



The Archaeology of Human–Animal Relations in Nineteenth- to Mid-Twentieth-Century Finland: Horse Burials and Cemeteries in Agrarian Landscapes

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Accepted: 11 August 2022
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Abstract One of the most crucial issues in the study of human–animal relations is the power of humans over animal death and how it has been processed culturally by the ways animal carcasses have been treated. In this article, the post-domestic phase in human–animal relations is entered by investigating the burial of working horses in the Finnish countryside during the 19th and early 20th centuries. Toward that end, 115 horse burials, 134 cemeteries, and 61 death places or kill sites were examined through interviews with local people, and a search of literature and place names. Six burial sites were excavated and several sites surveyed in the field. The locations of all sites were analyzed with historical maps. As a result, we consider that animal graves form a significant group of historical monuments that show great

variability and are associated with past land use and human–animal relations.

Resumen Una de las cuestiones más cruciales en el estudio de las relaciones entre humanos y animales es el poder de los humanos sobre la muerte de los animales y cómo ha sido procesado culturalmente por la forma en que se han tratado los cadáveres de animales. En este artículo, se ingresa a la fase posdoméstica en las relaciones entre humanos y animales al investigar el entierro de caballos de trabajo en el campo finlandés durante el siglo XIX y principios del XX. Con ese fin, se examinaron 115 entierros de caballos, 134 cementerios y 61 lugares de muerte o sitios de matanza mediante entrevistas con la población local, y una búsqueda de literatura y nombres de lugares. Se excavaron seis sitios de enterramiento y se inspeccionaron varios sitios en el campo. Las ubicaciones de todos los sitios fueron analizadas con mapas históricos. Como resultado, consideramos que las tumbas de animales forman un grupo significativo de monumentos históricos que muestran una gran variabilidad y que están asociados con el uso del suelo en el pasado y las relaciones entre humanos y animales.

Supplementary Information The online version contains supplementary material available at <https://doi.org/10.1007/s41636-024-00487-7>.

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Résumé L'une des questions les plus cruciales de l'étude des relations entre humains et animaux est le pouvoir des humains sur la mort des animaux et le traitement culturel dont il a fait l'objet dans les manières dont il a été disposé des carcasses animales. Dans cet article, la phase post-domestique des relations entre humains et animaux est initiée par une

enquête sur l'ensevelissement de chevaux de trait dans la campagne finnoise au cours des 19^{ème} et début du 20^{ème} siècles. À cette fin, 115 sépultures de chevaux, 134 cimetières et 61 lieux de mort ou sites d'abattage ont été étudiés dans le cadre d'entretiens avec des membres des populations locales ainsi que d'une recherche dans les publications et sur les noms des lieux. Six lieux de sépulture ont fait l'objet de fouilles et plusieurs sites ont été étudiés sur le terrain. Les emplacements de tous les sites ont été analysés au moyen de cartes historiques. Il en résulte que nous estimons que les sépultures d'animaux constituent un groupe significatif de monuments historiques, démontrant une grande variabilité et qui sont associées à une utilisation antérieure des terres ainsi qu'aux relations entre humains et animaux.

Keywords human–animal relations · horses · animal graves · place names

Introduction

The entanglement of human and nonhuman animal lives as a premise for multispecies communities has formed an integral part of human–animal research (Ingold 1994a, 1994b; DeMello 2012; Hurn 2012; Schuurman 2017; Pilaar Birch 2018). In archaeology and anthropology, the multiplicity of human–animal relationships reflecting cultural, chronological, and geographical divisions has shown the fundamental roles played by animals in the human past (Benecke 1994; Willerslev 2007; Campana et al. 2010; Losey et al. 2013; McNiven 2013; Overton 2018; Der 2020).

Today, most of the Western world has entered the “post-domestic” phase, which is characterized by close relationships with pets and the distancing of most consumers from the reality of livestock production (Bulliet 2005; Hurn 2012:67; Sayers and Uehlein 2018). Donna Haraway (2003, 2008:17–19) has discussed the issue and applied the term “companion species” to animals “with whom we become what we are.” At the same time, animal welfare and ethical treatment, recently connected to animal emancipation and posthumanistic antianthropocentrism, have formed a counter to animal cruelty (Matsuoka and Sorenson 2018).

One of the most crucial issues in the study of human–animal relations is the power of humans

over animal death and how it was processed culturally in the ways animal carcasses and refuse were treated. Great variation can be seen in prehistoric mortuary practices, which evidently included different treatments of animals, such as animal offerings and the deposition of whole animals or their parts in human graves (Zinoviev 2009; Morris 2011; Albizuri et al. 2019). Also, the tradition of burying horses is quite old, seen, for example, in the Eurasian steppes among nomadic Scythian populations (Benecke 2017:327–329; Chugunov et al. 2017:198–201). In Finland, horse remains have not been recovered from burials except for horse teeth (Bläuer 2015:82). However, horse gear is a typical find category in the so-called warrior graves in the middle Iron Age (Wessman 2010:95).

