxen), but it is certain that all valuable parts of the animal body were used and hide was definitely one of these. Wool production raises the question of the sheep to goat ratio in the stock which is difficult to perceive archaeologically (as the bones of the two species only minimally differ and usually cannot be distinguished when heavily fragmented). These species usually pasture together; goats are less demanding in terms of food, temperature and pasture, but their wool is of much poorer quality (except for some specialized goat breeds which were not present in medieval Hungary).¹⁶⁸⁴

Wool and leather production and processing of these raw materials at the households must have been significant, although such references are very sporadic from the medieval period. Wool and leather is usually mentioned in association with clothing. Ethnographic sources from

¹⁶⁸¹ Györffy, A kipcsaki kun társadalom, 244.

¹⁶⁸² Györffy, A kipcsaki kun társadalom, 247.

¹⁶⁸³ Emil Bretschneider, *Medieval Researches from Eastern Asiatic Sources. Fragments Towards the Knowledge of the Geography and History of Central and Western Asia from the 13th to the 17th Century* (London: Trübner & Co., 1888), Vol. II. 72.

¹⁶⁸⁴ Khazanov, Nomads and the Outside World, 27.

the eighteenth century mention caps made of sheep's skin as a traditional clothing item from the Great Plain that resembled those worn by the Kazakhs and the Kirghiz.¹⁶⁸⁵ The so-called *kunsüveg* (Cuman cap), a traditional type of hat worn by soldiers up to the eighteenth century in Cuman areas, is identical in shape to those depicted on the Cuman warrior's head in murals illustrating St. Laudlaus' fight with the Cuman, as well as with a fifteenth-century cap unearthed in the cemetery of Karcag-Orgondaszentmiklós.¹⁶⁸⁶ The typical clothes of early modern herders in the Great Plain such as the fur coat-like *szűr*, were also made from sheep's skin and wool. These dress items were also used to protect horses during riding, or as a substitute for the saddle, and occasionally as a blanket for the horse.¹⁶⁸⁷ Mándoky Kongur mentioned that the word *daku*, used exclusively in Greater and Lesser Cumania, goes back to the Cuman word *jaqu*, which designated a type of fur coat made of skin where the hair was left on after flaying and preparation. It is not clear, however, if this word referred to sheepskins only, or any kind of fur coat.¹⁶⁸⁸ Kazakh herders wore coats made of foal's hide and sheepskin, as well as felt foot-clothes.¹⁶⁸⁹ However, leather was also used to prepare everyday tools such as straps or harnesses. Ethnographic analogies show that leather tubes must have been used for fermenting and storing mare's milk. In modern Kazakhstan these are usually made from horse or cattle hide, and the biggest ones (ca. 250 l) are made from the hide of five horses, sewn together.¹⁶⁹⁰ William of Rubruk mentions that the Mongols processed oxen hides with smoke, and made "jars" (that is, containers) out of them, while horse hide was used to make shoes.¹⁶⁹¹ Hide may have been used for military equipment as well: Plano Carpini mentions that nomads used hide to make armor for their horses and mules.¹⁶⁹²

The nineteenth-century ethnographer Ottó Herman notes that everyday leather objects such as small bags or knife holders were made by the herders themselves in the Great Plain, usually from the hide of the species they were taking care of. The hide of lambs and foals were especially popular (maybe because these were smoother and easier to work). Hide could be

¹⁶⁸⁵ Bartha, A Kunság népi kultúrájának keleti elemei, 138.

¹⁶⁸⁶ Bartha, A Kunság népi kultúrájának keleti elemei, 138-139.

¹⁶⁸⁷ István Györffy, *A cífraszűr* [The Embroidered Szűr Fur Coat] (Karcag, 1930), 10.

¹⁶⁸⁸ Mándoky Kongur, A kun nyelv magyarországi emlékei, 105-107.

¹⁶⁸⁹ Bartha, Fejezetek a Tien-san vidékének néprajzához, 29.

¹⁶⁹⁰ Bartha, Fejezetek a Tien-san vidékének néprajzához, 22.

¹⁶⁹¹ Rubruck ed. Jackson and Morgan, 79.

¹⁶⁹² Plano Carpini ed. Dawson, 33

treated simply with salt before processing;¹⁶⁹³ this latter custom was also observed among the nomadic Mongols by András Róna-Tas.¹⁶⁹⁴

In addition to clothing, wool was certainly used to prepare felt for the yurts. “Felt houses” (that is, yurts) of the Cumans are mentioned both in the Cuman Laws¹⁶⁹⁵ and in the 1347 charters that report that twelve Cumans moved onto the lands of the Hungarian aristocrat Töttös.¹⁶⁹⁶ Even if these were isolated cases and yurts were mostly used as a kind of alternative “summer house” type of dwelling, felt production must have been a regular task, as felt was also a key material in the production of clothes.

The modern Tuvinian nomads in Southern Siberia produce felt at the household level, or sometimes several households together; thus, when all members of the community are involved, the amount of felt needed for all households could be produced in several days’ time. The cruder, thicker (double-layered) felt, made of the wool from the spring shearing is used for making roof-coverings, rugs and bed mattresses, while the thinner type, made of the lambs’ wool from the autumn shearing, is used for clothes.¹⁶⁹⁷ This distinction between the two wool types was also made by the Mongols according to Rubruck’s account;¹⁶⁹⁸ in all probability, the Cumans used wool in a similar way when they entered the country. Ethnographic analogies from Anatolia suggest how this felt was made. Sheep are bathed in a stream before shearing so that wool does not have to be washed again before processing (and thus, remains stronger and tougher). Sheep are sheared twice a year, in the spring and in late summer.¹⁶⁹⁹ A similar custom is known from

¹⁶⁹³ Herman, Ősfoglalkozások, 62, 66.

¹⁶⁹⁴ Róna-Tas recorded that heavily salted, fermented milk was used to process the hide of a sheep. The thick mixture of salt and milk was smeared on the raw hide with a sheep's mandible. Then the hide was folded and put out in the sun. This was repeated several times until the hide became smooth. Then it was washed and further treated with scraping. Cattle hide is also treated in this manner, although it has to be left in the salty pulp for several days. Camel hide is only soaked and dried. (András Róna-Tas, *Nomádok nyomában. Etnográfus szemmel Mongoliában* [In the Footsteps of Nomads. An Ethnographer in Mongolia] (Budapest: Gondolat, 1961), 219.)

¹⁶⁹⁵ *recedent a tabernaculis suis et domibus filtrinis.* Gyárfás, A jász-kunok, vol.2, 432.

¹⁶⁹⁶ *filtreas domus habentes.* Gyárfás, A jász-kunok, vol.3, 72-73, 484.

¹⁶⁹⁷ Sevyan Vainshtein, *Nomads of South Siberia: The Pastoral Economies of Tuva* (Cambridge: Cambridge University Press, 1980), 209.

¹⁶⁹⁸ “The wealthy, moreover, line their garments with silk stuffing, which is extremely soft and light and warm; the poor line their with cotton cloth and with the softer wool which they can pick out from the coarser. From the coarser sort is made felt for covering their dwellings and coffers and also for bedding. They further use wool mixed with a third part horse hair to make their ropes. And from felt they make in addition covers to go beneath the saddle, and rain-capes, with the result that they use up a great deal of wool.” (Rubruck ed. Jackson and Morgan 86-87.)

¹⁶⁹⁹ Júlia Bartha, “Nemezelés” [Felt making] in *Keleti tanulmányok* [Studies on the East] (Karcag: Barbaricum, 1998), 85-108: 87-88

the Cuman areas of the Great Plain in the ethnographic record; bathing the animals before shearing even required a certain infrastructure and access to proper waters.¹⁷⁰⁰ Dirty wool could not be sold, or only for a very low price.¹⁷⁰¹ Traders, however, already came to an agreement before the animals were shorn.¹⁷⁰²

Trade in hides and wool is only rarely documented. In the toll tariffs of Buda in 1255, mention is made of trade in sheepskins as well as black and pied lambskins.¹⁷⁰³ Cattle hide is mentioned as a commodity in the thirtieth records of Bratislava from 1497/98.¹⁷⁰⁴ In 1534, a merchant from Pécs, Bálint Farkas, complained in his letter that George Martinuzzi, the bishop of Várad, forbade transport of wheat to Transdanubia, while he himself was involved in large-scale trade in wheat, wine, sheep, cattle, wool and leather.¹⁷⁰⁵ Sheepskins, wool and cattle hide regularly appear in the toll tariffs of Buda in the Turkish period, in the second third of the sixteenth century. These were traded in huge numbers; sometimes thousands of them were recorded in one merchant's hand. Trade seems to have been continuous; sheep and cattle hide were everyday commodities in the toll records. Most merchants only moved a few hundred of these hides, but in some cases, large-scale traders appear. Altogether 3,610 sheepskins were taxed on one single day in December 1550, 2,800 of which belonged to one merchant; 1,850 sheepskins were recorded as belonging to a single merchant in February, 1551; while another 1,000 hides were recorded as being in another merchant's possession in May, 1571.¹⁷⁰⁶ On

¹⁷⁰⁰ Bellon, A nagykunsági mezővárosok állattartó gazdálkodása, Chapter “A gyapjú értékesítése” (Selling wool), digital edition: <http://terebess.hu/keletkultinfo/bellon7.html#17> Accessed 11.13.2014.

¹⁷⁰¹ It was recorded that in 1836 it was difficult for the population of Kunmadaras (Greater Cumania) to sell the wool in a properly clean state, as the weather was unusually hot and access to streams was limited. (Bellon, A nagykunsági mezővárosok állattartó gazdálkodása, Chapter “A gyapjú értékesítése” (Selling wool), digital edition: <http://terebess.hu/keletkultinfo/bellon7.html#17> Accessed 11.13.2014.) This must have been a factor in earlier periods as well.

¹⁷⁰² Erzsébet Bánkiné Molnár, *Redemptusok. Gazdaság és életmód Kiskunfélegyházán a redempció első századában* [Redempti. Economy and Lifestyle at Kiskunfélegyháza in the First Century After the Redemption] (Debrecen: DUP, 2000), 130. (henceforth: Bánkiné Molnár, Redemptusok)

¹⁷⁰³ Béla Kovácsy, *Juhagyás és gyapjúismertetés* [Sheep Breeding and Wool Production] (Budapest: Athenaeum, 1923), 97 (henceforth: Kovácsy, Juhtenyésztés és gyapjúismertetés)

¹⁷⁰⁴ Erik Fügedi, “Magyarország külkereskedelem a XVI. század elején” [Hungarian export in the early 16th century] in *Kolduló barátok, polgárok, nemesek. Tanulmányok a magyar középkorról* [Begging Friars, Burghers, Noblemen. Studies on Medieval Hungary] (Budapest: Magvető, 1981), 364-386: 376.

¹⁷⁰⁵ Gyárfás, A jász-kunok, vol. 3, 392.

¹⁷⁰⁶ Lajos Fekete and Gyula Káldy-Nagy, *Budai török számadáskönyvek 1550-1580* [Turkish Tax Records from Buda, 1550-1580] (Budapest: Akadémiai Kiadó, 1962). 18, 24, 59. (henceforth: Fekete and Káldy-Nagy, Budai török számadáskönyvek)

August 10, 1571, 10,000 sheepskins and 300 cattle hides were recorded in one trader's hand.¹⁷⁰⁷ Again 1,300 lambskins were transported by two merchants on July 7, 1580.¹⁷⁰⁸ Cattle hides usually occur in lesser numbers, although batches in the hundreds were not unheard of, and there seems to be an increase in their production. A record from April 19, 1571 reveals that two merchants were taxed, one possessed 400, the other one 600 cattle hides; a few months later another trader transported 600 hides of cattle here, while in the winter 1571, a trader had 1,000 cattle hides, and in October 1573, the hides of 1,200 cattle were recorded in the hand of a single person.¹⁷⁰⁹ These were dried, unprocessed hides. Interestingly, processed hides only sporadically appear in the record, and not in large numbers.¹⁷¹⁰ Hide production must have been influenced by the upheaval in livestock trade; the slight increase in these numbers may be associated with this process. Thus, the Cuman areas, where animal production was of pivotal importance, must have functioned as key suppliers of hide commodities.

Most merchants were not large-scale traders but typically possessed 100-500 hides. The ethnic background or place of residence of these merchants documented in the toll records is unknown, but they mostly had Hungarian (that is, not Turkish) names. However, a person going by the name of Hassan was recorded as owning 3,000 lambskins in the summer of 1580, indicating that Turkish (or Balkanic) merchants must have joined the trade in hide (and probably also in livestock) in the Turkish-Ottoman period.¹⁷¹¹ Some merchants, probably involved in the trade for a long period of time, appear several times in the record. Gáspár Szabó, for example, transported lambskins in June¹⁷¹² and cattle hides in large numbers (600 and 1,000 pieces, respectively) in September and December, 1571.¹⁷¹³ In 1572, he is recorded as having only 400 cattle hides.¹⁷¹⁴ In 1573, he only traded in lambskins, but thousands of them (6,000 in June and 2,000 in July).¹⁷¹⁵ This suggests that his trading activity may have fluctuated, or he shifted

¹⁷⁰⁷ Fekete and Káldy-Nagy, Budai török számadáskönyvek, 81.

¹⁷⁰⁸ Fekete and Káldy-Nagy, Budai török számadáskönyvek, 257.

¹⁷⁰⁹ Fekete and Káldy-Nagy, Budai török számadáskönyvek, 51, 93, 119, 217.

¹⁷¹⁰ Fekete and Káldy-Nagy, Budai török számadáskönyvek, 17, 20, 29.

¹⁷¹¹ Fekete and Káldy-Nagy, Budai török számadáskönyvek, 259.

¹⁷¹² Although the number of items is not specified here (only "lambskins of 4 carts" is recorded), the transport must have been huge this time, as now he paid more (600 akče) than in 1573, when he transported 6,000 lambskins (500 akče). (Fekete and Káldy-Nagy, Budai török számadáskönyvek, 67, 190.)

¹⁷¹³ Fekete and Káldy-Nagy, Budai török számadáskönyvek, 67, 93, 119. (However, as only the name is recorded, it may be that these are different persons with identical names.)

¹⁷¹⁴ Fekete and Káldy-Nagy, Budai török számadáskönyvek, 142.

¹⁷¹⁵ Fekete and Káldy-Nagy, Budai török számadáskönyvek, 190, 193.

emphasis from one region or commodity to the other. In another interesting case, two merchants (a certain “Gaspar diák” and István Bogdán) who regularly appear in the toll records but always in connection with other commodities, were documented as having transported 2,400 cattle hides and 2,000 lambskins through the Buda toll.¹⁷¹⁶ Involvement in the trade may have been occasional in their case.

Some data suggest that Cumans were directly involved in the trade of sheepskins, hide and leather. As already mentioned in chapter 3, documents about conflicts between the Cumans of Kolbaz and the inhabitants of Kenderes in 1522 mention that sheepskins were also stolen; one of the witnesses noted that the hides of sheep owned by the villagers of Kenderes were taken away by the butcher of Kolbaz, who “took these home on his back”. Another witness, however, said that a certain György Bikás from Hegyes took the sheepskins from the Cumans. It is also clear from the record that these were freshly flayed, unprocessed hides, because the sheep were butchered on the spot and their meat was taken by the Cumans to Bolcsa.¹⁷¹⁷ Although it is clear that only a limited number of sheepskins could be transported by one person on his back, the stealing and the ownership of these goods is nevertheless noted, which suggests the value of this raw material. From the mid-sixteenth century Cumans and Iasians had their privileges repeatedly renewed after a 1536 regulation that compelled everyone to pay the thirtieth after oxen, horses, cows, sheepskins and oxen hides.¹⁷¹⁸

Records from the late eighteenth and early nineteenth century suggest that wool was sold on a large scale: in Greater Cumania the wool of more than ten thousand sheep was sold annually on the local market.¹⁷¹⁹ However, it must be taken into account that the merino type of sheep was only introduced in the eighteenth century,¹⁷²⁰ and this breed of sheep provided more and better quality wool, thus accelerating wool production. Medieval English accounts (from 1200-1550) reveal that the weight of fleece harvested from one sheep at one time varied between 0.2 to 2 kg, with an average of 0.6 kg per fleece¹⁷²¹ (as opposed to modern Hungarian sheep that provide 2 to

¹⁷¹⁶ Fekete and Káldy-Nagy, Budai török számadáskönyvek, 169.

¹⁷¹⁷ Kormos, Kenderes története, Oklevélkötő 1728-ig, 28-29.

¹⁷¹⁸ Gyárfás, A jász-kunok, vol. 4, 219.

¹⁷¹⁹ Bellon, A nagykunsági mezővárosok állattartó gazdálkodása, Chapter ”A gyapjú értékesítése” (Selling wool), digital edition: <http://terebess.hu/keletkultinfo/bellon7.html#17> Accessed 11.13.2014.

¹⁷²⁰ The first 300 merino sheep (also called *selyemjuh*, “silk sheep” in Hungarian) were brought from Spain to Hungary during Maria Theresa’s reign in 1775 in order to enhance wool production. János Balásházy, *Gyűjtemény a juh-tenyésztséről* [Collected Writings on Sheep Breeding] (Kassa, 1827), 35.

¹⁷²¹ Stephenson, M.J. “Wool yields in the medieval economy.” *The Economic History Review*, New Series 41/3

10 kg wool, with an average of 4 kg).¹⁷²² Although medieval English wool production had a very different economic context, and different types of sheep were used, these numbers provide an approximation of the medieval yield before the appearance of modern, specialized wool-producing breeds.

Hide could be sold locally, usually at the butcher's shop; in many cases the hide was already sold (or at least the purchase was agreed upon) before the animals were killed. Late eighteenth-century data testify to hundreds of sheep hides being sold in one month in Túrkeve (Greater Cumania). It was recorded that cattle hides were sold with the horns and tails attached, and were categorized according to the animal's age (the hide of younger animals being less valuable than the strong hide of old cattle).¹⁷²³ The value and importance of hide as raw material is signified by its role as a form of payment for the herders, recorded in early modern documents from the Great Plain.¹⁷²⁴ However, it was not until the eighteenth-nineteenth century that skinners, shoemakers and harness makers organized their own guilds in Kiskunfélegyháza (Lesser Cumania).¹⁷²⁵ An early nineteenth-century price list from Pest names 25 different types of raw hides of sheep, goat, horse and cattle, categorized according to their provenance, size, color, and the age of the animal. The prices of tasks connected to hide processing are also given in a highly differentiated manner.¹⁷²⁶

Although livestock is often mentioned in testaments, wool and leather only very sporadically show up as commodities in these documents.¹⁷²⁷ Dress items made of these materials, however, especially the *szűr*-type fur coat, is named sometimes in the last wills of the

(1955), 368-391: 371-372; Oldland, John."Wool and cloth production in the late medieval and early Tudor England." *The Economic History Review*, 67/1 (2014), 25-47: 29.

¹⁷²² Kovácsy, Juhtenyésztés és gyapjúisme, 57-58.

¹⁷²³ Bellon, A nagykunsági mezővárosok állattartó gazdálkodása, Chapter "A gyapjú értékesítése" (Selling wool), digital edition: <http://terebess.hu/keletkultinfo/bellon7.html#17> Accessed 11.13.2014.

¹⁷²⁴ Bellon, A nagykunsági mezővárosok állattartó gazdálkodása, Chapter "Pásztorfogadás, pásztorberek" (Hiring herders, and their payment), digital edition: <http://terebess.hu/keletkultinfo/bellon4.html#9> Accessed 11.14.2014.

¹⁷²⁵ Bánkiné Molnár, Redemptusok, 146.

¹⁷²⁶ János Báth, ““Pest-Pilis-Solt vármegye 1812. évi ár- és bérszabása” [A list of prices and salaries in Pest-Pilis-Solt County in 1812] *Cumania* 10 (1987), 155-205:157-164, 167.

¹⁷²⁷ I found only one case when hide is mentioned in a last will. In 1709, István Losonczy, an inhabitant of Kecskemét, distributes special types of dyed and tanned hides (*karmasin bőr*; crimson hide, and *kordován bőr*, tanned hide) among his relatives. In this case, however, it was probably the processing and dyeing that made these goods especially valuable. (Tibor Iványosi-Szabó (ed) *Kecskeméti testamentumok I. 1655-1767* [Last Wills from Kecskemét. Vol. I. 1655-1767] Bács-Kiskun Megyei Önkormányzat Levéltára, Forráskiadványok IV. (Kecskemét: Bács-Kiskun Megyei Önkormányzat Levéltára, 2002), 57.) (henceforth: Iványosi-Szabó, Kecskeméti testamentumok)

inhabitants of late seventeenth- early eighteenth-century Kecskemét.¹⁷²⁸ This is even more interesting as this was a market town context, where these raw materials must have been usual commodities.

Tools of leather working are sometimes also referred to in the ethnographic record. Ottó Herman mentions a type of leather smoothener (“börtörő”) that was considered an old Cuman heritage. This consisted of a two-forked wooden (or antler?) structure, equipped with a dull blade between the two forks, on which the leather was pulled back and forth.¹⁷²⁹

Although archaeologically not perceptible, tallow made from suet was also a valuable raw material, used e.g. for candle making. This is evident from ethnographic sources.¹⁷³⁰ Animal dung must also be mentioned here as a source of fertilizing fields, heating and tanning.¹⁷³¹ This practice must have been known to the Cumans when they came to the Carpathian Basin; Ibn Battuta noted that in the area of the Dest-i-Qipchak (that is, the Kipchak desert) in the mid-fourteenth century, even men of high rank collected dung by putting it into their clothes, because there was nothing else with which they could have fuelled the fire.¹⁷³² There is no evidence that they would have used animal dung as fertilizer during their life in the steppe region, but they must have learned this use for manure when they settled in permanent locations in Hungary.

¹⁷²⁸ Iványosi-Szabó, Kecskeméti testamentumok, 29, 55, 63.

¹⁷²⁹ Herman, Ősfoglalkozások, 70, 72. However, such objects are not known from the archaeological record. Bartosiewicz described a similar object from Ménföcsanak, dated to the Roman Period, made of a horse pelvis (László Bartosiewicz, “Roman Period Equid ilium implement from Pannonia Superior, NW Hungary”, in *Crafting Bone: Skeletal Technologies through Time and Space – Proceedings of the 2nd meeting of the (ICAZ) Worked Bone Research Group Budapest, 31 August – 5 September 1999*, ed. Alice M. Choyke and László Bartosiewicz, British Archaeological Reports International Series 937 (Oxford: Oxbow, 2001), 287-295). It is, however, uncertain if this were used in a similar manner as it was described in Herman’s ethnographic work.

¹⁷³⁰ Herman, Ottó. Ősfoglalkozások. Halászat és pásztorlélet. 108.

¹⁷³¹ For tanning, dog excrement was preferred in the Middle Ages (“puering”). Brains are also used as tanning material in traditional leather making. (Leslie A. Clarkson, “The Organization of the English Leather Industry in the Late Sixteenth and Seventeenth Centuries”, *The Economic History Review*, New Series 13/2 (1960), 245-256: 246; Robert Jacobus Forbes, *Studies in Ancient Technology*, Vol. 5 (Leiden: Brill, 1966), 4; Larry J. Wells, *Makin’ Leather: A Manual of Primitive and Modern Leather Skills* (Cedar Fort, Utah: Horizon Publishers, 1981), 33.)

¹⁷³² Ibn Battuta ed. Boga, 183.

5.4 Summary

The animal body was processed and exploited in various ways as food, as ritual object or as raw material. Although these uses represent very different things, they are embedded in the same conceptual framework applied to a species (as in a pre-Linnaean animal category) or animals in general. These viewpoints are, in fact, intertwined, and have the potential to reflect ethnically / culturally bound differences between groups of people. It is for this reason that they were treated together in the same chapter.

Animal bodies served first and foremost as food resource. Even though eating animal products sometimes leaves no direct archaeological trace (dairy products, dried meat (meat consumption may be reconstructed on the basis of bone finds (food refuse), while there is minimal textual evidence to testify to butchery, carcass partitioning, food preparation and meat storage. Written accounts available on Cumans during their life on the steppe emphasize the importance of meat as a food resource; something partly reinforced by modern ethnographic observations among steppe nomads as well. However, some of this information seems to be at least exaggerated. Except for dogs, all main domesticates were consumed; cattle, small ruminants and swine on a large scale, while horse meat was probably less frequently eaten. In this regard, there is hardly any difference between the Cumans and the medieval Hungarians.

It seems that household slaughters were practiced at these Cuman villages, which corresponds to their status in the settlement network. The only exception is the large village of Szentkirály, where the presence of even professional butchers is suspected. Body parts associated with good and medium quality meat dominated the samples of cattle, sheep and swine remains in all cases, while bones associated with lower quality meat were found in larger numbers among the horse remains. The calculated meat quantity shows a dominance of beef and pork, while mutton, somewhat surprisingly, played a tertiary role in most cases. It may be that at Szentkirály, swine vertebrae were removed in a single piece and the meat attached to them was stored and processed separately.

Butchering patterns reveal that heavy-duty butchery tools (cleavers and axes) were occasionally utilized. They were targeted at anatomical regions where carcass partitioning is extremely difficult (strong joints) without these tools, that is, in the first phase of the primary

butchering process. Small chop marks and percussion marks were observed as traces of deliberate fragmentation, probably targeted at marrow extraction. There is no clear sign of pot-sizing. The singeing of pigs has been hypothesized at Szentkirály.

Horse consumption as a remaining pagan custom has been extensively discussed at Cuman sites by various authors, however, the results are controversial. The archaeological record on which this study is based reveals that horses were at least occasionally consumed, especially at Orgondaszentmiklós, Perkáta and Szentkirály. Nevertheless, whether this consumption pattern was identical to the custom of horse consumption practiced in the steppe is uncertain. Horses were consumed once in a while by the Hungarian population as well. No clear juxtaposition seems to be revealed therefore by the archaeological material. However, bones left over from small-scale feasts may not be perceptible in the record.

Meat consumption certainly had an element of status representation. Animal bodies served as self-representation and identity formation in ritualistic acts as well. Although no comprehensive account of the Cumans belief system survived, the mosaic-like picture that emerges from the written sources and archaeological deposits indicate that animals, especially horses and dogs, had a key role in the Cuman religion, and thus, their bodies were used in rituals. Horses were handled differently not only in terms of meat consumption. The identified ritual contexts mainly involve horse burials of the nobility; this could be in the form of a whole animal, a body part, or even only a symbol of the beast (such as in saddlery). Early, thirteenth-century equestrian graves constitute a key layer in the Cuman archaeological heritage, even though these graves mostly reveal information on the élite stratum of the Cuman community. So far, 14 such graves have been identified in the Great Hungarian Plain as Cuman; moreover, there is a hypothetical circle of noble burials from Lesser Cumania. It had been assumed that these graves were located at a distance from the commoners' cemeteries, perhaps in order to emphasize social distance. This thesis has, however, been brought into question by the results of excavations at Csengele. Even though such findings are usually not available for detailed archaeological study (because they are now lost), medieval textual sources and steppe analogies are available in abundance. Contemporary reports reveal a wide variety of horse-related burial customs (although these accounts may have been influenced by Antique texts and *topoi*). It is a question how sacrificial animals were chosen, but in noble burials the financial factor may have been secondary to status representation. This is also suggested by the Csengele grave in which a fine

horse with DNA resembling the Arabian Seglawi bloodline was found. This animal was probably expensive and embodied one concept of a “noble horse”. These burials were only performed by a small circle of the élite, but at the same time, they may have constituted an integral part of the whole community’s identity. This is suggested by the presence of a possible “house of the dead” close to the Csengele warrior’s grave. These equestrian burials seem to have disappeared at the time when the Cuman light cavalry lost its importance and the Cuman élite was either fully integrated or had lost their previous influence.

Dogs also played a pivotal role in the Cumans’ shamanistic beliefs, something testified to by dog burials and textual evidence alike; dog burials are also evidenced from the steppe region. Several dog skeletons have been unearthed in the vicinity of the Csengele warrior’s grave (although their ritualistic context is not clear), from the cemetery of Orgondaszentmiklós, and also in Szentkirály. The oath “made on a dog” is a re-occurring element in the textual sources. The seal of Queen Elisabeth depicts the queen of Cuman ancestry as sitting on a throne decorated by wolf heads.

Animals also appear in ritualistic contexts as food offerings in graves. Bones of sheep, cattle and horse have been discovered in such deposits. In other cases, the animal remains placed in the grave were identified as amulets. These are typical for women’s and children’s graves, and usually consist of fish vertebrae, astragali of hare and canids, and horse teeth. These were especially abundant in the cemetery of Perkáta in Transdanubia, while they only appear sporadically in other regions.

Animal bodies were also utilized in terms of raw material they provided. Some of these materials such as wool and hide, are not perceptible archaeologically, and unfortunately, the textual sources on them are also minimal (and date to later periods). Felt was probably produced for yurts and dress items alike; sheepskins are mentioned as commodities in the Cuman areas in the textual sources. These materials, nevertheless, do not preserve archaeologically.

Bones processed to be tools, however, are available for study. Bone tools recovered from the Cuman sites are very few in number, but larger samples were brought to light from the sites on the Cuman areas’ periphery. Some bones were deliberately put aside for manufacturing purposes; in other cases, selection is not that evident. These objects were mostly manufactured at the households by simple means, used for a relatively short period of time and then discarded (*ad hoc* and opportunistic tools).

Tools specified typologically as "bone skates" (regardless of their actual function) were found most often. In the material excavated from the Cuman sites, typically simple, primitive modifications may be seen on the bone surface. Other uses, such as leather or textile smoothers or fishnet weights may be raised as ideas. Objects identified as gaming pieces were recovered from Szentkirály in large numbers; these are mostly horse phalanges with markings that may have ritualistic explanations, although their superstitious context is not clear. Not marked, but slightly modified cattle and horse phalanges were also brought to light from Orgondaszentmiklós. Sheep astragali, however, gaming pieces typically associated with steppe nomads, were surprisingly not present in the Cuman assemblage. Although most of the worked bone material recovered from Cuman sites does not differ from what is generally observed at other sites in the Carpathian Basin, in some cases, objects associated with steppe customs have been unearthed. These are almost exclusively brought to light from burial contexts, and thus constitute somewhat separate, closed assemblages within the worked bone sample. Pin holders fixed on nomad bags, as well as plates fixed on ornamented belts, identified as typical Eastern objects, were found in Cuman cemeteries in a number of cases. These, however, are few in number compared to the simple, primitive tools that testify to household production of commoners, used in everyday activities.

The Cumans' participation in the trade of wool and hide is suspected, although the preserved records do not provide unambiguous evidence (the ethnic background of the merchants remaining unknown). Those who traded in these commodities were probably associated with livestock traders. Felt production was certainly practiced in the Cuman areas at least on a household level.

Chapter 6

Caring for sick beasts: pathologies, livestock health and veterinary treatment

6.1 What can pathological specimens reveal? Methods, possibilities and limitations

Pathological specimens, that is, animal bones that display signs of injury or illness, are found regularly at archaeological sites, although their number (and the chance to recognize them) at a given site depends on a number of variables such as how bone deposits accumulated, sampling, taphonomic processes or butchering methods. Their relationship with assemblage size is not linear: although bigger sample size may result in more pathological bones, their number is not predictable.¹⁷³³ The analysis of these finds requires detailed veterinary interpretation although they represent culturally influenced artefacts that have the potential to reveal livestock health, past attitudes towards animals, possible instances of animal abuse as well as cases of human therapeutic intervention. Thus they have to be treated analytically as part of the material culture.

Pathological specimens are, on the one hand, related to culturally embedded attitudes towards the treatment of livestock, but on the other hand, they also reflect the economic and social situation of a given group. People who have access to bad quality pastures will more likely have livestock in which dental abnormalities are abundant while a lack of intensive local trade connections might prevent selling off of injured or weak individuals being sold off for slaughter. Taking care of a seriously injured beast can signify the economic or emotional value placed on the animal, but also a lack of opportunity to replace it with another, healthier individual. Insufficient fodder and nutritional stress can lead to skeletal deficiencies such as rickets or

¹⁷³³ László Bartosiewicz, *Shuffling Nags, Lame Ducks. The archaeology of animal disease* (Oxford: Oxbow, 2013), 34 (henceforth: Bartosiewicz, Shuffling Nags, Lame Ducks) 2013, 34.

osteomalacia (defective bone mineralization and a softening of the bone tissue),¹⁷³⁴ especially in lactating animals (that is, also in females used for dairy production). Therefore, the status of a given settlement, within both the economic and social network of the broader region, must be taken into consideration as a factor influencing the ratio of pathological phenomena in an assemblage.

The precise aetiology behind pathological phenomena is usually challenging to establish. Different types of sickness can leave almost identical traces on the bone tissue. A precise diagnosis is not always possible¹⁷³⁵ and a paleopathological investigation should not necessarily target the differential diagnoses used in modern veterinary science. Bones are usually the last parts of the body to be impacted by illness, and so pathological bones found in archaeological contexts represent a small and biased sample of past diseases. These finds usually reflect serious disease, sometimes illness in its very last phase. This means that the remains of sick beasts that died at a stage in which bones were not affected, or whose symptoms only impacted soft tissues, will never be identified as sick or injured. Therefore, the evidence available for past animal disease will never be sufficient to conduct a proper epidemiological study in the modern veterinary sense of the word.¹⁷³⁶ The situation is further complicated by the gap between the modern classification of diseases according to aetiological information and traditional ways of recognizing and evaluating morbid signs whose cause and epidemiological context often remains unrevealed.¹⁷³⁷

All pathologies, even callous formations on direct traumatic injuries such as fractures, need time to develop on the bone tissue. Animals that were killed right after they were injured and then used and/or consumed in the same way as any other carcass, will never be recognized as pathological individuals. The virtual absence of comprehensive comparative material also poses a problem. Because illness has a direct impact on modern animal husbandry production, bone disorders that are degenerative are usually not allowed to develop in domestic livestock today: sick or injured individuals are killed before symptoms can manifest on the bone tissue. Thus, the

¹⁷³⁴ Bartosiewicz, Shuffling Nags, Lame Ducks, 157.

¹⁷³⁵ Jane Siegel, "Animal Palaeopathology: Possibilities and Problems," *Journal of Archaeological Science* 3 (1976), 329-384: 350.

¹⁷³⁶ Bartosiewicz, Shuffling Nags, Lame Ducks, 33.

¹⁷³⁷ Constance McCorkle, "An Introduction to Ethnoveterinary Research and Development", *Journal of Ethnobiology* 6 (1986), 129-149: 133 (henceforth: McCorkle, An Introduction to Ethnoveterinary Research)

possibilities for building a comparative collection are quite limited.¹⁷³⁸ In addition, a modern comparative collection would imply that specimens influenced by contemporary veterinary methods and medication can serve as comparison to archaeological bone finds, making analogy even more problematic from a methodological point of view.

Although description standards are mainly taken from human paleopathology, it is usually challenging to transfer the recording systems used for human remains to diseased animals.¹⁷³⁹ While human paleopathology usually works with whole skeletons whose age, sex (and sometimes social status) can be determined, pathological animal bones are mostly found in mixed refuse layers, and individuals are often represented only by a single bone fragment which is a serious disadvantage compared to human remains. In addition, human paleopathology deals with one species, while animal paleopathology studies face the different biological responses of domestic and wild species living in various environmental niches and under different level of natural selection pressure. The skeletal structures and natural activities also differ from one species to the other, which greatly influences the chances of survival and healing (e.g. small body weight makes it easier for limb fractures to heal).¹⁷⁴⁰

In the broadest sense of the word, veterinary management of a livestock includes all practices which impact – or are perceived to impact – the condition and well-being of the animals either directly or indirectly. At the broadest level this incorporates not only direct treatment, but all conscious actions of feeding, foddering, watering, pasture management, the manipulation of reproduction, herd composition and herd dynamics, housing and supervision of the livestock, sanitation, and measures of disease control.¹⁷⁴¹ Livestock always represented considerable value whose maintenance was in the best interest of the owner. Animal disease, even if not zoonotic, was potentially devastating for humans as it hindered agricultural production (working animals) and loss of meat supply and market goods.¹⁷⁴² Curing a sick or

¹⁷³⁸ Bartosiewicz, Shuffling Nags, Lame Ducks, 33; Beth Upex and Keith Dobney, "More Than Just Mad Cows: Exploring the Human-Animal Relationship through Animal Paleopathology," in *A Companion to Paleopathology*, ed. Anne L. Grauer (Oxford: Wiley-Blackwell, 2012), 191-213: 193. (henceforth: Upex and Dobney, More than just mad cows)

¹⁷³⁹ Stephanie Vann and Richard Thomas, "Humans, Other Animals and Disease: A comparative approach towards the development of a standardised recording protocol for animal palaeopathology," *Internet Archaeology* 20 (2006), online access: <http://intarch.ac.uk/journal/issue20/5/toc.html>

¹⁷⁴⁰ Bartosiewicz, Shuffling Nags, Lame Ducks, 57.

¹⁷⁴¹ McCorkle, An Introduction to Ethnoveterinary Research, 131.

