

Sacrifice, warfare, or burial? Middle Bronze Age »mass graves« from Érd and Makó, Hungary

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Zusammenfassung

Opferung, Krieg oder Bestattung? Mittelbronzezeitliche »Massengräber« in Érd und Makó, Ungarn

In den letzten zwei Jahrzehnten hat die Erforschung der menschlichen Überreste aus prähistorischen Siedlungen in Ungarn neuen Auftrieb bekommen. Während Bestattungen innerhalb von Siedlungen in vielen Epochen vorkamen, waren sie wohl während der Kupfer- und Bronzezeit am geläufigsten. Dank großflächiger Rettungsgrabungen der letzten Jahrzehnte ist unsere Datenbank entsprechender Befunde massiv angewachsen und so ließen sich auch neue Erkenntnisse zu bereits erfassten Fundinventaren gewinnen.

In diesem Beitrag werden Gräber aus zwei mittelbronzezeitlichen Siedlungen in Ungarn vorgestellt, die eine Reihe von Skeletten und menschlichen Überresten enthielten, von denen einige Spuren von perimortaler Gewalteinwirkung zeigten. Es ließ sich nachweisen, dass die Deponierungen von menschlichen Überresten in beiden Fundstellen eine signifikante Vielfalt aufzeigen, was als Hinweis auf verschiedenartige kulturelle Praktiken gedeutet werden kann. Einige Merkmale dieser »Massengräber« unterstützen die Vorstellung, dass sie womöglich im Zusammenhang mit einer Form von Opferhandlung oder ritueller Gewalt zustande kamen und nicht einer kriegerischen Auseinandersetzung oder einer andersartigen Todesursache zuzuschreiben sind. Aufgrund der chronologischen Daten kann auf eine länger andauernde Tradition von rituellen Handlungen und Opferritualen sowie vielleicht von sekundären Manipulationen an den menschlichen Überresten geschlossen werden.

Introduction

During the past two decades, the study of human remains from settlements has gained new momentum in global archaeology (Osterholtz et al. 2014), including the archaeology of prehistoric Europe (Rittershofer 1997; Müller-Scheeßel 2013; Gogâltan/Ailincăi 2016), and the work of social bioarchaeologists has revived interest in the social significance of the human body and its remains (Agarwal/Glencross 2011). In Hungary, human remains in settlement contexts can be observed in many prehistoric phases but are perhaps most prominent during the Copper and Bronze Ages. Thanks to the large-scale rescue excavations of the last few decades, our database of relevant material has increased considerably, shedding new light on previously excavated assemblages as well.

Summary

During the past two decades, the study of human remains from prehistoric settlements has gained new momentum in Hungary. The phenomenon of burials within settlements can be observed in many phases but was perhaps most prominent during the Copper and Bronze Ages. Thanks to the large-scale rescue excavations of the last few decades, our database of relevant material has increased considerably, shedding new light on previously excavated assemblages as well.

In our paper, we present burials from two Middle Bronze Age settlements in Hungary that yielded a series of skeletons and human remains, some of which showed traces of violence and perimortem trauma. We establish that at both sites the human depositions showed significant variability, indicating diverse cultural practices. A number of characteristics of these »mass graves« support the hypothesis that they may have been associated with some form of sacrifice and ritual violence, rather than warfare or other causes of death. Chronological data indicate a prolonged tradition of series of ritual acts, sacrifices, and possibly the secondary manipulation of human bodies.

While human remains can enter the archaeological record through numerous processes and in many forms, the so-called »mass graves«, where multiple bodies are buried or thrown into settlement features, are among the most spectacular. They usually invoke visions and narratives of war, sacrifice, or epidemics.

Here we will present burials from two Middle Bronze Age (c. 2000–1450 BC) settlements, located near Makó in south-eastern Hungary and Érd in central Hungary, that yielded a series of skeletons and human remains, some of which showed traces of violence and perimortem trauma. Such »mass graves« have been attested at other sites as well, and in many cases the first assumption of the excavators has been that the people buried there were the victims of warfare. A closer look, however, shows that the case is more complicated.