In historical archaeology, the interest in animal burials has concentrated on modern pet cemeteries, which are evidence of the ideological turn that first created the division between pets and farmed animals in large cities, such as Paris, London, and New York (Kean 2013; Collier 2016; Morris 2016). Pet cemeteries have been studied as representatives of the ideas of human–animal relationships, afterlife, and remembering (Spiegelman and Kastenbaum 1990; Argent 2016; Massaro 2016; Morris 2016; Pręgowski 2016; Schuurman and Redmalm 2019; Tourigny 2020; Äikäs, Ikäheimo, and Leinonen 2021); as historical phenomena (Howell 2002; Kean 2011, 2013; Collier 2016) and built environments (Brandes 2009; Margulies 2016; Auster 2018; Äikäs, Ikäheimo, Kirkinen et al. 2023), and regarded from the point of view of animal biographies (Buttweiler 1997; Boston 2014).

Different from pets, the carcasses of farmed animals were seen principally as animal waste, the disposal of which was guided by hygiene instructions (Haak 2017:87). Their burial outside city borders ended when special carcass-disposal units were built to handle animal waste.

As a counterpart to urban pet cemeteries and animal-waste treatment, we want to raise understanding of horse-carcass treatment in rural communities during the 19th and early 20th centuries. In the countryside, the burying of dead animals is hypothetically reflected via different land-use patterns compared to cities, but also differences in human–animal relations, which to date have not been investigated in detail (Schuurman and Leinonen 2012:70–72; Leinonen 2013:219–226;



Fig. 1 A Finnhorse pulling a plow in Kaavi, eastern Finland, in 1959. (Photo by Paul Hänninen.)

Schuurman and Franklin 2018). Horse graves are a specific group of sites, the detection of which is challenging in the field. Most sites are unmarked with no visible structures, but a shallow depression, if any, and their locations have not been marked in any records or on any maps.

In this article, we study 19th- and 20th-century horse burials as a specific group of historical sites that are associated with human–animal relations and past land use. Our focus is on Finland and the Finnish working horse, the “Finnhorse” (Fig. 1), the fate of which was tightly tied to the modernization of Finnish society. Our data derive from the project: Interdisciplinary Research Strategies of Biological Cultural Heritage—Surveying, Archiving, Analyzing, and Sharing Historical DNA from Finnhorses (The Finnhorse Project), in which several horse graves were surveyed and excavated archaeologically for the purpose of taking bones and teeth for DNA sampling. Together with this archaeological data and an investigation of various historical sources, we study (1) how horses were buried and how these places were located in agrarian landscapes, (2) how the graves reflect human–horse relationships, and (3) how the horse graves can be regarded as important biocultural heritage in the light of posthumanist (burial) archaeology.

Historical Context: Horses in Finland from 1800 to 1950

Nineteenth- and early twentieth-century Finland, including the period when it was still the Grand Duchy of Finland (1809–1917), can be characterized as a sparsely populated agrarian society at the northernmost limits of cultivation in Europe. In 1917, when the Republic of Finland declared its independence and separated from Russia, almost 90% of Finns lived in the countryside (Statistics Finland 2007). The nation’s overall mechanization and urbanization took place during the decades after World War II.

Accordingly, the time period from ca. 1800 to the 1950s has been characterized as the golden age of the working horse, that is, a time when the horse was a facilitator in agriculture and forestry, in large building projects, and in the industrialization process by serving in the transportation of raw materials, products, and people (Solala 2020). The number and quality of horses reflected, quite straightforwardly, the wealth of the farm (Lehikoinen 2009:71–72). Most farms had 1–4 horses, and manors could easily boast 30–50 horses (Enckell 1920). Accordingly, a lack of animals was seen as a prime indicator of poverty (Seppälä 2009:119).

The Finnhorse was studbooked in 1907 (Solala 2021). It served as a working horse, a mount, and a fast trotter, and the Finnhorse also proved its versatility in World War II. Although potentially representing a huge amount of meat, horses were not generally eaten or sent to butcheries before the 1940s. Even during the Finnish famine in 1866–1868, horses were only occasionally used as food (Leinonen 2013:219–220). This has been generally interpreted in relation to Christian dogma, whereby horse eating was regarded as an unclean and sinful practice. A formal prohibition of this was made in 732 by Pope Gregory III, and the lack of horse bones in osteological assemblages from historical sites indicates that this order may have been followed since medieval times (Sirelius 1919:223; Chamberlin 2006:65; Ukkonen and Mannermaa 2017:172). It has even been suggested that the attitude toward living horses in the medieval period was ambiguous. While living horses were respected as steeds or draft animals, dead horses and their handlers were disrespected and even feared (Bläuer 2015:82).

The overall mechanization of agriculture, transportation, and the military, rolled into one with the rural depopulation and urbanization of the 1960s and 1970s, witnessed collapsing numbers of the horse population from 408,000 to 14,000 individuals (Leinonen 2013:20; SuoRa: suomenratsut ry 2021). Simultaneously, the role of the horse changed from that of a workmate to a hobby and sport animal. Today, the Finnhorse can be characterized as a universal breed that can be used for various tasks, such as riding, sports, and working, but also for new tasks, such as therapy and rehabilitation, to name but a few (Saastamoinen 2007).