¹⁷⁴² Joanna Swabe, *Animals, Disease and Human Society* (Routledge: London – New York, 1999), 48.

injured animal, however, is always a conscious decision that implies investment and thus, reveals either the value placed on an animal or the necessity of saving as many individuals as possible. In some cases, when the injury is severe and the cure would be too laborious and expensive, animals can be killed and their carcass used for meat consumption or as raw materials; however, there are instances when individuals in very bad condition are also cared for due to their symbolic value or the owner's emotional attachment to them. The motivations behind veterinary treatment are probably always manifold, and depend on complex factors such as the financial situation of a given family or settlement, the size and overall health condition of the livestock as a whole, the species composition of the herd, the cultural, religious or prestige value placed on a species, or the age and sex of the animal (females at a reproductive age are most critical to take care of in order to maintain livestock populations. Conversely, young males are not needed in large numbers). Thus, veterinary treatment is a culturally dependent phenomenon that reflects not only the practices known by and available to a given population, but also their preferences and economic strategies as well as trends in animal-human interactions since various species are associated with different levels of economic and cultural importance and are, accordingly, handled differently by their human masters. Moreover, different forms of animal exploitation imply not only different uses but also different kill-off patterns for a particular species, which may result in different types of age-related pathologies.¹⁷⁴³

The definition of veterinary treatment or human intervention is not as easy as one might think as such a definition would inevitably imply an understanding of how a given culture in the past perceived medical treatment. Methods that are almost impossible to find archaeological evidence for and are hopeless to reconstruct if written sources are lacking, such as healing rituals conducted with magical objects, might have been as real and important for past populations as modern medication is for us today. Tangible agrarian and/or veterinary considerations and intangible conceptual ones may come together in one single practice; practical knowledge of nutrition, epidemics or health maintenance mingle with magical practices and intuitive models of what an animal is and to what extent animal characteristics are modelled on human qualities and social relations.¹⁷⁴⁴ Similarly to this duality, treatment might target physical disease as well as

¹⁷⁴³ Bartosiewicz, Shuffling Nags, Lame Ducks, 34.

¹⁷⁴⁴ Lynn Hirschkind, "Ethnoveterinary practice in Highland Ecuador", *American Anthropologist* New Series 102/2 (2000), 290-302: 290-291 (henceforth: Hirschkind, Ethnoveterinary practice in Highland Ecuador); Constance

supernatural disturbances caused by sorcerers, gods, or evil spirits.¹⁷⁴⁵ Modern ethnoveterinary analogies might reveal the spectrum and variability of such practices but are certainly misleading if projected back to archaeological populations unless direct historical connections can be established.¹⁷⁴⁶ Even medical intervention in the present sense of the word is sometimes impossible to detect in faunal assemblages (e.g. if it involved feeding herbs, bloodletting, or simply quarantining a sick individual). Another problematic question is how sickness in both humans and animals was defined by people in the past: ethnoveterinary studies reveal that even emotional reactions and mental states observed in animals and considered dangerous might be perceived as illness and require treatment.¹⁷⁴⁷ In many cultures, the concept of disease applies, more or less, the same way to animals and people. Healers who treat humans often treat animals, too¹⁷⁴⁸ and supernatural therapies for animals may also serve important social and ideological functions.¹⁷⁴⁹ It must be kept in mind that all we can reconstruct from faunal remains and the usually scarce textual data is only a small fragment of past animal curing practices.

It has been argued that pastoralist peoples usually have a vast knowledge about livestock diseases and the possible cures,¹⁷⁵⁰ especially when it comes to wound care and surgical treatment of traumatic injuries.¹⁷⁵¹ Anatomical and physiological knowledge may be gained through butchering or sacrificial dissections, information which is integrated with personal observations of diseased individuals, although modern researchers of ethnoveterinary practices usually conclude that the resulting curative and preventive measures undertaken by the investigated folk groups proved to be largely incorrect in major or minor parts.¹⁷⁵² As Cumans were involved in animal husbandry for centuries before they appeared on the border of the Hungarian Kingdom, they might have brought their own concepts and knowledge of disease and

McCorkle and Evelyn Mathias-Mundy, "Ethnoveterinary medicine in Africa," *Africa: Journal of the International African Institute* 62/1 (1992), 59-93: 71. (henceforth: McCorkle and Mathias-Mundy, Ethnoveterinary medicine in Africa)

¹⁷⁴⁵ McCorkle and Mathias-Mundy, Ethnoveterinary medicine in Africa, 60; McCorkle, An Introduction to Ethnoveterinary Research, 135-136.

¹⁷⁴⁶ Most ethnoveterinary research has been conducted on veterinary practices in African and South American tribes, and thus, the relevance of such reports for the study of Eurasian pastoralists is limited to thought-provoking ideas and general practicalities.

¹⁷⁴⁷ Hirschkind, Ethnoveterinary practice in Highland Ecuador, 297.

¹⁷⁴⁸ McCorkle and Mathias-Mundy, Ethnoveterinary medicine in Africa, 59.

¹⁷⁴⁹ McCorkle and Mathias-Mundy, Ethnoveterinary medicine in Africa, 72.

¹⁷⁵⁰ McCorkle, An Introduction to Ethnoveterinary Research, 133.

¹⁷⁵¹ McCorkle and Mathias-Mundy, Ethnoveterinary medicine in Africa, 64.

¹⁷⁵² C.W. Schwabe and M. Koujok, "Practices and Beliefs of the Traditional Dinka Healer in Relation to Provision of Modern Medical and Veterinary Services for the Southern Sudan", *Human Organization* 40/3 (1981): 231-238.

cure, which potentially differed considerably from those of the settled population. As our written sources are silent on matters of Cuman veterinary medicine, it is hard not to express some pessimism concerning the possibilities of reconstructing these concepts and practices; the analysis of faunal remains, however, might reveal intriguing details concerning this side of the human-animal relationship. The goal of this chapter is to discuss the abnormalities observed in the Cuman faunal record, and provide possible interpretations of them.

A detailed list of all pathological bones can be found in the Appendix. The findings presented here are worth a separate in-depth study, complemented with X-ray images, detailed veterinary discussion and analogies from the Hungarian material; this, however, will be the task of future research. The possible causes and aetiologies raised here are based on macroscopic observations alone, and thus they cannot be taken as proper veterinary evaluation.

6.2 Pathological phenomena at the studied medieval sites. A general overview

Altogether 111 pathological specimens were recorded in the medieval material associated with Cumans and the sites located on the Cuman area's periphery. Most of these came to light from Gorzsa and Tiszagyenda, that is, at the sites located immediately outside the Cuman habitation area; finds associated with Cumans are few in number. Thus, the study of these finds will shed light rather on the medieval situation and livestock health in the region in general than on Cuman practices specifically.

Pathological phenomena are usually found in small numbers in faunal assemblages; studies of the frequency of pathological bones report an average of 0.4% of the total bone assemblage.¹⁷⁵³ This ratio, nevertheless, is influenced not only by archaeological (taphonomy, excavation methods, sample size) and biological factors, but also by the analyst's level of awareness of paleopathologies and his/her experience in recognizing them. Thus, the number of pathological remains recovered from the sites is not particularly informative in itself. All species are represented in the pathological sample, although horses and dogs were found in the largest proportions. Traumatic injuries and arthropathies are most abundant, while oral pathologies and

¹⁷⁵³ Bartosiewicz, Shuffling Nags, Lame Ducks, 33.

other lesions (tumours, inherited disorders etc) were discovered in a few cases.

Site	Traumatic injuries	Oral pathologies	Work-related pathologies and arthropathies	Other lesions	Total (n)
Gorza NISP=6890	3	8	7	3	21
Tiszagyenda-Morotva Part NISP=6319	21	8	26	5	60
Orgonaszentmiklós NISP=1174	2	0	5	0	7
Asszonyszállás NISP=168	0	0	0	0	0
Szentkirály NISP=4403	0	0	0	0	0
Perkáta NISP=1404					18
Kiskunhalas-Dong ér -MOL5 NISP=283	0	2	1	0	3
Kiskunfélegyháza-Templomdomb NISP=90	0	0	2	0	2

Table 6.2.1. Observed pathologies at different archaeological sites in Cuman habitation areas and at sites on the Cuman periphery. Detailed information on pathologies was not available from Perkáta.

A number of whole or partial skeletons were found in anatomical position at Tiszagyenda as well as at Gorza, including skeletons of species that are usually killed and consumed if injured (see chapter 3.5). At Gorza, 7 swine, 2 cattle, 1 dog, and 1 sheep skeletons were discovered, while at Tiszagyenda the whole or partial skeletons of 2 horses, 7 cattle, 7 swine, 12 dogs and 4 cats were unearthed. These skeletons, however, do not exhibit any sign of diseases advanced enough to affect the bones. One explanation is that these are remains of sick animals that were disposed instead of consumed as their condition made them inedible in the eyes of their owners and/or their carcasses were considered contagious. However, in the latter case, it would be more likely (at least given modern sensibilities) that such carcasses would have been buried at a comfortable distance from the habitation area. At Tiszagyenda, almost all of these partial skeletons were found scattered throughout the northern quarter of the site in various pits, and some of them belonged to young individuals, including neonatal and infantile animals. Nevertheless, as they are dated to various centuries from the time of the Árpád Dynasty to the

seventeenth century, they are definitely not associated with epidemics that hit the livestock at a defined period, but indicate a practice that carcasses that remained unprocessed for some reason were simply disposed of in pits and buried. This practice was not observed at the other sites.

6.3 Traumatic injuries

Traumatic injuries typically occur when the animal suffers a violent encounter, either as a result of conflicts with other animals or people, or in accidents. These typically lead to fractures or rifts on the bones. Although traumas may result in easily recognizable symptoms on the bone (e.g. if a fracture heals with a dislocation), healing is again a precondition for archaeological visibility, and in most cases, it is impossible to distinguish between peri mortem and post mortem traumas. Traumas that only affected soft tissues are usually not possible to recognize either (even though there are also a few examples for the latter.¹⁷⁵⁴). Traumas such as fractures or rifts are also known in connection with metabolic diseases such as osteoporosis.

Altogether 26 pathological bones were placed into this category, although the aetiology behind them is not always clear. Some of these attest to possible cases of veterinary treatment, while others may reflect maltreatment of animals. All important domestic species are represented in the sample.

One of the significant finds is a cattle metatarsal bone from Gorzsa, dated probably to the Árpád Period (A1 in Appendix 10.10). The bone exhibits signs of a fracture that healed with a slight dislocation of the diaphysis shaft, resulting in a heavy thickening of the bone and the distortion of the metatarsal canal. The two halves have almost the same axis: the distal half's axis shifted somewhat in a cranio-caudal direction, but not medio-laterally. This suggests some form of medio-lateral bandage support. In fact, metacarpal shaft fractures are liable to perforate through the skin and get infected;¹⁷⁵⁵ here, however, there is no trace of any infection or complication. Such fractures are more likely to heal when the animal is young because juveniles have a greater capacity to regenerate, are more likely to rise quickly and thus, less liable to

¹⁷⁵⁴ Bartosiewicz, Shuffling Nags, Lame Ducks, 46.

¹⁷⁵⁵ Roger W. Blowey and A. David Weaver, *Color Atlas of Diseases and Disorders of Cattle* (London – New York: Elsevier, 2011), 132

develop decubital lesions (necrotic lesions associated with prominent tissue destruction),¹⁷⁵⁶ and later the body weight further complicates the recovery in large animals.¹⁷⁵⁷ The distal parts of the hind limb have the best chance to heal, and fractured and healed cattle metapodia are not unknown in the literature, although quite rare.¹⁷⁵⁸ It is certain, however, that the owners must have invested some labor into the healing procedure, even if it only meant that the animal was left to rest for a while. Metapodial injuries of this kind are sometimes related to birth conditions, especially incorrect traction of the newborn calf during assisted delivery.¹⁷⁵⁹ It is not possible to determine the animals' sex as the bone's normal proportions were distorted by the fracture, and so it is uncertain whether the bone comes from a dairy cow; however, as modern research has not revealed a direct connection between bone mineral content and stages in lactation,¹⁷⁶⁰ milk production itself might not have had a huge impact on the healing procedure. An interesting addition to this find is that the bone was used as raw material for bone-working, although the piece was never finished. The distal end was worked from a cranial and caudal direction, to form a wedge-shaped end. A hole was also made on the cranial side of the distal end, but not finished (it does not go through the compact bone tissue). This reveals that the pathology itself (which must have been clearly visible and recognizable for the medieval bone worker) was not considered a flaw that would have made the piece unsuitable for tool-making.

Two cattle thoracic vertebrae fragments from Tiszagyenda, coming from the same animal and dated to the thirteenth-fourteenth century (A4 in Appendix 10.10), also display traces of a dislocated fracture. One of the spinal processes was fractured and somewhat dislocated, while the other one is distorted by a callus tissue formation, probably caused by a similar fracture or rift. A heavy blow to the animal's back might explain such a trauma. Spinal injuries are common in newborn calves and sometimes even result in perinatal mortality.¹⁷⁶¹ Such an injury is difficult

¹⁷⁵⁶ Anthony H. Andrews, Roger W. Blowey, Hugh Boyd and Roger G. Eddy (eds), *Bovine Medicine – Diseases and Husbandry of Cattle*, Second Edition (Oxford: Wiley - Blackwell Science, 2004); 441 (henceforth: Andrews et al, *Bovine Medicine*)

¹⁷⁵⁷ Bartosiewicz, Shuffling Nags, Lame Ducks, 57.

¹⁷⁵⁸ Bartosiewicz cites medieval examples from Estonia and Germany (Bartosiewicz, Shuffling Nags, Lame Ducks, 58-59).

¹⁷⁵⁹ R. G. Köstlin, Karl Nuss, Ertugrul Elma, "Metakarpal- und Metatarsalfrakturen beim Rind. Behandlung und Ergebnisse," *Tierärztliche Praxis* 18/2 (1990), 131-144: 136.

¹⁷⁶⁰ B.E. Keene, K.F. Knowlton, J.H. Wilson, M.L. McGilliard, and C. Holtaway, "Bone Breaking Strength in Mature Dairy Cows," *Transactions of the ASAE* 48/4 (2005), 1637-1643. The study involved metacarpal bones and caudal vertebrae of modern dairy cattle.

¹⁷⁶¹ Martin Green, Andrew Bradley, James Breen, Helen Higgins, Chris Hudson, Jon Huxley, Jonathan Statham,

to treat as no supporting bandaging can be applied, although the animal can be rested for a while.

Rib fragments are common injuries and were observed in cattle (A11, A15), sheep (A12, A16), and swine (A17) alike. These injuries might be caused by overcrowded conditions in folds or stables, as well as maltreatment or the use of a stick by the herder.¹⁷⁶²

Archaeologically perceptible traumatic injuries are rare in swine as they are usually slaughtered when they become injured; their usual age of slaughter is also lower than that for other domesticates.¹⁷⁶³ However, there were a couple of pathological lesions observed in pigs. An unusual injury was seen on the skull of a fourteenth-fifteenth century sow from Tiszagyenda (A6). There is a straight, thin rift on the forehead between the two eyes, healed with callous bone formation. The rift is very regular, straight and perpendicular to the skull's axis, indicating a non-natural cause; it looks like the animal was struck with some man-made tool, such as an axe, perhaps in an unsuccessful attempt at slaughtering it. The individual is very old, the upper left premolars had fallen out and their alveoli fused, while the third molars are heavily worn. The upper left canine also fell out and its alveolus started to fuse. There is an interesting contradiction here: such old individuals are sometimes dependent on human intervention, such as fodder provided by their owners, while the injury speaks either for maltreatment or an attempt to kill an animal that was, never-the-less, eventually allowed to survive.

Perhaps the most interesting pathological find is a horse pelvis fragment from Orgondaszentmiklós (A20) exhibiting signs of a healed fracture and displacement, which definitely speaks for human intervention. The iliac shaft broke into two at ca. 10 cm from the acetabulum. The ilium was shortened by sliding on the *spina ischiadica* that changed the normal angle of the ilium, while newly formed exostoses contributed to the distortion of the skeletal element. Judging by the fully fused acetabulum, the pelvis comes from an adult individual; as the find was only a fragment of the whole pelvis and its shape is distorted by the observed pathology, it was not possible to determine whether it was from a mare or a stallion. A similar, although not severely deformed pelvic bone of a horse, was found at Tiszagyenda in a pit dated probably to the sixteenth century (A23). The ischium of the left pelvis above the acetebulum as well as the

Laura Green and Alastair Hayton (eds) *Dairy Herd Health* (Boston – Oxfordshire: CABI, 2012), 37.

¹⁷⁶² Eileen M. Murphy, "Animal paleopathology in prehistoric and historic Ireland," in *Diet and Health in Past Animal Populations. Current Research and Future Directions*, ed. Jessica J. Davies, Marian Fabis, Ingrid Mainland, M. Richards and Richard Thomas (Oxford: Oxbow, 2005), 8-23; 15.

¹⁷⁶³ Bartosiewicz, Shuffling Nags, Lame Ducks, 44.

pubis around the eminentia iliopubica is thickened, and there is a spongy new bone tissue on the spina ischiadica. The lesion resembles a minimally displaced acetabular fracture, but the acetabulum itself is not affected (it might be a greenstick fracture suffered at a young age).

Fractures of the pelvis are usually traumatic and are mostly associated with accidents such as falling and slipping.¹⁷⁶⁴ Such finds are extremely rare in the archaeological record,¹⁷⁶⁵ as displaced fractures of the pelvis – even though pelvis fractures are not at all uncommon – are difficult to heal even in the modern veterinary praxis.¹⁷⁶⁶ In fact, the prognosis depends heavily on the degree of displacement, as the displacement itself can be the root of various problems, such as deformation of the contralateral limb, muscle wasting as a consequence of pain, coxofemoral arthritis, or compromising of the birth canal in mares;¹⁷⁶⁷ in adult individuals, if the ilium is involved, laceration of the iliac arteries may contribute to acute death.¹⁷⁶⁸ Such injuries are usually treated conservatively (even though iliac shaft fractures can be repaired surgically by internal fixation in case of foals); stall rest of at least three to four months are required in case of an adult individual.¹⁷⁶⁹ This means not only confinement but also support bandaging. From medieval times there is evidence for the use of a sling that allowed the animal to rest its limbs by lowering its abdomen, as it is shown on a miniature in the fourteenth-century veterinary treatise of John Alvares de Salamiellas¹⁷⁷⁰ or in a thirteenth-century Italian treatise on equine medicine by Jordanus Ruffus.¹⁷⁷¹ This old method of support and immobilizing can be effective, indeed it

¹⁷⁶⁴ Gary M. Baxter, *Manual of Equine Lameness* (Oxford: Wiley-Blackwell, 2011), 389. (henceforth: Baxter, Manual of Equine Lameness)

¹⁷⁶⁵ I am aware of only one similar find in the region, a 14-15 year-old stallion discovered in an Avar grave in the cemetery of Holiare (present-day Slovakia). Here, the healed pelvic fracture caused exostoses on the proximal femur, on the tarsal bones and the metatarsus, and resulted in scoliosis of the spine. (Cyril Ambros and Hanns-Hermann Müller, *Frühgeschichtliche Pferdeskelettfunde aus dem Gebiet der Tschechoslowakei*, Archaeologica Slovaca - Fontes, Tomus XIII. (Bratislava: Vydatel'stvo Slovenskej Akademie Vied, 1980), 75-76.)

¹⁷⁶⁶ Even in modern praxis, euthanasia is recommended in case of heavily displaced and comminuted pelvic fractures. (Baxter, Manual of Equine Lameness, 390.)

¹⁷⁶⁷ Jörg A. Auer and John A. Stick eds., *Equine Surgery*, Fourth Edition (St Louis: Elsevier-Saunders, 2012), 1449-1451. (henceforth: Auer and Stick, Equine Surgery)

¹⁷⁶⁸ Baxter, Manual of Equine Lameness, 389; Adam Driver and Rob Pilsworth, "Traumatic Damage to the Back and Pelvis," in *Equine Back Pathology. Diagnosis and Treatment*, ed. Frances M.D. Henson (Oxford: Wiley-Blackwell, 2009), 135-146: 139. (henceforth: Driver and Pilsworth, Traumatic damage to the back and pelvis)

¹⁷⁶⁹ Auer and Stick, Equine Surgery, 1449.

¹⁷⁷⁰ László Bartosiewicz, "Állatbetegségek régészeti kutatása. Anatómiai és paleopatológiai vizsgálatok háziállatok csontjain" [The Archaeological Research of Animal Disease. Anatomical and Paleopathological Examination of Bones of Domestic Animals] *Természet Világa Természettudományi Közlöny* 140/11 (2009), 524-525.

¹⁷⁷¹ Angela von den Driesch, *Geschichte der Tiermedizin. 5000 Jahre Tierheilkunde* (Munich: Callwey, 1989), 122.

is used even today as part of the conservative therapy.¹⁷⁷² Although relatively simple, this method required labour investment and attention on the part of the owner as well as probably continuous supervision of the injured animal.

The pathological pelvis from Orgondaszentmiklós does not reveal the method of treatment. It is, however, telling that effort and time was invested into healing the animal instead of simply slaughtering it, even though the consumption of horse meat seems to have been practiced (see chapter 5.1). This might signify an attitude that reflects the overall value attached to this species. As we have seen, earlier historical accounts of the Cumans often mention the special role horses played in their rituals. It is worth remembering here that Cumans served as mercenaries in the Hungarian army well into the fourteenth century, mostly as mounted archers. This practice required many, perfectly trained horses. According to István Gyárfás, Cuman warriors usually took two or three horses with them to battle, to which the horses used as beasts of burden must be added; in 1260, they constituted an army of 40,000, which means that ca. 100,000 horses would have been needed to furnish the army.¹⁷⁷³ Even though Cumans no longer served in this military capacity, the social value and status attached to the animal might have continued, reflected in the special treatment meted out to this particular injured horse.

Finally, how did this pelvis fragment actually end up in the kitchen refuse? There is no sign of butchering or deliberate cracking on the bone but nevertheless, it was found detached from the adjoining skeletal elements, which means that the carcass had been taken apart either for purposes of consumption or for some other reason. Another find from the same archaeological feature which may come from the same older individual, further complicates the picture. This is a right horse calcaneus exhibiting dense exostoses on the sustentaculum calcanei and heavy chopping marks on the cranial side of the tuber (D38 in Appendix 10.10). Even though it is impossible to say with absolute certainty if this bone fragment belongs to the same individual, this arthropathic lesion may well be the result of the distortion of the contralateral limb, a frequent complication of pelvis fracture and displacement. If it does come from the same horse, and the animal in question was eventually slaughtered and consumed, there is a strange contradiction (at least in the modern mind) between the efforts made to heal the horse and its eventual slaughter.

¹⁷⁷² Auer and Stick, Equine Surgery, 1047.

¹⁷⁷³ Gyárfás, A jász-kunok, vol. 2, 154.

A partially healed and somewhat dislocated supraglenoid tubercle fracture on a horse scapula from fourteenth-fifteenth-century Tiszagyenda (A5) suggests that the animal either died from natural causes or was rather killed before the injury healed completely. Such fractures are observed most commonly in young individuals in modern praxis (horses younger than 2 years), and are associated with traumas or with the tension from the biceps tendon¹⁷⁷⁴ (which means the injury might even have been work-related). Similarly to the pelvic fracture discussed above, this trauma would have needed three to four months confinement in a stall to heal entirely.¹⁷⁷⁵ It is a question, however, if much labor was invested into healing this horse or whether the animal was slaughtered and consumed not long after the injury took place. Although horses with such injuries are usually able to bear weight, they are variably lame,¹⁷⁷⁶ and so it is difficult to tell if the owners saw any chance of regaining the animal's original work performance.

It seems that in case of traumas, some form of veterinary treatment was occasionally provided for large ungulates, important working animals that were worth more, but not for small ungulates and dogs. Although medical care was evident in a few cases, the virtual absence of healed long bone injuries in large animals (except for the one cattle metatarsal) suggests that most of the seriously injured cattle and horse were also slaughtered rather than treated. This reflects a practical as opposed to an emotional attitude towards livestock in general. In case of small ungulates, there is no sign that they were accorded any special treatment visible on the bones. No care was provided for a young, at most ten months old sheep or goat from sixteenth century Tiszagyenda (A10) that suffered a tibia fracture which healed with a severe displacement, shortening of the bone and distorting its axis. A lumbar vertebra from the same individual also shows lesions: one transversal process is thickened, probably as a trace of an ossified haematoma. Interestingly, the animal was not slaughtered and consumed but probably died of natural causes and its carcass was simply disposed of as the whole skeleton was found in anatomical position, without traces of butchering. It is possible that the animal suffered from medical conditions not manifested on the bones (but possibly connected to the trauma that caused both lesions), which made it unsuitable for consumption in the owners' eyes.

Signs of possible animal abuse were seen on a number of dog bones. Blunt force traumas

¹⁷⁷⁴ Auer and Stick, Equine Surgery, 1381.

¹⁷⁷⁵ Baxter, Manual of Equine Lameness, 337.

¹⁷⁷⁶ Auer and Stick, Equine Surgery, 1381.

targeting specific points on the body, especially with multiple or repetitive injuries (traumas at different stages of healing), often reflect animal maltreatment.¹⁷⁷⁷ Fractures associated with maltreatment or accidents are most commonly observed in dogs. This species lives in closest proximity to humans, making it a likely target for maltreatment. Dogs were also involved in dangerous work activities such as herding and hunting.¹⁷⁷⁸ Although the indicators of child abuse are known, and some of these observations have been applied to animal bone remains,¹⁷⁷⁹ it is challenging to differentiate between traumas suffered during maltreatment and other kinds of traumatic injuries such as a kick from a horse or cow, or collision with a vehicle.

Traumatic injuries that might testify to maltreatment were observed on two dog skulls. The skull of a ca. 4-5 months old individual from Gorzsa, dated to the Árpád Period (A2), shows a shallow, circular recess on the left parietal bone, probably as the sign of a partially healed trauma. Signs of a past rift or fracture were observed on the left incisivum and nasal bones of another, seventeenth-eighteenth century dogskull from Tiszagyenda (A8). There is a small recess on the left snout, making it somewhat asymmetric. The left first molar is abnormally worn, as it probably broke when the animal suffered the trauma, and was later worn down to the roots. A similar damage to the incisivum and nasal bone was observed on the skull of a certainly abused medieval dog in France.¹⁷⁸⁰ It seems that both of these animals suffered heavy blows to the head, either accidentally or deliberately. Kicking and hitting with a stick are common forms of dog abuse. Typically, the ribs, the nose, the top of the head and the spine are targeted;¹⁷⁸¹ rib and spinal fractures have also been associated with animal maltreatment.¹⁷⁸² In two cases, the spinous processes were distorted and bent to one side on dog vertebrae (A24, A25). A similar pathology was seen on a sheep or goat vertebra (A26), too. These lesions were probably caused by a blow

¹⁷⁷⁷ Melinda D. Merck (ed), *Veterinary Forensics: Animal Cruelty Investigations* (Oxford: Wiley-Blackwell, 2007), 79-85.

¹⁷⁷⁸ Maike Groot. "Understanding past human-animal relationships through the analysis of fractures: a case study from a Roman site in The Netherlands," in *Current Research in Animal Palaeopathology. Proceedings of the Second ICAZ Animal Palaeopathology Working Group Conference*, ed. Zora Miklíková and Richard Thomas, BAR International Series 1844 (Oxford: Archaeopress, 2008), 40-50: 49.

¹⁷⁷⁹ Wolf-Rüdiger Teegen, "Rib and vertebral fractures in medieval dogs from Haithabu, Starigard and Schleswig," in *Diet and Health in Past Animal Populations. Current Research and Future Directions*, ed. Ed. Jessica J. Davies, Marian Fabis, Ingrid Mainland, M. Richards and Richard Thomas (Oxford: Oxbow, 2005), 34-38. (henceforth: Teegen, Rib and vertebral fractures)

¹⁷⁸⁰ Annelise Binois, Christophe Wardius, Pierre Rio, Anne Bridault, Christophe Petit, "A dog's life: Multiple trauma and potential abuse in a medieval dog from Guimps (Charente, France)," *International Journal of Paleopathology* 3 /1 (2013), 39-47. (henceforth: Binois et al, A dog's life)

¹⁷⁸¹ Binois et al, A dog's life, 45.

¹⁷⁸² Binois et al, A dog's life, 39-47; Teegen, Rib and vertebral fractures, 34-38.

to the back that made the spinous processes break and fuse with a slight dislocation.

Healed limb fractures were observed in dogs in two cases: a humerus from a late Árpád Period individual (A7) and the ulna of a fourteenth-sixteenth century dog (A9), both from Tiszagyenda, exhibited signs of a past trauma. Both bones healed with a minimal dislocation that probably did not affect the motion of the limb. The broken humerus is interesting since this bone is the least commonly observed to fracture among the long bones of small animals. In most cases the distal epiphyseal region is involved.¹⁷⁸³ Here, however, the diaphysis broke in the proximal region, ca. 2 cm below the epiphysis, and healed without much of a distortion. The radius and ulna often break together, and such injuries have been reported in dogs from a number of archaeological sites.¹⁷⁸⁴ In the case of this fourteenth-sixteenth century dog ióulna, there was only a minimal dislocation, suggesting the injury only affected the ulna while the radius served as a natural support (or a supportive bandage was provided by human intervention).

Senile dogs with healed pathologies were also discovered. An individual recovered from a medieval pit from Gorzsa (A3) suffered a fibula fracture, and the distal third of the fibula fused with the tibia with a thick callus tissue. The skull of the same individual (C4) testifies to heavily worn teeth, some of which had fallen out with fused alveoli. There is, however, no evidence for old dogs being regularly cared for by people in this period; old dogs with tooth loss severe enough that it would have kept them from eating were not found. The careless attitude towards dogs attested by the finds is somewhat unexpected in the light of the ritualistic role dogs played in ancient Cuman religious beliefs;¹⁷⁸⁵ however, symbolic values attached to a species and the animals people had contact with in everyday life represent two different spheres which do not necessarily directly correspond with each other.

6.4 Possibly work-related pathologies and arthropathies

Pathologies associated with working animals constitute a well-researched topic within zooarchaeology despite the methodological difficulties presented by the similarities between age-

¹⁷⁸³ Greg Harasen, "Common long bone fractures in small animal practice. Part 1," *The Canadian Veterinary Journal* 44/4 (2003): 333–334.

¹⁷⁸⁴ Bartosiewicz, Shuffling Nags, Lame Ducks, 49.

¹⁷⁸⁵ Golden, Wolves, Dogs and the Qipcaq Religion, 93-97

related and workload-related lesions.¹⁷⁸⁶ Working animals can respond to stress in a number of ways, such as increase in muscle size, thickening of the cartilages, ossification of ligaments or bone remodelling,¹⁷⁸⁷ only a portion of which will be visible in the archaeological record. Exostoses and lipping on metapodia and phalanges have especially been in the focus of research regarding the identification of working animals; these two skeletal elements are usually abundant at archaeological sites, are rarely processed for meat, and are weight-bearing elements on which the consequences of workload are most commonly visible.¹⁷⁸⁸ Symptoms of overworking, however, cannot be established on the basis of individual finds, but it is their frequent occurrence at a site which may signify the excessive use of animals,¹⁷⁸⁹ and less dramatic, sometimes even sub-pathological phenomena might reveal more information on animal exploitation than sporadically found, serious lesions.¹⁷⁹⁰ Not only are work-related lesions difficult to differentiate from age-induced pathologies, but the secondary exploitation of domestic animals may also contribute to a higher ratio of age-related problems as animals kept for their milk or wool will be kept alive longer.¹⁷⁹¹ Finds that exhibited typical work-related and age-induced pathologies from the site materials examined here came from horse and cattle, and are mostly on metapodia and phalanges.

6.4.1 Work-related pathologies and arthropathies in horses

Signs of possible work overload on the extremities were prevalent in three cases. The right foot bones: the metacarpal, the anterior proximal phalanx and the medial phalanx of a late medieval horse from Gorzsa were found in anatomical position (D3). On the lateral, medial and palmar sides of the proximal phalanx an irregular, spongy new bone formation was observed,

¹⁷⁸⁶ Upex and Dobney, More than just mad cows, 198-199.

¹⁷⁸⁷ Ylva Telldahl, “Can paleopathology be used to identify draught animals?”, in *Diet and Health in Past Animal Populations. Current Research and Future Directions*, ed. Jessica J. Davies, Marian Fabis, Ingrid Mainland, M. Richards and Richard Thomas (Oxford: Oxbow, 2005), 63-67: 63-64. (henceforth: Telldahl, Can paleopathology be used to identify draught animals)

¹⁷⁸⁸ Telldahl, Can paleopathology be used to identify draught animals, 64; Bartosiewicz, Shuffling Nags, Lame Ducks, 131, 150-153.

¹⁷⁸⁹ Bartosiewicz, Shuffling Nags, Lame Ducks, 130.

¹⁷⁹⁰ László Bartosiewicz, “Bone Structure and Function in Draught Cattle,” in *Limping Together Trough the Ages. Joint Affliction and Bone Infections*, ed. Gisela Grupe, George McGlynn and Joris Peters, *Documenta Archaeobiologiae* (Rahden: Verlag Marie Leidorf, 2008), 153-164: 154.

¹⁷⁹¹ Bartosiewicz, Shuffling Nags, Lame Ducks, 105.

concentrated on the attachment surfaces of the palmar ligament and especially on the medial collateral ligament of the fetlock joint. Small, sub-pathological outgrowths were seen on the medial phalanx, on the attachment surface of the ligament that connects the hoof cartilage. The right anterior proximal phalanx recovered from an Árpád Period pit at Tiszagyenda (D6) exhibits an extreme case of deformation: the thick, compact exostoses are situated on the same attachment surfaces as in the previous case, but the new bone deposition is much more pronounced, distorting the bone's natural shape. The ossification of ligaments is also heavily manifested on another medieval horse proximal phalanx from the same site (D20). Similar, although not so severe lesions were observed on horse feet bones in a couple of further cases (D1, D10, D19, D22, D24). Small outgrowths of a similar kind suggesting a subpathological level of bone alteration was prevalent in four medieval horse bones. Spavin, that is, the chronic arthropathy of the hock joint, was nevertheless not evidenced. One horse calcaneus showed lesions that might be associated with a severe hock inflammation (D38), but deformed tarsal bones, skeletal elements most characteristic of this condition,¹⁷⁹² were not found at all.

Splint, that is, the fusion of splint bones and cannon bones, is often observed in horses and is considered a commonly found pathological phenomenon in archaeological assemblages.¹⁷⁹³ This ailment is rooted in the ossification of ligaments between these bones, and are usually observed on the medial side of the bone.¹⁷⁹⁴ A number of different aetiologies have been suggested, such as the animal's age, sex, body weight, environmental factors such as soil conditions, as well as genetic and conformation differences between individuals.¹⁷⁹⁵ Fusion of horse metapodia was observed in four cases in the studied material (D21, D23, D25, D26).

While pathologies related to work and especially traction were extensively studied in cattle, a similarly evident correlation has recently been questioned for horses by Bendrey and Dzierzecka *et al.*, because arthropathies on the metapodia and phalanges are found in wild horse

¹⁷⁹² Bartosiewicz, Shuffling Nags, Lame Ducks, 123-124.

¹⁷⁹³ Linas Daugnora and Richard Tomas, "Horse burials from Middle Lithuania: a paleopathological investigation," in *Diet and Health in Past Animal Populations. Current Research and Future Directions*, ed. Jessica J. Davies, Marian Fabis, Ingrid Mainland, M. Richards and Richard Thomas (Oxford: Oxbow, 2005), 68-74 (henceforth: Daugnora and Thomas, Horse burials); Robin Bendrey, "Ossification of the Interosseous Ligaments Between the Metapodials in Horses: A New Recording Methodology and Preliminary Study," *International Journal of Osteoarchaeology* 17 (2007): 207–213. (henceforth: Bendrey, Ossification of the Interosseous Ligaments)

¹⁷⁹⁴ Bartosiewicz, Shuffling Nags, Lame Ducks, 120-121.

¹⁷⁹⁵ Bendrey, Ossification of the Interosseous Ligaments, 212-213.

populations as well and might be related to natural weight load.¹⁷⁹⁶ Age was noted as the key factor in developing these symptoms.¹⁷⁹⁷ Nevertheless, such bilateral osteophytosis reported from archaeological sites are frequently associated with workload, and were abundantly found e.g. among the pathological horse skeletons of Middle Lithuanian burials, where they were interpreted as possible evidence for riding and traction.¹⁷⁹⁸ Although whole skeletons were not preserved, some of the horse remains from Gorzsa and Tiszagyenda discussed above exhibit severe bone alterations. This suggests that their lesions were not limited to the bones of the feet. Although age-induced arthritic lesions, such as the fusion of metapodia in horses, are often inseparable from work-related phenomena, it is not likely that these were rooted only in the age of the individuals in question. At Tiszagyenda, old horses (sixteen-seventeen years, two individuals) were discovered only in layers dated to the Early Modern Period but not earlier. At Gorzsa, the oldest individuals dated to the Middle Ages were not older than thirteen-fourteen years (two individuals). It seems more likely that the pathologies of the feet described above are results of either some kind of exploitation in work or environmental factors, such as especially hard floor surfaces that caused concussive damage, and not the old age of the horses.

Intervertebral ankylosis in horses is also a well-researched phenomenon associated with excessive riding. The formation of exostoses (syndesmophytes) typically affects the bodies of the vertebrae, and the ossification of the longitudinal ventral ligament results in a fusion of the vertebra bodies.¹⁷⁹⁹ Various stages of this condition have been documented in horses in the faunal record: spondylotic fusion of two-four vertebrae occurs commonly in archaeological specimens. Not many such individuals are known from the Middle Ages,¹⁸⁰⁰ however, while such lesions are also relatively rarely found in the modern veterinarian record.¹⁸⁰¹ In the studied medieval material, lesions on horse vertebrae were observed in seven cases (D2, D8, D9, D12, D15, D16, D36 and D41), only two of which involved some kind of a fusion between the bodies of two

¹⁷⁹⁶ Małgorzata Dzierzecka, Anna Charuta and Henryk Kobryn, "Pathological Changes of Horse Bones in the Middle Ages in Poland – Photographic Records," *Bulletin of the Veterinary Institute in Pulawy* 52 (200), 698-694; Bendrey, Ossification of the Interosseous Ligaments

¹⁷⁹⁷ Bendrey, Ossification of the Interosseous Ligaments, 212.