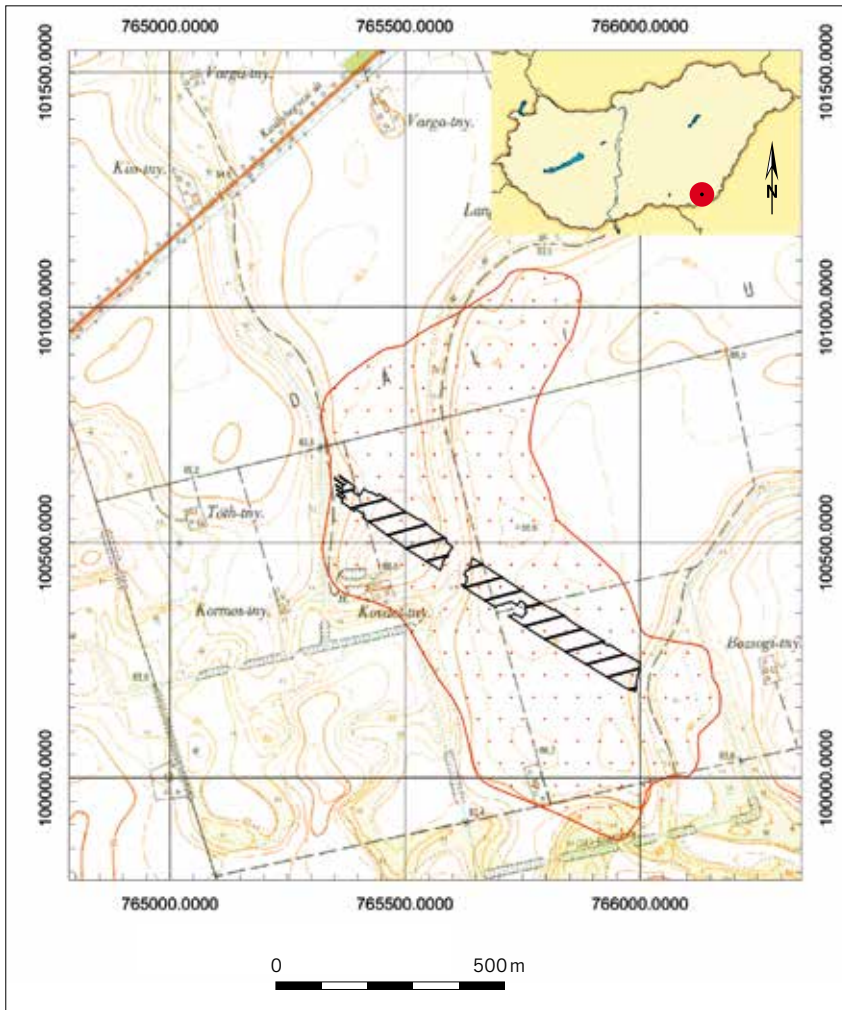


Fig. 1 Makó, Dáli-ugar, Hungary. Site map. Red line: known extension of the archaeological site; black area: excavated areas (northwest: M43 38, southeast: M43 39).

Abb. 1 Makó, Dáli-ugar, Ungarn. Karte der Fundstelle. Rote Linie: bekannte Ausdehnung der archäologischen Fundstelle; schwarze Fläche: Ausgrabungsflächen (Nordwesten: M43 38, Südosten: M43 39).

Makó, Dáli-ugar (Csongrád-Csanád County, south-eastern Hungary)

The site of Makó, Dáli-ugar lies in Csongrád-Csanád County, south-eastern Hungary, about 3 km east-north-east of the modern city of Makó. The Bronze Age settlement lies on the bank of the Száraz Creek, on two neighbouring, north-south oriented »peninsula«-like elevations (Fig. 1). The site had already been investigated in a number of rescue excavations (Pópitay 2012; Sóskuti 2016), before 272 Middle Bronze Age features, mostly pits, were unearthed in 2013 in two neighbouring areas (Site M43 38 and Site M43 39). Five of the pits contained multiple human remains, and a series of other features contained single bodies or partial skeletons.