Materials and Methods

The material of this research consists of data from 115 horse burials, 134 cemeteries, 50 death places, and 11 kill sites. Information on the graves and their location was collected from the Digital Name Archive (place names), books and newspapers, and interviews and questionnaires with local people. The data were collected as part of the research project: Interdisciplinary Research Strategies of Biological Cultural Heritage: Surveying, Archiving, Analyzing, and Sharing Historical DNA from Finnhorses (2019–2022), which studies the beginning of modern horse breeding in Finland. The project analyzes historical DNA from samples collected from cultural historical museums and private persons and by excavating old horse burials. The project concentrated on the time period of 1850–1950, which is elemental for the creation of the Finnhorse, the only native horse breed in Finland. In the following pages, the data sources and fieldwork are presented. The sites are listed in Appendix 1, “Horse burials studied in this research” (Online Resource 1), and Appendix 2, “Horse burials indicated by place names” (Online Resource 2), and presented on a map in Figure 2.

Citizen Science

The Finnhorse Project was largely built on citizen science and the active role of private persons who contributed by sharing their information about the locations of horse graves and cemeteries, participating in field surveys and excavations, and delivering historical documents and detailed oral histories. By the term

“citizen science,” we refer to Bonney et al. (2009) and Cooper et al. (2017), identifying our collaborators as collectors of data and consumers of the research results. The project served the community by opening the research to mutual interaction on social media (Facebook and project Webpages) and at excavations. Because of the role of the Finnhorse as a “national treasure,” public interest in the project was high in the media, including newspapers, radio, and TV. As a result, we received information on 52 sites (Online Resource 2) (Fig. 2).

Place Names

According to onomatologist Eero Kiviniemi (1990:142), some of the place names related to domestic animals were given to sites in which animals had been buried. Therefore, we searched the Nimiarkisto, or Digital Name Archive,¹ maintained by the Kotimaisten Kielten Tutkimuskeskus (Institute for the Languages of Finland), for place names indicating horse burials. Although the name material was collected between the 1930s and 1990s, the age of the names is not known. Our search terms covered different names used as synonyms for horses, such as *hevonnen*, *hepo* (horse), *koni*, *kaakki* (pejorative name for an old horse, or hack), *tamma* (mare), *ori* (stallion), *ruuna* (gelding), and *varsa* (foal). Also, place names related to animal or human carcasses (*raato*) or graves (*hauta*) were collected. The names included in the study were selected according to stories about horse burials connected to the sites. While Finland is bilingual, our research covered only Finnish names because the Swedish names, especially prevalent in the coastal areas and the Åland Islands, have not yet been digitized. As a result, we detected in total 258 place names for horse burials and kill sites (Online Resource 2) (Fig. 2).

Published Sources

The material was supplemented by searching historical newspapers (1770s–1950s) in the Digital Newspaper Collections of the National Library of Finland (Kansalliskirjaston Digitaaliset Aineistot 2021). The digitization of Swedish newspapers is still in process,

¹ <<https://nimiarkisto.fi/>>.



Fig. 2 Distribution map of the horse-burial sites. *Red circles*: place-name data; *blue circles*: information collected from private informants. The excavated sites are (a) Sopusointu's tombstone in Ylihärmä; (b) Kirppu's supposed burial site in the front, in Pöytyä; (c) Ilkka is supposed to have been buried

near the Parta Manor's main building in Kuusjoki; (d) Eino, excavated in 2020 in Leppävirta; (e) Rymy-Murto and Valokas, excavated in 2019 in Korja; and (f) Sannais cemetery in Porvoo, excavated in 2020 and 2021. (Map by Tuija Kirkinen, 2021.)

which can be seen by the low number of hits for them. We also searched a collection of horse-related books in which information on famous trotters has been published (Fabritius 1927; Toivonen 2008; Korpela 2012).

Maps and Cartographic Analysis

The location, environment, and land use of the burial sites were studied by cartographic analyses of historical and modern maps. By historical maps,

we refer to 1:20,000 topographic maps from the 1930s–1990s, which were available in the Digital Name Archive, and 19th- and early 20th-century general parcel maps in the scales of 1:2,000 and 1:4,000, curated by the National Archives of Finland (2021). By modern maps, we refer to present-day digital maps and spatial data on the MapSite of the NLS: National Land Survey of Finland (2021). The maps were analyzed with geographic information systems (GIS) by using MapInfo and Web services provided by the archives and institutions.

Field Documentation, Surveys, and Excavations

Of the total 310 known horse burials and cemeteries, we surveyed and excavated only a fraction. First, we visited several burial sites and documented them with photographs. To pinpoint the grave locations, we interviewed local people and employed metal detectors, ground-penetrating radar, electrical resistivity, drilling, and also dug test pits.

During 2018–2021 we conducted excavations at six burial sites, of which four were single burials, one was a double burial, and one was a horse cemetery. The sites were selected according to their importance in the pedigree of the Finnhorse or the background information we had about the grave. The excavated sites were the following: the double burial of Rymy-Murto yh 478 and Valokas (both 1932–1953) in Korja; the grave of Eino 680 (1888–1912) as part of Tammanhautakangas (“Mare Grave Heath”) horse cemetery in Leppävirta; and the horse cemetery in Sannais, Porvoo. At the three burial sites, horse remains were not located in the given areas. These sites were the graves of Kirppu Tt 710 (1879–1906) in Pöytyä, Sopusointu 207 (1903–1918) in Ylihärmä, and Ilkka 292 (1898–1922) in Kuusjoki. For the locations of the sites, see Figure 2.