¹⁷⁹⁸ Daugnora and Thomas, Horse burials, 68-74.

¹⁷⁹⁹ Bartosiewicz, Shuffling Nags, Lame Ducks, 115.

¹⁸⁰⁰ László Bartosiewicz and Gábor Bartosiewicz, "'Bamboo Spine' in a Migration Period Horse from Hungary," *Journal of Archaeological Science* 29 (2002), 819–830: 820.

¹⁸⁰¹ Frances M.D. Henson, "Miscellaneous Osseous Conditions," in *Equine Back Pathology. Diagnosis and Treatment*, ed. Frances M.D. Henson (Oxford: Wiley-Blackwell, 2009), 157-167: 161

vertebrae, but not in an advanced stage. In one case, two lumbar vertebrae fused at the articular and transversal processes (D8); another case involved a thoracic vertebra on which syndesmophyte formation was observed at an early stage (D12; the osteophytes do not project beyond the body of the vertebra). The remainder of the horse vertebra anomalies involve the spinal or the transversal process, and signify inflammations or traumas. These pathologies are of interest since the horse often experiences back pain and is reluctant or is unable to work when its spinous processes are affected by lesions; the most common form is the so-called “kissing spine” where the spinous processes touch.¹⁸⁰² In two cases, new bone formation was found on the caudal sides of spinous processes of horse thoracic vertebrae (D15 and D36), probably signifying this “kissing spine” syndrome and periarticular osteophyte formation. Spinous process injuries might also have been caused by heavy and improperly placed saddles or yokes as well as their use in machines such as treadmills.¹⁸⁰³ The spinous process broke off and healed with a pseudo-joint in a horse (or cattle?) from the Árpád Period (D2), while a lumbar vertebra of a subadult sixteen-eighteenth century horse (D9) exhibits a partially healed rift or fracture of the spinal process, and there is a thick callus tissue on the medial end of the left transversal process, both probably resulting from a past trauma. Spinous processes of thoracic vertebrae often break when the horse rears up over backwards and falls on its withers. As horses with injuries of the thoracic spinal processes are usually reluctant to lower their heads because they try to avoid movement of the nuchal ligament, they must be provided with fodder and water in an elevated manger and must be confined and rested for at least four weeks.¹⁸⁰⁴

Pathological conditions of the scapula and pelvis joints were observed in three cases (D32, D37, and D39), two of which may be considered really severe. The articular surface of the right scapula of a sixteenth-century horse (D32) has widened and there are small exostoses on its edges, deforming the articular surface, while a thick layer of newly grown bone tissue forms a crest (“lipping”) on the medial side of the bone above the articular surface. This condition, probably the osteochondrosis of the scapulo-humeral joint associated with secondary osteoarthritis, occurs mostly in young horses, and heavily influences the animal’s performance;

¹⁸⁰² Frances M.D Henson and Jessica A. Kidd, “Overriding dorsal spinous processes,” in *Equine Back Pathology. Diagnosis and Treatment*, ed. Frances M.D. Henson (Oxford: Wiley-Blackwell, 2009), 147-156.

¹⁸⁰³ Bartosiewicz, Shuffling Nags, Lame Ducks, 141.

¹⁸⁰⁴ Driver and Pilsworth, Traumatic damage to the back and pelvis, 135-146: 135.

in fact, animals with lesions of this kind sometimes remain lame.¹⁸⁰⁵ A pelvis fragment of a horse (or cattle?, D39) shows a thick layer of exostoses on the articular surface adjoining the sacrum, suggesting sacroiliac dysfunction. This condition is only poorly understood even in modern praxis, and usually results in a chronic pain, poor performance, and sometimes gait changes.¹⁸⁰⁶ Although there is no evidence if these two animals were slaughtered or simply died of natural causes, their advanced pathological condition most probably kept them from working well before their death, suggesting that they were not killed immediately after the symptoms of lameness appeared, but that some form of treatment (even if only in the form of confinement and rest) may have been attempted.

These lesions by no means represent definitive evidence for a frequent and general overworking of animals. Taking into consideration the relatively low occurrence of these pathological phenomena and their possible connection to advanced age, it seems that horses were cared for, something also supported by the cases of injured horses that received veterinary treatment discussed above.

6.4.2 Work-related pathologies and arthropathies in cattle

Pathological lesions probably connected to workload were observed on cattle bones in 12 cases, none of which is particularly severe. These almost exclusively involve the phalanges and metapodia, and in one case, the calcaneus (all in the lower legs). The majority of pathologies observed in cattle fall into this category. This is no surprise as lesions in cattle became concentrated in the feet (especially the hind leg) by the Middle Ages, probably as a consequence of the use of these animals in traction that puts a load on the animal's rear in contrast to the natural balance of the skeleton.¹⁸⁰⁷ Arthropathies affecting joints of the upper limbs were not found.

Lesions on cattle phalanges and metapodia have frequently been associated with

¹⁸⁰⁵ Baxter, Manual of Equine Lameness, 335.

¹⁸⁰⁶ Leo B. Jeffcott., "Sacroiliac Dysfunction," in *Equine Back Pathology. Diagnosis and Treatment*, ed. Frances M.D. Henson (Oxford: Wiley-Blackwell, 2009), 189-197: 192

¹⁸⁰⁷ Bartosiewicz, Shuffling Nags, Lame Ducks, 151-152.

traction,¹⁸⁰⁸ although no unicausal explanation can be given for these pathological phenomena. The most common osteological symptoms associated with workload include exostoses on the phalanges and metapodia, as well as the broadening of the epiphyses in the distal limb segment, especially pronounced on the distal end of the metapodia.¹⁸⁰⁹ In the studied medieval material, proximal phalanges were affected in five cases, while six metacarpal bones displayed lesions. Work-induced lesions may concentrate on the metatarsals due to the unnatural dynamic load the hind limbs have to endure during traction work (although metacarpals may also be affected). Here, however, no metatarsals were found reflecting work-induced lesions, suggesting that these phenomena are at least multicausal and other contributing factors, such as old age or soil conditions, must also be sought after. Metapodial asymmetry might be caused by weight alone, e.g. in fattened cattle.¹⁸¹⁰

Pronounced pathological phenomena were observed only on two phalanges (D7 and D11), in the form of osteophytes on the cranial and abaxial sides. The rest of the lesions mostly involve small, subpathological osteophyte (bone spur) formation on the muscle attachment surfaces of the phalanges (marginal osteophyte formation in itself is not enough for a diagnoses, as they are commonly linked with ageing¹⁸¹¹). In four cases, however, small eburnations were observed on the proximal articulation surface of cattle metacarpal bones, which suggest osteoarthritis in these individuals. Although eburnation on the hip joint is usually interpreted as a sign of the repeated over-rotation of the femoral head, e.g. as a result of ploughing in heavy soil,¹⁸¹² or pulling a cart on solid, unyielding surfaces like cobble stones,¹⁸¹³ eburnation in the more distally located carpometacarpal joint does not necessarily point to a problem affecting the whole limb. These phenomena may just as well be age related. Two of the four metacarpals

¹⁸⁰⁸ László Bartosiewicz, “Mettre le chariot avant les bœufs. Anomalies ostéologiques liées à l'utilisation des bœufs pour la traction,” in *Premiers chariots, premiers araires. La diffusion de la traction animale en Europe pendant les I^e et II^e millénaires avant notre ère*, ed. Pierre Pétrequin, Rose-Marie Arbogast, Anne-Marie Pétrequin, Samuel van Willigen, Maxence Bailly, Monographie du CRA 19 (Paris: CNRS, 2006), 259-267.

¹⁸⁰⁹ László Bartosiewicz, “Metapodial Asymmetry in Draft Cattle,” *International Journal of Osteoarchaeology* 3 (1993): 69-75.

¹⁸¹⁰ Maaike Groot. ”Paleopathological evidence for draught cattle on a Roman site in the Netherlands,” in *Diet and Health in Past Animal Populations. Current Research and Future Directions*, ed. Jessica J. Davies, Marian Fabis, Ingrid Mainland, M. Richards and Richard Thomas (Oxford: Oxbow, 2005), 52-57: 53. (henceforth: Groot, Paleopathological evidence for draught cattle)

¹⁸¹¹ Groot, Paleopathological evidence for draught cattle, 55.

¹⁸¹² Groot, Paleopathological evidence for draught cattle, 55.

¹⁸¹³ John R. Baker and Don Brothwell, *Animal Diseases in Archaeology* (London – New York – Toronto: Academic Press, 1980), 115.(henceforth: Baker and Brothwell, Animal Diseases in Archaeology)

showing eburnation definitely come from cows – these might have been cows kept alive longer due to their secondary exploitation for milk and thus, age-induced lesions had time to develop on their bones.

One calcaneus fragment (D42) probably comes from an individual with spavin, inflammation of the hock joint: there are small, compact osteophytes formed on the tuber above the sustentaculum calcanei. This condition usually affects the central tarsal bones first, from where the ankylosis might spread; in this case, only one fragment of the calcaneus was found so to what degree the other elements of the joint were affected remains unknown. Spavin is caused by manifold inherited, structural and functional disorders,¹⁸¹⁴ and usually results in only a mild degree of lameness;¹⁸¹⁵ however, by the time the calcaneus and astragalus are involved, movement of the hock joint might have become seriously impaired.

The fact that cattle bones were mostly associated with arthropathies and there were no healed injuries in cattle except for some rib fractures and the one metatarsal discussed in the previous subchapter, suggests a rather practical attitude existed with regard to cattle. While horses with bone fractures and severe joint diseases were sometimes kept alive and possibly treated, cattle must have usually been slaughtered when pain or other conditions kept them from working, well before the disease could manifest on the skeleton.

6.4.3 Arthropathies in other species

Arthropathies, possibly connected to old age, were observed in only two cases in dogs. A severe degeneration of the knee joint was recorded on a medieval dog tibia (D28). There are amorphous outgrowths on the medial and lateral side of its proximal epiphysis. The medial part of the epiphysis widens caudally. The articular surface is damaged on the edges, especially laterally, signifying the presence of a degenerative arthritis, with disorganization and loss of articular surface and a proliferation of tissues in and adjacent to it. Dogs with such a condition are usually old, although this condition may appear acutely in young individuals too; affected

¹⁸¹⁴ Bartosiewicz, Shuffling Nags, Lame Ducks, 123.

¹⁸¹⁵ Baker and Brothwell, Animal Diseases in Archaeology, 119.

animals present with lameness and/or gait changes.¹⁸¹⁶ The calcaneus of a fourteenth-sixteenth century individual also shows small, compact exostoses on the lateral side of the distal end, suggesting an inflammation or degenerative condition of the hock joint. The fractured and healed ulna from the same pit (A9) might belong to this same individual. The fact that age-induced lesions occur only sporadically in dogs in the material supports the assumption that dogs were kept for practical reasons and not specifically as pets. Nor were dogs apparently particularly well cared for. This is also suggested by the possible signs of maltreatment and the absence of dental abnormalities linked to old age.

A swine pelvis from Turkish-Ottoman period Tiszagyenda (D33) exhibits signs of a severe deformation. There are spongy exostoses on the articular surface of the ilium at the adjoining surface to the sacrum, and there are two small, thorn-like protrusions on the pubis. The ilio-sacral joint must have been deformed and inflamed. The fact that an individual for which it must have been painful and difficult to walk was kept alive suggests either some kind of exploitation as a breeding animal (which is unlikely as the deformation of the pelvis must have kept the animal from mating and/or giving birth normally) or the value placed on its meat. A seventh cervical vertebra fragment from another swine, dating back to the fourteenth-sixteenth century (D31), also shows lesions that might be related to old age: there is a thick, compact layer of newly formed bone tissue on the ventral side of the left cranial articular process. Both the cranial and caudal articular surfaces of the vertebra's body are widened and there are small exostoses on the edges as a sign of syndesmophyte formation. As touched upon in Chapter 3, the importance of swine keeping changed during the Turkish-Ottoman occupation for several reasons. In areas where locals were frequently harassed, plant cultivation was sometimes abandoned in favour of animal keeping: it was possible to withdraw to marshlands which favoured swine husbandry and Ottoman intruders were probably less interested in driving pigs away due to the Islamic dietary restrictions.¹⁸¹⁷ The Turkish period coin hoard from seventeenth-century Tiszagyenda, an exceptional find associated with the Thirty Years' War,¹⁸¹⁸ reflects the raids the inhabitants endured.

¹⁸¹⁶ Alan J. Lipowitz and Charles D. Newton, "Degenerative Joint Disease and Traumatic Arthritis," in *Textbook of Small Animal Orthopaedics*, eds. Charles D. Newton and David M. Nunamaker (J.B. Lippincott Company: 1985), digital edition: http://cal.vet.upenn.edu/projects/saortho/chapter_87/87mast.htm (Accessed 15. 12. 2013)

¹⁸¹⁷ Bartosiewicz, Animals in the Urban Landscape, 52.

¹⁸¹⁸ Csányi, Tárnoki and Polgár, A Vásárhelyi-terv továbbfejlesztése, 34-36.

In small ruminants, age-related phenomena were recorded only in one case: a sixteenth-seventeenth-century sheep or goat humerus fragment displayed small exostoses on the medial side of its distal end (D35). The articular surface itself is intact; this lesion is possibly only age-related and may testify to the secondary exploitation of the species for milk and wool.

6.5 Dental abnormalities and oral pathology

Pathologies on the teeth, oral cavity and mandibles affected all species. These pathologies are difficult to categorize (let alone to provide a complete aetiology for them) as teeth problems may reflect systemic effects inherent in the animal's body, as well as direct influences such as tooth wear, trauma or infections caused by bacteria living in the oral cavity.¹⁸¹⁹ Malocclusion, abnormal tooth wear and teeth loss were the most commonly recorded disorders. In a number of cases, teeth fell out and their alveoli fused. This occurred in almost all species found in the faunal assemblages examined here.

Teeth loss is often associated with periodontal disease, calculus, and the inflammation of the soft tissues around the teeth and covering the alveolar process (gingivitis).¹⁸²⁰ This condition has also been linked with overgrazing and bad quality pastures, as the consumption of thorny weeds animals usually avoid under normal conditions may cause injuries in the oral cavity and result in infections.¹⁸²¹ However, cheek teeth problems are best documented in horses in modern praxis, partly because sheep and cattle ruminate, and thus, they are better adapted to chewing their food, and partly because of the usually young average age of slaughter of modern flocks.¹⁸²² In the archaeological record, nevertheless, periodontal conditions occur most commonly in small ruminants.¹⁸²³

Extreme conditions on teeth and in the oral cavity were not observed, although periodontal disease was recorded in a couple of cases. The mandible of a medieval sheep (C8) showed signs of a serious periodontal condition: the second and third premolars had fallen out

¹⁸¹⁹ Bartosiewicz, Shuffling Nags, Lame Ducks, 171.

¹⁸²⁰ Bartosiewicz, Shuffling Nags, Lame Ducks, 177.

¹⁸²¹ Bartosiewicz, Shuffling Nags, Lame Ducks, 178.

¹⁸²² Graham R. Duncanson, *Veterinary Treatment of Sheep and Goats*, (Cambridge, MA: CABI, 2012), 130.

¹⁸²³ Bartosiewicz, Shuffling Nags, Lame Ducks, 178.

and their alveoli fused, while there are small outgrowths on the roots of the teeth, signifying a possible inflammation linked with chronic infection.¹⁸²⁴ The lateral side of the teeth is covered by a thick layer of plaque which probably caused gingivitis. There is also a small, pin-like protrusion on the lateral side of the corpus, behind the third molar, suggesting that the condition affected the bone tissue around the alveoli too. A similar pathology was observed on another sheep mandible (C17) in which the teeth are heavily worn and there is a small protuberance on the lateral side, below the third molar (perhaps a developing abscess). A cattle mandible also testified to tooth loss (C14): the second premolar is missing, there is no alveolus at all (either it fell out due to a periodontal disease and the alveolus closed completely, or the condition was caused by a developmental disorder). Tooth loss was also documented in swine in a single case (C9). Small outgrowths on the root of teeth were seen in a sixteenth-seventeenth century horse (C10). In this case, the condition might be linked with a trauma: it seems that the tooth's original chewing surface had broken off and part of the broken surface was worn.

Irregular occlusion lines which, although they were abnormal, probably did not interfere with feeding, were recorded in sheep (C7, C18), cattle (C11) and horse (C16) alike. In one sheep skull (C15), beside the malocclusion there was a thickening of the maxilla around the third and fourth premolars. The second and third premolars grew abnormally in a skewed, caudal direction, which probably kept the animal from feeding normally.

Deformed, swollen tooth roots, that is, cementum build-ups in the root area indicating periodically arrested or disturbed dental development,¹⁸²⁵ were observed in horses in two cases (C6, C12). Although the aetiology behind this phenomenon is not known, a deposition of cementum-like tissue is also characteristic of benign dental tumours, cementomas in horses, even though these are very rare.¹⁸²⁶

Dogs were represented in the oral pathology sample with teeth loss. The teeth of one medieval dog (C4) were all heavily worn, some of them had fallen out and their alveoli are fused. The first premolar and first molar on the left, the first and second premolars on the right side are missing and their sockets fused. Although this condition might have made it difficult for the dog to chew (especially due to the loss of one first molar), the animal probably did not

¹⁸²⁴ Baker and Brothwell, *Animal Diseases in Archaeology*, 150. Fig 9a

¹⁸²⁵ Bartosiewicz, *Shuffling Nags, Lame Ducks*, 180.

¹⁸²⁶ R. Kreutzer, P. Wohlstein, C. Staszyk, M. Nowak, V. Sill, and W. Baumgärtner, "Dental Benign Cementomas in Three Horses," *Veterinary Pathology* 44 (2007): 533-536.

require human help to eat and survive. The broken tibia and fibula of the same individual (A3) suggests traumas that might also explain the loss of some of the teeth (e.g. due to kicks from horses or cows). Tooth loss in dogs induced by age or other factors such as trauma or periodontal disease was recorded in a few other cases, too (C5, C13).

One cat mandible mentioned earlier (C15) is of special interest: in this case, all premolars and molars had fallen out and their alveoli fused. This individual was in all probability unable to survive without human care. Unfortunately, the dating of this find is not clear. It may be dated to the Early Modern Period but a later dating cannot be excluded. Otherwise, no evidence of old pets definitely cared for by their human owners was found.

6.6 Other lesions

Inflammatory diseases were only sporadically present. One femur diaphysis fragment of a cattle or horse (B1) exhibited a spongy bone tissue formed in the medullary cavity, probably as a result of osteomyelitis. Osteomyelitis with a fistulized abscess may have also been present in a dog (B2) whose ulna widened and thickened in a four cm long section with a fistula in the middle of the widened area that had opened onto the interosseal space, but was later fused and a recess remained. A horse atlas with small exostoses on the tuberculum dorsale (B3) suggests either some form of arthritic lesion, or a bacterial infection (conditions such as tuberculosis and brucellosis are well documented in cattle and horses and can cause granulatous vertebral lesions).¹⁸²⁷

A sixteenth-century horse tibia (D29) exhibited a spongy, thick, irregular layer of newly formed periosteal bone tissue on the medial and palmar side of the distal epiphysis. This is possibly an osteosarcoma that distorted the distal end of the tibia. Although this condition is very rare in horses and not well researched, usually affecting the skull and mandibles, osteosarcoma on horse tibia causing lameness has been reported in the literature.¹⁸²⁸ Such pathologies may occur at any age and their aetiology is complex, including even such factors as inherited

¹⁸²⁷ Bartosiewicz, Shuffling Nags, Lame Ducks, 102.

¹⁸²⁸ J. M. Bush, R. L. Fredrickson and E. J. Ehrhart, "Equine Osteosarcoma: A Series of 8 Cases," *Veterinary Pathology* 44 (2007), 247-249. (Bush et al, Equine osteosarcoma)

disorders and viral infections. However, their background is poorly understood¹⁸²⁹ and their prognosis is very bad.¹⁸³⁰

6.7 Summary

Generally speaking, the number of pathological individuals at the studied medieval sites does not exceed the expected low ratio found in the faunal assemblages of most archaeological sites. Most pathologies represent traumatic injuries and arthropathies on large ungulates and dogs, and only a few were especially severe. The picture emerging from the finds does not differ significantly from what is usually observed at other sites of the period, with the exception of the healed pelvis fracture of a horse from Cuman Orgondaszentmiklós. Pathological specimens from animals that were seriously ill or injured and required human assistance were found only in a few cases. The fractured cattle metatarsal and the fractured horse pelvises, finds that classify as rarities in the archaeozoological record, definitely speak for some form of veterinary care. Although emotional attachment to these individuals cannot be excluded, it is likely that the beasts' economic (working animals) and cultural (horses as status animals) values played a key role in the reasoning of their owners who invested labour and time in their healing. Most care and attention was undoubtedly focused on the welfare of horses, which probably reflects the status of this species not only in the Euasian steppe traditons but also in the Cumans' early history in the Hungarian Kingdom when they served as mounted archers. This is especially interesting in light of the practice of horse consumption, which could have made the injured animals' use as a meat source a more practical solution.

The low ratio of cattle bones with lesions as well as the fact that severe pathologies are absent in this species suggest an abundance of livestock that permitted the owners to slaughter cattle that were ill or could not perform well. Small lesions on the phalanges and metapodia may represent individuals (probably draught oxen and/or dairy cows) that were only killed and consumed only at an older age, but this was not an everyday practice. The same is true for small ruminants: individuals that suffered a trauma were probably slaughtered; only minor injuries,

¹⁸²⁹ Bartosiewicz, Shuffling Nags, Lame Ducks, 213-215.

¹⁸³⁰ In the 2007 study of Bush et al (the largest published case series so far), only one of the examined eight horses was known to survive the condition. Bush et al, Equine osteosarcoma, 248.

such as rib fractures and smaller traumas of the vertebrae, were overlooked and could thus heal.

Oral pathologies in grazing species that involved periodontal disease or mouth infections were discovered only in small numbers. This suggests that the livestock had access to pastures of at least acceptable quality. Evidence of possible maltreatment and / or herding-related traumas was observed on dog bones. Even though older individuals are present in the sample, it seems that dogs were not particularly cared after or treated when injured, but were seen as easily replaceable despite their notable role in ritual activity at some Cuman sites.

Chapter 7

A case study of Eurasian semi-nomadism: the Iron Age site of Tuzusai in southeastern Kazakhstan

In this chapter I will summarize the findings of my fieldwork in southeastern Kazakhstan, in order to show as a kind of case study the animal husbandry strategies of an Iron Age semi-nomadic population that had similar roots to those of the Cumans. It goes without saying that I cannot summarize the vast literature written on nomads of the Central Asian steppe, the Semirechye area, or how the pastoralist economy emerged and evolved (this topic has received increasing scholarly attention, although research usually focuses on the Bronze Age). My main goal is to demonstrate if there are any similarities between this material and the assemblages associated with Cumans, excavated in the Carpathian Basin. Of course, I do not imply in any way that there was any direct contact between these two populations, so far away from each other both geographically and chronologically. However, the Saka, with whom the site to be discussed is associated, inhabited the same area and presumably followed similar economic strategies to the Turkish peoples who later replaced them in present-day Kazakhstan and the Central Asian steppe. Thus, this study may present the other end of a spectrum in the nomad-sedentary continuum.

7.1 The Semirechye area in the Iron Age

The Semirechye, Zhetsu or Seven Rivers area lies in modern-day southeastern Kazakhstan, northwest of the Tien Shan mountains and north of Lake Balkhash. This is an ecologically varied region that includes foothills, mountains, deserts and steppes. The area has functioned as an important geographical passageway connecting the Central Asian desert-oasis region and the semi-arid and desert regions of Mongolia and Western China. The Ili and Chu Rivers, the two most important bodies of water in the region, have their origin in the Tien Shan

mountains. One branch of the Great Silk Road led through here,¹⁸³¹ making the Semirechye an important center of trade. This meeting point of cultures and goods also brought nomadic pastoralist and settled populations together.

The earliest hint of the existence of nomadic pastoralist tribes in the Central Asian steppes comes from the Avesta (the sacred text collection of Zoroastrianism), in which they are described as the enemies of Iranians. The name Saka, extensively used for these peoples both in the sources and in the secondary literature, comes from the Persian sources; it is not an ethnic denomination but rather a collective name used for a number of different populations living in different habitats and coming into contact with various cultural influences – it is loosely used for all populations living in the steppe and mountain regions of Eurasia during the eighth to third century BC.¹⁸³² Accordingly, there are a lot of local variations in their archaeological heritage.¹⁸³³ The people labeled as the Saka were also variable from an anthropological point of view, with both Europoid and Mongoloid forms, showing genetic similarities to the population in the Tien Shan and the Altai mountains.¹⁸³⁴ This varied population was engaged in animal herding and migrated as the supply of pastures dictated; they occasionally also looted and attacked sedentary populations, and thus, their activities started to be recorded. In the Semirechye area the Saka typically possessed proto-urban settlements with permanent structures that were used on an annual basis (but not necessarily throughout the whole year) by peoples engaged in animal herding and a varying degree of seasonal migration, complemented with limited practices of land cultivation.¹⁸³⁵

¹⁸³¹ C. Chang, P. Tourtelotte, K.M. Baipakov and F.P. Grigoriev, *The Evolution of Steppe Communities from the Bronze Age through Medieval Periods in Southeastern Kazakhstan (Zhetsu). The Kazakh-American Talgar Project* (Sweet Briar – Almaty, 2002), 19. (henceforth: Chang et al, *The Evolution of Steppe Communities*)

¹⁸³² Leonid T. Yablonsky, “Written sources and the history of archaeological studies of the Saka in Central Asia”, in *Nomads of the Eurasian Steppes in the Early Iron Age*, ed. Jeannine Davis-Kimball, V.A. Bashilov and L.T. Yablonsky (Berkeley, CA: Zinat Press, 1995), 192-199: 192-193. (henceforth: Yablonsky, *Written sources and the history of archaeological studies of the Saka in Central Asia*)

¹⁸³³ Leonid T. Yablonsky, “Some ethnogenetical hypotheses”, in *Nomads of the Eurasian Steppes in the Early Iron Age*, eds. Jeannine Davis-Kimball, V.A. Bashilov and L.T. Yablonsky (Berkeley, CA: Zinat Press, 1995), 240-252: 244-245

¹⁸³⁴ A. Abetekov and H. Yusupov, “Ancient Iranian Nomads in Western Central Asia”, in *History of Civilizations of Central Asia*, Vol.2. *The Development of Sedentary and Nomadic Civilizations: 700 BC to AD 250*, ed. János Harmatta (Paris : Unesco, 1999), 23-33: 24.

¹⁸³⁵ Peter B. Golden, “Courts and Court Culture in the Proto-Urban and Urban Developments among the Pre-Chingissid Turkic Peoples”, in *Turko-Mongol Rulers, Cities and City Life*, ed. David Durand-Guédy, Brill’s Inner Asian Library 31 (Leiden: Brill, 2013), 21-74: 23-24.



Fig. 7.1.1 The map of the Semirechye area in Southeast Kazakhstan (from GoogleMaps). The red dot marks the location of Tuzusai, northeast of Almaty, at the feet of the Talgar alluvial fan.

This population is archaeologically best perceived through their extensively researched kurgans, large burial mounds around the town of Issyk.¹⁸³⁶ The Saka who inhabited today's Western and Central Kazakhstan were nomads, practiced a pattern of horizontal movement over

¹⁸³⁶ So far, approximately 1,000 kurgans dating to the first millennium BC have been excavated in the Semirechye region, with the earliest sites dated to the eighth-seventh century BC. The most famous of these finds, the grave of the so-called Golden Warrior was discovered at Issyk, ca 40 km from Almaty. A young man clothed in golden plaits sewn to a jacket was laid in a timber-lined grave in a burial mound. (Leonid T. Yablonsky, "The material culture of the Saka and historical reconstruction", in *Nomads of the Eurasian Steppes in the Early Iron Age*, ed. Jeannine Davis-Kimball, V.A. Bashilov and L.T. Yablonsky (Berkeley, CA: Zinat Press, 1995), 201-240: 232-233.) Later, Jeaninne Davis-Kimball raised the possibility that the élite individual buried here was, in fact, a female, probably a priestess. (Jeaninne Davis-Kimball, "Chieftain or Warrior Priestess?", *Archaeology* 50/5 (1997), 40-41.)

their territory throughout the whole year, and kept mainly sheep, horses and camels. In contrast, the Semirechye Saka, the groups that lived by the Talgar alluvial fan, were more sedentary, were involved more in cattle breeding, and adopted a vertical pattern of movement between the high mountain pastures and low valleys.¹⁸³⁷ It was these semi-nomadic pastoralist groups who constructed the symbiotic relationship between nomadic practices and sedentary agricultural strategies.

The Semirechye area served in the Iron Age as a meeting point of nomadic pastoralist groups and the agrarian societies of Central Asia and China. Thus, it provides an interesting model of semi-nomadic groups in the context of surrounding sedentary populations. Evidently there is no direct connection between Iron Age nomads of the Semirechye area and the Cumans who entered in Hungary, and the two groups must be handled separately, both within their own contexts. However, the hypothesis raised here is that mobile pastoralists on the verge of settlement generally might work out similar strategies in similar situations, and traces left by non-permanent occupation sites might reveal how the earliest pre-permanent Cuman sites, for which proper archaeological data is practically nonexistent, may have looked like on the Great Hungarian Plain; therefore, a study conducted on this site is useful despite the huge chronological and geographic discrepancies.¹⁸³⁸

As discussed in Chapter 1, one main theory hypothesizes a Cuman route of migration from China through the southern borderland of the Gobi Desert, the Dzhungarian Gate and the Semirechye area. It is, more-or-less, accepted that the migration of the Cuman-Kipchak population reached the southern Russian steppe zone through present-day Kazakhstan. The special geographical region of the Talgar fan represented a situation where nomad-sedentary interactions were intense, and a semi-settled, mixed economy was practiced. This was probably similar to the economy of those small Cuman communities that had already started to settle in the steppe region, before they were forced to migrate in the face of the invading Mongol forces in the early thirteenth century.

¹⁸³⁷ Yablonsky, Written sources and the history of archaeological studies of the Saka in Central Asia, 196.

¹⁸³⁸ The Tuzusai excavations are also of interest from a methodological point of view: the excavations were conducted with the cooperation of Soviet-trained and American archaeologists, thus, uniting two distinct research traditions. Archaeological methods widely used in the West but usually still not available for Kazakh researchers (such as radiocarbon dating or the analysis of plant remains) were implemented at Tuzusai, producing more reliable results, which – from a methodological point of view – are more suitable for a comparison with sites excavated in Europe.

7.2 The archaeological site of Tuzusai

The archaeological site Tuzusai is an ancient village or farmstead area lying west of a now dried out riverbed, where a number of small-scale excavations have been conducted over the past 20 years by archaeologists Fedor Grigoriev, Claudia Chang and Perry Tourtelotte. This hamlet area is situated in the micro-region of the Talgar fan, an alluvial fan at the foot of the Tien Shan, in the close proximity of the modern-day village of Alatau (ca. 15 km east of the city of Almaty), expanding into ca. 1 hectare of modern agricultural fields. This is a mountain/steppe interface zone, characterized by a patchwork of microenvironmental ecotopes, including riparian areas, grass-dominant fields, herbaceous flowering plants and grass fields, as well as conifer and deciduous forests.¹⁸³⁹ Thus, a wide range of ecological niches could be exploited by past populations.

Tuzusai as a site is rather unspectacular, comprising mainly mudbrick structures, fragments of household pottery, and heavily fragmented animal bones. Tuzusai was identified as a late Saka settlement, dated to ca. 400-200 BC. This was one of the small hamlets dispersed throughout the alluvial fan in that period.

I had access to the faunal material brought to light at Tuzusai in 2012 and 2013, within the framework of the Kazakh-American Archaeological Expedition, supervised by the Kazakh Academy of Sciences.¹⁸⁴⁰ During these excavation seasons, multiple pit houses and mudbrick features, associated with at least six phases, were brought to light; these features are typical for this site and have been discovered throughout all excavation seasons. These features were frequently remodeled during occupation. The quantity and complexity of mudbrick architecture observed at Tuzusai is interesting as it marks a huge labor investment in the construction of wall features, working areas and houses.¹⁸⁴¹

The material represents kitchen refuse; articulated skeletal parts were discovered only in a few cases, and these are usually one or two skeletal elements (such as carpal or tarsal bones

¹⁸³⁹ Robert N. Spengler, Claudia Chang and Perry A. Tourtellotte, "Agricultural production in the Central Asian mountains: Tuzusai, Kazakhstan (410-150 BC)," *Journal of Field Archaeology* 38/1 (2013), 68-85: 70. (henceforth: Spengler et al, Agricultural production in the Central Asian mountains)

¹⁸⁴⁰ Parts of the animal bone material from the previous years was analyzed by N. Benecke, M.S. Forstadt and A. Haruda, whose research I hint at but did not use in my own analysis, as these results are not yet published and are only available as reports on file submitted to the archaeologists leading the project.

¹⁸⁴¹ Spengler et al, Agricultural production in the Central Asian mountains, 69-70.

belonging to the same individual). As seen in Table 7.2.1, swine is missing from the main domesticates, while the Bactrian camel is present. Wild species were found in a relatively wide variety. These observed species ratios correspond to those observed by Forstadt in 1997 and Benecke in 2000, at the same site¹⁸⁴² even though in our case the dominance of small ruminants is more pronounced. A herd dominated by sheep and goat is suggested, followed by cattle and horses. The few bones displaying clear anatomical difference between the two species display a 1:2 ratio of the two small ruminants, with 12 goat and 24 sheep bone fragments.

The material is badly fragmented, and consequently, only a few bone measurements could be taken. The bones were broken up in order to extract the marrow, which resulted in typical, small splinters from the long bone diaphyses. The material was clearly exposed to weathering and to scavengers. These finds are not concentrated in separate areas but are present throughout the whole site, indicating that probably all the refuse was exposed to the elements for some time, no doubt increasing fragmentation. Only one or two pieces belong to the same individual; this, along with the small average size and poor preservation of the fragments (processed bones) suggests that this habitation area was, more or less, kept clear of rubbish. The body part debris left after the processing of carcasses was probably deposited elsewhere, at a distance from the human habitation area. Some pieces of refuse that mainly consisted of previously processed, chopped or broken up bones, ended up in the activity area and were subjected to trampling. A storage pit (context 143, feature 68) was probably used later for trash deposition. This supports the archaeological interpretation according to which the site was dominated by an activity area used mainly for cooking (suggested by the fireplaces and tandoors) that produced bone refuse but had to be kept clean. Dog gnawing on the finds suggest that animal scavengers might also have contributed to the distribution of the discarded bones.

The area of the site was heavily burrowed through by rodents. Thus, the rodent remains, although they were found in archaeological layers, most probably represent animals that dug into the site and died much later than the settlement was inhabited, so they are not considered part of the artificially accumulated bone assemblage but rather modern taphonomic factors.

¹⁸⁴² Chang et al, *The Evolution of Steppe Communities*, 101.

Species	Bones identified (NISP)	% of all faunal remains	% of faunal remains identified to taxon	MNI
Cattle	1127	10.01	19.52	23
Horse	478	4.25	8.28	12
Sheep and goat	4036	35.85	69.89	96
Dog	61	0.54	1.06	2
Bactrian camel	35	0.31	0.61	2
Domestic hen	1	0.01	0.02	1
Total domestic	5738	50.97	99.36	
Red deer	6	0.05	0.10	3
Siberian roe deer	5	0.04	0.09	1
Wild swine	9	0.08	0.16	1
Wild ass	4	0.04	0.07	1
Asiatic wild cat	1	0.01	0.02	
Hare	5	0.04	0.09	1
Western jackdow	1	0.01	0.02	1
Common quail	1	0.01	0.02	1
Bank vole	5	0.04	0.09	1
Total wild game	37	0.33	0.64	
Total identified to taxon	5775	51.30	100.00	
Large mammal (probably cattle or horse)	1866	16.57		
Middle-sized mammal (probably sheep or goat)	3558	31.60		
Bird (Aves sp.)	8	0.07		
Rodent (Cricetidae sp. or Muridae sp.)	24	0.21		
Snail shell fragment (Gastropoda sp.)	8	0.07		
Bird, Corvus sp.	1	0.01		
Bird, Galliformes sp.	1	0.01		
Fish, Pisces sp.	1	0.01		
Total non-identified to taxon	5467	48.56		
Human	16	0.14		
Total	11,258	100.00		

Table 7.2.1 Faunal remains from the excavations of Tuzusai, 2012-2013

A large number of bones could not be identified to taxon; the high number of unidentifiable fragments is explained by the extremely heavy fragmentation. The unidentified pieces are almost all mammalian bones, and were categorized according to size.

Withers height could be estimated only in a few cases. Two metacarpals belonged to cows: one was ca. 109 cm at the withers, while the other measured 122 cm at the withers. This considerable difference might suggest the presence of various size clusters, or possibly different types of cattle at the site. One sheep's size was estimated at 55.3 cm based on its right metacarpal bone. The left femur of a dog that exhibited signs of a healed rupture was also well preserved; the animal was 55 cm high at the withers. Two horse metatarsals of similar size were suitable for withers height estimation; one animal's height is calculated to 137.5 cm, while the other was 140.2 cm high at the withers. The animals's sex could be determined with certainty only in the case of two horses. These two upper canine tooth fragments belong to stallions. A radius fragment of a bactrian camel probably belonged to a male, based on the sexual dimorphism in size typical for the species.