Feature 287

Uncovered in the southern excavated area (Site M43 39), Feature 287 was a round pit with a diameter of 120 cm and a depth of 80 cm. It contained the remains of at least six individuals. First in the sequence of deposition were ribs, long bones, and three skull fragments of at least two deceased persons (an adult and a 2–3-year-old child), which had been placed at

the bottom of the pit, not in anatomical order, at a depth of approx. 70 cm (287/379¹). Above these was the skeleton of a 23–39-year-old woman (287/364), lying on its right side with tightly flexed legs and arms, probably indicating that the deceased had been tied up when buried. A bronze object lay at the left shoulder, and fragments of a small ceramic vessel lay in front of the skull. At roughly the same depth, the body of a 5–6-month-old child had been placed in the pit (287/363). The skeleton was not completely preserved, but this may have been the result of post-depositional taphonomic processes. Above them, in a supine position and apparently thrown in, lay the body of a 30–39-year-old woman (287/362). The right arm was tightly flexed under the skull, while the left lay bent beside the body. The right leg was pulled up and in towards the axis of the body, the left was bent to the side and lay partly underneath the right one. A fragment of a pottery vessel lay under the pelvis, and two bronze wires were found under and beside the skull. The remains of a foetus and the mandible of another individual were also found. In the uppermost layer of the pit was the skeleton of a 23–29-year-old woman. There was a bronze plate on the skull and the knees were tightly bent, again probably indicating that the body had been bound (287/358) (Fig. 2).

¹ Feature number and stratigraphic unit in our terminology.

Fig. 2 Makó, Dáli-ugar (M43 39), Feature 287, Skeleton 358.

Abb. 2 Makó, Dáli-ugar (M43 39), Bef. 287, Skelett 358.



Fig. 3 Makó, Dáli-ugar (M43 39), Feature 298, Skeletons 467 and 468.

Abb. 3 Makó, Dáli-ugar (M43 39), Bef. 298, Skelett 467 und 468.



Feature 298

Feature 298 was a large, round pit, cut by two later ditches, with a diameter of 260–290 cm and a depth of 180 cm. About 30 cm above the bottom of the pit lay the skeleton of a mature, 40–50-year-old woman (298/467) with the upper torso prone and the legs slightly pulled up on the left side. The arms were bent perpendicularly, with the hands under the pelvis. At the same depth, in a prone, crouched position, lay the skeleton of a younger individual (298/468). The tightly flexed arms and legs indicated that the body had been tied up (Fig. 3). The remains were mixed with bones from at least two other individuals, a mature, 50–59-year-old man and a 7–8-year-old child. The skull of the older individual showed traces of possible blunt force trauma on the parietal bone.

Feature 67

Uncovered in the northern excavated area (Site M43 38), Feature 67 (Fig. 4a–b) was a round pit that widened towards the bottom. Its diameter was 164 cm at the mouth and 185 cm at the bottom; its approximate depth was 125 cm. The pit contained three complete or partial human skeletons between the depths of 96 and 130 cm, further disarticulated human bones, and a human skull at a depth of 30 cm. Skeleton 3 was an articulated skeleton lying on its back on the south-western side of the bottom of the pit. It was associated with a bronze pendant and the skull of another individual (a mature, 40–45-year-old woman). Skeleton 2, at the north-western edge of the pit, belonged to a 14–15-year-old juvenile. Only its lower limbs were preserved. The femurs showed signs of