Dating of the Graves

In the material collected with the help of informants and locals, most horses (39) were known by their names and lifespans. The earliest of these horses was born during the 19th century (10 burials); however, most of them lived and died in the 1920s–1950s.

The sites detected in the Digital Name Archive were, in general, older than the ones remembered by informants today. This is logical, as the place-name data were collected decades earlier, in the 1930s–1990s. Also, some of the place-name informants were relatively old, born during the 19th century. Moreover, some were remembering things that had happened “in the old times” or were “told by their great-grandfathers.” Quite often they declared the date by saying that “it was in those days when the eating of horse meat was forbidden.” In this collection, horses remained mostly anonymous, which means that they cannot be dated precisely.

Additionally, we radiocarbon dated two horses: first, one burial in the Sannais cemetery, southern

Finland, dated to the end of the 19th century (77 ± 28 ^{14}C years B.P., Ua-69144), and second, in Vihti, where one of the skulls found in a bog ditch was also dated to the 19th century (140 ± 29 ^{14}C years B.P., Ua-69143). In general, the radiocarbon dating of the 19th- and 20th-century sites is problematic, and the span of possible calibrated dates was broad.

Ways to Bury a Horse: Results from Nineteenth- to Mid-Twentieth-Century Finland

In this section, different types of horse graves and their locations in the agrarian landscape based on our data are presented. Here we use terminology that is usually reserved for disposing of human corpses (Tarlow 2015:11). This can be justified by the notions of the similarities between human and animal burial forms seen in premodern societies (Storå 1971:112–113) as well as in modern pet cemeteries (Morris 2016; Pręgowski 2016; Schuurman and Redmalm 2019; Tourigny 2020). However, the difference between an animal grave and carcass waste disposal needs to be defined on the basis of the (1) placing of the animal grave in contact with human settlements or graves, (2) evidence of remembering the grave, (3) existence of grave goods, (4) position of the carcass, and (5) existence of butchery marks or signs of skinning (Cowie et al. 1998; Collier 2016). The last theme will be discussed further at the end of this article.

The formal instructions for burying a horse were given in newspapers during the 19th century (*Tampereen Sanomat* 1868; *Ilmarinen* 1877; *Laatokka* 1882; *Neva* 1913). According to these sources, a proper grave depth for a horse was 1.5 m in general and 3 m for animals killed by disease. The graves were to be placed on an upper hillside about 350 m from the nearest road, farmstead, pasture, or animal shelter. The graves that we excavated were 1–1.5 m deep, which indicates the following of official waste-treatment instructions. The sizes of the pits were about 1.5×1 m at a minimum.

Villages also maintained animal cemeteries, motivated by reasons of hygiene as part of waste treatment (*Karjalatar* 1894; *Wiipurin Sanomat* 1901; *Uusi Suometar* 1911:5). It was advised that cemeteries be placed in soils that were not too hard or too wet. The burial area had to be fenced to prevent dogs and other animals from digging up the carcasses and locked and



Fig. 3 Horse-grave depression in Sannais Manor horse cemetery in Porvoo, southern Finland. (Photo by Tuija Kirkinen, 2021.)

guarded to control the burial depth and cleanness of the site. Also, the graves were supposed to be marked with wooden poles to avoid the disturbance of older burials (Tapio 1887; Karjala 1907; Wiipuri 1908; Neva 1913; Loviisan Sanomat 1933).

Grave Types

Single and Double Burials

Of the total number of horse burials in our data, 36% were classified as single graves that contained only one animal. There were also a few double burials in which, for example, a mare and its foal were buried together. In most cases, the graves were simple

pits, which can be seen today in terrain as shallow depressions, if at all (Fig. 3). Based on our surveys and excavations, most of the graves were unmarked. Usually the graves that were marked with tombstones and/or memorial plaques were those of valued trotters (Fig. 4a, b). However, quite often the marking of the graves was done decades after the death of the horse, in the 1970s–1990s.

There is only sparse evidence of grave goods in the horse burials. Presumably, most were unfurnished. However, in the excavated double burial of Rymy-Murto and Valokas, the horses were laid to rest in 1953 on a spruce branch bed. The bodies were also covered with branches. A rare 1965 photo of a working-horse burial evidences the covering of the grave with spruce branches (Vihavainen 1982:20). This tradition is familiar from human burials in Finland (Hagberg 1937; Tranberg 2015:194–196). In the excavated burials, all horses were buried with their horseshoes still on. According to *Satakunta* (1913), an injured horse was shod with new shoes and clothed with a new blanket before it was put down and buried. In the double burial of Rymy-Murto and Valokas, we also found oat grains thrown to the horses, along with a collar. Thus it seems that in some cases horse-related equipment was buried with the animals. While the positions of the horses vary, in most graves many skeletal parts were found in unnatural order, meaning that the bones had been disarticulated and were not in their normal skeletal locations.