The red and roe deer, wild swine and hare were definitely consumed, as skeletal parts carrying abundant meat (ulna, femur, scapula, radius, tibia, mandibles) were deposited, indicating that the animals were not deboned before the carcass was transported to the site, as might be expected. Deer species are represented both by antlers and other skeletal elements (metatarsal, tibia, teeth), suggesting that they were hunted although their antlers might have also been collected. A roe deer antler definitely belonged to an animal that was killed (it was still attached to the skull). It is evident, however, that the meat supply was based primarily on the local domesticates, and hunting only occasionally contributed to the diet. The wildcat was probably hunted for its fur.

The one bone fragment of domestic fowl is a surprising find, but it does not mean that domestic hen was bred in the settlement; it might easily have been brought to the site by trade. It signifies, however, that this domestic avian species was not unknown to the pastoralists and is another indicator of probable trade contacts with local sedentary populations.

	Infantile		Juvenile		Subadult		Adult		Mature		Senile	
Cattle	3	0.3%	60	5.3%	2	0.2%	291	25.8%	2	0.2%	-	-
Horse	-	-	34	7.1%	2	0.4%	132	27.6%	2	0.4%	2	0.4%
Sheep and goat	28	0.7%	338	8.4%	9	0.2%	713	17.7%	2	0.05%	-	-
Dog	1	1.6%	1	1.6%	-	-	13	21.3%	1	1.6%	-	-
Bactrian camel	-	-	1	-	-	-	6	-	-	-	-	-
Wild swine	-	-	2	-	-	-	2	-	-	-	-	-
Red and roe deer	-	-	-	-	-	-	2	-	-	-	-	-

Table 7.2.2 Kill-off patterns at Tuzusai. The percentages show the ratio of juvenile, subadult, adult etc. animals in all finds identified to the given species (including those not identified to age). The condition of the finds did not allow a precise estimation of the age at death in most cases. Whole or partial skeletons were counted as single entities. In the case of camels and wild species, percentages were not calculated due to small sample size.

Most wild species present at the site can be found in a wide variety of habitats. The common quail suggests grasslands with dense, tall vegetation. The red deer prefers open woodlands, while the Siberian roe deer is found in forested and steppe habitats alike. Although wild swine can flexibly adapt to a number of habitats, they typically prefer moist woodlands and shrublands, especially oak forests and areas where reeds are abundant. Asiatic wildcats, on the other hand, prefer low-lying semi-desert areas and scrublands. It seems that a wide range of economic niches were exploited through hunting, perhaps as a result parts of the population being more mobile.

Kill-off patterns show a dominance of adult individuals in all species. The ratio of young animals remains under 10% in all cases, but they are present in larger numbers among small ruminants. Even though cattle, horse and sheep are all unipara animals, small ruminants were present at the site in larger numbers and thus it must have been more economical to kill their young than juvenile horse or cattle. Interestingly, a high number of sheep died around the age of 18 and 30 months. If lambing took place in the early spring, the presence of these individuals might signify a late summer or fall occupation, and might also reveal a conscious pattern: animals slaughtered in these months would not require fodder in the winter. However, consuming young animals seems to have been a rare practice (which must have partly been necessary slaughter due to injury or illness), which also suggests the secondary exploitation of the livestock (milking and wool). Senile individuals are virtually absent; only two very aged, 18-20 years old

horses were found. This wide span in the age of death of horses might suggest that these animals were slaughtered rather occasionally than regularly.

Pathological lesions were observed on twelve bones of sheep, six cattle, three horses and two dogs. The virtual absence of pathological bones suggests that in most cases sick animals were slaughtered before the illness could manifest itself on the bones and no medical care was provided for sick or injured individuals.¹⁸⁴³ Interestingly, the observed phenomena were almost exclusively pathologies of the mouth and the teeth. Oral pathologies were, in most cases, overlooked by early farmers unless they resulted in serious economic problems, such as major weight loss due to the inability to feed or wool deterioration, which might explain why they are most frequent.¹⁸⁴⁴ The fact that almost no other pathological phenomena were observed suggests a practice of killing sick or injured animals in the early stages of disease. A sheep rib showing traces of a recent, unhealed fracture also supports this theory: the bone started to knit but the animal was culled before the healing process finished.

Deformation of the roots of teeth may occur in animals with tumors. However, as root outgrowths were encountered in several cases at this site, along with abnormal tooth wear, fluctuations in the occlusal line and tooth malpositioning, a common background to these oral problems are more likely. These cases can most probably be explained by poor quality pastures the animals fed on. Most pathologies were observed in sheep, a species that grazes close to the ground.¹⁸⁴⁵ Ingesting soil on a poor grassland (especially with sandy soil) is the most important factor in abnormally heavy tooth wear,¹⁸⁴⁶ and small injuries in the mouth cavity caused by

¹⁸⁴³ One dog whose teeth were in very bad condition was identified: the 4th lower premolar is missing while the second and third lower premolars are broken. Even though only a mandible fragment was found and the condition of the rest of its teeth is not known, the dog was probably in a state where it could only survive if fed and cared for by humans.

¹⁸⁴⁴ In Siegel's 1976 study on 18 British sites (from neolithic to medieval), illnesses encountered most frequently comprised oral problems; they represented no less than 33% of all pathologies. (Jane Siegel. "Animal paleopathologies: Possibilities and Problems," *Journal of Archaeological Science* 3 (1976), 349-384. p. 359 (Table 3), 361.)

¹⁸⁴⁵ Sheep grazing in an area where grit had a scratching capacity were characterized by flat and uneven surfaces on their teeth. As sheep mainly prefer herbs and grasses, while goats prefer leaves, this effect may be more pronounced in case of sheep. (Ingrid Beuls, Leo Vanhecke, Bea De Cupere, Marleen Vermoere, Willem Van Neer and Marc Waelkens, "The predictive value of dental microwear in the assessment of caprine diet," in *Archaeozoology of the Near East V. Proceedings of the fifth international symposium on archaeozoology of southwestern Asia and adjacent areas*, eds. Hijke Buitenhuis, Alice M. Choyke, Marjan Mashkour and Abdel Halim Al-Shiyab (Groningen: ARC Publication, 2002), 337-355.)

¹⁸⁴⁶ W.B. Healy - T.G. Ludwig, "Wear of sheep's teeth," *New Zealand Journal of Agricultural Research* 8: 4 (1965), 737-752.

thorny plants might result in bacterial infection and inflammation. This would be typical for an overgrazed field, where animals pick up more soil during grazing.¹⁸⁴⁷

The inhabitants of this Iron Age settlement were semi-nomadic, and were involved in animal herding as well as land cultivation. Archaeobotanical investigations revealed a system of mixed agricultural production, including hulled and naked barley, wheat, broomcorn millet, foxtail millet, grapes, almonds, hawthorn seed and rice.¹⁸⁴⁸ Most likely, small-scale, low-input agriculture was practiced, although wheat requires more labor and watering than millets. As rainfall is irregular and unpredictable in this region, drought-tolerant crops, specifically millets and hulled barley could serve as fall-back crops in times of water shortage (there is no archaeological evidence for irrigation whatsoever).¹⁸⁴⁹ The variety of domesticated cereals is indicative of multicropping. However, different crops have different growing seasons and different schedules for sowing and harvesting, and different amount of labor is needed to plant and nurture them. Therefore, this form of land cultivation certainly required well-organized and properly scheduled community work. Interestingly, chaffing material was almost completely absent from the site, suggesting that crops were processed off-site and stored in a fully processed and clean form (which, again, points to a tightly organized form of labor).¹⁸⁵⁰

Horses, cattle and sheep and/or goat are suitable animals for successive grazing practices (horses are driven to the pastures first, then cattle can be fed at the site where horses have grazed, and finally, small ruminants are able to feed on the stubbled grass left by the two previously

¹⁸⁴⁷ Abrasive material in the food, such as large amounts of silicon compounds (SiO_2) in the plants consumed (a factor that also influences the digestibility and palpability of the fodder), also contributed to the heavy wear on teeth. Abnormal tooth wear and projecting teeth then might become a source of irritation to the gum on the opposite side of the occlusal line and lead to inflammation. Baker. and Brothwell, *Animal Diseases in Archaeology*, 147.

¹⁸⁴⁸ A macrobotanical analysis was done by N. Miller in 1996 (the results are still unpublished; a short summary is provided by Spengler et al, *Agricultural production in the Central Asian mountains*, 70) by Arlene Rosen in 2000 (Arlene M. Rosen, Claudia Chang and Fedor P. Grigoriev, “Paleoenvironments and Economy of Iron Age Saka-Wusun Agro-Pastoralists in Southeastern Kazakhstan”, *Antiquity* 74 (2000): 611-623) and by Robert Spengler in 2011 (Spengler et al, *Agricultural production in the Central Asian mountains*, 73). More recently, stable carbon and nitrogen isotope analysis and the investigation of dental paleopathologies in Early Iron Age populations in Southern Siberia revealed that domesticated cereals, especially millet, constituted a substantial part of the diet. The consumption of cereals is too high (contributing ca. one-third of the dietary protein) and persistent to reflect occasional trade. A considerable use of freshwater fish is also evidenced. (Eileen M. Murphy, Rick Schulting, Nick Beer, Yuri Chistov, Alexey Kasparov, and Margarita Pshenitsyna, “Iron Age pastoral nomadism and agriculture in the eastern Eurasian steppe: implications from dental paleopathology and stable carbon and nitrogen isotopes”, *Journal of Archaeological Science* 40 (2013), 2547-2560.) These results also suggest that a mixed economy was widespread, with at least some primitive form of conscious land cultivation.

¹⁸⁴⁹ Spengler et al, *Agricultural production in the Central Asian mountains*, 76.

¹⁸⁵⁰ Spengler et al, *Agricultural production in the Central Asian mountains*, 77.

grazing herds). A mixed herding economy is more stable than mono-specialized pastoralism and the use of pastures is more economical. As Tuzusai lies at the foot of the mountains, the question of a possible vertical transhumance herding practice must be raised. Even though only the age of only a few young animals could be precisely determined, the presence of neonatal and very young lambs in the assemblage suggests an early spring occupation. Ewes usually mate from September to early December, which means that they give birth from January to early April. At the same time, juvenile/subadult sheep culled at the age of 18 and 30 months suggest a late summer or fall occupation; consequently, the site was probably inhabited from spring to fall. (This suggestion is also supported by the presence of the common quail, a bird that migrates to North Africa, Southeast Asia or India for the winter.) Thus, the sheep production cycle could be synchronized with potential fodder (natural and farmed) production, so that foraging resources were used in an optimal way and lambs could feed on spring grass.

Chang came to the conclusion that the inhabitants of the Iron Age Talgar Fan were farmers / herders organized into non-hierarchically ranked villages or hamlets. Simple, semi-subterranean houses and associated mudbrick architecture suggest the presence of individual households or family units, which conducted basically all economic activities, including pottery making and small-scale metalworking.¹⁸⁵¹ The tasks of animal herding and field cultivation could be divided within the household: some members stayed during the summer months to cultivate the fields, while others moved to higher pastures with the flock, and by the late fall, the whole population migrated back to the steppe area or to the protected mountain valleys.¹⁸⁵² Labor division may have been kinship-, age- or gender-based; pooled labor from neighboring communities in the time of harvest may also have been an option.¹⁸⁵³ Multicropping combined with mixed herding permitted the inhabitants of this settlement to maximize their economic chances and exploit a variety of ecological niches. This was probably one way to reduce economic risk in an otherwise volatile environment. As Chang notes, the number of herd animals owned by a single household is subjected to biological and ecological factors (draught, disease etc.) but also to community concepts. A household that expands its herd on the expense of others,

¹⁸⁵¹ Claudia Chang, “Lines of power: Equality or hierarchy among the Iron Age agro-pastoralists of Southeastern Kazakhstan”, in *The Archaeology of Power and Politics in Eurasia: Regimes and Revolutions*, ed. Charles W. Hartley, G. Bike Yazicioglu and Adam T. Smith (Cambridge: Cambridge University Press, 2012), 122-142: 135. (henceforth: Chang, Lines of power)

¹⁸⁵² Chang et al, *The Evolution of Steppe Communities*, 93

¹⁸⁵³ Spengler et al, *Agricultural production in the Central Asian mountains*, 77-78.

may suffer social and political consequences, and thus, a balanced equilibrium is necessary between land cultivation and herding of communities in a given area. On the other hand, a society with both agrarian and pastoralist orientation can use mobility as a political and economic strategy, and at the same time, may develop a stable, more sedentary setting, according to their immediate needs.¹⁸⁵⁴

Very similar herding strategies have been observed in this region in the Iron Age at other sites as well.¹⁸⁵⁵ While horses are well represented in the Trans-Ural region in the Iron Age, they are present in small numbers in southeast Kazakhstan, while the absolute dominance of small ruminants, followed by cattle is evident at all sites in the Semirechye region.¹⁸⁵⁶ The picture emerging from the Tuzusai faunal sample is strikingly similar to the site of Begash in the close vicinity (also in the Semirechye area in southeast Kazakhstan).¹⁸⁵⁷ This site is especially interesting since it has successive archaeological layers from 2500 BC to present time, including a layer dated to almost the same chronological window as Tuzusai. The ratio of main domesticates here is almost identical to that observed at Tuzusai. Interestingly, the chronological change of kill-off patterns at Begash indicates that the secondary exploitation of small ruminants intensified from this period onwards, with a shift to older individuals among the slaughtered animals.¹⁸⁵⁸

Slaughter and carcass processing was carried out in the households. All skeletal parts are present at the site, signifying that the animals were butchered and processed locally; no accumulation of skeletal elements was observed that reflected the presence of workshops processing non-meat elements of the carcass. Butchering or cutting marks were recorded only in a few cases (on 20 bones, respectively), however, this might partly be explained by the relatively poor preservation of the sample and the frequent damage frequently found on the surface of bone finds. Cut marks were observed on bones of sheep, cattle and horse. In several

¹⁸⁵⁴ Chang, Lines of power, 128-129.

¹⁸⁵⁵ Claudia Chang, Norbert Benecke, Fedor P. Grigoriev, Arlene M. Rosen and Perry A. Tourtellotte, "Iron Age society and chronology in South-east Kazakhstan", *Antiquity* 77 (2003), 298-312: 304-307.

¹⁸⁵⁶ Robin Bendrey, "Some like it hot: environmental determinism and the pastoral economies of the later prehistoric Eurasian steppe", *Pastoralism: Research, Policy and Practice* 1/8 (2011), Fig.2 and 3. (open access journal: <http://www.pastoralismjournal.com/content/1/1/8>, accessed 27/02/2015)

¹⁸⁵⁷ Michael Frachetti and Norbert Benecke, "From sheep to (some) horses: 4500 years of herd structure at the pastoralist settlement of Begash (south-eastern Kazakhstan)", *Antiquity* 83 (2009), 1023-1037 (henceforth: Frachetti and Benecke, From sheep to (some) horses)

¹⁸⁵⁸ Frachetti and Benecke, From sheep to (some) horses, 1027-1030.

cases, the marks testify to the dismembering of the carcass at the joints: two cattle cervical vertebrae were cut into two by a cleaver-like tool probably when the head of the animal was removed, a cattle metacarpal was chopped when the feet were removed, a cattle skull fragment suggests that the animal's head was cut into two sections (perhaps in order to extract the brain), and a large bovid or equid femur was chopped when it was disjointed from the pelvic bone. These marks in no way support the presence of a professional butcher or a standardized butchering process, but are rather *ad hoc* cuts which did not completely cut the bones in two, but rather helped to break them or targeted strong ligaments. The bones were not defleshed but rather broken and processed together with the meat.

The remainder of the cut marks testify to the use of small, sharp blades employed later on in the consumption process during cooking and eating. These marks were all observed on bones that represent meaty parts of the carcass (radius, rib, tibia and humerus). A second phalanx of a horse exhibited small, thin horizontal cutmarks on the cranial and lateral side. These were probably made when the hide was processed and the tendons were cut through. Similar small cutmarks were seen on the basis of a sheep horncore. These must have been made when the horn was removed for further processing.

Even though such a small number of cut marks does not allow general conclusions to be drawn, standardized butchering tools were probably only used in the work phase when the carcass was dismembered – similarly to the method observed at small Cuman villages in the Carpathian Basin. However, this by no means signifies an “organic” connection between the two populations, but is more likely due to the limited availability of good quality metal tools among both groups.

The distribution of skeletal elements is also reminiscent of the distribution observed at the Cuman sites. In the case of sheep and cattle, most finds are skeletal elements that carry the best and medium quality meat (quality A and B) according to Uerpmann's meat categories¹⁸⁵⁹ (see table 7.2.3). For horses, bones associated with lower quality meat (quality C) are more abundant. These are mostly metapodia, which might have been used in bone tool manufacture; another possible explanation is that horse meat was not regularly consumed, and the processing of the carcass often targeted non-meat consumption purposes.

¹⁸⁵⁹ Hans-Peter Uerpmann, “Animal bone finds and economic archaeology: a critical study of ‘osteо- archaeological’ method,” *World Archaeology* 4/3 (1973), 307-322

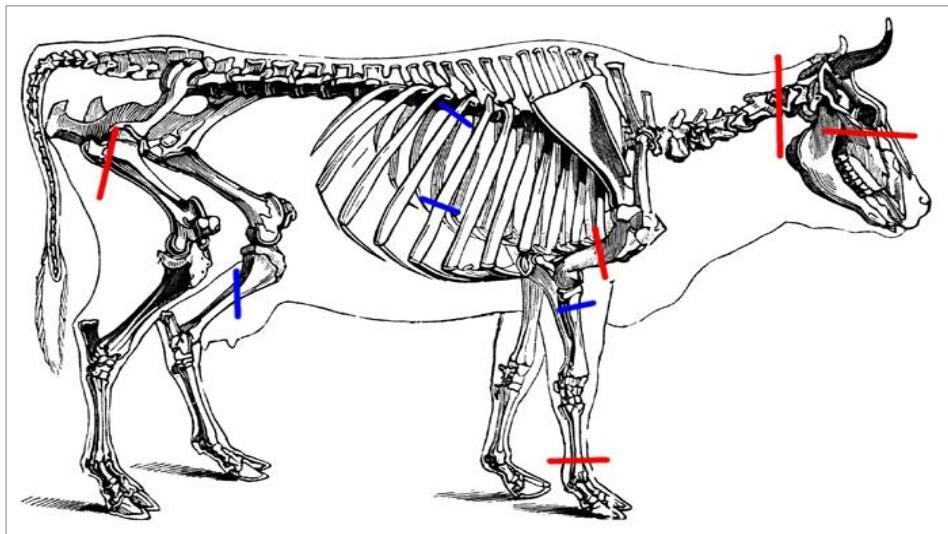


Fig. 7.2.1. The location of cut marks on all species observed at Tuzusai, projected onto a cattle skeleton (red: strong butchering marks inflicted by axe-like tools, probably during the initial dismemberment of the carcass; blue: small cut marks produced during cooking and eating activities)

The spiral fractures seen on most bones signals that they were not dried out when they were broken. The high level of fragmentation of the bone material may not only be rooted not only in the mechanics of trampling in the activity areas but also in the practice of extracting the marrow fat. The presence of freshly fractured shaft splinters in large numbers means that the bones were probably deliberately broken up in order to extract the marrow.¹⁸⁶⁰ Bone grease can be used not only as food but also for waterproofing skins, tending bowstrings, as well as for tanning or as a fuel in lighting. The marrow in the diaphysis shaft, in the cancellous tissue of the epiphysis and in axial bones represent different kinds of grease that may be processed differently. People living in a warm climate tend to simply smash the middle shaft of long bones in order to extract the marrow, while groups inhabiting cold climate areas (where storing unprocessed bones is not a problem) usually separate the epiphyses and store them for later boiling.¹⁸⁶¹ Most of the shaft splinters encountered at Tuzusai exhibit the characteristics of fresh, “green-bone” fractures

¹⁸⁶⁰ Alan K. Outram, “Bone Fracture and Within-bone Nutrients: an Experimentally Based Method for Investigating Levels of Marrow Extraction”, in *Consuming Passions and Patterns of Consumption*, ed. Preston Miracle and Nicky Milner (Cambridge: McDonald Institute for Archaeological Research, 2002), 51-63.

¹⁸⁶¹ Alan K. Outram, “A New Approach to Identifying Bone Marrow and Grease Exploitation: Why the ‘Indeterminate’ Fragments should not be Ignored,” *Journal of Archaeological Science* (2001) 28, 401–410: 402.

with a spiral outline instead of the more straight fracture lines of dry bones (more typical for trampling and secondary fragmentation of dry bones). This means that the bones were usually processed and broken up immediately after the animal was butchered.

Species	Quality A		Quality B		Quality C	
	Standard %	Actual %	Standard %	Actual %	Standard %	Actual %
Sheep/goat, n=4036	20.7	28.595	23.6	47.55	55.7	23.85
Cattle, n=1127	20.7	20.025	23.6	43.29	55.7	36.68
Horse, n=478	26.6	24.325	32.3	32.12	41.1	43.55

Table 7.2.3. The ratio of skeletal elements in the 2013 assemblage. The normal percentage represented by a body part, calculated from the number of skeletal elements present in an intact skeleton of the species (“standard %”) juxtaposed with the observed occurrence of these skeletal elements in the Tuzusai faunal material (“actual%”). (Single teeth were not included in the calculations.)

As the species ratio is distorted in case of heavily fragmented assemblages, the amount of meat consumed was also calculated on the basis of bone weight measurements for the finds of the 2013 excavation.¹⁸⁶² However, this only represents an estimation, as the correlation between the weight of a skeletal element and body mass depends on the body part, as well as the age and condition of the animal. The finds were often damaged by taphonomic processes which influence bone weight, and therefore only 71% of all sheep/goat remains and 73% of all cattle remains could be reasonably weighed. The weight calculated from the finds refers to the meat consumed, not all the meat available to the population.

	Weight of excavated bones (gr)	Consumable meat of skeletal part (%)*	Dry bone of skeletal part (%)*	Estimated amount of meat on the excavated bones (gr)
Cattle				
Forequarter, n=60	1,772	85.4	14.6	10,365
Ribs and vertebrae, n=64	1,101	49	51	1,058
Hindquarter, n=55	1,674	54.7	45.3	2,121
Total	4547			13,544

¹⁸⁶² Unfortunately, a proper scale was not available during the 2012 field work.

Sheep				
Forequarter, n=246	970	59.7	40.3	1,437
Ribs and vertebrae, n=283	574	68.3	31.7	1,237
Hindquarter, n=376	1,610	50.9	49.1	1,669
Total	3154			4,343

Table 7.2.4. Estimation of the meat consumed at Tuzusai, based on the weight of excavated bones of different species (2013 excavation). Only finds suitable for weight measurement (that is, finds without fur deposition) were included. Forequarter: radius, ulna, humerus, scapula, carpals; hindquarter: pelvis, sacrum, tibia, femur, patella, tarsals¹⁸⁶³

Although this is a somewhat culturally biased model (the ratio of consumable meat to dry bone in a given skeletal part is based on modern examples, and the model only includes skeletal parts preferred today in the Western world), it is a good reminder that the NISP ratio does not directly reflect the amount of meat a given species provided. In fact, this gross calculation reveals that the amount of meat represented by the cattle remains adds up to three times more than the amount represented by sheep and goat remains. Sheep could have been used as "pocket money" in daily interactions, while the slaughter of one cattle provided a lot more meat for the household.

Traces of bone working were observed in 38 cases. These objects were almost exclusively made from long bone fragments of large bovids or equids, have a small point on one end, and their edges are worn and the whole surface polished. Their striation and wear suggests that they might be identified as scrapers or burnishers used in pottery making, although how they were used is not always clear. One object equipped with a crude denticulate edge, made of the tibia or femur splinter of a large bovid or equid, was possibly used for shredding plant fibers, perhaps reed. There is also a possibility that these long bevel-edged with a slightly wavy form tools were used in shaping, burnishing and decorating wheel turned pottery. The typical "burnishers" made of diaphysis fragments were probably picked out of the refuse after processing the carcass. These objects have an elongated shape, and a narrow, rounded edge on one end; in most cases all edges were used and are worn.

¹⁸⁶³ R. Lee Lyman, "Available Meat from Faunal Remains: A Consideration of Techniques," *American Antiquity* 44/3 (1979), 536-546: 540, Table 2.



Fig. 7.2.2 Bone tools (scarpers) from Tuzusai, made of the rib fragment of a large herbivore, a cattle metatarsal, a tibia fragment of a large herbivore, and a sheep mandible.



Fig. 7.2.3 Bone tools used in modern southern Armenia for shaping and decorating wheel turned pottery (image courtesy of Alice M. Choyke)

Most tools unearthed at Tuzusai can be described as being close to the Class II type in the “bone manufacturing continuum”:¹⁸⁶⁴ they are opportunistic, more-or-less unplanned tools, used for a short period of time, made of easily available raw materials with a minimal amount of labor

¹⁸⁶⁴ Choyke, The Bone Tool Manufacturing Continuum, 65-72. The exploitation index is the proportion between use intensity and manufacturing intensity. In case of planned, sophisticated tools, this index is low (as manufacturing is laborsome), while in case of opportunistic tools use intensity is much greater than the energy invested into manufacturing.

invested, have a high exploitation index and were never re-worked. However, in some cases the skeletal element of which the tool was made was consciously selected due to its natural shape, which means a certain level of planning. According to ethnographic observations carried out by Alice M. Choyke in southern Armenia, this activity creates characteristic shapes and curves on bone tools (see Fig. 7.2.2 and 7.2.3). Although opportunistic, these are not completely *ad hoc* tools, as there is a pattern in the way people use and shape these picked-out bone fragments, that is, a mental template for production. The abundance of these tools at the site does not necessarily imply their absolute dominance in the bone tool assemblage used by Iron Age people, but rather signifies the low value placed on them: they were discarded after only a short period of use and could be reproduced any time.

Antler, especially antler from larger cervid species, can be an important raw material for preparing tools, however altogether only four antler fragments were found, and only one of these is actually worked. This does not necessarily mean that shed antlers were not collected and used, but the workshop where they were processed must be looked for elsewhere in the habitation area.

7.3 Summary

As we have seen, the Iron Age population at Tuzusai was involved in a mixed economy, with land cultivation focusing on millet, and animal herding centered on cattle, sheep and horses. A spring to fall site occupation was ideal for sheep raising. Mutton and beef was preferred in terms of meat consumption, while horse (and perhaps camel) contributed to the meat diet less often. The bone weights and the calculated amount of consumed meat in 2013 revealed the domination of beef in the reconstructed diet. Hare, red and roe deer as well as wild swine and wild birds were occasionally hunted and consumed. Although domestic fowl was present at the site, the practice of keeping poultry would not have been particularly significant as these birds usually require a completely settled lifestyle to breed. Swine was not kept at all.

The presence of all age cohorts indicates that the animals were raised and consumed at the site and not purchased. The overwhelming majority of adult sheep and cattle suggests these domestic species were exploited for secondary purposes, namely for milking, wool production and probably traction. The animals to be consumed were culled and processed in the households,

and their bones broken up for the marrow while fresh.

Although this population was not entirely mobile, pig keeping was unknown to them, as opposed to the thirteenth-fourteenth-century Cumans. It is clear that at Tuzusai different environmental pockets were utilized, with a possible transhumance movement, and although nomad-sedentary relations were intense, the situation of the Iron Age Saka cannot be compared to the economic nexus of medieval Hungary into which the Cuman population integrated. Although there are undeniable similarities with the Cuman material in Hungary, these are rather rooted in the level of community organization at these sites than in nomadic steppe traditions. Household slaughters and carcass processing may result in similar patterns: the low frequency of butchering marks, targeting mainly the strong joints, and the custom of breaking up the diaphyses reflects practices that are prevalent in communities where meat distribution is not centralized, professional butchers and high quality tools are absent, and meat processing is not standardized in any way.

Chapter 8

Conclusions

The medieval Cuman minority in Hungary, the population in the focus of this PhD dissertation, migrated to the Carpathian Basin from the Eurasian steppes where they practiced a mobile pastoralist lifestyle for generations. After the devastating Mongol Invasion in the mid-thirteenth century, Hungary lost a considerable percentage of its population, especially on the Great Hungarian Plain. This presented a situation where new settlers were needed and parts of the migrating Cuman community could settle for good.

Animal husbandry has been in the focus of Cuman studies in the sense that their traditions in pastoralist herding have been emphasized in the scholarly literature without researchers actually going into detail about what this form of animal husbandry meant on an everyday level. The arrival of nomadic herders from the steppe region is part of the popular Hungarian historical narrative and today has contributed to the way the cultural identity of people labeling themselves Cumans has been formed.

Identifying the Cuman community in the textual and archaeological record poses a number of methodological problems as this was a group defined by outsiders, and ethnic markers are difficult to grasp. The nomadic pastoralist culture the Cumans brought with them changed quickly after their migration and settlement although different levels of identity must have altered at different rates, and not all of these are accessible now. Those parts of an originally more variable cultural picture heavily impacted by external influences were transformed rapidly. At the same time, other aspects of daily life such as food production remained more conservative, especially in small villages. Archaeozoology, combined with the critical use of textual sources, has the potential to shed light on these complex issues through the evaluation of evidence associated with different levels of past realities, from official tax records reflecting market activities to kitchen refuse representing the intimate household sphere.

In the previous chapters I have discussed the textual and archaeological evidence that testifies to animal husbandry and meat consumption practices of medieval Cumans after their

migration to the Hungarian Kingdom. Although Cuman research has a long history in Hungary, the present work is the first attempt to combine historical data with the most direct evidence for animal husbandry, the animal bone material, in a comprehensive way. In the core chapter of the thesis, a large number of textual sources along with all the available archaeological sites identified as Cuman were presented in the argumentation. After discussing the evidence for economic strategies from one region to the other, the various exploitation forms connected to the animal body were explored. First, patterns of meat consumption and butchering techniques were investigated, followed by the analysis of the role animals played in the Cumans' belief system, and the domestic species' secondary exploitation for their bones as raw material, as well as for their wool and hide. Pathologies observed in the faunal assemblages were discussed in a separate chapter. Finally, a case study was provided on an Iron Age site in Kazakhstan where the temporary settlement of a semi-nomadic population was excavated and the faunal remains analyzed. This latter short study served as a reference point for proper mobile pastoralism, a probable starting point for the Cumans before their migration.

The limitations of the present study were mainly inherent to the material being researched. On the one hand, there are special problems connected to the general research of the medieval Cuman minority (such as the problem of site identification and the question of ethnic markers), and on the other hand, in the archaeological material itself (outdated excavation methods, small sample size, poor condition of the finds, the limited availability of up-to-date bioarchaeological methods, and the absence of early Cuman dwelling sites). Textual sources are available in abundance only from the sixteenth century onwards. These reveal information on the local rearing of sheep and swine, while cattle rearing is evidenced by records associated with their trade. While textual sources say almost nothing on animal rearing for household purposes, archaeological evidence first and foremost reflects local consumption, and combined with the textual sources has the potential to provide a more comprehensive picture of animal keeping. The aim of the thesis was to explore whether the Cuman minority's animal husbandry practices significantly differed from those characteristic for the rest of the country, and whether remnants of their nomadic heritage were in any way preserved in terms of animal management.

In the previous chapters it has been demonstrated that animal husbandry in Cuman and Hungarian villages of the Great Plain in the late thirteenth to early seventeenth century was basically the same. Cultural identity and ethnic background probably had some impact on the

species preferences but variations are rather individual and do not display any pronounced spatial clustering. A site's geographical location and position in the settlement hierarchy had a more decisive influence on its animal husbandry practices than any kind of ethnic affiliation. The small differences that were found suggest that complex factors inherent not only in medieval realities but also in deposition and recovery methods had a combined effect on samples that were originally, more-or-less, uniform. The livestock the Cumans kept does not seem to differ from the stock generally present in the Carpathian Basin. The disappearance or transformation of animal populations potentially brought from the steppe region at the time of the migration, however, cannot be discussed without implementing proper genetic studies, which is yet a task for future research.

The agricultural system the Cumans found in the Carpathian Basin went through profound changes in the first century of Cuman-Hungarian coexistence. Cumans entered a Hungarian economy that was in a phase of deep transformation: the peasant's plot became the basic unit of agriculture, peasant services and tributes were restructuring and paved way to the peasants' participation in market-oriented animal production. The three-field system of crop rotation became widespread and market towns started to develop. Thus, a diverse group of steppe people whose economic strategies and social structures were probably in the process of disintegration, entered a space where recent transformations created new economic niches that could be filled by them.

The moment when Cuman animal husbandry and meat consumption practices can first be studied in the archaeological record (that is, in the early fourteenth century), the faunal material already displays very similar trends to other contemporary assemblages in the Carpathian Basin in terms of both species ratios and kill-off patterns. This suggests that transformation in terms of animal husbandry happened fast. The fact, however, that the original economic standing of the migrating Cuman groups is unknown poses a methodological problem. No archaeozoological study has ever been carried out on the Cuman steppe population's herding strategies. Therefore, the starting point for the migrating Cuman population is difficult to pin down, although written sources are available and speak of an economy centered around animal herding, with minimal agriculture.

The migrating Cuman community was diverse and consisted of different clan or tribal elements, which more-or-less correspond to given regions within the Hungarian Kingdom. The

possible differences between these groups in terms of social and economic organization are still unknown, however. The case study on the Iron Age site of Tuzusai, in which I analyzed the animal husbandry of a semi-settled population in southeastern Kazakhstan, reveals a faunal composition typical for Eurasian steppe peoples, which is very different from the Cuman sites in Hungary. Early Cuman temporary camps with similar profiles may come to light in the future in the Carpathian Basin, but until this happens, the earliest phase of Cuman-Hungarian coexistence remains unresolved.

The earliest of the studied sites, Kiskunhalas-Dong ér – MOL5 in Lesser Cumania, dated to the turn of the thirteenth and fourteenth centuries, displayed a high ratio of sheep, and was occupied for only a short period of time. It is tempting to associate these phenomena with early Cuman habitation. This site may even represent the remains of the second generation of migrants. However, the Cuman presence is only suspected at this site and there is no evidence that the short habitation had any connection to some kind of pastoralist mobility. Hopefully, properly excavated sites of early Cuman habitation will have the potential to cast light on the practices the migrating communities brought with them in the future. The fact that Cumans seem to have adapted to their new environment relatively quickly in terms of animal keeping supports the theory that Cuman settlement was an already on-going process when they were forced to return to a more mobile life due to the frequent Mongol attacks and started their migration westwards.

As we have seen, the species encountered on fourteenth-sixteenth-century Cuman sites are identical to those found on other coeval sites in the Carpathian Basin, with an overwhelming dominance of the four main domesticates and a very small contribution of wild game. The species ratio in the Cuman assemblages displays a slight but statistically significant preference for horse and sheep instead of swine when compared to Hungarian samples, which may be rooted in a preference for a form of animal management centered on sheep and horses, typical for the Eurasian steppe region. However, cattle was the dominant species in all Cuman assemblages, while the proportions of the other three main domesticates fluctuated. The Cuman material seems to vary from one region to the other, and there is no homogenous archaeological assemblage that can be labeled as “Cuman proper”, even though almost identical ratios were observed in the Cuman villages of Greater Cumania. It is important to note that the sample from Lesser Cumania is dominated by the small market hub of Szentkirály, while in Greater Cumania

assemblages from rather small villages were analyzed, and therefore their comparison must reflect not only regional but also hierarchical differences in settlement type. These differences also express themselves in site type (size and economic importance, access to road networks etc.) much less cultural distinctions between the Hungarian and Cuman populations.

A statistically significant relationship was observed between ethnic background and the ratio of domesticates in all regions. However, the strength of association is low and suggests a weak relationship between ethnicity and the four domesticates' ratio. Although minor differences are noted, both the archaeological material and the written records testify to the full integration of Cuman populations into the Hungarian economy by the fourteenth-fifteenth century. This process may have taken place in separate stages. These stages however can only be pinned down if precisely dated archaeological layers representing narrow chronological windows become available. The strength of association between ethnicity and species ratios becomes greater with time. The Cuman samples are actually more different from late medieval Hungarian samples than from the earlier Árpád Period faunal assemblages from villages. It must be noted, however, that statistically large and properly processed Hungarian faunal assemblages from the Great Plain are not yet numerous, and these interpretive problems make it all the more difficult to spot regional as well as chronological differences since the background against which Cuman assemblages can be compared is also varied and subject to a number of changing factors.

In addition to the Cuman sites, two villages situated in close vicinity to the Cuman habitation area were examined. Gorzsa in southern Hungary was, although geographically close, more separated from the Cumans in Lesser Cumania due to natural watercourses, while Tiszagyenda (the medieval village of Gyenda or Lak) was located in close proximity to the Cuman villages in Greater Cumania. These settlements certainly must have had close connections with the Cuman communities. Here again, small but statistically significant differences exist between the faunal samples from the Cuman sites and from the sites on the periphery of the Cuman region. Both in the case of Tiszagyenda and Gorzsa ethnicity may therefore have had some impact on the observed species ratios. The ratio of horses at both peripheral sites is also higher than at other late medieval sites, which may be connected to Cuman presence in these areas, although horse consumption was not unknown in Hungarian villages of the period either. However, these differences are, again, very small, especially between Tiszagyenda and the nearby Cuman villages. These two sites had the advantage of more

up-to-date recovery methods, which resulted in a large number of bird and fish finds. These provided invaluable information on medieval environment exploitation, and made clear that villagers frequently utilized the natural resources surrounding them. Bodies of water were exploited for fish as well as waterfowl, which probably contributed to the diet to a greater extent than previously thought by scholars.