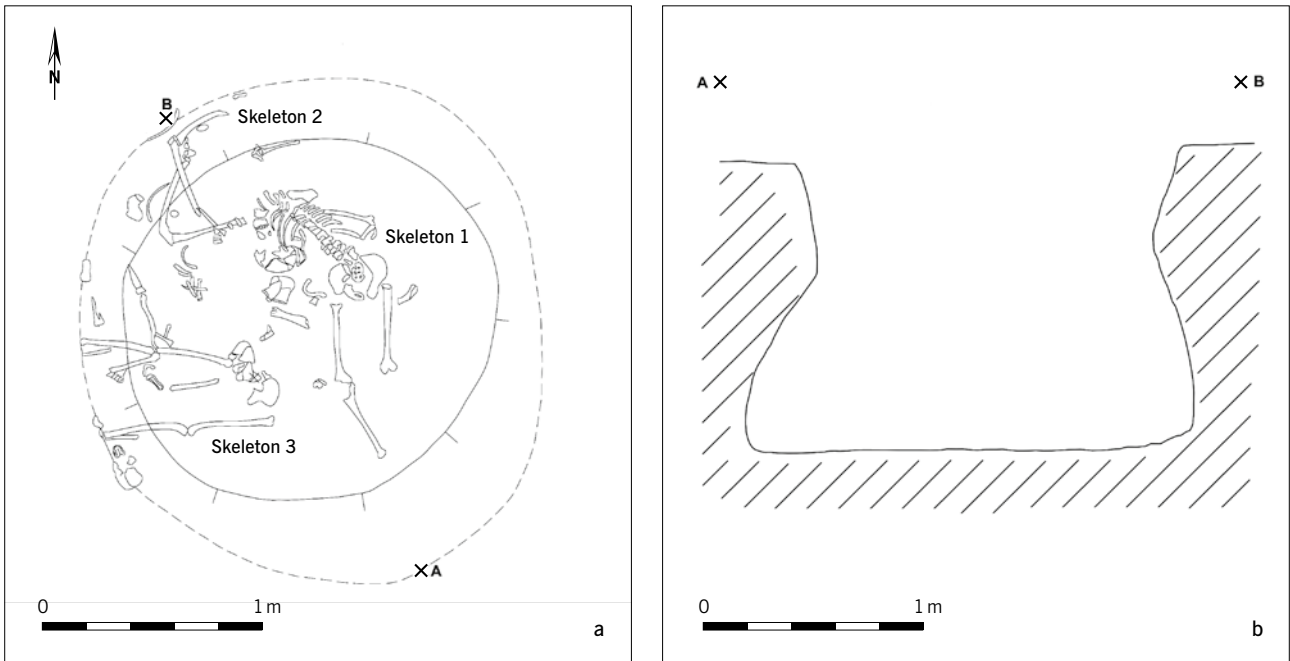


Fig. 4a–b Makó, Dáli-ugar (M43 38), Feature 67. a Positions of Skeletons 1, 2 and 3; b northwest-southeast profile of the pit.

Abb. 4a–b Makó, Dáli-ugar (M43 38), Bef. 67. a Position der Skelette 1, 2 und 3; b Nordwest-Südost-Profil der Grube.