The double burial of Valokas and Rymy-Murto is an exception. The grave was 8.5×6 m in area, and it showed a very careful placing of the horses in natural positions, indicating intentionality. In contemporary

Fig. 4 *Left*: The tombstone of Erakko, a successful trotter, in the nature reserve in Karttula, central Finland; *right*: closeup of the stone; the text translated into English reads: “THE GREAT TROTTER STALLION\ ERAKKO\ 1807\1914–1931.” (Photos by Tuija Kirkinen, 2020.)





Fig. 5 The 1953 double burial of Valokas and Rymy-Murto in Korja, southern Finland at the former Korja trotting track, now cultivated. (Photo by Tuija Kirkinen, 2019.)

sources, the wife of the owner is said to have given instructions for the placing of the two trotters “in a running position” (Toivonen 2008). The faces of the horses were toward each other, which indicates a bond between them, as they were half-brothers. Finally, the use of burial goods indicates burial rituals and perhaps even the idea of an afterlife (Fig. 5).

Cemeteries

The share of burial sites classified as cemeteries is 43%. The term applies here to farm and village cemeteries as well as to horse cemeteries maintained by the army, agricultural schools, factories, manors, and horse-breeding farms (i.e., organizations populated by 10s of horses). Although the maintenance of a horse cemetery was regulated, contemporary newspapers depicted the reality, with the cemeteries being bad-smelling places and having skinned horses lying on the ground (Kaleva 1905).



Fig. 6 A horse burial of the 19th and early 20th centuries in Sannais animal cemetery, excavated in 2021. (Photo by Tuija Kirkinen, 2021.)

We conducted excavations at the horse cemetery of the Sannais Manor in Porvoo in 2020 and 2021. The manor is known to have owned ca. 30 horses, 180 Ayrshire cattle, and lots of other animals at the beginning of the 20th century (Enckell 1920) when the cemetery was supposedly still in use. The cemetery, which was pinpointed in an archaeological survey, was about 500 m from the manor’s main building in a forested ridge formation. The burial area contained verified burials and several grave depressions, i.e., spots where the soil level had sunk after the soft parts of the buried horse had decomposed. In Porvoo we excavated four or five horse burials and a double burial of cattle.

Many of the burials were made near the soil surface, being covered only slightly by sand or left partly above the surface. In Grave 3, which was excavated almost as a whole, the original position of the horse was perhaps on its side, with the neck and head turned parallel to the back, toward the hips. Maybe this made it fit into the pit better. There was a large stone near the tomb that may have contributed to the fact that the location of the bones was not quite logical; several bones belonging to the same limb were found in different parts of the pit. Inside the grave, bones moved as the soft parts broke down. What was peculiar, however, was that the lower jaw was located very far from the skull, at the lower parts of the fore-legs. The original position of the horse in Grave 3 cannot be precisely explained based on our documentation because the grave was only partially excavated. A closer examination of the horse’s bones revealed changes in the joints, especially in the limbs, probably due to old age and/or hard physical work (Fig. 6).

Open-Air Burials, Burial Trees, Water Burials, and Burial Islands

Besides being buried in earth graves, horses were also treated in ways that can be compared to atypical human burials, namely, those called “unburied dead” (Weiss-Krejci 2013). By this term we refer to the exposing of carcasses in trees or water, or leaving them unburied on the surface of the ground. These burial forms for humans are known from ethnographic and historical sources, especially from historical Sámi contexts, also in Finland (Manker 1961; Storå 1971).

In burial archaeology, the terms “open-air burials” and “sky burials” cover traditions in which the deceased was placed on the ground or a platform without covering it with soil, or on a mountaintop, to decompose and/or be eaten by animals, mainly birds (Parker Pearson 1999:11). When speaking of 19th- and 20th-century horses, the leaving of a carcass at its death place was usually a practical choice that did not require the digging of a pit to accommodate a large animal. However, there are some examples worth mentioning as possible open-air burials. First, in Konimäki (“Hack Hill”), western Finland, an informant born in 1909 said: “Horse carcasses were left on the cliff, unburied. It was at that time when horse meat was not eaten. They were left to foxes and wolves, sun, and the wind of God” (Nimiarkisto 1966). A similar kind of site might have existed in Kuhmoinen, central Finland, where “during pagan times horses were regarded as holy and it was forbidden to kill them, so old horses were left to die on a hill called Konivuori [Hack Mountain]” (Nimiarkisto 1967, 1993a).

“Burial trees” refer to a custom of placing human corpses in the branches of trees. Nils Storå has reported this tradition among Sámi populations, who wrapped the corpses in birch bark and placed them in a tree (Storå 1971). Similar human treatment is described also in oral traditions in inland Finland (Paulaharju 1922:277; Valonen 1948:91–92, 1971:33–34). In the newspaper *Kaleva* (1905), the author described a horse cemetery where horse carcasses were hanging in trees. He called it an “eastern way” of burying animals, by which he might have referred to the Finno-Ugric tradition of hanging the skins of sacrificed horses in trees with their heads and legs still attached (Krohn 2008:16,19,23,43; Waronen 2009:84). In Koniräme

(“Hack Bog”), an informant born in 1904 said that “a long time ago a horse was buried in a bog and its skull was hung in a tree” (Nimiarkisto 1971). This is analogous to the Finnish bear ceremony in which bear bones were buried under a sacred tree and its skull was hung on a branch (Haavio 1967; Pentikäinen 2007; Siikala 2008, 2012). The tradition was still practiced in Finland at the end of the 19th century (Krohn 2008:36). Also, in Perm, Russia, the skulls of sacrificed horses were hung in a tree (Krohn 2008:144).