Swine keeping was of special interest in this study because swine is a marker animal for sedentism and a species virtually unknown to medieval Eurasian pastoralists. By the fourteenth-sixteenth centuries pigs were raised extensively and pork was regularly consumed by the Cumans, especially in Greater Cumania. In fact, pork consumption seems to have exceeded mutton consumption among Cumans by the Late Middle Ages. According to textual sources, Szentkirály in Lesser Cumania was also even involved in swine keeping beyond the villagers' immediate needs. Therefore, it seems swine herding was been picked up by the Cumans early on. The built spaces for swine keeping are identical to the pens used by the Hungarian population, supporting the idea that swine keeping was something learned from the Hungarians. Of course, although swine is never mentioned in connection with the Cuman-Kipchak population, it cannot be excluded that some Cuman communities, in fact kept, already kept swine when they started to settle in the steppe region. Without actually excavated and analyzed faunal samples this notion must remain mere speculation. It is certain, however, that the Cumans fleeing from the Mongols and covering huge distances in a short time could not have arrived together with swine herds. Those groups returning from Bulgaria during the second migration wave may have brought pigs with them but as no written records exist one way or another about pig-keeping practices among the second wave of Cumans we cannot know for sure. The presence of oak forests and wetlands providing fodder, along with the fact that pigs are multipara animals and remunerative to raise, probably contributed to the Cumans' willingness to rapidly invest into swine husbandry, adding it to the traditional, steppe repertoire of horse, cattle, sheep and goat.

The distinguished role of horses in the culture of steppe peoples is evident. At the same time, horse keeping is difficult to trace as no systematic written records testify to the existence and management of horse herds, their keeping was not taxed, and they turn up much less frequently in toll registers than cattle. The horse type favored by the Cuman nobility may be reconstructed on the basis of the stallion found in a Cuman chieftain's grave at Csengele. This animal's DNA analysis revealed a similarity to Seglawi Arab horses. The possibility of the

preference for horses resembling this phenotype among the Cuman élite even filtering down as cultural imitation among Cuman commoners has been raised in the thesis. Although the term *equus Cumanus*, Cuman horse, does exist in the thirteenth-century written sources and may refer to horses used by the élite, no distinct horse type was present at these Cuman sites.

Horse bones in the faunal material and the cutmarks observed on skeletal elements that carry good quality meat and cannot be associated with hide production reflect the regular consumption of horse meat in the Cuman community. The existence and persistence of this culinary tradition has already been raised as a possibility by other researchers. The butchered horse bones from the village of Orgondaszentmiklós discussed in this thesis make it clear that this practice was indeed present among Cumans. Nevertheless, whether this consumption pattern was identical to the custom of horse consumption practiced in the steppe is uncertain. Textual evidence is lacking on this matter, although it would probably turn up in the sources if this custom had been viewed as really distinct from the meat consumption practices in the rest of the kingdom's population, or felt by contemporaries to have a strong association with non-Christian, pagan behaviors.

The special attitude to horses is evidenced by a horse pelvis exhibiting signs of a healed fracture, brought to light from Orgondaszentmiklós in Greater Cumania. This injury, which undoubtedly influenced the extent to which the animal could be used, could not have healed without some human intervention,. Considerable efforts must have been made to treat this horse for its injuries over a number of months. A similar find from an Avar grave (in fact, the only analogy for this phenomenon in the Carpathian Basin) also supports the notion that horses generally retained their exceptional place in the cultural identity of Eurasian steppe peoples after their migration down to present-day Hungary (where the romantic connection of horse with ancestral 'life on the steppes' is still strong even today). Although horses from graves have been studied extensively, the everyday realities of this attitude in the medieval Hungarian Kingdom is still largely unexplored. This new observation should serve as a starting point for further studies in the future.

Meat consumption in Cuman settlements did not differ from the generally present trends in the kingdom at large, with the exception of the unambiguous signs of regular consumption of horse meat. The calculated meat quantities shows a dominance of beef and pork, while mutton, somewhat surprisingly, played a tertiary role in most cases. The Cuman material is, more-or-less,

uniform in terms of butchering marks found on the faunal material. Household slaughters were practiced at these Cuman villages, which corresponds to their status in the settlement network. Only in Szentkirály were traces of standardized butchery (and the presence of professional butchers) observed. This corresponds to the idea that a settlement's place in the settlement hierarchy had an impact even on activities associated with the household sphere such as food processing. Cut marks from high quality metal blade cleavers and other specialized butchering tools were rarely observed on bone refuse coming from the small villages. In general, a high number of spiral fractures were present on the long bone diaphyses, some of them accompanied by cutmarks or traces of percussion, signaling a deliberate, if somewhat primitive, process of marrow extraction. Expensive, heavy-duty butchery tools like axes appear to only have been used in primary carcass partitioning, to cut through the strongest joints, and most bones exhibit signs of having been broken up fresh..

Animal-related ritual phenomena associated with the Cumans are, in fact, distinct. However, their study always involves the danger of circular reasoning (these phenomena (animal bone groups) are spotted in the record and interpreted as Cuman because they are perceived as being distinct). The recognition and especially assessment of ritual-related contexts are often difficult without written sources reporting on analogous customs; on the other hand, written accounts focus the attention of the archaeologist on certain expected phenomena which may themselves be contemporary *topoi*, biasing interpretation. Most of these Cuman finds are burial-related, and include horse and dog burials, food offerings and amulets placed in graves.

In the case of equestrian graves, archaeological material in the Great Plain can be combined both with Eurasian steppe analogies and descriptions in written sources, and thus, these kinds of finds are well explored in the secondary literature. These early, thirteenth-century burials constitute a key cultural layer in the Cuman archaeological heritage, even though these graves mostly reveal information on the élite stratum of the Cuman community alone. Such graves display identical phenomena to those horse burials that have been excavated in the steppe region, and therefore speak of the continuation of former non-Christian traditions among the first generation of migrants, at least in the upper layer of Cuman society. The one properly studied horse skeleton belonged to an Arabian-type stallion probably brought from the steppe region and used for status display during the life of the deceased and the moment of his interment.

The role of dogs in the Cuman belief system is also evident from historical sources, although the actual context of deposited dog skeletons is debated in most cases. Dog skeletons were excavated from around the warrior's grave at Csengele; three dogs, including a (probably) strangled individual were brought to light in Szentkirály. The cemetery of Perkáta yielded amulets made of fox, wolf, harebones as well as drilled fish vertebrae. Possibly "pagan" elements in the cemeteries of Asszonyszállás and Orgondaszentmiklós in Greater Cumania signify that some more intimate cultural traditions Cumans may have preserved long after their settlement, irrespective of their fully integrated economic and social life.

Only minor elements of the once predominant steppe traditions survived into the fifteenth-sixteenth century when animal management practices across the country and ethnic boundaries had already been greatly transformed. The reason for the disappearance of differences that most probably existed at the time of migration is, in my view, rooted in comprehensive processes that shaped the fate of Hungarian and Cuman communities alike and left little room for culturally dependent variations in subsistence strategies. It is clear that Cuman communities underwent a same settlement concentration process that was intimately connected with opportunities for acquiring pastures and maintaining larger herds. The re-structuring of the settlement network is particularly evident in the Turkish-Ottoman Era. However, there is no evidence that this re-structuring occurred differently in Cuman communities than in non-Cuman ones.

Medieval settlement concentration and, consequently, a boom in available pastures was probably the most important process that impacted the history of Cuman villages on the Great Plain. The settling Cumans typically picked places for habitation where infrastructure was already available (that is, former Árpád Period villages). Geographical position and approachability was a key factor in the development of these communities. Village desertion had already started before the Mongol Invasion, and after the Great Plain was repopulated (partly by the Cuman migrants), this process ran in parallel with the emergence of market towns in the fourteenth-fifteenth centuries. These market towns were local hubs typically engaged in agricultural production, where weekly markets (and sometimes also larger fairs) were held. These markets were needed, not only to serve local trade, but also because peasants had to sell some of their produce regularly in order to be able to pay taxes in cash. This unique form of settlement development had profound impact on the Cuman regions. With the expansion of

towns such as Kecskemét, Nagykörös, Szeged or Halas, these towns started to attract the Cuman population from smaller villages, and settlement concentration accelerated. In the sixteenth century, the fate of most settlements was impacted by their immediate exposure to the disturbances brought by war (Turkish-Ottoman occupation and the Fifteen Years' War), high taxes and, consequently, out migration. In this period, the larger market towns again represented more viable economic opportunities and many of the Cuman families moved to these economic hubs. Cumans who left their original community and migrated into market towns must have assimilated quickly. In Szeged and Kecskemét, streets named "Cuman street" testify to the presence of Cuman migrants moving in probably from nearby villages in the Late Middle Ages.

Market towns also played a key role in the redistribution of pastures that had belonged to abandoned villages. Such pasture lands represented an indispensable resource that was needed for large-scale herding. Unused and/or uninhabited lands utilized by other settlements on the Great Plain appear in the written record from the late fourteenth century onwards. As a result of the re-organization of the settlement pattern, large tracts of lands became available for grazing. Since environmental and soil conditions at that time favoured animal rearing more than land cultivation, these lands were typically utilized as external pastures. The so-called meadow garden, a piece of land situated outside the settlement area and used typically for the purpose of animal husbandry (small pastures, folds and fields for collecting hay), was already a well developed agricultural strategy by the fifteenth century on the Great Plain. Probably the most spectacular example is Kecskemét in Lesser Cumania, whose inhabitants used the lands of more than 30 abandoned Cuman villages for their own purposes by the seventeenth century. As these lands started to be rented and used by market towns, the organization of animal rearing was taken over by these large settlements. For the everyday practice of pasture use, written data and ethnographic records are available from the seventeenth-eighteenth centuries only, while medieval records describe these possessions in general terms without commenting on specific ways they were utilized. It was these pastures that nevertheless made it possible for the Great Plain's economic nexus to meet the demands for animal products, especially beef, on the domestic and later on the international markets. The shift in emphasis towards extensive animal rearing was, thus, an economic necessity, a challenge probably positively received by Cumans who had long traditions in herding (which may even have constituted an integral part of their identity and view of their own ancestral past). Late medieval animal production in the Great

Plain was, however, should in no way be considered a continuation of steppe practice. Such enterprises were undertaken by various groups of people irrespective of their cultural background.

Cattle rearing is only indirectly evidenced in the archaeological record, as cattle raised for the market would not be expected to turn up in the kitchen refuse of small settlements except possibly as animals that were taken from the herd because it was deemed unlikely that they would survive the long trip into Western Europe. The taxes paid after hay probably reflect the presence of large numbers of livestock that needed complementary fodder. The animals' origin is mostly unknown, although the market town a given cattle merchant came from designates the probable area where the cattle were raised (a form of indirect evidence). Cuman communities at least partly participated in this trade, at least as suppliers. Some of the traders may have been Cumans; however, no research has been carried out on this matter and the (probably already blurred) ethnic background of individual families remains extremely difficult to trace.

Cattle herding gained a new emphasis and importance in the uncertain period of the Turkish-Ottoman occupation as animal herds could be driven away when danger threatened and the military made continuous demands for meat to supply rations. The now extended livestock represented the genetic pool which made the later development of the Hungarian Grey cattle possible. However, the Cuman (and Hungarian) archaeological sample is dominated by the small-horned brachyceros type cattle that was kept for household purposes throughout the country. As opposed to the general practice of selling young bulls and oxen on the markets, the individuals found in the kitchen refuse of villages were most often adult cows, whose secondary exploitation for milk was probably not sufficient anymore. Thus we see a clear separation of herds kept for the market and for the household. However, the fact that cattle was more varied at Szentkirály where commercial cattle rearing was probably an important factor, suggests that large-scale herding had an impact on the livestock kept for household purposes, even though the two were basically handled separately. Transfer and connections between the commercial stock and the subsistence herd remains a question that requires further investigation.

Available records on sheep testify to a strong concentration of livestock, especially in the second half of the sixteenth century in the Great Plain, suggesting production for the market. This process was most apparent in Lesser Cumania. In regions where large-scale sheep rearing is evidenced, the ratio of sheep in the faunal material remained unchanged, again signaling that

market-oriented animal production may well go unnoticed in the archaeological sample if sustenance herds and herds for sale were handled separately. As well-preserved sheep bones were virtually nonexistent (all pieces were cut and broken-up during the cooking process or after deposition), only limited bone morphology could be used to reconstruct phenotypes. Horn core finds are mostly damaged but testify to morphological variability in the sheep flock. This perhaps reflects an extended genetic pool similar to the one created by market-oriented cattle production.

Like all pieces of research, this study opened up more questions than it answered. If the project is continued and extended it would be worthwhile to carry out a more in-depth evaluation of field cultivation, its organization and the material culture associated with it. A closer look would be worthwhile at the way natural resources (forests, haylofts, bodies of water, wet meadows) were utilized throughout the Middle Ages and the Early Modern Period in Cuman regions. The archaeological material by itself, however, will always present (as any source material) its set of particular methodological limitations. Presently, on-going archaeological surveys in Lesser Cumania will probably provide valuable additional information on animal husbandry in this region. As already mentioned, finding early Cuman habitation areas would help clarify a number of issues, although the research into these sites is intertwined with complex methodological problems of ‘ethnic’ identification. The research into Cuman animal management can, however, continue in a number of ways. Animals kept by a community are, in a sense, cultural products. Exploring past behaviors associated with animal management can reveal aspects of medieval realities far beyond immediate tasks connected to animal keeping or economic necessities behind these. Faunal material from the embryonic towns of the Cuman-Kipchak federation would cast light on the first phases of settlement that preceded the mid-thirteenth-century migration. Some of the observed phenomena may signal that processes similar to those the settling Hungarian population went through in the tenth-thirteenth century were already on-going in the earlier Cuman community. Juxtaposing animal management practices in these two periods is a possible topic for a further study. In fact, future research would profit a lot from a systematic comparison between faunal materials from sites associated with different nomadic peoples of Eurasian origin who settled in the Carpathian Basin and whose archaeological heritage is well-researched (Avars, Hungarians, Cumans) from the period of the first phases of their settlement. Such a future study would contribute to a better understanding of

nomad-sedentary transitions in terms of animal management. It goes without saying that modern bioarchaeological methods (DNA, nitrogen and strontium isotopes, proper archaeobotanical studies, geometric morphometric analysis of well-preserved bones etc.) have enormous potentials to clarify issues that are otherwise hard to pin down, such as isolating genetically distinct animal populations associated with different groups or the import of livestock from the steppe region.

In my view, this dissertation has successfully demonstrated how different types of evidence, such as charters, legal documents, travel accounts, archaeological fieldwalk reports, settlement excavations, faunal samples, material objects, cut marks on bones and pathological bone specimens can be combined within a complex research agenda to produce a more three-dimensional picture of changes and variations in animal management practices over time and in different settlement contexts. Hopefully, this piece of work will pave the way to a more comprehensive view of past human-animal relations in Hungarian – and Cuman – history.

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Appendix

- 10.1 A detailed list of archaeological sites used in the analysis
- 10.2 Latin and vernacular names of animal species used in the text
- 10.3 List of tables, figures and diagrams
- 10.4 Appendix to Chapter 3.2
- 10.5 Appendix to Chapter 3.3
- 10.6 Appendix to Chapter 3.5
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- 10.10 Appendix to Chapter 6. A detailed list of pathological lesions

10.1 A detailed list of archaeological sites compared in the archaeozoological analysis

Raw data used in the diagrams in the thesis are available in these publications.

Site name	Dating	Archaeozoologist	Publication
Békés-Kastélyzug	16th-17th c.	István Vörös	Vörös 2000b
Biharkeresztes	Period of the Hungarian Conquest	Sándor Bökönyi	Bökönyi 1974, 528-530
Bóly	Árpád Period	Sándor Bökönyi	Bökönyi 1974, 349.
Buda – Pasha's Palace	Turkish-Ottoman Period	Sándor Bökönyi	Bökönyi 1974, 350.
Buda – Teleki Palace	Turkish-Ottoman Period	László Daróczi-Szabó	Daróczi Szabó 2004
Buda Castle	Medieval and Early Modern	Sándor Bökönyi	Bökönyi 1974, 350.
Csánytelek	Period of the Hungarian Conquest	Sándor Bökönyi	Bökönyi 1974, 528-530
Csátalja-Vágóthegy	Árpád Period	Sándor Bökönyi	Bökönyi 1974, 353.
Csatár-TSZ Istálló	Árpád Period	Sándor Bökönyi	Bökönyi 1974, 353.
Csepel – M0 Motorway	16th-17th c.	István Vörös	Vörös 2000b
Csongrád-Felgyő	Árpád Period	János Matolcsi; Sándor Bökönyi	Matolcsi 1982, Table 40; Bökönyi 1974, 355.
Doboz-Hajdúirtás	10th-11th c.	Sándor Bökönyi	Bökönyi 1974, 358
Endrőd 6	Árpád Period	Kyra Lyublyanovics	Lyublyanovics 2013
Endrőd 170	Árpád Period	László Bartosiewicz, Alice M. Choyke	Bartosiewicz – Choyke 2011
Eperjes-Ifjú Gárda TSZ	11th c.	István Vörös	Vörös 1990
Fanesika	Árpád Period	István Vörös	Vörös 1990
Fonyód	Turkish-Ottoman Period	Sándor Bökönyi	Bökönyi 1974, 361.
Garadna	9th-13th c.	Sándor Bökönyi	Bökönyi 1974, 362.
Gyál 13	Árpád Period	Anna Biller	Biller 2007
Gyál 8	Árpád Period	Anna Biller	Biller 2007
Gyula Castle	15th-17th c.	Sándor Bökönyi	Bökönyi 1974, 364.
Hahót-Telekszeg	medieval	László Bartosiewicz	Bartosiewicz 1995
Hajdúnánás – Fürjhalom dűlő	10th-13th c.	Erika Gál	Gál 2010
Hanta	Árpád Period	István Vörös	Vörös 1996
Hékút	Period of the Hungarian Conquest	Sándor Bökönyi	Bökönyi 1974, 528-530
Jánosszállás	Árpád Period	István Vörös	Vörös 1996
Kána	Árpád Period	Márta Daróczi-Szabó	Daróczi-Szabó 2014
Kardoskút-Hatablak	11th-13th c.	Sándor Bökönyi	Bökönyi 1974, 372.

Kecskemét – Bocskai utca	16th-17th c.	Sándor Bökönyi	Bökönyi 1974, 372
Kőszeg Castle	13th-17th c.	Sándor Bökönyi	Bökönyi 1974, 378.
Kunhegyes-Jajhalom	11th-12th c.	Sándor Bökönyi	Bökönyi 1974, 379.
Kübekháza-Újtelep	Period of the Hungarian Conquest	Sándor Bökönyi	Bökönyi 1974, 528-530
Maglód	Árpád Period	Kyra Lyublyanovics	Still unpublished
Mende-Leányvár	13th c.	Sándor Bökönyi	Bökönyi 1981
Mohács-Téglagyár	Period of the Hungarian Conquest	Sándor Bökönyi	Bökönyi 1974, 528-530
Muhi	12th-16th c.	Kyra Lyublyanovics	Still unpublished
Murga-Schanz	13th c.	Erika Gál	Gál 2004
Nagyvázsony-Csepely	14th-16th c.	Sándor Bökönyi	Bökönyi 1974, 386.
Óbuda	Árpád Period	István Vörös	Vörös 2000
Orosháza	Period of the Hungarian Conquest	Sándor Bökönyi	Bökönyi 1974, 528-530
Pesterzsébet	Period of the Hungarian Conquest	Sándor Bökönyi	Bökönyi 1974, 528-530
Röszke-Nagyszéksós	10th-11th c.	Sándor Bökönyi	Bökönyi 1974, 397.
Sárospatak Castle	16th-18th c.??	Sándor Bökönyi	Bökönyi 1974, 398
Sarud-Póctoltés	11th-13th c.	János Matolcsi	Matolcsi 1975; Vörös 2001b
Sarvaly	16th-17th c.	János Matolcsi	Matolcsi 1982
Sopron – Szt. György tér	12th-15th c.	Sándor Bökönyi	Bökönyi 1974, 398.
Szabocs-Kisfalud	12th-14th c.	István Vörös	Vörös 2000a
Szarvas-132	10th c.	István Vörös	Vörös 2000a
Szarvas-Rózsás	10th-12th c.	Sándor Bökönyi	Bökönyi 1974, 400
Szentendre-Borbásföld	Period of the Hungarian Conquest	Sándor Bökönyi	Bökönyi 1974, 528-530
Szolnok Castle	Turkish-Ottoman Period	Sándor Bökönyi	Bökönyi 1974, 406.
Tiszaeszlár - Basahalom	Period of the Hungarian Conquest	Sándor Bökönyi	Bökönyi 1974, 410.
Tiszanána	Period of the Hungarian Conquest	Sándor Bökönyi	Bökönyi 1974, 528-530
Tiszalök-Rázom	11th-13th c.	Sándor Bökönyi	Bökönyi 1974, 412.
Tiszaszőlős-Csákányszeg	medieval	Sándor Bökönyi	Bökönyi 1974, 416
Tiszaug – Szociális otthon	Árpád Period	Kyra Lyublyanovics	Still unpublished
Ugod	16th-17th c.	István Vörös	Vörös 2001b
Újhartyán	Árpád Period	László Bartosiewicz	Bartosiewicz 2001
Vác (Tabán Street 20/a; Március 15 square 6 and 8; Széchenyi Street 4-6 and 3-7; Köztársaság Street 11; Piarist Church; Engineering	10th-19th c.	László Bartosiewicz	Bartosiewicz 1995; Bartosiewicz 1994

Highschool; Kossuth square 2; Music school; Castle)			
Vecsés 36	Árpád Period	Anna Biller	Biller 2007
Visegrád – Fő utca	14th-15th c.	Sándor Bökönyi	Bökönyi 1974, 423.
Visegrád - Kálvária	14th c.	Sándor Bökönyi	Bökönyi 1974, 424.
Visegrád - Palace	Late medieval and Early Modern	Sándor Bökönyi	Bökönyi 1974, 426.
Visegrád – Rév utca	14th-16th c.	Sándor Bökönyi	Bökönyi 1974, 428.
Visegrád – Salamon torony	13t-17th c.	Sándor Bökönyi	Bökönyi 1974, 429.
Visegrád - Szállodaudvar	14th c.	Sándor Bökönyi	Bökönyi 1974, 430.
Zalavár	10th c.	István Vörös	Vörös 1990, Bökönyi 1963

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10.2 Species names: Latin and vernacular names of animal species used in the text

Domestic mammals

Cattle – *Bos taurus* Linnaeus 1758
Dog – *Canis familiaris* Linnaeus 1758
Domestic cat – *Felis catus* Linnaeus 1758
Donkey – *Equus asinus* Linnaeus 1758
Goat – *Capra hircus* Linnaeus 1758
Horse – *Equus caballus* Linnaeus 1758
Sheep – *Ovis aries* Linnaeus, 1758
Sheep and goat – *Caprinae* Gray 1852
Swine – *Sus domesticus* Linnaeus 1758

Poultry

Domestic hen – *Gallus domesticus* Linnaeus 1758
Domestic goose – *Anser domesticus* Linnaeus 1758
Domestic duck – *Anas platyrhynchos domestica* Linnaeus 1758
Domestic pigeon – *Columba livia domestica* Gmelin 1789

Wild mammals

Asiatic wild cat - *Felis silvestris ornata* Gray 1830-1832
Bactrian camel - *Camelus bactrianus* Linnaeus, 1758
Bank vole - *Myodes glareolus* Schreber, 1780
European ground squirrel – *Spermophilus citellus* Linnaeus 1766

European hamster – *Cricetus cricetus* Linnaeus 1758
European hare – *Lepus europaeus* Pallas 1775
European water vole - *Arvicola amphibius* Linnaeus 1758
Least weasel – *Mustela nivalis* Linnaeus 1766
Northern white-breasted hedgehog – *Erinaceus roumanicus* Barrett-Hamilton 1900
Red deer – *Cervus elaphus* Linnaeus 1758
Roe deer – *Capreolus capreolus* Linnaeus 1758
Siberian roe deer - *Capreolus pygargus* Pallas, 1771
Wild ass - *Equus asinus* Linnaeus, 1758

Wild birds

Bean goose - *Anser fabalis* Latham 1787
Black-crowned night heron - *Nycticorax nycticorax* Linnaeus 1758
Brown bear – *Ursus arctos* Linnaeus 1758
Common pochard - *Aythya ferina* Linnaeus 1758
Common quail - *Coturnix coturnix* Linnaeus, 1758
Dalmatian pelican - *Pelecanus crispus* Bruch, 1832
Eurasian coot - *Fulica atra* Linnaeus 1758
Ferruginous duck - *Aythya nyroca* Gueldenstaedt, 1770
Gadwall - *Anas strepera* Linnaeus 1758
Garganey - *Anas querquedula* Linnaeus, 1758
Great cormorant - *Phalacrocorax carbo* Linnaeus 1758
Great crested grebe - *Podiceps cristatus* Linnaeus 1758
Greater white-fronted goose - *Anser albifrons* Scopoli 1769
Grey partridge - *Perdix perdix* Linnaeus, 1758
Greylag goose - *Anser anser* Linnaeus 1758
Griffon vulture - *Gyps fulvus* Hablizl 1783
Levant sparrowhawk - *Accipiter brevipes* Severzow 1850
Little egret - *Egretta garzetta* Linnaeus, 1766
Mallard - *Anas platyrhynchos* Linnaeus 1758
Mute swan - *Cygnus olor* Gmelin, 1789
Rock dove – *Columba livia* Linnaeus 1758
Rook - *Corvus frugilegus* Linnaeus 1758
Stock dove - *Columba oenas* Linnaeus, 1758
Western jackdaw - *Corvus monedula* Linnaeus 1758

Fish

Carp – *Cyprinus carpio* Linnaeus 1758
Common bream - *Abramis brama* Linnaeus 1758
Northern pike – *Esox lucius* Linnaeus 1758
Sterlet - *Acipenser ruthenus* Linnaeus 1758
Tench - *Tinca tinca* Linnaeus, 1758
Wels catfish - *Silurus glanis* Linnaeus 1758

Reptiles and amphibians

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10.4 Appendix to Chapter 3.2 Greater Cumania

Table 3.2.6. Horse metapodia from Greater Cumania. The slenderness indices signify gracile animals.

Site	Bone	Greatest length (mm)	Withers height (cm)	Slenderness index
Móric	metacarpal	217	134.5	14.3
Móric	metacarpal	230	141.4	12.4
Móric	metacarpal	234	143.5	13.9
Móric	metatarsal	257	134.5	-
Móric	metatarsal	283	148.3	-
Móric	metatarsal	280	146.7	-
Móric	metatarsal	280	146.7	-
Asszonyszállás	metacarpal	230	141.4	14.65
Asszonyszállás	metatarsal	258	135	-
Asszonyszállás	metatarsal	275	144	-
Orgondaszentmiklós	metatarsal	267	139.8	-

10.5 Appendix to Chapter 3.3 Lesser Cumania

Table 3.3.7 Calculated withers heights for specimens found at Szentkirály

Horse			
Bone	Greatest length, mm	Withers height calcualted with Kiesewalter's method, cm	Withers height calculated with Vitt's method, cm
Metacarpal (Nyerges)	227	142.3	139.8
Metatarsal (Nyerges)	285.3	149.4	149.5
Metacarpal (Takács)	229.3*	143.7	141.0
Cattle			
Bone	Sex	Greatest length, mm	Withers height, cm (calculated by Nobis' method)
Metacarpal (Nyerges)	cow	182.3	109.9
Metacarpal (Körösi)**	cow	183.5	110.6
Metacarpal (Nyerges)	cow	183.8	110.8
Metacarpal (Körösi)**	cow	196.3	118.3
Metatarsal (Nyerges)	cow	243	129.5

Metatarsal (Nyerges)	cow	211.2	112.5
Metatarsal (Nyerges)	cow	215.5	114.8
Metatarsal (Nyerges)	cow	143.6	129.8
Sheep			
<i>Bone</i>	<i>Sex</i>	<i>Greatest length, mm</i>	<i>Withers height, mm</i>
Metatarsal (Körösi)	ewe	130.6	59.3
Metatarsal (Körösi)	ram	149.5	67.9
Metatarsal (Körösi)	ram	143.6	65.2
Tibia (Nyerges)	ram?	204.4	61.5
Dog			
<i>Bone</i>	<i>Sex</i>	<i>Greatest length, mm</i>	<i>Withers height, mm</i>
? (Takács and Kassai M.)	?	?	60-62 cm***

* This piece of data is not provided by Takács but was calculated back from the given withers height estimation.

**These were identified by Körösi as bulls; however, the measurements provided in her publication rather suggest cows. She calculated the withers heights of these beasts to 124.3 and 116.1 cm, respectively.

*** Only the calculated withers height was published, but the bone and the measurement it was based on is unknown.

10.6 Appendix to Chapter 3.5 Sites on the periphery

Gorza

Table 3.5.3 Partial skeletons brought to light at Gorza. Smaller carcass parts (terminal bones and teeth coming from the same animal) are not listed.

Dating	Feature no. and type	Body part	Age of death
Swine			
Árpád Period	624, pit	Almost complete skeleton	6-12 months
Árpád Period	333, post hole	Almost complete skeleton	neonate
Late medieval	1267, pit	Almost complete skeleton	neonate
Late medieval	1267, pit	Almost complete skeleton	neonate
Late medieval	1267, pit	Almost complete skeleton	neonate
Ottoman Period	279, pit	Almost complete skeleton	neonate
14th-15th c.	339, pit	Almost complete skeleton	neonate
14th-15th c.	339, pit	Almost complete skeleton	neonate
14th-15th c.	339, pit	Almost complete skeleton	5 months
14th-15th c.	339, pit	Almost complete skeleton	5 months
14th-15th c.	339, pit	Almost complete skeleton	5 months
Medieval	378, pit	Almost complete skeleton	< 10 months

Sheep			
Árpád Period?	889, house	Almost complete skeleton	10 months
Cattle			
Árpád Period	511, trench	Spine and ribs	4.5-5 years
Árpád Period	544, trench	Almost complete skeleton	42 months
Horse			
Late medieval	1265, pit	Right forelimb	15-18 months
Medieval	1118, oven	Left forelimb	adult
Medieval	1403, pit	Left and right forelimb, right tibia	15-18 months
Dog			
Árpád Period	587, pit	Almost complete skeleton	< 16 months
Árpád Period	1222, pit	Almost complete skeleton	Adult, mature?
Árpád Period	940, trench	Almost complete skeleton	4-5 months
Late medieval	144, pit	Almost complete skeleton	Adult
Medieval	1370, pit	Almost complete skeleton	Mature

Table 3.5.4 Withers height calculation based on cattle bones from Gorza

Cattle withers height estimations					
Bone	Withers height (cm)	Sex	Bone	Withers height (cm)	Sex
Árpád Period			Late medieval		
metacarpal	116.1	cow	metacarpal	103.7	cow
metacarpal	121.1	cow	metacarpal	110.6	cow
metacarpal	122.3	cow	metacarpal	111.5	cow
metacarpal	109.6	bull	metacarpal	113.4	cow
metacarpal	118.1	cow	metacarpal	113.7	cow
metatarsal	117.2	cow	metacarpal	123.1	cow
metatarsal	127.9	cow	metacarpal	123.2	cow
metatarsal	132.1	cow	metacarpal	118.5	cow
metatarsal	114.5	cow	metacarpal	121.3	cow
			metatarsal	114.5	cow
Medieval (century not specified)			metatarsal	126.8	cow
metacarpal	102.5	cow	metatarsal	109.8	cow
metacarpal	109.7	cow	metatarsal	111.9	cow
metatarsal	123.1	cow	metatarsal	114.5	cow
			metatarsal	118.8	cow

Árpád Period average withers height 119.9 cm, min. 109.6 cm, max. 132.1 cm; standard deviation: 6.5
Late medieval average withers height 115.7 cm, min. 103.7 cm, max. 126.8 cm; standard deviation: 5.9
Average withers height for all medieval cattle: 116.6 cm, min. 102.5 cm, max. 132.1 cm; standard deviation: 6.9

Table 3.5.5 Withers height calculation based on horse bones from Gorzsa

Árpád Period				Late medieval								
Bone	Withers height in cm (Kiesewalter)	Withers height in cm (Vitt)	Slenderness index	Bone	Withers height in cm (Kiesewalter)	Withers height in cm (Vitt)	Slenderness index					
metacarpal	132.1	131.4	16.6	metacarpal	141	138.8	13.3					
metacarpal	148.4	144.8		metacarpal	147.4	144	15.9					
metacarpal	153.8	149.4	15.7	metatarsal	141.2	141.4						
metatarsal	109.8	110.2		metatarsal	142.3	142.5						
metatarsal	123.4	123.6		metatarsal	146.6	146.7						
metatarsal	127.9	128.2		metatarsal	153.5	153.6						
radius	161.4	152.8		metatarsal	146.6	146.7						
Medieval (century not specified)				metatarsal	151.9	152						
				humerus	157.5	146						
Bone	Withers height in cm (Kiesewalter)	Withers height in cm (Vitt)	Slenderness index	radius	135.8	129.2						
radius	161.4	152.8		radius	142.7	135.6						
radius	151.9	144		tibia	156.9	142						
metatarsus	136.4	136.6		tibia	163.5	148						
metatarsus	144.9	145.1		tibia	160.8	145.6						
metacarpus	143.1	140.5	14	humerus	142.5	134						
metacarpus	146.1	142.9	15.8	radius	143.6	136.4						
metacarpus	149.9	146.2	14.3									
metacarpus	150.6	146.7	15.5									
Árpád Period average withers height: Kiesewalter 136.7 cm; Vitt 134.4 cm; standard deviation: Kiesewalter 17, Vitt 15.4												
Late medieval average withers height: Kiesewalter 148.4 cm; Vitt 142.6 cm; standard deviation: Kiesewalter 7.8, Vitt 6.4												
Average withers height for all medieval horses: Kiesewalter 145.6 cm; Vitt 141.2 cm; standard deviation: Kiesewalter 11.5, Vitt 9.3												

Table 3.5.6 Dog withers height estimations from medieval Gorzsa. Partial skeletons were not always well-preserved and sometimes only one bone was suitable for withers height calculation.