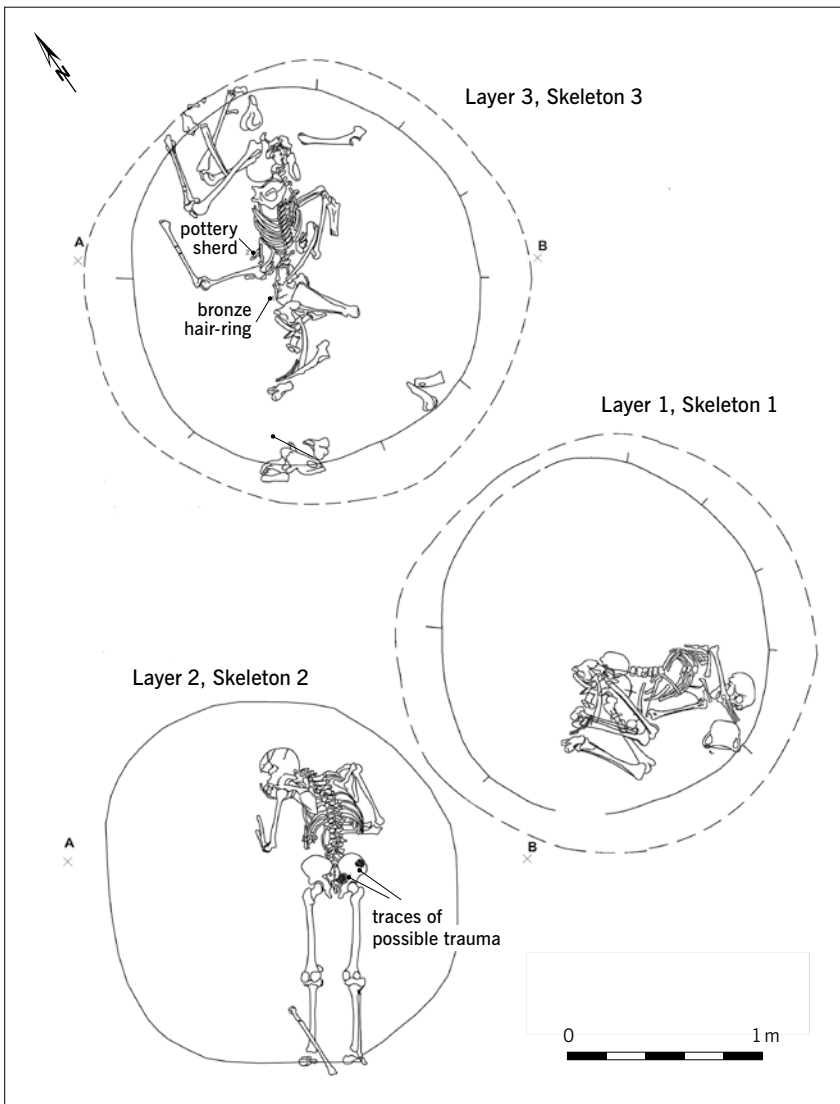


Fig. 5 Makó, Dáli-ugar (M43 38), Feature 315. Skeletons 1, 2 and 3 in Layers 1, 2 and 3, respectively.

Abb. 5 Makó, Dáli-ugar (M43 38), Bef. 315. Skelette 1, 2 und 3 in den Schichten 1, 2 bzw. 3.

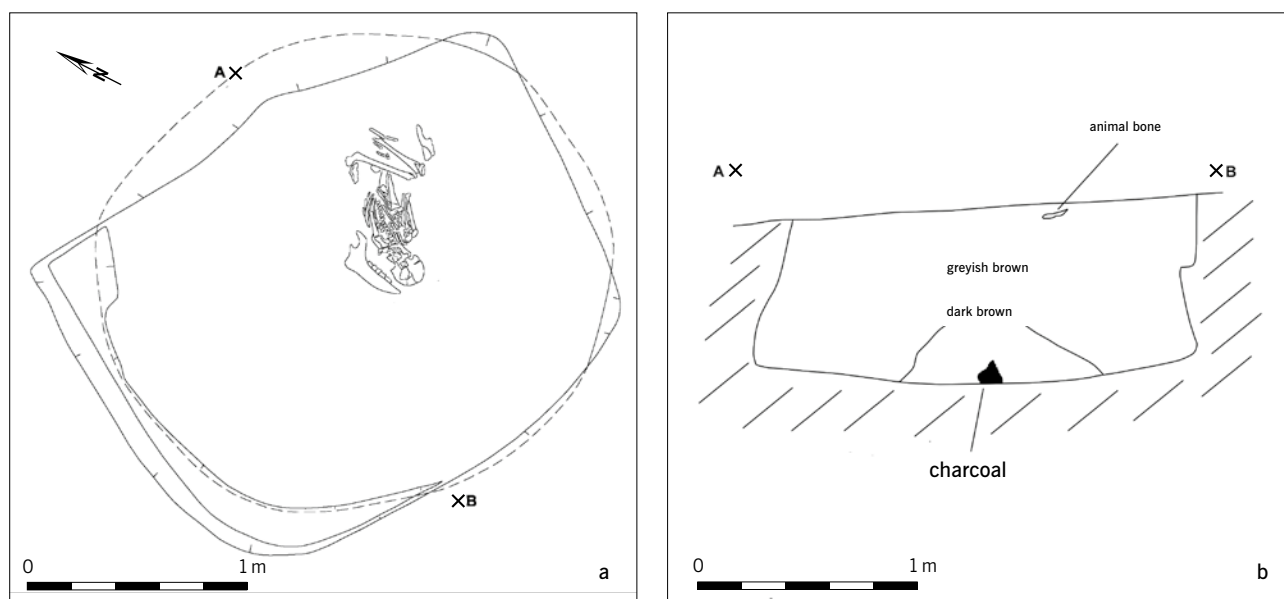


Fig. 6a–b Makó, Dáli-ugar (M43 38), Feature 245. a The skeleton of a 12–14-year-old child with horse skull; b northwest-southeast profile of the pit.