Next, the burying of human corpses “in water” in a lake or a spring is another tradition that has been mentioned in Sámi folk beliefs (Storå 1971). In archaeology, Levänluhta and Kälдамäki are two famous human water-burial sites in western Finland (Wessman 2009). These sites were used for human burials between the 5th and 8th centuries; in Levänluhta, the remains of at least three horses were drowned in the spring in the 14th and 16th centuries, centuries later than the site was used for human burials (Wessman et al. 2018). Horses were also drowned in northern Finland in a lake called Konijärvi (“Hack Lake”) (Nimiarkisto 1956). Moreover, horses were also commonly drowned or buried in bogs.

Finally, one can note the concept of “burial islands,” known in Finland from both historical and archaeological sources as human burial sites during winter, when churchyards were difficult to reach because of long distances (Ruohonen 2002, 2005, 2010). In our research material several islands called Raatosaaari (“Carcass Island”) and Konisaari (“Hack Island”) were used for burying horses or for leaving them on the cliff unburied. For example, at Raatokari (“Carcass Rock”), western Finland, “two horse carcasses were left on an island during the winter in the beginning of the 20th century because they could not be buried due to the frost” (Nimiarkisto 1993b).

Waste Treatment: Mass Graves, Dumping Sites, Cremations, and Reburials

The burying of horses in “mass graves” was usually connected to diseases that killed several animals in a short period of time. In these cases very strict instructions were given, for example, the killing of an animal in a grave pit 5 cubits deep (ca. 3 m), the guarding of the burial for five weeks, and fencing it for five years. In the most severe cases, animal shelters were burned and soldiers guarded

the farm or village, being licensed to kill all animals and even humans who tried to leave the area (*Tampereen Sanomat* 1868; *Ilmarinen* 1877; *Laatokka* 1882; Moilanen 2020).

In our research in Somero, southern Finland, horses were said to have died from a disease and were buried on the shore of Lake Hirsjärvi (Local informant 2020, pers. comm.). Mass graves of horses can also be found on historical battlefields (Binder and Quade 2018). In Finland, horses were reported to have been buried during the Winter and Continuation wars (1939–1944, part of World War II) (Piha 1943:5). In Pelkosenniemi, northern Finland, a grave was said to have been made by blasting, after which dead Russian soldiers were laid in the bottom of the pit, and their horses, in turn, were laid above the humans (Sallinen 2021).

Occasionally, hazardous carcasses were ordered to be cremated. This was especially the case with contagious animal diseases, such as rinderpest (*Hufvudstadsbladet* 1871), anthrax (Elmgren 1899:120; *Turun Sanomat* 1905), or glanders (*Louhi* 1893), which were potentially harmful to other animals and, regarding the last two, even to humans. Disposing of carcasses by burning them is directly linked with epidemics, and cremation was not otherwise practiced as a burial custom for horses.

Even “reburial” of horses was reported in 1896, when the newspaper *Tampereen Uutiset* criticized the moving of horse carcasses from their former grave in the Pispalanharju Ridge area to another place because of “hygienic reasons” (Moilanen 2020). The grave contained around 30 old horses euthanized by a local animal-protection association. The carcasses had been buried with lime, but local authorities were still concerned that the decomposition fluids were possibly harmful and decided the remains should therefore be moved to another location.

Finally, there are some mentions of “carcass-dumping sites.” In Taivalkoski, eastern Finland, horses were killed on top of a hill called Koni(n) hauta (“Hack Grave”), and their carcasses were rolled down into a bog. Sometimes the legs of the horses were broken before rolling (Nimiarkisto 1980; Local informant 2020, pers. comm.).

Burial Locations

Based on the material studied in this article, the locations of horse graves can be divided into two main

groups: first, in fields or a garden near human settlements, and, second, in woods at some distance from farms. The majority of horses (67%) were buried in forests, hill slopes, and bogs, or wet depressions at some distance from farms, as well as on islands and faraway meadows, “as they could not be buried near the farmhouse” (Nimiarkisto 1963). This quotation hypothetically indicates the success of hygiene education, according to which animal graves should be placed “about 350 meters from the nearest road, farmstead, pasture, or animal shelter” (Neva 1913).

However, one-third of the carcasses buried in forests were deposited in wet places, which was at odds with the instructions of the authorities. The popularity of bogs can be understood by the softness of the soil for digging. Evidence of bog burials has been found every now and then when remains of horses have been detected in bogs (e.g., at the time of the drainage of wet areas). For example, in Vihti, southern Finland, six horse skulls with bullet holes in their foreheads were detected on the edge of a drainage ditch (see ¹⁴C dating in the “Dating of the Graves” section).