Period	Bone	Greatest length (mm)	Estimated withers height (cm)		
Árpád Period (partial skeleton, male)	Humerus sin	175.2	59	Average 55.9	
	Humerus dex	177.2	59.7		
	Radius sin	174.5	56.1		
	Radius dex	175.1	56.4		
	Ulna dex	205	54.7		
	Femur sin	191.6	52.5		
	Femur dex	192.4	52.5		
	Tibia sin	191.6	55.9		
	Tibia dex	192.8	56.2		
Árpád Period	Tibia sin	181	52.8		
Late medieval	Tibia sin	188.9	54.9		
Late medieval	Radius sin	221	71.2		
Late medieval (partial skeleton, female?)	Radius sin	176	56.6	Average 55.7	
	Ulna sin	205.3	54.8		
Medieval (partial skeleton, female?)	Tibia dex	185.2	54		

Tiszagyenda

Table 3.5.10. Cattle withers height estimations from Tiszagyenda

Cattle withers height estimations					
Bone	Withers height (cm)	Sex	Bone	Withers height (cm)	Sex
Árpád Period			Medieval (century not specified)		
metacarpal	113.9	cow	metacarpal	114.3	bull
metacarpal	107.9	cow			
metatarsal	122	cow			
metatarsal	128	cow			
Late medieval					
Bone	Withers height (cm)	Sex	Bone	Withers height (cm)	Sex
metacarpal	109.7	cow	metacarpal	117.8	cow
metacarpal	111.6	cow	metacarpal	119.3	cow
metacarpal	112.6	cow	metacarpal	121.2	cow

metacarpal	109.1	cow	metacarpal	107.6	cow
metacarpal	113.2	cow	metacarpal	110.7	cow
metacarpal	123	cow	metacarpal	132.6	cow
metacarpal	129.6	cow	metacarpal	111	cow
metacarpal	111.5	cow	metatarsal	106.1	cow
metatarsal	108.1	cow	metatarsal	115.7	bull
metatarsal	114	cow	metatarsal	114.3	cow
metatarsal	116.2	cow	metatarsal	116.7	cow
metatarsal	116.7	cow	metatarsal	117.8	cow
metatarsal	118.3	cow	metatarsal	118.3	cow
metatarsal	118.3	cow	metatarsal	118.9	cow
metatarsal	119.4	cow	metatarsal	124.1	cow
metatarsal	124.7	cow			
Árpád Period average withers height 117.9 cm, min. 107.9 cm, max. 128 cm; standard deviation: 4.8					
Late medieval average withers height 116.38, min. 109.1 cm, max. 132.6 cm; standard deviation: 6.12					
Average withers height for all medieval cattle: 116.5 cm, min. 107.9 cm, max. 132.6 cm; standard deviation: 6.3					

Table 3.5.11 Horse withers height estimations, Tiszagyenda

Árpád Period				Late medieval			
Bone	Withers height in cm (Kiesewalter)	Withers height in cm (Vitt)	Slenderness index	Bone	Withers height in cm (Kiesewalter)	Withers height in cm (Vitt)	Slenderness index
metacarpal	138.5	136.6	17.1	radius	148.4	140.8	
metacarpal	144.2	141.4	16.2	radius	150.1	142.4	
metacarpal	151.3	147.2	15.4	radius	154	146	
metacarpal	141	128.8		radius	134.5	128	
metacarpal	141.7	139.3	15.1	tibia	159.1	144	
				tibia	151.3	136.8	
				metacarpal	137.2	135.6	16
				metacarpal	142.3	139.8	16.5
Medieval (century not specified)				metacarpal	144.8	141.9	
Bone	Withers height in cm (Kiesewalter)	Withers height in cm (Vitt)	Slenderness index	metacarpal	145.5	142.5	12.2
metacarpal	141	138.8	14.4	metacarpal	148	144.6	15.7
radius	155.8	147.6		metacarpal	149.4	145.6	15.7

				metacarpal	149.4	145.6	15.8
	Late medieval			metacarpal	154.5	149.9	16.3
Bone	Withers height in cm (Kiesewalter)	Withers height in cm (Vitt)	Slenderness index	metacarpal	144.2	141.4	14.4
metatarsal	140.2	140.3		metacarpal	144.2	141.4	14.9
metatarsal	140.7	140.9		metacarpal	144.9	141.9	14.3
metatarsal	141.2	141.4		metacarpal	147.4	144	14.2
metatarsal	141.2	141.4		metacarpal	151.6	147.5	12
metatarsal	142.9	143		metacarpal	151.9	147.8	14
metatarsal	144.4	144.6		metacarpal	158.9	153.6	15.8
metatarsal	146	146.2		metatarsal	150.8	150.9	
metatarsal	147.1	147.2		metatarsal	151.4	151.5	
metatarsal	157.2	157.3					
Árpád Period average withers height: Kiesewalter 143.3 cm; Vitt 138.7 cm; standard deviation: Kieswalter 4.4, Vitt 6							
Late medieval average withers height: Kiesewalter 147.3 cm; Vitt 143.9 cm; standard deviation: Kieswalter 5.8, Vitt 5.4							
Average withers height for all medieval horses: Kiesewalter 146.9 cm; Vitt 143.2 cm; standard deviation: Kieswalter 5.9, Vitt 6.5							

Table 3.5.12 Dog withers height estimations from Tiszagyenda

Period	Bone	Greatest length (mm)	Estimated withers height (cm)		
15th-16th c.	Femur sin	197.1	59.3		
15th-16th c.	Femur dex	147.9	44.5		
15th-17th c. (partial skeleton, adult)	Radius dex	125.9	40.1	Average: 39.9	
	Ulna dex	147	39.2		
14th-15th c.	Radius sin	164.2	52.9		
15th-16th c.	Tibia sin	216	63		
14th-16th c.	Humerus dex	133.4	44.9		
10th c. (partial skeleton, adult)	Femur dex	201.5	60.6	Average: 60.1	
	Radius dex	185.2	59.6		
15th c.	Femur dex	183.8	55.3		
Árpád Period	Femur sin	175	52.7		
Árpád Period	Tibia dex	154.2	45		
Late Árpád Period (partial skeleton,	Femur sin	143.6	43.2	Average: 44.3	
	Femur dex	144.4	43.5		
	Humerus dex	134.8	45.4		

adult)	Tibia sin	154.8	52.2	
14th-15th c. (partial skeleton, ca. 15th months old)	Femur dex	231	69.5	Average: 69.1
	Femur sin	233	70.1	
	Radius dex	213	68.6	
	Tibia dex	244	71.2	
	Ulna sin	247.2	66	
14th-15th c.	Femur sin	170.6		51.3
16th c.	Radius dex	198.8		64
14th-15th c.	Radius dex	187.6		60.4

10.7 Appendix to Chapter 3.6 Cuman animal husbandry in the Great Plain. General trends and quantification

Table 3.6.2. Observed and expected values based on the raw data provided in Table 3.6.1, used in the χ^2 test for independence. Values discussed in the text are highlighted in red. G.C.= Greater Cumania, L.C. = Lesser Cumania, T = Transdanubian Cumans, Á.P. = Árpád Period Hungarian villages, l.m. = late medieval Hungarian villages.

Greater Cumania vs. Árpád Period villages					
	Observed (O)	Expected (E)	O-E	(O-E) ²	(O-E) ² /E
N swine (G.C.)	445	311.85	133.15	17728.92	56.85
N horse (G.C.)	468	346.15	121.85	14848.38	42.90
N cattle (G.C.)	961	1291.36	-330.36	109136.69	84.51
N sheep (G.C.)	583	507.65	75.35	5678.30	11.19
N swine (Á.P.)	2492	2625.15	-133.15	17728.92	6.75
N horse (Á.P.)	2792	2913.85	-121.85	14848.38	5.10
N cattle (Á.P.)	11201	10870.64	330.36	109136.69	10.04
N sheep (Á.P.)	4198	4273.35	-75.35	5678.30	1.33
Greater Cumania vs. Late medieval villages					
	Observed (O)	Expected (E)	O-E	(O-E) ²	(O-E) ² /E
N swine (G.C.)	445	482.53	-37.53	1408.41	2.92
N horse (G.C.)	468	285.46	182.54	33320.16	116.72
N cattle (G.C.)	961	1362.36	-401.36	161089.66	118.24
N sheep (G.C.)	583	326.65	256.35	65715.57	201.18
N swine (l.m.)	1078	1040.47	37.53	1408.41	1.35
N horse (l.m.)	433	615.54	-182.54	33320.16	54.13
N cattle (l.m.)	3339	2937.64	401.36	161089.66	54.84
N sheep (l.m.)	448	704.35	-256.35	65715.57	93.30
Lesser Cumania vs. Árpád Period villages					

	Observed (O)	Expected (E)	O-E	(O-E)²	(O-E)²/E
N swine (L.C.)	484	539.43	-55.43	3072.59	5.70
N horse (L.C.)	325	564.99	-239.99	57594.55	101.94
N cattle (L.C.)	2861	2548.88	312.12	97416.63	38.22
N sheep (L.C.)	909	925.70	-16.70	278.78	0.30
N swine (Á.P.)	2492	2436.57	55.43	3072.59	1.26
N horse (Á.P.)	2792	2552.01	239.99	57594.55	22.57
N cattle (Á.P.)	11201	11513.12	-312.12	97416.63	8.46
N sheep (Á.P.)	4198	4181.30	16.70	278.78	0.07

Lesser Cumania vs. Late medieval villages

	Observed (O)	Expected (E)	O-E	(O-E)²	(O-E)²/E
N swine (L.C.)	484	724.15	-240.15	57670.49	79.64
N horse (L.C.)	325	351.41	-26.41	697.52	1.98
N cattle (L.C.)	2861	2874.33	-13.33	177.80	0.06
N sheep (L.C.)	909	629.11	279.89	78339.35	124.52
N swine (l.m.)	1078	837.85	240.15	57670.49	68.83
N horse (l.m.)	433	406.59	26.41	697.52	1.72
N cattle (l.m.)	3339	3325.67	13.33	177.80	0.05
N sheep (l.m.)	448	727.89	-279.89	78339.35	107.63

Transdanubian Cumans vs. Árpád period villages

	Observed (O)	Expected (E)	O-E	(O-E)²	(O-E)²/E
N swine (T)	123	158.78	-35.78	1279.95	8.06
N horse (T)	291	187.19	103.81	10776.07	57.57
N cattle (T)	710	723.21	-13.21	174.41	0.24
N sheep (T)	213	267.83	-54.83	3005.78	11.22
N swine (Á.P.)	2492	2456.22	35.78	1279.95	0.52
N horse (Á.P.)	2792	2895.81	-103.81	10776.07	3.72
N cattle (Á.P.)	11201	11187.79	13.21	174.41	0.02
N sheep (Á.P.)	4198	4143.17	54.83	3005.78	0.73

Transdanubian Cumans vs. Late medieval villages

	Observed (O)	Expected (E)	O-E	(O-E)²	(O-E)²/E
Nswine (T)	123	242.01	-119.01	14163.40	58.52
N horse (T)	291	145.89	145.11	21056.57	144.33
N cattle (T)	710	815.90	-105.90	11215.34	13.75
N sheep (T)	213	133.20	79.80	6368.64	47.81
N swine (l.m.)	1078	958.99	119.01	14163.40	14.77
N horse (l.m.)	433	578.11	-145.11	21056.57	36.42
N cattle (l.m.)	3339	3233.10	105.90	11215.34	3.47
N sheep (l.m.)	448	527.80	-79.80	6368.64	12.07

Greater Cumania vs. Lesser Cumania

	Observed (O)	Expected (E)	O-E	(O-E)²	(O-E)²/E
N swine (G.C.)	445	324.41	120.59	14541.80	44.83
N horse (G.C.)	468	276.92	191.08	36512.01	131.85

N cattle (G.C.)	961	1334.66	-373.66	139620.33	104.61
N sheep (G.C.)	583	521.01	61.99	3842.45	7.37
N swine (L.C.)	484	604.59	-120.59	14541.80	24.05
N horse (L.C.)	325	516.08	-191.08	36512.01	70.75
N cattle (L.C.)	2861	2487.34	373.66	139620.33	56.13
N sheep (L.C.)	909	970.99	-61.99	3842.45	3.96

Table 3.6.4. Observed and expected values based on the raw data provided in Table 3.6.3 used in the χ^2 test for independence. Values discussed in the text are highlighted in red. G.C.= Greater Cumania, L.C. = Lesser Cumania, Tgy.Á = Tiszagyenda, Árpád Period sample, Tgy.lm = Tiszagyenda, Late medieval sample, G.Á.= Gorzsa, Árpád Period sample, G.lm. = Gorzsa, Late medieval sample..

Greater Cumania vs. Árpád Period Tiszagyenda					
	Observed (O)	Expected (E)	O-E	(O-E)²	(O-E)²/E
N swine (G.C.)	445	386.9497207	58.05	3369.8349	8.708715
N horse (G.C.)	468	538.5921788	-70.59	4983.2557	9.252373
N cattle (G.C.)	961	966.0670391	-5.067	25.674885	0.026577
N sheep (G.C.)	583	565.3910615	17.609	310.07472	0.548425
N swine (Tgy.Á)	147	205.0502793	-58.05	3369.8349	16.43419
N horse (Tgy.Á)	356	285.4078212	70.592	4983.2557	17.46012
N cattle (Tgy.Á)	517	511.9329609	5.067	25.674885	0.050153
N sheep (Tgy.Á)	282	299.6089385	-17.61	310.07472	1.034931
Greater Cumania vs. Late medieval Tiszagyenda					
	Observed (O)	Expected (E)	O-E	(O-E)²	(O-E)²/E
N swine (G.C.)	445	422.0480259	22.952	12090.942	28.64826
N horse (G.C.)	468	461.5019151	6.4981	274.38233	0.594542
N cattle (G.C.)	961	1094.211992	-133.2	-2363905	-2160.372
N sheep (G.C.)	583	479.2380672	103.76	1117156.9	2331.11
N swine (Tgy.lm)	721	743.9519741	-22.95	-12090.94	-16.25232
N horse (Tgy.lm)	807	813.4980849	-6.498	-274.3823	-0.337287
N cattle (Tgy.lm)	2062	1928.788008	133.21	2363904.7	1225.591
N sheep (Tgy.lm)	741	844.7619328	-103.8	-1117157	-1322.452
Lesser Cumania vs. Árpád Period Gorzsa					
	Observed (O)	Expected (E)	O-E	(O-E)²	(O-E)²/E
N swine (L.C.)	484	627.3845718	-143.4	20559.135	32.76959
N horse (L.C.)	325	433.5953291	-108.6	11792.945	27.19805
N cattle (L.C.)	2861	2571.758245	289.24	83660.793	32.53058
N sheep (L.C.)	909	946.2618542	-37.26	1388.4458	1.467296
N swine (G.Á.)	484	340.6154282	143.38	20559.135	60.35879
N horse (G.Á.)	344	235.4046709	108.6	11792.945	50.09648
N cattle (G.Á.)	1107	1396.241755	-289.2	83660.793	59.91856

N sheep (G.A.)	551	513.7381458	37.262	1388.4458	2.702633
Lesser Cumania vs. Late medieval Gorzsa					
	Observed (O)	Expected (E)	O-E	(O-E)²	(O-E)²/E
N swine (L.C.)	484	653.6217939	-169.6	28771.553	44.01866
N horse (L.C.)	325	481.4624821	-156.5	24480.508	50.84614
N cattle (L.C.)	2861	2570.717859	290.28	84263.721	32.77828
N sheep (L.C.)	909	873.1978652	35.802	1281.7929	1.467929
N swine (G.lm.)	412	242.3782061	169.62	28771.553	118.7052
N horse (G.lm.)	335	178.5375179	156.46	24480.508	137.1169
N cattle (G.lm.)	663	953.2821412	-290.3	84263.721	88.39327
N sheep (G.lm.)	288	323.8021348	-35.8	1281.7929	3.958568

10.8 Appendix to Chapter 5.1 Beasts for the feast

Table 5.1.3 Skeletal frequencies of finds based on Uerpmann's meat quality categories. Single teeth were not included in the sample as they are over-represented and misleadingly increase finds in category "C". Percentages were not calculated in cases when n<20. Standard values are based on skeletal frequencies in a complete skeleton. (This is only an estimation. The number of vertebrae and ribs may vary individually depending on the species.)

Cattle						
Site ('N' stands for the excavated number of bones of the given species, minus single teeth)	Uerpmann A		Uerpmann B		Uerpmann C	
	N	% of the species	N	% of the species	N	% of the species
Standard values in a whole skeleton		19		41.8		39.2
Orgondaszentmiklós, N=401	90	22.4	154	38.4	157	39.2
Asszonyszállás, N=58	17	29.3	22	37.9	19	32.8
Szentkirály (Körösi), N=475	137	28.8	226	47.6	112	23.6
Szentkirály (Somhegyi), N=499	191	38.3	167	33.5	141	28.2
Szentkirály (Nyerges), N=626	175	28	213	34	238	38
Kiskunhalas-MOL5, N=98	27	27.6	23	23.5	48	48.9
Kiskunfélegyháza-Templomdomb, N=32	18	56.3	9	28.1	5	15.6
Tiszagyenda, N=2379	663	27.9	1010	42.5	706	29.6
Gorzsa, N=2059	494	24	858	41.7	707	34.3
Sheep and Goat						
Site ('N' stands for the excavated number of bones of the given species, minus single teeth)	Uerpmann A		Uerpmann B		Uerpmann C	
	N	% of the species	N	% of the species	N	% of the species

Standard values in a whole skeleton		19		41.8		39.2
Orgondaszentmiklós, N=204	73	35.8	92	45.1	39	19.1
Asszonyszállás, N=33	12	36.4	19	57.6	2	6
Szentkirály (Körösi), N=95	21	22.1	55	57.9	19	20
Szentkirály (Somhegyi), N=194	104	53.6	55	28.4	35	18
Szentkirály (Nyerges), N=252	77	30.6	117	46.4	58	23
Kiskunhalas-MOL5, N=99	34	34.3	50	50.5	15	15.2
Kiskunfélegyháza-Templomdomb, N=5	2	-	3	-	-	-
Tiszagyenda, N=945	297	31.5	487	51.5	161	17
Gorza, N=972	295	30.4	465	47.8	212	21.8
Swine						
Site ('N' stands for the excavated number of bones of the given species, minus single teeth)	Uerpmann A		Uerpmann B		Uerpmann C	
	N	% of the species	N	% of the species	N	% of the species
Standard values in a whole skeleton		16.4		34.5		49.1
Orgondaszentmiklós, N=171	65	38	88	51.5	18	10.5
Asszonyszállás, N=28	9	32.1	15	53.6	4	14.3
Szentkirály (Körösi), N=91	41	45.1	46	50.5	4	4.4
Szentkirály (Somhegyi), N=79	30	37.9	26	32.9	23	29.2
Szentkirály (Nyerges), N=108	23	21.3	39	36.1	46	42.6
Kiskunhalas-MOL5, N=23	6	26	17	74	-	-
Kiskunfélegyháza-Templomdomb, N=3	1	-	1	-	1	-
Tiszagyenda, N=799	248	31	487	61	64	8
Gorza, N=1003	321	32	522	52	160	16
Horse						
Site ('N' stands for the excavated number of bones of the given species, minus single teeth)	Uerpmann A		Uerpmann B		Uerpmann C	
	N	% of the species	N	% of the species	N	% of the species
Standard values in a whole skeleton		20.7		46.8		32.5
Orgondaszentmiklós, N=188	35	18.6	68	36.2	85	45.2
Asszonyszállás, N=24	7	29.2	5	20.8	12	50
Szentkirály (Körösi), N=28	4	14.3	14	50	10	35.7
Szentkirály (Somhegyi), N=39	15	38.5	10	25.6	14	35.9
Szentkirály (Nyerges), N=77	8	10.4	11	14.3	58	75.3
Kiskunhalas-MOL5, N=26	7	26.9	8	30.8	11	42.3
Kiskunfélegyháza-Templomdomb, N=23	7	30.4	8	34.8	8	34.8
Tiszagyenda, N=1053	292	27.7	306	29.1	455	43.2

Gorzsa, N=772	193	25	228	29.5	351	45.5
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Table 5.1.4 Traces of butchering, carcass partitioning, burning and gnawing on cattle bones from the Cuman sites of Asszonyszállás, Orgondaszentmiklós, Kiskunfélegyháza-Templomdomb, Kiskunhalas-MOL5 and Szentkirály, plot 4-4a (n (total cattle bones, including bones without cutmarks) =1314), and the sites on the periphery (Tiszagyenda and Gorzsa, N (total cattle bones, including bones without cutmarks) = 4964). C = Cuman sites, P = sites on the periphery.

Bone	Cattle											
	Chopping mark (axe)		Cutmark (knife)		Skinning mark		Spiral break (percussion)		Burnt black		Burnt white	
	C	P	C	P	C	P	C	P	C	P	C	P
Atlas	1	1										1
Epistropheus			2							1		1
Cervic vertebra	3	4								1		1
Thoracic vertebra	1	3	1	1							1	1
Lumbar vertebra		2	1						1	1		
Sacrum	1	1										
Vertebra (not specified)	2											
Ribs	5	1	1	6						1		1
Scapula, around the glenoid	2	3									1	5
Scapula, spina	2	2	1							2		1
Scapula, collum	3						1					2
Scapula, margo cranialis et caudalis				1								
Pelvis, acetabulum	3	3								1		2
Pelvis, ischium		1										
Pelvis, ilium	1	5		2				1			1	3
Pelvis, pubis												1
Humerus prox											1	
Humerus diaphysis	4	1					8	9		1		1
Humerus dist	6	4		2			2	1	1	2		2
Radius prox	1	6	1				1	2				3
Radius diaphysis	5	5	1	1			8	6		1		1
Radius dist		1						1				1
Ulna	5	3		1					2		2	9

Metacarpal prox											1	5	19	
Metacarpal diaphysis	9	5		2			5	4		5			10	
Metacarpal dist	2	3	1	1					2	1			12	
Phalanx prox	5	2		3	1				1	3	1	5	12	
Phalanx media	1		1								1	3	2	
Phalanx dist										1	1			
Femur prox		2						1				1	5	
Femur diaphysis	4	7	2				8	4		3		1	14	
Femur dist		1						1					1	
Patella												1		
Tibia prox	1	2												
Tibia diaphysis	15	8	1	2			13	5		4		1	13	
Tibia dist	3	4						8	1	1		2	3	
Astragalus	3	4							4		1	2	12	
Calcaneus	3	5	1	1				2	1		3	6	40	
Tarsal bones	2		1						1				2	
Metatarsal prox	1	3		1		1						1	6	
Metatarsal diaphysis	9	9	2	2			11	8	1	1		3	30	
Metatarsal dist	4	4		1				1				1	2	
Skull: frontale	1	1		1						1				
Skull: maxilla	2												1	
Skull: occipitale		1		1						1				
Skull: zygomaticum										1				
Skull: horn core base		3		2										
Skull: praemaxilla, incisivum											1		1	
Mandible: diastema				3										
Mandible: corpus	1	3	4	2					1	7	2	4	8	
Mandible: ramus			1	3								1	8	
Mandible: processus coronoideus and articularis		3	1	4						2			1	
SUM	111	116	23	43	1	1	57	52	11	49	1	17	65	279

Table 5.1.5 Traces of butchering, carcass partitioning, burning and gnawing on horse bones from the Cuman sites of Asszonyszállás, Orgondaszentmiklós, Kiskunfélegyháza-Templomdomb, Kiskunhalas-MOL5 and Szentkirály, plot 4-4a (N (total horse bones, including bones without cut marks) =399), and the sites on the periphery (Tiszagyenda and Gorzsa, N (total horse bones, including bones without cut marks) =2073). C = Cuman sites, P = sites on the periphery.

Bone	Horse													
	Chopping mark (axe)		Cut mark (knife)		Skinning mark		Spiral break (percussion)		Burnt black		Burnt white		Gnawing marks	
	C	P	C	P	C	P	C	P	C	P	C	P	C	P
Cervic vertebra														2
Thoracic vertebra			1											
Ribs										1				1
Scapula, around the glenoid			1									1		4
Scapula, spina										1				2
Scapula, margo cranialis et caudalis	1													
Pelvis, acetabulum											1			4
Pelvis, ilium										1				1
Humerus diaphysis												1		1
Humerus dist										1				5
Radius diaphysis									1			1		5
Radius dist	2									2				2
Ulna	2								1	1		3		11
Metacarpal prox										2				1
Metacarpal diaphysis	1				1		1			3		1		7
Metacarpal dist					1				1			1		
Phalanx prox	6				2	2			4	5		1	1	7
Phalanx media				1								1	2	5
Phalanx dist										1				
Femur diaphysis	1						4					2		1
Femur dist										1		1		2
Tibia prox										1				
Tibia diaphysis		1	1				1					1		4
Tibia dist			1											3
Astragalus										1	1			2
Calcaneus	1											2		18
Tarsal bones									1	1				

Metatarsal diaphysis		1	1		1				3	2		1		3
Metatarsal dist					1									2
Skull: zygomaticum			1											
Skull: orbita and lacrimale										1				
Skull: parietale and temporale										1				
Mandible: corpus									1			1		1
SUM	14	2	6	1	6	2	6	0	12	26	1	5	18	93

Table 5.1.6 Traces of butchering, carcass partitioning, burning and gnawing on sheep and goat bones from the Cuman sites of Asszonyszállás, Orgondaszentmiklós, Kiskunféllegyháza-Templomdomb, Kiskunhalas-MOL5 and Szentkirály, plot 4-4a (N (total sheep and goat bones, including bones without cut marks) = 622), and the sites on the periphery (Tiszagyenda and Gorzsa, N (total sheep and goat bones, including bones without cut marks) = 2121). C = Cuman sites, P = sites on the periphery.

Sheep and Goat														
Bone	Chopping mark (axe)		Cut mark (knife)		Skinning mark		Spiral break (percussion)		Burnt black		Burnt white		Gnawing marks	
	C	P	C	P	C	P	C	P	C	P	C	P	C	P
Atlas														
Epistropheus														2
Cervic vertebra	2	2												
Thoracic vertebra									1		1			1
Lumbar vertebra	2										1			
Sacrum											1			
Coccygeal vertebra														
Vertebra (not specified)														
Sternum														
Ribs	1		2	3					1	7				3
Scapula, around the glenoid			2										1	2
Scapula, spina											1			
Scapula, collum		1								1				2
Scapula, margo cranialis, dorsalis et caudalis		2		2						1				
Pelvis, acetabulum			1							1		1	1	3
Pelvis, ischium														
Pelvis, ilium												1		

Pelvis, pubis				1									1
Humerus prox													
Humerus diaphysis		1			5		2	1		6		8	
Humerus dist		1			1	4		2		1	1		
Radius prox					1						1		
Radius diaphysis	1	2	2		3	2	3	2		8		7	
Radius dist							1						
Ulna	1		1						2			2	
Carpal bones													
Metacarpal prox									2			2	
Metacarpal diaphysis		1		1	1	3	1	2		3		5	
Metacarpal dist												1	
Phalanx prox									1				
Phalanx media													
Phalanx dist													
Femur prox													
Femur diaphysis			2		4	5	4	8	2	3		11	
Femur dist		1				3		2					
Patella									1				
Tibia prox		1										1	
Tibia diaphysis	1		1		3		6	4		1	4	3	
Tibia dist					1				1		1		
Astragalus							1	2					
Calcaneus			1							2		5	
Tarsal bones													
Metatarsal prox													
Metatarsal diaphysis		1	1		1	3		1	1	1	7	7	
Metatarsal dist													
Skull: frontale	1	2											
Skull: maxilla													
Skull: occipitale		1											
Skull: zygomaticum													
Skull: orbita and lacrimale													
Skull: nasale													
Skull: parietale and tempora													
Skull: horn core base	1	2						1		1			

Skull: praemaxilla, incisivum														
Mandible: diastema				1										
Mandible: corpus								1	3				4	
Mandible: ramus			1										1	
Mandible: processus coronoideus and articularis				1										
SUM	10	12	16	12	1	0	20	20	21	47	2	7	39	71

Table 5.1.7 Traces of butchering, carcass partitioning, burning and gnawing on pig bones from the Cuman sites of Asszonyszállás, Orgondaszentmiklós, Kiskunfélegyháza-Templomdomb, Kiskunhalas-MOL5 and Szentkirály, plot 4-4a (N (total swine bones, including bones without cut marks) = 364), and the sites on the periphery (Tiszagyenda and Gorzsa, N (total swine bones, including bones without cut marks) = 1996). C = Cuman sites, P = sites on the periphery.

Swine														
Bone	Chopping mark (axe)		Cut mark (knife)		Skinning mark		Spiral break (percussion)		Burnt black		Burnt white		Gnawing marks	
	C	P	C	P	C	P	C	P	C	P	C	P	C	P
Atlas														3
Epistropheus													1	
Cervic vertebra														
Thoracic vertebra		5								1				
Lumbar vertebra														
Sacrum														
Coccygeal vertebra														
Vertebra (not specified)														
Sternum														
Ribs				1						4		2		
Scapula, around the glenoid	1		4								3	1	15	
Scapula, spina	1													
Scapula, collum		1		1										
Scapula, margo cranialis et caudalis		1		1									3	
Pelvis, acetabulum		2										2		1
Pelvis, ischium	1											2		
Pelvis, ilium		3		1								2		12
Pelvis, pubis			1									1		

Humerus prox													
Humerus diaphysis	1	2	1	2			6	3	1	3		6	20
Humerus dist	2	2	1	1			4	5		1		2	11
Radius prox													
Radius diaphysis		1					2	1		1		1	1
Radius dist							1				1		
Ulna			3	1					1		1	5	15
Carpal bones													
Metacarpal prox													
Metacarpal diaphysis													2
Metacarpal dist			1										
Phalanx prox													
Phalanx media													1
Phalanx dist													
Femur prox													
Femur diaphysis	1	1	3				6	1		2	2	5	6
Femur dist													
Patella													
Tibia prox													
Tibia diaphysis	1	2	1				5	5		4	1	4	14
Tibia dist	2		1					2					2
Astragalus									1		1		1
Calcaneus		1							2		2	1	4
Tarsal bones									1				
Metatarsal prox													
Metatarsal diaphysis										2			4
Metatarsal dist													
Skull: frontale	1	1							1				1
Skull: maxilla								1	2				
Skull: occipitale									1				
Skull: zygomaticum	1												
Skull: orbita and lacrimale								1					
Skull: nasale													
Skull: parietale and tempora													
Skull: horn core base													
Skull: praemaxilla,								2					

incisivum														
Mandible: diastema				1										
Mandible: corpus				1					2	4		1	1	
Mandible: ramus	1			2										
Mandible: processus coronoideus and articularis														
SUM	7	24	15	17	0	0	24	17	8	28	0	16	33	117

10.9 Appendix to Chapter 5.3. Catalogue of bone tools

(All finds where the source is not indicated are identified by the author and still unpublished.)

A. Class I tools¹

A1.

type: bone awl
site: Szentkirály
find location: section no. 56
dating: 15th-16th c.
species: cattle or horse
bone: radius
notes: length: 130 mm, width: 20 mm
source: Pálóczi Horváth, Élet egy középkori faluban. Catalogue, item no. 86

A2.

type: “bone skate”
site: Szentkirály
find location: house no. 30
dating: 16th c.
species: horse
bone: radius
notes: length: 330, mm; the dorsal surface is heavily worn and polished
source: Pálóczi Horváth, András. Élet egy középkori faluban. Catalogue, item no. 87.

A3.

type: “bone skate”
site: Szentkirály
find location: house no. 29
dating: 16th c.
species: horse
bone: radius
notes: both ends are chopped off at a skew angle; the dorsal surface is heavily worn and polished
source: Pálóczi Horváth, András. Élet egy középkori faluban. Catalogue, item no. 88

A4.

type: gaming piece
site: Szentkirály
find location: Bozsik-tanya, trial trench no. 2
dating: 15th-16th c.
species: horse
bone: phalanx proximalis anterior
notes: there are altogether seven small incisions on the dorsal surface,. The object was deliberately marked, it was probably used as a gaming piece by children. Length: 83 mm, width: 55 mm. The finding location yielded altogether 26 horse phalanges.
source: Pálóczi Horváth, András. Élet egy középkori faluban. Catalogue, item no. 110

A5.

type: gaming piece
site: Szentkirály
find location: Bozsik-tanya, trial trench no. 2
dating: 15th-16th c.
species: horse
bone: phalanx proximalis anterior
notes: there are small, skew transversal incisions on the left side of the dorsal surface. The object was deliberately marked and probably used as a gaming piece. Length: 83 mm, width: 55 mm. The finding location yielded altogether 26 horse phalanges.
source: Pálóczi Horváth, András. Élet egy középkori faluban. Catalogue, item no. 111.

A6.

type: “bone skate”
site: Perkáta - Homokbánya
find location: section 1776, feature no. 1132, pit
dating: 15th-16th c.
species: horse
bone: radius

¹ According to Choyke, Bone manufacturing

notes: -

source: Biller, Perkáta

A7.

type: “bone skate”; leather or textile smoother

site: Perkáta - Homokbánya

find location: section 957, feature no. 645, house

dating: 15th-16th c.

species: horse

bone: radius

notes: -

source: Biller, Perkáta

A8.

type: “bone skate”; leather or textile smoother

site: Perkáta - Homokbánya

find location: section 981, feature no. 666, trench

dating: 15th-16th c.

species: cattle

bone: radius

notes: -

source: Biller, Perkáta

A9.

type: “bone skate”; sledge runner

site: Perkáta - Homokbánya

find location: section 841, feature no. 548, pit

dating: 15th-16th c.

species: cattle

bone: metatarsal

notes: -

source: Biller, Perkáta

A10.

type: leather or textile smothener/scratcher?

site: Perkáta - Homokbánya

find location: section 957, feature no. 645, building

dating: 15th-16th c.

species: cattle or horse

bone: rib

notes: -

source: Biller, Perkáta

A11.

type: tool used for leather working; smoother??

site: Perkáta - Homokbánya

find location: section 1165, feature no. 791, trench

dating: 15th-16th c.

species: dog

bone: ulna

notes: -

source: Biller, Perkáta

A12.

type: “bone skate”

site: Karcag-Orgondaszentmiklós

find location: surface “A”

dating: 14th-16th c.

species: cattle

bone: radius

notes: small fragment of a bone skate, the dorsal surface is heavily worn and polished. The proximal epiphysis has been chopped off. Length: 50 mm.

A13.

type: “bone skate”

site: Karcag-Orgondaszentmiklós

find location: surface “B”

dating: 14th-16th c.

species: horse

bone: metacarpal

notes: broken along the worn dorsal surface; only a small fragment of the latter is preserved. The proximal end was cut off. There are small, U-shaped incisions on the lateral side of the diaphysis. There are small sawing marks on the palmar side. Maybe the skate was broken but the raw material could still be curated secondarily with the usable section processed further.

A14.

type: “bone skate”

site: Karcag-Orgondaszentmiklós

find location: surface “A”

dating: 14th-16th c.

species: horse
bone: metacarpal
notes: bone skate, diaphysis fragment. Length: 110 mm. There are small skinning marks on the palmar side.

A15.

type: “bone skate”
site: Karcag-Orgondaszentmiklós
find location: surface “A”
dating: 14th-16th c.
species: horse
bone: metatarsal
notes: the epiphyses are flattened on the dorsal side. The dorsal surface of the diaphysis is heavily worn and polished in a 16.5 mm wide stripe. The polished surface had expressed edges on the proximal end. On the palmar side there are small, parallel incisions 3 cm above the distal epiphysis; perhaps skinning marks.

A16.

type: gaming piece
site: Karcag-Orgondaszentmiklós
find location: surface “B”
dating: 14th-16th c.
species: horse
bone: phalanx proximalis
notes: the palmar side is flattened, trimmed. Length: 50 mm.

A17.

Type: “bone skate”
site: Karcag-Orgondaszentmiklós
find location: surface “A”
dating: 14th-16th c.
species: horse
bone: radius
notes: small bone skate fragment. The polish on the dorsal side is not strong, the worn surface does not have expressed edges. The distal epiphysis was flattened. There are small, skewed incisions on the palmar side above the distal epiphysis. Length: 180 mm.

A18.

Type: “bone skate”
site: Karcag-Asszonyyszállás
find location: surface no. 3, cemetery trench
dating: 14th-16th c.
species: cattle
bone: radius
notes: bone skate fragment. The epiphyses are flattened. The dorsal surface is worn and polished, but the object was probably used only for a short period of time as the polish and rounding is not particularly expressed. A section of the compact bone tissue is missing on the dorsal surface. Length: 260 mm.

A19.

type: gaming piece or leather working tool?
site: Hódmezővásárhely-Gorza, sand mine no. 10
find location: feature no. 1106, pit
dating: medieval
species: sheep
bone: astragalus
notes: the medial side is heavily worn, the whole piece is polished. Length: 29 mm.

A20.

type: gaming piece
site: Hódmezővásárhely-Gorza, sand mine no. 10
find location: feature no. 1031, pit
dating: medieval
species: sheep
bone: astragalus
notes: rounding and polish over the whole surface. Length: 29 mm.

A21.

type: gaming piece
site: Hódmezővásárhely-Gorza, sand mine no. 10
find location: feature no. 1031, pit
dating: medieval
species: sheep
bone: astragalus

notes: rounding and polish over the whole surface. Length: 31 mm.

A22.

type: gaming piece

site: Hódmezővásárhely-Gorza, sand mine no. 10

find location: feature no. 1031, pit

dating: medieval

species: sheep

bone: astragalus

notes: rounding and polish over the whole surface. Length: 30 mm.

A23.

type: gaming piece

site: Hódmezővásárhely-Gorza, sand mine no. 10

find location: feature no. 1031, pit

dating: medieval

species: sheep

bone: astragalus

notes: rounding and polish over the whole surface. Length: 30 mm.

A24.

type: gaming piece or leather working tool?

site: Hódmezővásárhely-Gorza, sand mine no. 10

find location: feature no. 988, oven

dating: Árpád Period

species: sheep

bone: astragalus

notes: the medieval side is flattened, the lateral side is not modified. No polish is visible. Length: 30 mm.

A25.

type: “bone skate”; fishnet float?

site: Hódmezővásárhely-Gorza, sand mine no. 10

find location: feature no. 1162, pit

dating: Árpád Period

species: horse

bone: metacarpal

notes: there is one hole connecting the palmar

and medial sides of the proximal epiphysis, and another, mediolateral hole at the distal end. The distal end is symmetrically trimmed into a wedge shape. The holes served to fix the bones of the float to one another with some kind of a rope. The diaphysis is evenly rounded and somewhat polished. Length: 210 mm.

A26.

type: “bone skate”; fishnet float

site: Hódmezővásárhely-Gorza, sand mine no. 10

find location: feature no. 1051, pit

dating: medieval

species: horse

bone: metacarpal

notes: distal fragment. The distal end is trimmed, flattened. A regular, round, cranio-caudally oriented hole was made at the distal end. The surface is rounded, somewhat polished. Length: 90 mm.

A27.

type: “bone skate”; sledge runner?

site: Hódmezővásárhely-Gorza, sand mine no. 10

find location: feature no. 1079, pit

dating: medieval

species: horse

bone: metacarpal

notes: proximal fragment. The proximal epiphysis is flattened and somewhat polished. Length: 110 mm.

A28.

type: “bone skate”

site: Hódmezővásárhely-Gorza, sand mine no. 10

find location: feature no. 1003, pit

dating: medieval

species: horse

bone: metatarsal

notes: The proximal and dorsal ends are flattened. There is an expressed, 16.2 mm wide stripe of worn, rounded and polished surface on the dorsal side. There are small,

horizontal incisions on the palmar side of the diaphysis. This side is also somewhat polished. Poorly preserved. Length: 260 mm.

A29.

type: “bone skate”

site: Hódmezővásárhely-Gorza, sand mine no. 10

find location: feature no. 1222, pit

dating: Árpád Period

species: horse

bone: metatarsal

notes: The proximal epiphysis is flattened on the dorsal side. There is an expressed, worn, rounded and polished stripe, 12 mm wide on the dorsal side of the diaphysis. No modification was made on the palmar side. Length: 110 mm.

A30.

type: “bone skate”; sledge runner?

site: Hódmezővásárhely-Gorza, sand mine no. 10

find location: feature no. 1222, pit

dating: Árpád Period

species: horse

bone: metatarsal

notes: There are small, horizontal cut marks on the palmar side of the diaphysis, in the proximal and distal third of the bone. Probably there were holes on both ends but these parts broke off. Some level of rounding and polish is seen on the dorsal side, but there is no expressed stripe of wear marks. Length: 150 mm.

A31.

Type: projectile point

site: Hódmezővásárhely-Gorza, sand mine no. 10

find location: feature no. 199, post hole

dating: Árpád Period

species: cattle or horse

bone: tibia

notes: a diaphysis splinter was trimmed and transformed into a point. The used end broke

off. Length: 60 mm.