Additionally, horses were often kept in forest pastures, and they were used extensively in forestry work, where some of them died from accidents or drowning in springs and bogs. These carcasses were naturally left at the site. Also, horses drowned in lakes, especially during wintertime when pulling heavy carriages on ice. These sites are numerous in the Digital Name Archive; for this study, only a selection of sites were included.

The second group of graves consists of burials placed in home fields and nearby meadows, pastures, gardens, and courtyards (20%). In contrast to graves made in forests, these burials did not follow the instructions given by the authorities at the beginning of the 20th century. One possible explanation is that at least some of these graves might be older. Another possible reason is that horses that died during work in the home field were buried where they fell dead.

When mentioned, the burials were made in the middle of the field, at the edge or border of it, or in small uncultivated mounds in the field area (Fig. 7). Sometimes horses were buried in pastures where they used to roam during their lifetimes, and names such as Konipelto (“Hack Field”), Koninraato (“Hack Carcass”), and Tamma-aho (“Mare Meadow”) bear a memory of the grave. Occasionally, the bones and skulls of these horses have been detected during later



Fig. 7 Raatosaairenpelto (“Carcass Island Field”) in Loppi, southern Finland. “In the old times, horses were buried there” (Nimiarkisto 1973). According to a local informant, five horses were buried around the hay barn seen at *center*. (Photo by Tuija Kirkinen, 2021.)

land use. Graves made near farmhouses were placed next to animal shelters and stables or in the garden. Some informants indicated that only special horses were buried near the house (for example, the ones with whom the farmer had a special bond or the last ones before the introduction of a tractor).

A special form of grave is that of famous trotters, placed in public or semipublic places on trotting tracks or farm or manor courtyards. To our knowledge, horses were buried at nine trotting tracks. In some cases this was done because the horse died during the competition. Horses were also put down to be buried by the track; for example, Valokas and Rymy-Murto were put down and buried in 1953 at the former Koria trotting track in Kouvola (Fig. 8). At trotting tracks horse graves are an integral part of the special cultural landscape dedicated to equine sport.

Finally, there are cases in which the relationship between horse burials and human graveyards is worth discussing. The most striking example was found with the stallion Manu 49, which was buried by the Seppälänkangas churchyard wall in Jyväskylä in 1921 (Korpela 2012). Another interesting example is Ristimäki (“Cross Hill”) in Viborg, an old churchyard in which Orthodox, Jewish, Swedish-German, Islamic, rural, and municipal churches had their own areas. On the same hill there were also cemeteries for dogs and horses (*Itä-Suomen työmiehet* 1918:2; Väänänen 1936:16), which, in turn, were used during the Finnish Civil War in 1918 for burying executed humans (Tikkanen 1919:2).



Fig. 8 *Left*: Aerial photo of the former Koria trotting track in southern Finland, which is now under cultivation. The 1953 double burial of Valokas and Rymy-Murto by the track is marked (*right bottom*), as is an example of the old equipment

used to maintain the track left at the site (*right top*). (Aerial photo by Kouvola City, 2008; other photos by Tuija Kirkinen, 2019.)

Discussion

Horse Burials: Ambiguous but Valuable Cultural Heritage

We consider horse burials as a specific group of historical sites that are associated with past land use and human–animal relations (Murdoch 1997:328; Whatmore 2006). In the past, animal graves were known and remembered, named as “Hack Hills” or “Mare Graves,” and stories were told about them. Some of the cemeteries were fenced, and some were foul-smelling places with animal bones and even carcasses visible on the surface. Large horse bones and skeletons were found left in the woods or plowed into the fields, and the reactions to them varied from fear (Sirelius 1919:223) and superstition (Hukantaival 2009) to practicality, such as the use of bones for bone meal (*Savo* 1889; *Kaleva* 1903; *Pohjalainen* 1913; *Chez* 2016).

From the point of view of animal (or nonhuman) geography (Emel et al. 2002; Whatmore 2002, 2006; Wolch et al. 2003), animal burials can be seen as an integral element in human–animal networks, together with pastures, paddocks, stables, roads, fields, and forests, which were cleared, tilled, grazed, fertilized, and worked with horses. Moreover, animal graves were part of physical as well as mental landscapes (Ermischer 2004).

Today, horse burials are invisible in the landscape or seen only as shallow depressions, usually unmarked in the field and missing in historical maps and records. Perhaps for this reason they have not been recognized as historical monuments or protected by laws as ancient monuments (Niukkanen 2009). Thus, they are prone to destruction, and the information from animal graves is in danger of disappearing as informants get older and pass away.

Burials or Waste Treatment?

In spite of the secularization of society, eating horses was a taboo as late as the mid-20th century. This was based on Christian dogma, but also on the close relationship with the horse. For example, the farm horse was considered a mate and a companion, “akin to a human being” or “like a brother.” The community controlled the eating and even skinning of horses by giving shameful nicknames to and avoiding contact with

persons who ate or skinned them (*Turun Sanomat* 1928:10).

Despite all this, a central aspect in animal burials is waste treatment. Accordingly, it is difficult to draw a line between an individual burial and a waste pit. A horse is a large animal with an average 400–700 kg of bone, flesh, and blood that could not be used for human food. After its death it was a type of hazardous waste that needed to be gotten rid of. According to Ivy Collier (2016:3), a central criterion for an animal grave is its placing near human settlements or in human burials. Based on this, in the 19th- and 20th-century agrarian environment burials made near the farm’s main buildings and courtyards or in close contact with human churchyards should be classified as graves. However, the burying of horses at a distance in forests might be a result of official hygiene instructions more than the owners’ ideas of horse carcasses as waste. On the other hand, the dumping of carcasses in bogs and other wet depressions or leaving them at their death places underlines practical attitudes regarding the bodies.

Another criterion for a grave, according to Collier (2016:3), was the equipping of the animal with grave goods, such as food. There is some evidence of this, especially in terms of equipping the horse with new horseshoes or a collar and oat grains. Finally, the placing of horse bodies in graves indicated intentionality in only one case.

Similarities between Human and Horse Burials

We would like to add to Collier’s list the similarities between human and animal burials, previously noted in the Skolt Sámi traditions (Storå 1971:113). This is evident in those horse graves that followed 19th- and early 20th-century Christian burial forms, with tombstones and memorial plaques and the furnishing of pits with spruce branches. We also know from written sources that funerals with guests and speeches were sometimes held to honor the horse. In addition, beautifully written memoirs were printed in horse-themed magazines (for example, in *Maatalouden Hevoshoitolehti* [Agricultural equine journal]). These kinds of funerals were reserved almost entirely for famous trotters, whose graves were located in public or semi-public areas at trotting tracks or in manor courtyards.

The model for human-like burials may have originated in foreign examples made familiar by

newspapers. For example, the newspaper *Uusi Suometar* (1875) reported that the famous racehorse American Girl died during a race and was buried by the track. The tombstone was mentioned to have cost \$1,000. Also, the *Savon Sanomat* (1928) wrote about an animal cemetery in Massachusetts in which only the prizewinners from the farm were buried, in graves marked by tombstones and brass placards carved with records of their accomplishments. The most important of all, not least because Finland was at that time part of Russia, was the horse cemetery in Tsarskoe Selo, the summer residence of the Romanov czars near St. Petersburg. The cemetery was in use from 1831 to 1917, and it offered the final resting place for 122 horses belonging to the czars. The graves were marked with huge granite stones on which the names and lifespans of the horses were carved (*Vasabladet* 1932:5; Gentleman 2001; Tsarskoe Selo State Museum and Heritage Site 2021). Also, in literature, the burial of horses was described in “The Rout of the White Hussars” (in *Plain Tales from the Hills*), written by Rudyard Kipling in 1888. In that book, the drum horse of the hussars, “a friend,” was buried with military homage, covered with mourning textiles and flowers, in a horse cemetery (Kipling 1888). The story was serialized in several Finnish newspapers (Kipling 1926), so it was familiar to many.

When it comes to other types of animal burials, Paulson (1963:484) and Storå (1971:113) listed four burial types: burials in the ground, aerial burials, burials at the soil surface, and burials in water, which can be detected both in human burials and in the treatment of game animals’ bones. We also identified similar burial forms in the historical horse burials in Finland, where horse carcasses were hung in trees, left on cliffs, or sunk in lakes. Although memories of these kinds of human burials have mostly been recorded in northern Fennoscandian Sámi contexts (Manker 1961; Storå 1971), they were also part of traditional Finnish folk beliefs in general (Paulaharju 1922:277; Valonen 1948:71). Hypothetically, this might indicate the overlapping of spiritual realms for humans and nonhumans, in which “the line between human and animal is not always clear, ... especially in the spirit realm” (DeMello 2016:xix). Here we hypothesize that this may have been the case also in 19th- and early 20th-century Finland, where aspects of folk religion were still alive in the countryside (Hukantaival 2009).

Conclusions

Our research has shown a variety of horse-burial customs in traditional rural contexts and detected examples of spiritual realms shared between humans and animals. In many cases the changes in burial customs reflect the increase in authoritarian control over animal waste disposal in the rural environment. The graves themselves have been integral parts of the landscapes of their times, reflecting life cycles in the animal world (Harvey 1996:210–211). In this article we have explained that horse graves must be considered as their own group of historical sites and valued as essential sources of evidence of human–animal relationships and landscapes.

Acknowledgments: We are grateful to the public for sharing their information about historical horse burials and participating in our excavations. We express our gratitude to Wesa Perttola for his expertise and kind help with the surveying and documenting methods. We also thank Paul Kalle Hänninen for kindly offering a photo for the publication. The research was conducted as part of the project Interdisciplinary Research Strategies of Biological Cultural Heritage: Surveying, Archiving, Analyzing, and Sharing Historical DNA from Finnhorses, funded by the Alfred Kordelin Foundation. This article is dedicated to our dear colleague, the Finnhorse specialist Päivi Laine, who died in 2020.

Funding Open Access funding provided by University of Helsinki (including Helsinki University Central Hospital). This study was funded by the Alfred Kordelin Foundation in 2019–2021.

Declarations

Conflict of Interest Statement The authors declare that they have no conflict of interest.

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