A32.

type: “bone skate”; fishnet float.

site: Hódmezővásárhely-Gorza, sand mine no. 10

find location: feature no. 52, pit

dating: Árpád Period

species: cattle

bone: metacarpal

notes: diaphysis fragment. The distal end is symmetrically trimmed on both sides into a wedge shape; the two sides meet in a ca. 45° angle. A mediolateral hole was made through the distal epiphysis. Length: 70 mm.

A 33.

type: “bone skate”; leather smoother

site: Hódmezővásárhely-Gorza, sand mine no. 10

find location: feature no. 1308, pit

dating: late medieval

species: cattle

bone: radius

notes: there is a strong rounding and polish on the dorsal surface, especially on the proximal end. However, the stripe of wear marks is not distinct, its edges are blurred. The object is burnt and has a light grey discolouration. Length: 250 mm.

A34.

type: “bone skate”; sledge runner?

site: Hódmezővásárhely-Gorza, sand mine no. 10

find location: feature no. 193, post hole

dating: Árpád Period

species: cattle

bone: radius

notes: diaphysis fragment. There is an expressed stripe of wear marks and polish on the dorsal surface; the edges are strong. The object broke longitudinally. Length: 120 mm.

A35.

Type: “bone skate”

site: Hódmezővásárhely-Gorza, sand mine no. 10

find location: feature no. 339

dating: 14th-15th c.

species: horse

bone: radius

notes: the ulna is cut off. There is slight polish, rounding and wear marks on the dorsal surface. The distal end is gnawed. Length: 280 mm.

A36.

Type: “bone skate”?

site: Hódmezővásárhely-Gorza, sand mine no. 10

find location: feature no. 339

dating: 14th-15th c.

species: horse

bone: radius

notes: the ulna is cut off. The proximal epiphysis is trimmed into a round, almost spherical shape. There may have been polish, rounding and wear marks on the dorsal surface but it broke off. Length: 180 mm.

A37.

Type: gaming piece or leather working tool?

site: Hódmezővásárhely-Gorza, sand mine no. 10

find location: feature no. 445, hourse

dating: Árpád Period

species: sheep

bone: astragalus

notes: the medial side is flattened. There is a slight polish over the whole surface of the bone. Length: 30 mm.

A38.

Type: gaming piece?

site: Hódmezővásárhely-Gorza, sand mine no. 10

find location: feature no. 456, well

dating: Late medieval

species: horse

bone: phalanx proximalis

notes: The whole surface is strongly polished, rounded. The palmar side is flattened. Length:

90 mm.

A39.

type: “bone skate”; fishnet float

site: Hódmezővásárhely-Gorza, sand mine no. 10

find location: feature no. 446-447, pit

dating: medieval

species: horse

bone: metatarsal

notes: distal fragment. There is a regular, cranio-caudally oriented hole in the diaphysis above the distal epiphysis. The dorsal side of the epiphysis is flattened.

A41.

type: “bone skate”; fishnet float.

site: Hódmezővásárhely-Gorza, sand mine no. 10

find location: feature no. 1233, pit

dating: late medieval

species: cattle

bone: metacarpal

notes: distal fragment, symmetrically trimmed on both sides, probably into a wedge-like shape. Only one of the distal condyles is preserved; a medio-laterally oriented hole was made into it. Length: 170 mm.

A43.

type: “bone skate”; fishnet float.

site: Hódmezővásárhely-Gorza, sand mine no. 10

find location: feature no. 1233, pit

dating: late medieval

species: cattle

bone: metacarpal

notes: distal fragment, symmetrically trimmed on both sides, probably into a wedge-like shape. Only one of the distal condyles is preserved; a medio-laterally oriented hole was made into it. Length: 60 mm.

A44.

Type: gaming piece

site: Hódmezővásárhely-Gorza, sand mine

no. 10

find location: feature no. 350, trench

dating: Árpád Period

species: sheep

bone: astragalus

notes: the whole surface is heavily polished and rounded. Length: 30 mm.

A45.

type: “bone skate”; fishnet float.

site: Hódmezővásárhely-Gorza, sand mine

no. 10

find location: feature no. 295, well

dating: Árpád Period

species: horse

bone: radius

notes: distal fragment. There is a crano-caudally oriented hole on the distal end, which is much wider on the palmar than on the dorsal side. The dorsal surface broke off, there may have been polishing and wear marks. Length: 160 mm.

A46.

type: “bone skate”

site: Hódmezővásárhely-Gorza, sand mine

no. 10

find location: feature no. 456, well

dating: late medieval

species: horse

bone: metatarsal

notes: proximal fragment. There is a strong, expressed, 25 mm wide stripe of wear marks on the dorsal surface. The dorsal surface of the proximal epiphysis is worn off. Length: 60 mm.

A47.

type: “bone skate”

site: Hódmezővásárhely-Gorza, sand mine

no. 10

find location: feature no. 456, well

dating: late medieval

species: horse

bone: radius

notes: poorly preserved distal fragment. The dorsal surface of the distal epiphysis seems to

have been flattened. The polish and rounding is not clear due to surface damage. Length: 180 mm.

A48.

type: “bone skate”

site: Hódmezővásárhely-Gorza, sand mine no. 10

find location: feature no. 914, trench

dating: Árpád Period

species: horse

bone: radius

notes: there is an expressed stripe of wear marks and polish on the dorsal surface. The edges are rounded. The ulna is trimmed off.

A49.

type: “bone skate”

site: Hódmezővásárhely-Gorza, sand mine no. 10

find location: feature no. 1460, pit

dating: late medieval

species: horse

bone: radius

notes: distal fragment. There is a slight polish and a stripe of wear marks on the dorsal surface; its edges are not expressed. There is a hole running through into the palmar side. The distal epiphysis is somewhat trimmed. Length: 230 mm.

A50.

type: “bone skate”

site: Hódmezővásárhely-Gorza, sand mine no. 10

find location: feature no. 279, pit

dating: Turkish-Ottoman Era

species: horse

bone: radius

notes: the ulna is cut off. The distal end is trimmed symmetrically on both sides to form a wedge-like shape. The dorsal side of the proximal epiphysis is flattened. There is no expressed stripe of wear marks, only a low level polish. Length: 300 mm.

A51.

type: “bone skate”

site: Hódmezővásárhely-Gorza, sand mine no. 10

find location: feature no. 158, house

dating: Árpád Period

species: horse

bone: radius

notes: proximal fragment. The ulna is cut off. There is an expressed, 25 mm wide stripe of wear marks on the dorsal surface. Polish is not observed. Length: 260 mm.

A52.

type: “bone skate”

site: Hódmezővásárhely-Gorza, sand mine no. 10

find location: feature no. 511, trench

dating: Árpád Period

species: horse

bone: radius

notes: diaphysis fragment. The ulna is cut off. There is an expressed, 25 mm wide stripe of wear marks on the dorsal surface. The proximal epiphysis is trimmed into a round, almost spherical shape. Strong polish and rounding. Length: 230 mm

A53.

type: “bone skate”?

site: Hódmezővásárhely-Gorza, sand mine no. 10

find location: feature no. 511, trench

dating: Árpád Period

species: horse

bone: metacarpal

notes: the proximal epiphysis is trimmed into a round, almost spherical shape. There are no polish or wear marks. Length: 170 mm.

A54.

type: “bone skate”; fishnet float.

site: Hódmezővásárhely-Gorza, sand mine no. 10

find location: feature no. 536, pit

dating: Árpád Period

species: horse

bone: metacarpal

notes: diaphysis fragment. The distal end is symmetrically trimmed on both sides into a wedge-like shape; a medio-laterally oriented hole pierces through this distal end. There was a small hole also on the proximal end, which probably also ran through the whole bone, but this part broke off.

A55.

Type: “bone skate”; leather smoother?

site: Hódmezővásárhely-Gorza, sand mine no. 10

find location: feature no. 1247, well

dating: late medieval

species: horse

bone: radius

notes: proximal fragment. The dorsal side of the proximal epiphysis is flattened. There is strong rounding and polish on the dorsal surface, but there is no distinct, expressed stripe of wear marks. Length: 170 mm

A56.

Type: gaming piece or leather working tool?

site: Hódmezővásárhely-Gorza, sand mine no. 10

find location: feature no. 591, house

dating: Árpád Period

species: sheep

bone: astragalus

notes: the medieval side is flattened. The whole piece is rounded and worn. Polish is not visible. Length: 80 mm

A57.

type: “bone skate”; leather smoother?

site: Hódmezővásárhely-Gorza, sand mine no. 10

find location: feature no. 1247, well

dating: late medieval

species: horse

bone: metatarsal

notes: the proximal epiphysis is trimmed into a rectangular shape. No hole is preserved. There is a strong, expressed, 15 mm wide stripe of wear marks on the dorsal surface of

the diaphysis. There is strong rounding and polish on the dorsal surface; some polish is observed on the palmar surface, too. Length: 180 mm

A58.

Type: “bone skate”; leather smoother?

site: Hódmezővásárhely-Gorza, sand mine no. 10

find location: feature no. 1247, well

dating: late medieval

species: horse

bone: metacarpal

notes: there is a hole made in the proximal epiphysis; the hole opens to the articular surface and to the palmar side of the proximal epiphysis. There is a strong, expressed, 15 mm wide stripe of wear marks on the dorsal surface of the diaphysis. There is strong polish and rounding on the whole object. Length: 150 mm

A59.

type: “bone skate”; fishnet float.

site: Hódmezővásárhely-Gorza, sand mine no. 10

find location: feature no. 232, pit

dating: Árpád Period

species: horse

bone: radius

notes: both ends are trimmed symmetrically, laterally and medially into a wedge-like shape, and both ends are pierced through a medio-laterally oriented hole. There are small, skew cut marks on the dorsal side of the diaphysis. There is no polish or wear marks. Length: 320 mm

A60.

type: “bone skate”; unfinished?

site: Hódmezővásárhely-Gorza, sand mine no. 10

find location: feature no. 158, house

dating: Árpád Period

species: cattle

bone: metatarsal

notes: the distal end is symmetrically trimmed

into a wedge-like shape from the dorsal and palmar sides. There is no other trace for modification. The bone exhibits serious pathological lesions: dislocated fracture, distorted shape. The distortion may be the reason why the piece was not completed? Length: 200 mm

A61.

type: “bone skate”; leather smoother?

site: Tiszagyenda – Morotva Part - Lak

find location: section 147, feature no. 61

dating: 15th-16th c.

species: horse

bone: metacarpal

notes: proximal fragment. The dorsal side is flattened and polished. Length: 70 mm.

A62.

Type: “bone skate”

site: Tiszagyenda – Morotva Part - Lak

find location: section 302, feature no. 156.

dating: 16th-17th c.

species: horse

bone: radius

notes: diaphysis. Both ends are trimmed, but broke off. The surface is damaged by soil erosion. Length: 280 mm.

A63.

type: gaming piece?

site: Tiszagyenda – Morotva Part - Lak

find location: section 191, feature no 82

dating: 15th-17th c.

species: cattle

bone: phalanx proximalis

notes: the palmar side is flattened; there is strong handling polish on the surface. Length: 60 mm.

A64.

type: bone anvil

site: Tiszagyenda – Morotva Part - Lak

find location: section 1658, feature no. 1552

dating: late Árpád Period

species: horse

bone: radius

notes: the dorsal side is somewhat flattened. There are small, triangular marks of percussion on all sides, also medially and laterally. Length: 340 mm.

A65.

type: bone anvil

site: Tiszagyenda – Morotva Part - Lak

find location: section 420, feature no. 28.

dating: Árpád Period

species: horse

bone: metacarpal

notes: spirally broken, proximal fragment. Length: 120 mm.

A66.

type: bone anvil

site: Tiszagyenda – Morotva Part - Lak

find location: section 519, feature no. 290.

dating: 14th c.

species: horse

bone: radius

notes: distal fragment. Length: 140 mm.

A67.

type: “bone skate”

site: Tiszagyenda – Morotva Part - Lak

find location: section 31, feature no. 22

dating: 15th-16th c.

species: horse

bone: radius

notes: the ulna is cut off. There is a stripe of wear marks and polish on the dorsal surface of the diaphysis. There are horizontal cut marks on the dorsal surface above the distal epiphysis. Length: 250 mm.

A68.

type: “bone skate”; unfinished fishnet float.

site: Tiszagyenda – Morotva Part - Lak

find location: section 332, feature no. 180

dating: Árpád Period

species: horse

bone: metacarpal

notes: distal fragment. The distal end is

asymmetrically trimmed into a wedge-like shape, but the edge is not expressed. There are two holes, one on the lateral and one on the medial side, but these are not interconnected. The surface is polished. Length: 80 mm.

A69.

type: “bone skate”

site: Tiszagyenda – Morotva Part - Lak

find location: section 31, feature no. 22

dating: 15th-16th c.

species: horse

bone: radius

notes: proximal fragment. There is a small stripe of wear marks on the dorsal surface of the diaphysis. The ulna is not cut off, and is somewhat polished. There are small, horizontal cut marks on the dorsal surface below the proximal epiphysis. The dorsal edge of the articular surface of the proximal epiphysis was probably chopped off. Length: 170 mm.

A70.

type: “bone skate”

site: Tiszagyenda – Morotva Part - Lak

find location: section 1038, feature no. 966.

dating: 16th-17th c.

species: horse

bone: radius

notes: the ulna is cut off. There is a strong, expressed, 24 mm wide stripe of wear marks and polish on the dorsal surface of the diaphysis. Length: 250 mm.

A71.

type: “bone skate”; leather smoother

site: Tiszagyenda – Morotva Part - Lak

find location: section 286, feature no. 140

dating: Turkish-Ottoman Period

species: horse

bone: radius

notes: the palmar surface is flattened. There is a stripe of transversal wear marks on the dorsal surface. Both ends are trimmed. Length: 360 mm.

A72.

type: “bone skate”; leather smoother
site: Tiszagyenda – Morotva Part - Lak
find location: section 293, feature no. 147
dating: 16th c.
species: horse
bone: metacarpal
notes: distal fragment. There is a stripe of transversal wear marks on the dorsal surface. Strong polish. Length: 170 mm.

A73.

type: “bone skate”
site: Tiszagyenda – Morotva Part - Lak
find location: section 211, feature no. 98
dating: 15th-18th c.
species: horse
bone: radius
notes: proximal fragment. The dorsal surface of the proximal epiphysis os flattened. A small stripe of wear marks is visible, but it was not heavily used. Length: 190 mm.

A74.

type: “bone skate”; unfinished?
site: Tiszagyenda – Morotva Part - Lak
find location: section 366, feature no. 204
dating: Árpád Period
species: cattle
bone: radius
notes: both epiphyses are flattened on the dorsal side. No stripe of wear marks is visible. Length: 263 mm.

A75.

type: gaming piece?
site: Tiszagyenda – Morotva Part - Lak
find location: section 910, feature no. 164
dating: 15th c.
species: cattle
bone: phalanx proximalis
notes: there is a regular hole made vertically into the bone from the middle of the proximal articulation surface. The hole is 8 mm in diameter. Length: 60 mm.

A76.

Type: projectile point?
site: Tiszagyenda – Morotva Part - Lak
find location: section 521, feature no. 290
dating: Turkish-Ottoman Period
species: sheep or goat
bone: scapula
notes: trimmed into a triangular-shaped object, on which the spina scapulae forms an awl-like point. Parts of the point broke off, but the fractured surface is also worn, suggesting continuous use. The scapula's facies articularis and collum may have served as the “handle”. Length: 50 mm.

A77.

type: “bone skate”? unknown
site: Tiszagyenda – Morotva Part - Lak
find location: section 181, feature no. 82
dating: 15th-17th c.
species: red deer
bone: metatarsal
notes: both ends are trimmed. The proximal epiphysis is cut off; the proximal end of the object is trimmed into a spoon-like shape, with a small hole made into the palmar side. The distal part is rounded and worn, the epiphysis is missing. The whole object is worn and polished, but the wear is stronger on the dorsal side.

A78.

type: gamig piece?
site: Tiszagyenda – Morotva Part - Lak
find location: section 201, feature no. 91
dating: 15th c.
species: horse
bone: phalanx proximalis
notes: there is a regular, circular hole cut vertically into the bone from the middle of the articulation surface; the piece broke into two pieces along this hole. Another, horizontal hole was made into the palmar surface, 30 mm below the articulation surface. Length: 60 mm.

A79.

type: scraper?

site: Tiszagyenda – Morotva Part - Lak

find location: section 521, feature no. 290

dating: Turkish-Ottoman Period

species: cattle

bone: rib

notes: longitudinally cut into two; one end is trimmed to form an edge? No polish or roundng is visible. Unfinished piece? Length: 400 mm.

A80.

type: “bone skate”

site: Tiszagyenda – Morotva Part - Lak

find location: section 148, feature no. 62

dating: medieval

species: horse

bone: metacarpal

notes: proximal fragment. There is a small stripe of wear marks on the dorsal side, but most of it broke off. The polish is not expresssed. Length: 60 mm.

A81.

type: “bone skate”; fishnet float.

site: Tiszagyenda – Morotva Part - Lak

find location: section 97, feature no. 40

dating: 16th-18th c.

species: horse

bone: radius

notes: proximal fragment, trimmed on both ends. There is a crano-caudally oriented, regular hole that pierces through the bone. Length: 110 mm.

A82.

type: “bone skate”

site: Tiszagyenda – Morotva Part - Lak

find location: section 1717, feature no. 1610

dating: Árpád Period

species: horse

bone: radius

notes: diaphysis fragment. The ulna was not cut off. The stripe of wear marks is visible on the dorsal surface but most of it broke off. Length: 140 mm.

A83.

type: “bone skate”; leather smoother?

site: Tiszagyenda – Morotva Part - Lak

find location: section 286, feature no. 140

dating: Turkish-Ottoman Period

species: cattle

bone: radius

notes: both ends are trimmed. There is no stripe of wear marks. There is some rounding on the craniolateral surface of the diaphysis. There are small, paralell cut marks craniolaterally beside the ulna. Length: 240 mm.

A84.

type: needle holder?

site: Perkáta-Kőhalmi dűlő

find location: grave no. 1 (53-57 year-old woman)

dating: 13th-14th c.

species: crane

bone: ulna

notes: placed by the right hip of the deceased

source: Hatházi, A kunok régészeti emlékei a Kelet-Dunántúlon, 25.

A85.

type: disentangling hook?

site: Perkáta-Kőhalmi dűlő

find location: pit no. 13

dating: 11th-12th c.

species: red or roe deer

bone: antler tine

notes: polished, trimmed

source: Hatházi, A kunok régészeti emlékei a Kelet-Dunántúlon, 57.

A86.

type: worked bone plate ornament

site: Perkáta-Kőhalmi dűlő

find location: trench no. 3

dating: 11th-12th c.

species: ?

bone: ?

notes: trimmed, polished, ornamented.

source: Hatházi, A kunok régészeti emlékei a Kelet-Dunántúlon, 61.

A87.

type: worked bone plate ornaments, belt buckle

site: Csengele-Bogárhát

find location: grave no. 11 (young girl)

dating: 14th c.

species: ?

bone: ?

notes: trimmed, polished, ornamented pieces, fixed on a belt.

source: Horváth, Csengele középkori temploma, 101; 115-116.

A88.

type: worked bone plate ornaments, belt buckle?

site: Karcag-Orgondaszentmiklós

find location: grave no. 11

dating:

species: ?

bone: ?

Notes: ??

source: Bárányné Obershall, A salgótarjáni, orgondaszentmiklósi és pakonyi középkori sírleletek 8; plate IX 1-3.

A89.

type: worked bone beads, belt ornaments (8 pieces)

site: Kiskunfélegyháza-Templomhalom

find location: grave no. 56 (adult woman)

dating: 14th-15th c.

species: ?

bone: ?

notes: -

source: Bálint, A Kiskunfélegyháza - templomdombi temető, 60.

A90.

type: circle-shaped worked bone plate ornament

site: Tárkány-Mór

find location: ?

dating: 14th-16th c.

species: ?

bone: ?

notes:

source: Méri, Beszámoló a Tiszalök-rázompuszta és Tárkány-Mór ásatások eredményéről, 148-149; plate XXXIX, 4.

B. Class II (*ad hoc tools*)

B1.

type: handle

site: Perkáta - Homokbánya

find location: section 1748, feature no. 1108, trench

dating: 15th-16th c.

species: cattle

bone: tibia

notes: -

source: Biller, Perkáta

B2.

type: handle

site: Perkáta - Homokbánya

find location: unknown

dating: 15th-16th c.

species: horse

bone: metacarpal

notes: -

source: Biller, Perkáta

B3.

type: gaming piece

site: Karcag-Orgondaszentmiklós

find location: surface "A"

dating: 14th-16th c.

species: swine

bone: phalanx proximalis

notes: heavily polished. Length: 38 mm.

B4.

type: gaming piece

site: Karcag-Orgondaszentmiklós

find location: surface "A"

dating: 14th-16th c.

species: swine

bone: phalanx proximalis

notes: heavily polished. Length: 37 mm.

B5.

type: "bone skate" or leather smoother?

site: Kiskunhalas-MOL5

find location: feature no. 33.

dating: 13th-14th c.

species: cattle

bone: radius

notes: there is a slight polish on the dorsal surface. Neither the wear nor the rounding is expressed. Probably used for a short period of time. Length: 255 mm.

B6.

type: "bone skate" or leather smoother?

site: Hódmezővásárhely-Gorza, sand mine no. 10

find location: feature no. 1016, pit

dating: Árpád Period

species: cattle

bone: metatarsal

notes: proximal fragment. There is an expressed rounding and polish on the proximal epiphysis and on the diaphysis below. Otherwise, there is no trace for modification.

B7.

type: awl?

site: Hódmezővásárhely-Gorza, sand mine no. 10

find location: feature no. 511, trench

dating: Árpád Period

species: horse

bone: metatarsal

notes: one end of a diaphysis splinter is trimmed into a point shape. The point is rounded, and there are wear marks and polish on it. There are cleaver marks under the proximal epiphysis. The bone was probably processed as food and used as raw material

afterwards. There are small exostoses on the articulation surface of the 2nd metatarsal. Length: 150 mm.

B8.

type: projectile point?

site: Tiszagyenda – Morotva Part - Lak

find location: section 517, feature no. 288

dating: 15th-16th c.

species: cattle

bone: tibia

notes: distal fragment. The distal epiphysis was chopped off. The broken end of the diaphysis forms a point, on which there are wear marks. Length: 100 mm.

B9.

type: projectile point?

site: Tiszagyenda – Morotva Part - Lak

find location: section 191, feature no. 82.

dating: 15th-17th c.

species: cattle

bone: metatarsal

notes: diaphysis fragment. The proximal part seems to have been trimmed into a point, but it broke off. There is strong handling polish on the diaphysis. Length: 160 mm.

B10.

type: projectile point?

site: Tiszagyenda – Morotva Part - Lak

find location: section 600, feature no. 318

dating: 16th c.

species: horse

bone: tibia

notes: diaphysis fragment. One end is worn, rounded, polished. Length: 200 mm.

B11.

type: handle?

site: Tiszagyenda – Morotva Part - Lak

find location: section 206, feature no. 9.

dating: 14th-16th c.

species: swine

bone: femur

notes: diaphysis fragment. No modification is

evident, but there is strong polish. Length: 100 mm.

B12.

type: gaming piece?

site: Tiszagyenda – Morotva Part - Lak

find location: section 1597, feature no. 1557

dating: 13th-14th c.

species: horse

bone: phalanx proximalis

notes: diaphysis fragment. No modification is evident, but there is strong polish. Length: 100 mm.

B13.

type: leather smoother?

site: Tiszagyenda – Morotva Part - Lak

find location: section 286, feature no. 140

dating: Turkish-Ottoman Period

species: cattle

bone: radius

notes: there are small, transversal wear marks on the dorsal side. Length: 280 mm.

B14.

type: leather smoother?

site: Tiszagyenda – Morotva Part - Lak

find location: section 191, feature no. 82

dating: 15th-17th c.

species: cattle

bone: mandible

notes: the ramus is heavily worn and polished. Length: 100 mm.

B15.

type: awl?; projectile point?

site: Tiszagyenda – Morotva Part - Lak

find location: section 1615, feature no. 1567

dating: Árpád Period

species: horse

bone: metatarsal

notes: diaphysis fragment. One end is trimmed into a point that broke off. Discarded piece? Length: 200 mm.

C. Debris and unprocessed raw material

C1.

type: unused raw material?

site: Karcag-Orgondaszentmiklós

find location: refuse pit

dating: 14th-16th c.

species: horse

bone: metatarsal

notes: both the palmar and dorsal surfaces are worked, the epiphyses were flattened, but there is no polish, as if it had never been used. Unfinished bone skate? Length: 260 mm.

C2.

type: unused raw material?

Site: Karcag-Asszonyszállás

find location: surface no. 3, cemetery trench

dating: 14th-16th c.

species: horse

bone: metatarsal

notes: fragment of a bone skate? the distal end started to be flattened but there is no wear marks or polish –it was probably never used. Maybe broke during processing and was discarded. Length: 275 mm.

C3.

type: unused raw material

site: Hódmezővásárhely-Gorza, sand mine no. 10

find location: feature no. 1031, pit

dating: medieval

species: roe deer

bone: antler

notes: antler, almost complete. There are cut marks below the burr; the antler was not collected but the animal was killed (around August-September). The antler was cut off the skull but was never used up. Length: 230 mm.

C4.

type: unfinished piece?

site: Hódmezővásárhely-Gorza, sand mine no. 10

find location: feature no. 1202, pit
dating: Árpád Period
species: horse
bone: metacarpal
notes: the dorsal side of both epiphyses is flattened. There is no polish or wear marks.

D. Amulets and jewels

D1.

type: amulet
site: Perkáta-Kőhalmi dűlő
find location: grave 48 (middle aged woman)
dating: Cuman period
species: wolf
bone: canine
notes: drilled tooth.
source: Hatházi, A kunok régészeti emlékei a Kelet-Dunántúlon, 30.

D2.

type: amulet
site: Perkáta-Kőhalmi dűlő
find location: grave no. 64 (6-8 year-old child)
dating: Cuman period
species: fish
bone: vertebra
notes: drilled.
source: Hatházi, A kunok régészeti emlékei a Kelet-Dunántúlon, 33.

D3.

type: amulet
site: Perkáta-Kőhalmi dűlő
find location: grave no. 128 (9-14 year-old child)
dating: Cuman period
species: hare
bone: astragalus
notes: drilled and polished
source: Hatházi, A kunok régészeti emlékei a Kelet-Dunántúlon, 37.

D4.

type: amulet

site: Perkáta-Kőhalmi dűlő
find location: grave no. 128 (9-14 year-old child)
dating: Cuman period
species: cattle
bone: tooth
notes: not modified, but identified as an amulet.
source: Hatházi, A kunok régészeti emlékei a Kelet-Dunántúlon, 37.

D5.

type: amulet
site: Perkáta-Kőhalmi dűlő
find location: grave no. 140 (12-14 year-old child)
dating: Cuman period
species: fox
bone: astragalus
notes: drilled.
source: Hatházi, A kunok régészeti emlékei a Kelet-Dunántúlon, 38.

D6.

type: amulet
site: Perkáta-Kőhalmi dűlő
find location: grave no. 140 (12-14 year-old child)
dating: Cuman period
species: fish
bone: vertebra
notes: drilled
source: Hatházi, A kunok régészeti emlékei a Kelet-Dunántúlon, 38.

D7.

type: amulet
site: Perkáta-Kőhalmi dűlő
find location: grave no. 51 (10-14 year-old child)
dating: 13th-14th c.
species: fish
bone: vertebra
notes: drilled
source: Hatházi, A kunok régészeti emlékei a Kelet-Dunántúlon, 31.

D8.**type:** amulet**site:** Perkáta-Kőhalmi dűlő**find location:** grave no. 51 (10-14 year-old child)**dating:** 13th-14th c.**species:** hare**bone:** astragalus**notes:** drilled**source:** Hatházi, A kunok régészeti emlékei a Kelet-Dunántúlon, 31.**D9-15.****type:** amulets**site:** Perkáta-Kőhalmi dűlő**find location:** grave no. 141 (18-22 year-old woman)**dating:** 13th-14th c.**species:** hare**bone:** astragalus**notes:** a necklace made of seven astragali, drilled, all from the right leg!**source:** Hatházi, A kunok régészeti emlékei a Kelet-Dunántúlon, 40.**D16.****type:** amulet**site:** Perkáta-Kőhalmi dűlő**find location:** grave no. 171 (middle aged woman)**dating:** 13th-14th c.**species:** dog**bone:** canine tooth**notes:** drilled**source:** Hatházi, A kunok régészeti emlékei a Kelet-Dunántúlon, 42.**D17.****type:** amulet**site:** Perkáta-Kőhalmi dűlő**find location:** grave no. 48 (middle aged woman)**dating:** 13th-14th c.**species:** wolf**bone:** canine tooth**notes:** drilled**source:** Hatházi, A kunok régészeti emlékei a Kelet-Dunántúlon, 30.**D18.****type:** bone bead**site:** Perkáta-Kőhalmi dűlő**find location:** grave no. 59 (young adult woman)**dating:** 11th-12th c.**species:** ?**bone:** ?**notes:** found beside the neck of the deceased.**source:** Hatházi, A kunok régészeti emlékei a Kelet-Dunántúlon, 31.**D19.****type:** jewelry?**site:** Perkáta-Kőhalmi dűlő**find location:** pit no. 4**dating:** 11th-12th c.**species:** ?**bone:** ?**notes:** probably drilled**source:** Hatházi, A kunok régészeti emlékei a Kelet-Dunántúlon, 55.**D20.****type:** bone beads**site:** Csengele-Bogárhát**find location:** grave no. 24**dating:** 13th-14th c.**species:** ?**bone:** ?**notes:** probably drilled**source:** Horváth, Csengele középkori temploma, 116.

10.10 Appendix to Chapter 6. A detailed list of pathological lesions

The scale on the photos represents 5 cm in all cases.

A. Traumatic injuries

A1.

Site: Gorzsa

Stratigraphic unit no.: 158

Context: house

Dating: Medieval, probably Árpád Period

Species: cattle

Skeletal element: left metatarsal

Age: adult

Description: Healed fracture with a slight dislocation of the diaphysis shaft. The proximal and the distal end have different axes, and a heavy thickening is observed on the diaphysis shaft, especially on the palmar surface. The metatarsal canal is distorted and bends in an S-shape.

Possible causes: trauma, fracture. The injury probably took place when the animal was quite young and its body was not too heavy so that the weight load did not inhibit healing.



A1. Cattle metatarsal bone from Gorzsa, str. unit no. 158

A2.

Site: Gorzsa

Stratigraphic unit no.: 940

Context: trench

Dating: Árpád Period

Species: dog

Skeletal element: skull

Age: juvenile, ca. 4-5 months

Description: There is a shallow, circular recess on the left *os parietale*.

Possible causes: trace of an older trauma, possibly caused by human maltreatment.

A3.

Site: Gorzsa

Stratigraphic unit no.: 1370

Context: pit

Dating: Medieval

Species: dog

Skeletal element: left tibia and fibula

Age: senile

Description: The distal third of the fibula fused with the diaphysis of the tibia, with a heavy callous bone formation. In this section the fibula is thickened, widened and distorted. The animal was probably very old, suggested by the teeth loss (see: dental abnormalities and oral pathologies, C4).

Possible causes: old trauma, fracture and periostitis

A4.

Site: Tiszagyenda

Stratigraphic unit no.: 249, obj. 129

Context: pit

Dating: 13th-14th century

Species: cattle

Skeletal element: thoracic vertebrae

Age: adult

Description: Traces of a dislocated fracture on one of the spinal processes; the other spinal process is distorted by a callous tissue formation, possible caused by a similar fracture or rift.

Possible causes: old trauma, fracture and possibly periostitis

A5.

Site: Tiszagyenda

Stratigraphic unit no.: 200, obj.90

Context: pit

Dating: 14th-15th century

Species: horse

Skeletal element: left scapula fragment

Age: adult

Description: The tuber supraglenoideale and processus coracoideus are distorted by a partially healed rift. The articular surface is intact.

Possible causes: trauma, rift or fracture. Probably not work-related.



A4. Cattle thoracic vertebrae from Tiszagyenda, str. unit no. 249, obj. 119.



A5. Horse scapula from Tiszagyenda, str. unit no. 200, obj. 90 (lateral and medial view)

A6.

Site: Tiszagyenda

Stratigraphic unit no.: 253, obj.123

Context: well

Dating: 14th-15th century

Species: swine

Skeletal element: skull

Age: senile

Description: Skull of a sow. There is a straight, thin rift on the os frontale, between the two orbits, that healed with a small callous tissue formation. The rift is very straight and regular, suggesting a man-made tool. The animal was very old, the upper left premolars fell out and their alveoli fused, the third molars are heavily worn. The left upper canine probably also fell out, its alveolus started to fuse.

Possible causes: trauma, possibly maltreatment or an earlier, unsuccessful attempt at slaughtering the animal.



A6. Swine skull from Tiszagyenda, str:unit no. 253, obj.123 (dorsal view)

A7.

Site: Tiszagyenda

Stratigraphic unit no.: 560, obj.308

Context: pit

Dating: Late Árpád Period

Species: dog

Skeletal element: left humerus

Age: adult

Description: Signs of a healed fracture 3-4 cm below the proximal epiphysis. The bone is somewhat thickened and formed a small crest at the place of the fracture although there was no dislocation or shortening, and the bone axis is also normal.

Possible causes: old trauma, probably at a young age. The perfect healing might indicate some kind of treatment or care (the animal was able to rest).



A7. Dog humerus from Tiszagyenda, str:unit no. 560, obj.308

A8.

Site: Tiszagyenda

Stratigraphic unit no.: 93, obj.36

Context:

Dating: 17th-18th century

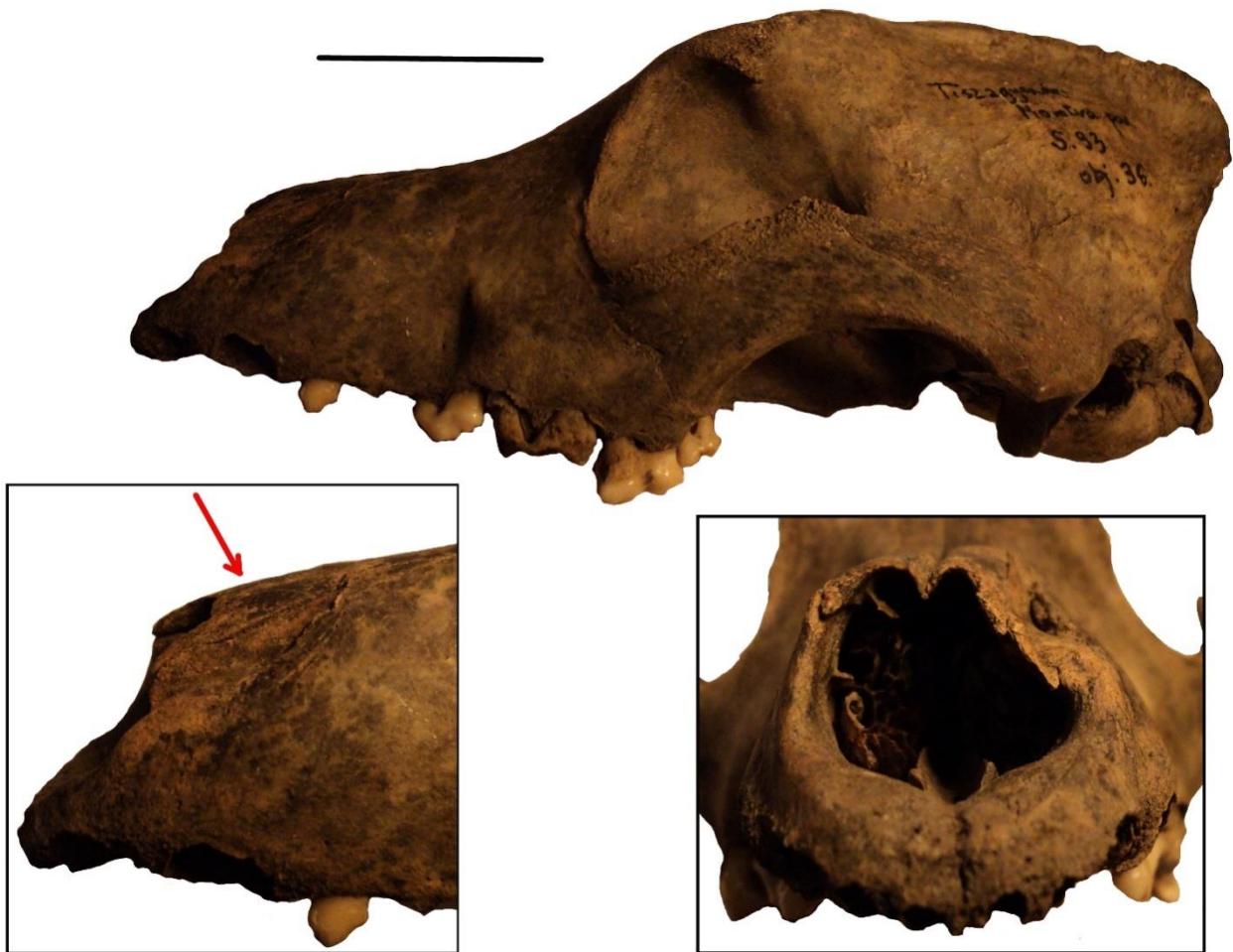
Species: dog

Skeletal element: skull

Age: adult

Description: Signs of a past rift or fracture on the left incisivum and nasale, healed with minimal callous tissue formation and a small recess on the left snout. The teeth are abnormally worn: the snout is a little bit asymmetric and the left first molar is heavily worn, almost to the root (maybe it broke off at the time of the trauma).

Possible causes: trauma, possible maltreatment



A8. Dog skull from Tiszagyenda, str. unit no. 93, obj. 36 (above: lateral view, bottom left: lateral view of the nasale and incisivum, bottom right: cranial view)

A9.

Site: Tiszagyenda

Stratigraphic unit no.: 206, obj. 95

Context: well

Dating: 14th-16th century

Species: dog

Skeletal element: right ulna fragment

Age: adult

Description: Signs of a past fracture. The diaphysis broke into two at the middle and the axis of the distal end forms an angle with that of the proximal end. However, there is only a slight dislocation (as the radius might have served as a natural support). There is a pseudo-joint like surface on the cranial side, below the incisura trochlearis, as if the radius had also been fractured and slid down to form a new articular surface. A pathological calcaneus from the same pit might belong to the same animal (see arthropaties, no. E4).

Possible causes: trauma

A10.

Site: Tiszagyenda

Stratigraphic unit no.: 596, obj.316

Context: pit

Dating: 16th century (?)

Species: sheep or goat

Skeletal element: left tibia; lumbar vertebra fragment

Age: juvenile, max. 10 months

Description: There is a fracture on the diaphysis of the left tibia that healed with a dislocation. The bone shortened and the proximal and distal half form an angle. A lumbar vertebra of the same individual also shows traces of pathological lesions: one transversal process is thickened and 'swollen-looking'.

Possible causes: trauma. The bone could heal probably because the animal was young and there was only a small body weight load. Almost the whole skeleton is preserved, and there is no trace of butchering. The animal probably died of natural causes and its carcass was not processed.



A10. Sheep or goat tibia from Tiszagyenda, str:unit no.596, obj.316 (to the left: the healthy counterpart; in the middle: cranial view of the fractured bone, to the right: lateral view)

A11.

Site: Tiszagyenda

Stratigraphic unit no.: 97, obj.40

Context: storage pit

Dating: 16th-18th century

Species: cattle

Skeletal element: rib fragment

Age: unknown

Description: The rib was fractured and not completely healed, though callous tissue formation had started.

Possible causes: trauma. The animal must have been slaughtered not long after the injury.

A12.

Site: Tiszagyenda

Stratigraphic unit no.: 97, obj.40

Context: storage pit

Dating: 16th-18th century

Species: sheep or goat

Skeletal element: rib fragment

Age: unknown

Description: The rib was fractured and not completely healed. The callous tissue formation had started but the two halves were not yet fused.

Possible causes: trauma. The animal must have been slaughtered not long after the injury.

A13.

Site: Tiszagyenda

Stratigraphic unit no.: 273, obj. 133

Context: pit

Dating: 16th-17th century

Species: sheep or goat

Skeletal element: thoracic vertebra fragment

Age: unknown

Description: The spinal process was fractured and healed with compact callous tissue. The process is somewhat thickened and the surface is smooth, suggesting an old trauma.

Possible causes: trauma, maybe maltreatment?

A14.

Site: Tiszagyenda

Stratigraphic unit no.: 286, obj.140

Context: pit

Dating: Turkish-Ottoman Period

Species: horse

Skeletal element: right metacarpal fragment

Age: unknown, possibly senile

Description: MC2 fused with MC3 at the proximal end; the bone is swollen and distorted, thickened on the medial side.

Possible causes: old trauma, probably fracture or rift. MC2 was probably fractured while MC3 only cracked on the medial side.



A14. Horse metacarpal from Tiszagyenda, str. unit no. 286, obj. 140 (palmar and medial view)

A15.

Site: Tiszagyenda

Stratigraphic unit no.: 296, obj. 150

Context: refuse pit

Dating: 14th-15th century

Species: cattle

Skeletal element: rib fragment

Age: unknown

Description: There is a thickening on the rib, probably due to a healed fracture.

Possible causes: trauma, possibly maltreatment

A16.

Site: Tiszagyenda

Stratigraphic unit no.: 325, obj. 183

Context: refuse pit

Dating: 17th-18th century

Species: sheep or goat

Skeletal element: rib fragment

Age: unknown

Description: There is a thickening on the rib, probably due to a healed fracture.

Possible causes: trauma, possibly maltreatment

A17.

Site: Tiszagyenda

Stratigraphic unit no.: 403, obj.235

Context: refuse pit

Dating: 13th-14th century

Species: swine

Skeletal element: rib fragment

Age: unknown

Description: There is a thickening on the rib, probably due to a healed fracture.

Possible causes: trauma, possibly maltreatment

A18.

Site: Tiszagyenda

Stratigraphic unit no.: 546

Context: pit

Dating: 16th-17th century

Species: sheep or goat

Skeletal element: left radius and ulna

Age: adult

Description: There is a thick, compact layer of newly formed boney tissue on the lateral side of the ulna, beside the articulation surface with the radius, and on the lateral side of the proximal epiphysis of the radius. The new bone tissue was probably formed as a rift healed.

Possible causes: trauma

A19.

Site: Tiszagyenda

Stratigraphic unit no.: 86, obj. 34.

Context: pit

Dating: Árpád Period

Species: horse

Skeletal element: left metatarsal

Age: adult

Description: There are two thick, compact circles of newly formed boney tissue on the cranial side below the proximal epiphysis; probably a healed crack.

Possible causes: trauma

A20.

Site: Orgondaszentmiklós

Stratigraphic unit no.: research trench “A”, surface 3

Context: refuse pit

Dating: 14th-16th century

Species: horse

Skeletal element: pelvis fragment

Age: adult

Description: The iliac shaft broke into two. The ilium was shortened by sliding onto the spina ischiadica and changing the normal angle of the ilium, while newly formed exostoses also contributed to the distortion of the skeletal element.

Possible causes: trauma, fracture



A20. Horse pelvis from Orgondaszentmiklós, surface "A"

A21.

Site: Orgondaszentmiklós

Stratigraphic unit no.: surface "C"

Context: pithouse no. 1

Dating: 14th-16th century

Species: horse or cattle

Skeletal element: rib fragment

Age: probably adult

Description: There was a rift or fracture that healed with a slight callous boney tissue formation

Possible causes: trauma, fracture

A22.

Site: Tiszagyenda

Stratigraphic unit no.: 510, obj. 281

Context: trench

Dating: 10th c.(?)

Species: dog

Skeletal element: left tibia and fibula

Age: adult

Description: The fibula fused with the tibia at one spot; the diaphysis is somewhat thickened there

Possible causes: healed rift or fracture

A23.

Site: Tiszagyenda

Stratigraphic unit no.: 596, obj. 316

Context:

Dating: probably 16th century

Species: horse

Skeletal element: left pelvis

Age: adult

Description: The ischium and pubis are thickened, “swollen-looking”

Possible causes: healed fracture?

A24.

Site: Tiszagyenda

Stratigraphic unit no.: 519, obj. 290

Context: refuse pit

Dating: 14th century

Species: dog

Skeletal element: 6 lumbar vertebrae

Age: adult

Description: The spinal process is distorted, bends to the left.

Possible causes: trauma to the back?

A25.

Site: Tiszagyenda

Stratigraphic unit no.: 191, obj. 82

Context: pit

Dating: 15th-17th century

Species: dog

Skeletal element: thoracic vertebra

Age: adult

Description: The spinal process is bent to one side

Possible causes: rachitis in young age?

A26.

Site: Tiszagyenda

Stratigraphic unit no.: 286, obj. 140

Context: pit

Dating: Turkish-Ottoman Period

Species: sheep or goat

Skeletal element: thoracic vertebra fragment

Age: unknown

Description: The upper quarter of the spinal process is distorted, bends to one side.

Possible causes: trauma to the back?

B. Infections, neoplastic and tumorous bones

B1.

Site: Gorzsa

Stratigraphic unit no.: 329

Context: trench

Dating: Árpád Period

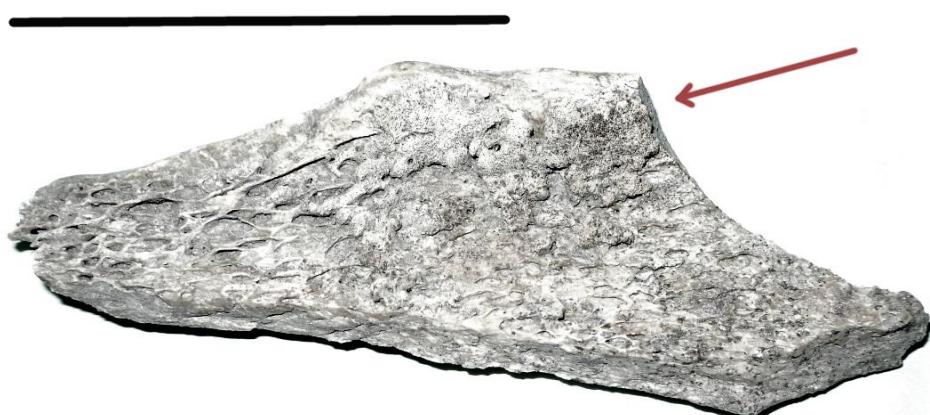
Species: cattle or horse

Skeletal element: femur diaphysis fragment

Age: unknown

Description: New, spongy boney tissue was formed in the medullary cavity on a small surface.

Possible causes: osteomyelitis?



B1. Cattle or horse femur fragment from Gorzsa, str:unit no. 329

B2.

Site: Gorzsa

Stratigraphic unit no.: 60

Context: pit

Dating: Late medieval, Turkish-Ottoman Period

Species: dog

Skeletal element: ulna

Age: adult

Description: The diaphysis widened and thickened in a 4 cm long section on the facies cranialis ulnae that articulates with the radius, forming a sharp crest on the medial side. There is a fistula in the middle of the widened area that had opened to the interosseal space, but was later fused creating a recess.

Possible causes: osteomyelitis?



B2. Dog ulna from Gorzsa, lateral and cranial view, str. unit no. 60

B3.

Site: Tiszagyenda

Stratigraphic unit no.: 189, obj.81

Context: pit

Dating: Medieval or Early Modern Age

Species: horse

Skeletal element: atlas fragment

Age: unknown (probably adult)

Description: There is a small, compact but irregular layer of exostoses on the dorsal side of the vertebra, right next to the cranial articular surface, in the middle, by the tuberculum dorsale.

Possible causes: arthritic lesion or a bacterial infection?



B3. Horse atlas from Tiszagyenda, str. unit no. 189, obj. 81. (dorsal view)

B4.

Site: Tiszagyenda

Stratigraphic unit no.: 273, obj. 133

Context: pit

Dating: 16th-17th century

Species: cattle

Skeletal element: 7th cervical vertebra fragment

Age: subadult, 4-5 years

Description: One of the articular processes show signs of an inflammation or an abcess: the process is widened, with a layer of newly formed boney tissue, and there is an 5 mm deep fistula-like hole on its mediocranial surface.

Possible causes: ?

C. Dental anomalies and oral pathology

C1.

Site: Gorzsa

Stratigraphic unit no.: 339

Context: pit

Dating: 14th-15th century

Species: sheep

Skeletal element: mandible

Age: adult

Description: M1 on the left side is abnormally grown and worn, the cranial part is worn down by P4. Probably it did not cause any problems with eating.

Possible causes: inherited abnormality?



C1. Sheep mandible from Gorzsa, str.unit no. 339 (dorsal view)

C2.

Site: Kiskunhalas - Dong-ér - MOL5

Stratigraphic unit no.: 30

Context: pit

Dating: 13th-14th century

Species: sheep

Skeletal element: mandible fragment

Age: adult

Description: P4 and M1 are more heavily worn than the other teeth, causing an irregular occlusion line.

Possible causes: ?

C3.

Site: Gorzsa

Stratigraphic unit no.: 504

Context: rubble

Dating: Árpád period

Species: sheep

Skeletal element: mandible

Age: adult

Description: Thick, black layer of plaque on both sides of the teeth row, especially on the premolars. A plaque-induced gingivitis is likely.

Possible causes: plaque-forming bacteria

C4.

Site: Gorzsa

Stratigraphic unit no.: 1370

Context: pit

Dating: medieval

Species: dog

Skeletal element: skull and mandible

Age: senile

Description: The two bones probably belonged to the same individual. The teeth are all heavily worn, some of them fell out and their alveoli fused. P1 and M1 on the left, P1 and P2 on the right side are missing and fused. The animal showed signs of a leg injury, too (see traumatic injuries, A3).

Possible causes: old age

C5.

Site: Gorzsa

Stratigraphic unit no.: 446

Context: pit

Dating: Medieval

Species: dog

Skeletal element: skull fragment

Age: senile

Description: P2 on the left fell out, the alveolus fused.

Possible causes: old age

C6.

Site: Gorzsa

Stratigraphic unit no.: 446

Context: pit

Dating: Medieval

Species: horse

Skeletal element: left upper molar (M2)

Age: adult

Description: The root is swollen and distorted.

Possible causes: inflammation of the tooth root



C6. Horse upper molar tooth from Gorzsa, str. unit no. 446

C7.

Site: Gorzsa

Stratigraphic unit no.: 914

Context: trench

Dating: Árpád Period

Species: sheep

Skeletal element: left mandible

Age: adult

Description: The oral part of M1 is stronger worn than the aboral part, resulting in an irregular occlusal line.

Possible causes: irregular growth of M1 or P4 in the upper jaw

C8.

Site: Gorzsa

Stratigraphic unit no.: 475/439

Context: pit

Dating: Medieval

Species: sheep

Skeletal element: left mandible fragment

Age: adult; probably senile

Description: P2 and P3 fell out and their alveoli fused. There are small outgrowths on the roots of the teeth, signifying a possible inflammation. There is a thick plaque on the lateral side of the teeth which probably caused gingivitis. There is a small, compact, spin-like protrusion on the lateral side of the corpus behind the M3.

Possible causes: old age; possibly connect to grazing on poor quality pasture



C8. Sheep mandible from Gorzsa, str:unit no. 475/439 (lateral and dorsal view)

C9.

Site: Gorzsa

Stratigraphic unit no.: 475/439

Context: pit

Dating: Medieval

Species: swine

Skeletal element: right mandible fragment

Age: adult; probably senile

Description: P4 fell out from the jaw, its alveolus fused. All remaining teeth are heavily worn.

Possible causes: old age

C10.

Site: Tiszagyenda

Stratigraphic unit no.: 3, obj. 1.

Context: pit

Dating: 16th -17th century

Species: horse

Skeletal element: lower premolar or molar tooth fragment

Age: adult

Description: One half probably broke off and the broken surface was in wear. There are small outgrowths on the root.

Possible causes: trauma and possibly inflammation

C11.

Site: Tiszagyenda

Stratigraphic unit no.: 1047, obj.970

Context: pit

Dating: 15th century

Species: cattle

Skeletal element: right upper second molar

Age: adult

Description: Asymmetrically worn tooth, the caudal side is not worn at all. The lower molars must have been affected: lower M2 might have been missing or damaged.

Possible causes: teeth loss due to old age or trauma

C12.

Site: Tiszagyenda

Stratigraphic unit no.: 1665, obj.1583

Context: pit

Dating: 15th century

Species: horse

Skeletal element: left upper premolar or molar fragment

Age: adult

Description: The root is swollen and distorted, but there are no exostoses on its surface.

Possible causes: inflammation of the root?



C12. Horse upper tooth from Tiszagyenda, str.unit no.1665, obj.1582 (caudal view)

C13.

Site: Tiszagyenda

Stratigraphic unit no.: 142, obj.57

Context: pit

Dating: Árpád Period or Late medieval

Species: dog

Skeletal element: right mandible

Age: adult

Description: P1 was present but it fell out and its alveolus fused with a somewhat callous tissue formation.

Possible causes: tooth loss due to old age, possible inflammation of the alveolus

C14.

Site: Tiszagyenda

Stratigraphic unit no.: 377, obj. 213

Context: pit

Dating: 16th century

Species: cattle

Skeletal element: right mandible

Age: adult

Description: P2 is missing, there is not even an alveolus. P3-4, M1-3 are normal.

Possible causes: developmental anomaly

C15.

Site: Tiszagyenda

Stratigraphic unit no.: 1797, obj. 1659

Context: storage pit

Dating: Early Modern or Modern Period

Species: cat

Skeletal element: right mandible

Age: adult, probably senile

Description: All teeth except for the canine had fallen out, their alveoli are fused. The animal was probably unable to eat properly without human intervention.

Possible causes: tooth loss due to old age

C15.

Site: Tiszagyenda

Stratigraphic unit no.: 1571, obj. 1547

Context: trench or pit

Dating: Turkish-Ottoman Period

Species: sheep

Skeletal element: skull, left maxilla fragment

Age: adult

Description: The bone thickened around P3 and P4. P2 and P3 grew abnormally, to a skew, caudal direction. Malocclusion must have been present.

Possible causes: developmental anomaly?

C16.

Site: Tiszagyenda

Stratigraphic unit no.: 325, obj. 183

Context: storage pit

Dating: 17th-18th century

Species: horse

Skeletal element: upper incisor

Age: adult

Description: The upper I2 is abnormally worn, with a strong recess in the middle.

Malocclusion must have been present.

Possible causes: developmental anomaly?

C17.

Site: Kiskunhalas-Mol5

Stratigraphic unit no.: 33

Context: pit

Dating: 13th-14th century

Species: sheep

Skeletal element: mandible fragment

Age: adult

Description: The teeth are heavily worn; there is a small protuberance on the lateral side, below M3, possibly a developing abscess

Possible causes: ??

D. Possible work-related pathologies and arthropathies

D1.

Site: Gorzsa

Stratigraphic unit no.: 504

Context: rubble

Dating: Árpád Period

Species: horse

Skeletal element: right proximal phalanx

Age: adult

Description: New bone formation on the muscle attachment surfaces on the palmar side, both laterally and medially. More pronounced on the lateral side. The new bone tissue is compact, signifying a chronic process.

Possible causes: work overload

D2.

Site: Gorzsa

Stratigraphic unit no.: 348

Context: house

Dating: Árpád Period

Species: cattle or horse

Skeletal element: thoracic vertebra fragment

Age: adult

Description: The spinal process broke off and healed with a pseudo-joint. The ventral part of the process is thickened, and there is newly formed, spongy, irregular bone tissue (exostoses) on an oval surface of ca. 4 cm x 2 cm.

Possible causes: trauma, fracture. Possibly work-related.

D3.

Site: Gorzsa

Stratigraphic unit no.: 144

Context: pit

Dating: Late medieval

Species: horse

Skeletal element: right metacarpal bone, right anterior proximal phalanx, right anterior medial phalanx

Age: adult

Description: The two skeletal elements belong to the same individual and their pathologies are in all probability connected. On the proximal phalanx there is heavy, spongy new tissue formation on the lateral, medial and palmar sides, especially on the muscle attachment surfaces. A small, spongy bone formation was observed on the cranial, craniolateral and craniomedial sides of the distal end of the metacarpal.,

Possible causes: work overload



D3. Horse proximal phalanx from Gorzsa, str:unit no. 144 (cranial, lateral, palmar and medial view; below: metacarpal, proximal phalanx and medial phalanx of the same individual)

D4.

Site: Gorzsa

Stratigraphic unit no.: 379

Context: pit

Dating: Medieval

Species: cattle

Skeletal element: proximal phalanx

Age: adult

Description: The proximal articular surface is widened.

Possible causes: Not necessarily pathological, but might be related to traction work.

D5.

Site: Gorzsa

Stratigraphic unit no.: 456

Context: well

Dating: Medieval

Species: cattle

Skeletal element: right metacarpal bone fragment

Age: unkown, probably adult

Description: A small, compact, stripe-like bone thickening was observed on the lateral side of the proximal epiphysis. The distal two-third of the bone is missing (butchered).

Possible causes: Not necessarily pathological, but might be related to traction work.

D6.

Site: Tiszagyenda

Stratigraphic unit no.: 27, obj.18

Context: pit

Dating: Árpád Period

Species: horse

Skeletal element: right anterior proximal phalanx

Age: adult

Description: Severe, compact exostoses on the lateral and medial sides; the bone is distorted and swollen. The new boney tissue is especially pronounced on the medial side. The metacarpal bone and phalanx media of the same individual are, however, intact.

Possible causes: periostitis, possibly as a consequence of work overload



D6. Horse anterior proximal phalanx from Tiszagyenda, str.unit no.27, obj.18 (cranial, palmar, medial and lateral view)

D7.

Site: Tiszagyenda

Stratigraphic unit no.: 191, obj.82

Context: pit

Dating: 15th-17th century

Species: cattle

Skeletal element: proximal phalanx

Age: adult

Description: Strong, compact, thick exostoses on the cranial and abaxial surface; the proximal half is distorted. The proximal half, including the articular surface, is widened.

Possible causes: work overload, arthrosis?

D8.

Site: Tiszagyenda

Stratigraphic unit no.: 381, obj.217

Context: pit

Dating: 15th-16th century

Species: horse

Skeletal element: lumbar vertebrae

Age: adult

Description: The two lumbar vertebrae fused at the articular and transversal processes.

Possible causes: might be caused by work overload, esp. riding

D9.

Site: Tiszagyenda

Stratigraphic unit no.: 97, obj.40

Context: pit

Dating: 16th-18th century

Species: horse

Skeletal element: lumbar vertebra

Age: subadult, younger than 4.5-5 years

Description: Traces of a past fracture on the transversal and the spinal processes. Both are healed with a callous boney tissue formation. The vertebra is somewhat distorted.

Possible causes: trauma, work-related?

D10.

Site: Tiszagyenda

Stratigraphic unit no.: 191, obj.82

Context: pit

Dating: 15th-17th century

Species: horse

Skeletal element: proximal phalanx

Age: adult

Description: Small, not severe exostoses on the lateral and medial sides, on the muscle attachment surfaces.

Possible causes: old age or work overload.

D11.

Site: Tiszagyenda

Stratigraphic unit no.: 600, obj.318

Context: pit

Dating: 16th century

Species: cattle

Skeletal element: proximal phalanx

Age: adult, possibly senile

Description: There are exostoses on the abaxial and cranial side of the proximal epiphysis, as well as on the axial side of the distal condyle.

Possible causes: work overload



D9. Horse lumbar vertebra from Tiszagyenda, str. unit no. 97, obj. 40 (lateral and caudal view)

D12.

Site: Tiszagyenda

Stratigraphic unit no.: 1717, obj. 1610

Context: house

Dating: Late (?) Árpád Period

Species: horse

Skeletal element: thoracic vertebra

Age: adult, possibly senile

Description: Five thoracic vertebrae from the same individual; there are small exostoses on the body of one of them: syndesmophyte formation in an early stage

Possible causes: work-related, possibly riding

D13.

Site: Tiszagyenda

Stratigraphic unit no.: 148, obj.62

Context: pit

Dating: Late medieval

Species: cattle

Skeletal element: left metacarpal

Age: adult

Description: The lateral part of the distal condyle is widened; the muscle attachment surfaces are pronounced.

Possible causes: probably work-related

D14.

Site: Tiszagyenda

Stratigraphic unit no.: 290, obj. 144

Context: pit

Dating: 15th-16th century

Species: cattle

Skeletal element: right metacarpal

Age: adult

Description: There is a small, circular eburnation on the proximal articulation surface

Possible causes: probably work-related

D15.

Site: Tiszagyenda

Stratigraphic unit no.: 62, obj. 242

Context: pit

Dating: 17th century

Species: horse

Skeletal element: thoracic vertebra fragment

Age: adult

Description: There are compact, irregular exostoses on the caudal side of the spinal process

Possible causes: probably work-related, riding

D16.

Site: Orgondaszentmiklós

Stratigraphic unit no.: “refuse pit”

Context: refuse pit

Dating: 14th-16th century

Species: horse

Skeletal element: thoracic vertebra fragment

Age: adult

Description: The caudal articular processes fused and form one uninterrupted articular surface

Possible causes: probably work-related, riding

D17.

Site: Orgondaszentmiklós

Stratigraphic unit no.: surface “A”

Context: refuse pit

Dating: 14th-16th century

Species: cattle

Skeletal element: proximal phalanx

Age: adult

Description: The articular surface is widened to the lateral side, but there are no exostoses.

Possible causes: probably work-related, traction

D18.

Site: Orgondaszentmiklós

Stratigraphic unit no.: “refuse pit”

Context: refuse pit

Dating: 14th-16th century

Species: cattle

Skeletal element: proximal phalanx

Age: adult

Description: There are small, compact exostoses around the proximal articular surface

Possible causes: probably work-related, traction

D19.

Site: Kiskunfélegyháza - Templomdomb

Stratigraphic unit no.: 9

Context: trench

Dating: 14th-16th century

Species: horse

Skeletal element: left metacarpal

Age: adult

Description: The distal articular surface is widened; the muscle attachment surfaces above the distal condyle are pronounced, with small exostoses on the medial side

Possible causes: probably work-related

D20.

Site: Tiszagyenda

Stratigraphic unit no.: 148, obj.62

Context: pit

Dating: Late medieval

Species: horse

Skeletal element: proximal phalanx

Age: adult

Description: There is a thick, compact layer of newly formed boney tissue on the palmar and medial side above the distal epiphysis, forming a strong, protruding crest on the lateral side.

Possible causes: inflammation, periostitis.



D20. Horse proximal phalanx from Tiszagyenda, str.unit no.148, obj.62 (palmar view)

D21.

Site: Tiszagyenda

Stratigraphic unit no.: 211, obj.98

Context: pit

Dating: 15th-18th century

Species: horse

Skeletal element: left metacarpal

Age: adult

Description: Both MC2 and MC4 fused with the central metacarpal bone (MC3). There are small, spongy exostoses on the palmar side of the proximal end, below the articular surface. The articular surface is intact.

Possible causes: inflammation of the joint

D22.

Site: Tiszagyenda

Stratigraphic unit no.: 286, obj. 140

Context: pit

Dating: Turkish-Ottoman Period

Species: horse

Skeletal element: left anterior and posterior distal phalanx

Age: unknown

Description: The two phalanges probably come from the same individual. There are similar exostoses on the angulus on the medial side. If they belong to the same animal, this suggests a pathological condition that affected both left limbs.

Possible causes: inflammation? Possibly a trauma that affected the balance of the whole skeleton.



D21. Horse metacarpal from Tiszagyenda, str. unit no. 211, obj. 98 (palmar view of the proximal end)

D23.

Site: Tiszagyenda

Stratigraphic unit no.: 546

Context: pit

Dating: 16th-17th century

Species: horse

Skeletal element: right metatarsal

Age: adult

Description: There is a compact, small crest of exostoses on the lateral side of the proximal epiphysis, and less severely on the palmar side. In all probability, MT4 was primarily affected (maybe by a trauma) and the inflammation induced new tissue formation on MT3 as well. MT4 was not found, neither MT4 nor MT2 fused with the main metatarsal bone.

Possible causes: inflammation of the joint, maybe an older trauma???

D24.

Site: Tiszagyenda

Stratigraphic unit no.: 305, obj. 159

Context: refuse pit

Dating: 14th century

Species: horse

Skeletal element: distal phalanx

Age: adult

Description: There are compact, thick outgrowths on both the medial and lateral angulus palmaris of the hoof.

Possible causes: inflammation of the joint, might be work related as well.

D25.

Site: Tiszagyenda

Stratigraphic unit no.: 599, obj. 316

Context: refuse pit

Dating: 16th-17th century

Species: horse

Skeletal element: left metacarpal

Age: adult

Description: MC3 and MC2 started to fuse.

Possible causes: work related?

D26.

Site: Tiszagyenda

Stratigraphic unit no.: 1794, obj. 1657

Context: refuse pit

Dating: 16th century

Species: horse

Skeletal element: left metacarpal

Age: adult

Description: MC3 and MC2 started to fuse.

Possible causes: work related?

D27.

Site: Tiszagyenda

Stratigraphic unit no.: 62, obj. 242

Context: pit

Dating: 17th century

Species: cattle

Skeletal element: left metacarpal

Age: adult

Description: There is a small, circular lesion on the articular surface of the proximal epiphysis.

Possible causes: inflammation of the joint, consequence of an eburnation?

D28.

Site: Gorzsa

Stratigraphic unit no.: 379

Context: pit

Dating: Medieval

Species: dog

Skeletal element: left tibia

Age: adult

Description: There are compact, amorphous new boney growths, exostoses on the medial and lateral side of the proximal epiphysis. The medial part of the epiphysis is widened caudally. The articular surface is damaged on the edges, especially laterally.

Possible causes: inflammation in the joint.



caudolateral view

caudal view

lateral view

D28. Dog tibia from Gorzsa, str. unit no. 379 (caudolateral, caudal and lateral view)

D29.

Site: Tiszagyenda

Stratigraphic unit no.: 300, obj. 154

Context: pit

Dating: 16th century

Species: horse

Skeletal element: left tibia fragment

Age: adult

Description: Spongy, thick, irregular layer of newly formed boney tissue on the medial and palmar side of the distal epiphysis.

Possible causes: inflammation in the joint

D30.

Site: Tiszagyenda

Stratigraphic unit no.: 206, obj. 95

Context: pit

Dating: 14th-16th century

Species: dog

Skeletal element: calcaneus

Age: adult

Description: Small, compact exostoses on the lateral side of the distal end. The articular surface is intact. The fractured and healed ulna from the same pit might belong to this same individual (see traumatic injuries no. A9).

Possible causes: ?



D29. Horse tibia fragment from Tiszagyenda, str. unit no. 300, obj. 154 (cranial view)

D31.

Site: Tiszagyenda

Stratigraphic unit no.: 206, obj. 95

Context: pit

Dating: 14th-16th century

Species: swine

Skeletal element: 7th cervical vertebra fragment

Age: adult

Description: The cranial articular processes are widened; there is a thick, compact layer of newly formed boney tissue on the ventral side of the left cranial articular process. The articular surface of the process is intact. Both the cranial and caudal articular surfaces of the vertebra's body are widened and there are small exostoses on the edges, especially on the caudal side, probably a sign of syndesmophyte formation.

Possible causes: old age, trauma?

D32.

Site: Tiszagyenda

Stratigraphic unit no.: 293, o.147

Context: pit

Dating: 16th century

Species: horse

Skeletal element: right scapula

Age: adult

Description: The articular surface is widened; there are exostoses on and beside the articular

surface.

Possible causes: severe inflammation of the joint. The animal was probably unable to work.

D33.

Site: Tiszagyenda

Stratigraphic unit no.: 521, obj.290

Context: refuse pit

Dating: Turkish-Ottoman Period

Species: swine

Skeletal element: left pelvis fragment

Age: adult

Description: There are severe, spongy exostoses on the articular surface of the ilium adjoining the sacrum along with two, small, compact thorn-like protrusions on the pubis. The ilio-sacral joint must have been deformed and inflamed.

Possible causes: inflammation of the joint

D34.

Site: Tiszagyenda

Stratigraphic unit no.: 332, obj. 180

Context: pithouse

Dating: Árpád Period

Species: cattle

Skeletal element: left metacarpal

Age: adult

Description: There is a small, circular lesion on the medial half of the articular surface of the proximal epiphysis.

Possible causes: inflammation of the joint, consequence of an eburnation?

D35.

Site: Tiszagyenda

Stratigraphic unit no.: 302, obj.156

Context: refuse pit

Dating: 16th-17th century

Species: sheep or goat

Skeletal element: right humerus fragment

Age: adult

Description: There is a small outgrowth on the medial side of the condylus

Possible causes: old age, inflammation of the joint

D36.

Site: Tiszagyenda

Stratigraphic unit no.: 333/461

Context: refuse pit

Dating: 14th-15th century

Species: horse

Skeletal element: thoracic vertebra

Age: subadult, ca. 4.5-5 yrs

Description: There are thick exostoses on the cranial and caudal sides of the spinal process and the articular processes. The caudal articular process is more heavily affected on the left side.

Possible causes: inflammation of the joint, might be work related as well.

D37.

Site: Orgondaszentmiklós

Stratigraphic unit no.: surface "A"

Context: refuse pit

Dating: 14th-16th century

Species: horse

Skeletal element: right scapula fragment

Age: probably adult

Description: There is a small eburnation on the articular surface. The muscle attachment surfaces are pronounced, with small exostoses on the lateral side.

Possible causes: inflammation of the joint, might be work related as well.

D38.

Site: Orgondaszentmiklós

Stratigraphic unit no.: research trench "A", surface 3

Context: refuse pit

Dating: 14th-16th century

Species: horse

Skeletal element: right calcaneus fragment

Age: adult, possibly senile

Description: There is a thick, compact layer of exostoses both on the tuber and the *sustentaculum calcanei*

Possible causes: spavin, inflammation of the joint, might be work related as well.

D39.

Site: Kiskunhalas-Mol5

Stratigraphic unit no.: 30

Context: pit

Dating: 13th-14th century

Species: horse or cattle

Skeletal element: pelvis fragment

Age: probably adult

Description: There is a thick layer of exostoses on the surface where the ilium articulates to the sacrum. It cannot be said if there is a facies auricularis. At two spots there is eburnation on the exostoses.

Possible causes: severe inflammation of the pelvis-sacrum joint

D40.

Site: Kiskunfélegyháza - Templomdomb

Stratigraphic unit no.: 9

Context: trench

Dating: 14th-16th century

Species: cattle

Skeletal element: left metacarpal

Age: adult

Description: There is a small eburnation on the proximal articular surface

Possible causes: possibly work-related

D41.

Site: Tiszagyenda

Stratigraphic unit no.: 62, obj. 242

Context: pit

Dating: 17th c.

Species: cattle or horse

Skeletal element: thoracic vertebra fragment

Age: adult

Description: There is eburnation and exostoses on the cranial articular surface

Possible causes: severe inflammation of the joint

D42.

Site: Gorzsa

Stratigraphic unit no.: 348

Context: house

Dating: Árpád Period

Species: cattle

Skeletal element: calcaneus

Age: juvenile, younger than 3-3.5 years

Description: Small, protubtance-like compact bone tissue on the tuber, above the sustentaculum calcanei.

Possible causes: spavin?

D43.

Site: Gorzsa

Stratigraphic unit no.: 1222

Context: pit

Dating: Árpád Period

Species: dog

Skeletal element: humerus and radius

Age: adult

Description: Small exostoses on the distal end of the left humerus and proximal end of the left radius

Possible causes: inflammation of the elbow joint

E. Other lesions

E1.

Site: Gorzsa

Stratigraphic unit no.: 144

Context: pit

Dating: Late medieval

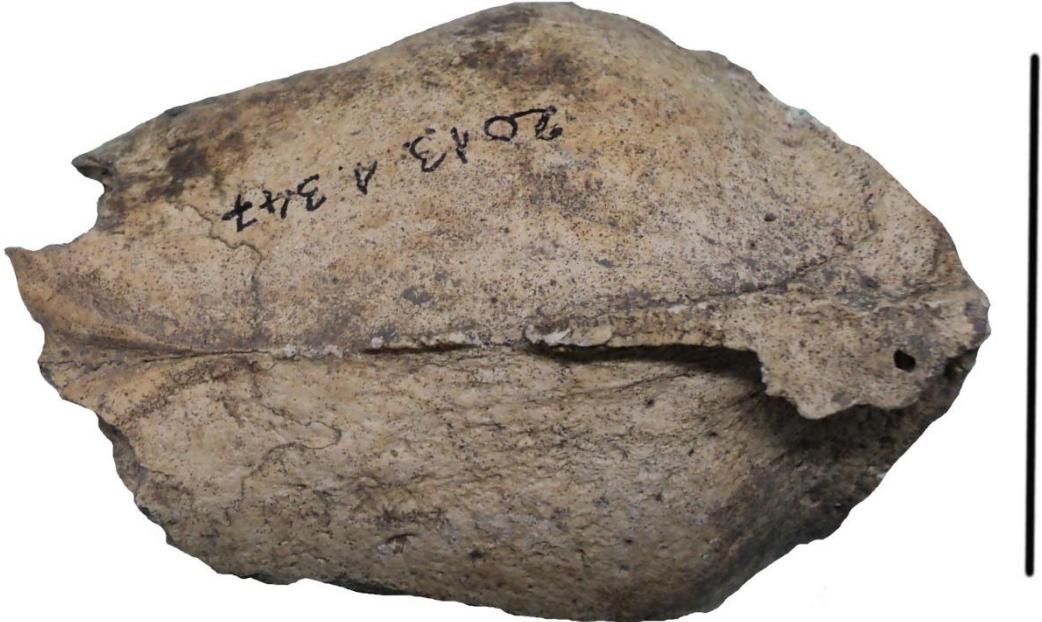
Species: dog

Skeletal element: skull fragment

Age: unknown, probably adult

Description: A small, compact new boney tissue can be observed on the left side of the crista sagittalis externa. The sagittal crest is widened on the caudal end.

Possible causes: ?



E1. Dog skull fragment from Gorzsa, str. unit no. 144 (dorsal view)

E2.

Site: Tiszagyenda

Stratigraphic unit no.: 295, obj. 115

Context: trench

Dating: 15th-16th century

Species: swine

Skeletal element: right radius and ulna

Age: adult

Description: The radius and the ulna fused at the articulation surface, but there are no exostoses or any distortion of the skeletal element. It must have affected the animal's mobility.

Possible causes: old age or trauma

E3

Site: Tiszagyenda

Stratigraphic unit no.: 200, obj. 90

Context: pit

Dating: 14th-15th c.

Species: swine

Skeletal element: left tibia and fibula

Age: adult

Description: The fibula fused with the tibia on the distal end

Possible causes: ?