Abb. 6a–b Makó, Dáli-ugar (M43 38), Bef. 245. a Skelett eines 12–14-jährigen Kindes mit einem Pferdeschädel; b Nordwest-Südost-Profil der Grube.

possible mutilation. Skeleton 1, that of an adult man, lay in a supine position with an apparently broken spine and the left arm missing. It was associated with an intact ceramic vessel. In the uppermost layer of the fill, the skull of a 2–3-year-old child had been deposited. The fill also contained teeth and a mandible fragment of a 12–14-year-old child.

Feature 315

Feature 315 (Site M43 38) was a large, round pit with walls slightly widening towards an even, horizontal bottom (Fig. 5). Its diameter was 180 cm at the mouth and 189 cm at the bottom; its depth was approximately 98–103 cm. Skeleton 3, that of 30–39-year-old individual, lay prone on the bottom of the pit with its legs pulled up, the left arm bent under the abdomen, and the right arm extended. A large number of animal bones lay scattered on top of the human remains. A broken bronze hair-ring and ceramic sherds were associated with the body. It was not clear whether these were the remains of a single individual: the skull was that of a female but the postcranial skeleton might have been male. The atlas was missing. Skeleton 2, that of a mature man (50–59 years old), also lay prone, at a depth of 71 cm. The arms were bent in front of the body and the pelvis displayed signs of trauma. Skeleton 1, the incomplete remains of a 35–39-year-old woman, was found at a depth of 37 cm, next to the southern wall of the pit. It lay in a crouched, supine position with the left arm beside the body and the right one lying across the skull. It was associated with a two-handled jug.

Feature 245

Feature 245 (Site M43 38) was a large, oval pit with a diameter of 183–242 cm and a depth of 34–84 cm (Fig. 6). Its walls widened slightly towards the bottom. There was a narrow ledge at the bottom on the south-western side. At a depth

of 47 cm, the skeleton of a 12–14-year-old child was discovered, lying in an extended supine position with the head turned slightly to the right and the arms folded on the chest. The pelvis and the legs were missing – in their place lay the lower limbs of an adult. There was a horse skull near the child's face.

A few other features also contained human remains, although not multiple burials. In Feature 286 (Site M43 39), an oval pit, a number of animal skeletons, including that of a wild boar, lay at a depth of approx. 60 cm. Beneath these lay a human skeleton, placed on its side, about 10–15 cm above the bottom of the pit. In the fill of Feature 289 (Site M43 38), an oval pit with steep walls and uneven bottom, a human skull and a few long bones were found, with a few associated sherds. Feature 241 was a »normal« inhumation burial in a rectangular burial pit – although unusual in being found within a settlement. It contained the remains of an adult, lying in a crouched position on the right side, with one of the legs tightly flexed back behind the femur. A single Bronze Age pottery sherd was found under the skull. Feature 260 was a round pit with walls widening towards a convex bottom. The skeleton of a child was found at a depth of 80 cm, at the south-eastern edge of the pit.

Preliminary physical anthropological analyses indicate that the human bones were generally in a good state of preservation. In the features with remains from multiple individuals, the demographic ratio of adults (6 women and 4 men) to the children accompanying them (10) was similar to the ratio from the features with single individuals (10 women, 7 men, 2 unidentified adults, 15 children, and one unidentified bone). Although we do not yet have the final results of the palaeopathological analysis, many of the human remains found at the site seemed to display traces of violence and some form of perimortem trauma: blunt force trauma to the skull (Feature 298), severed limbs (e.g.

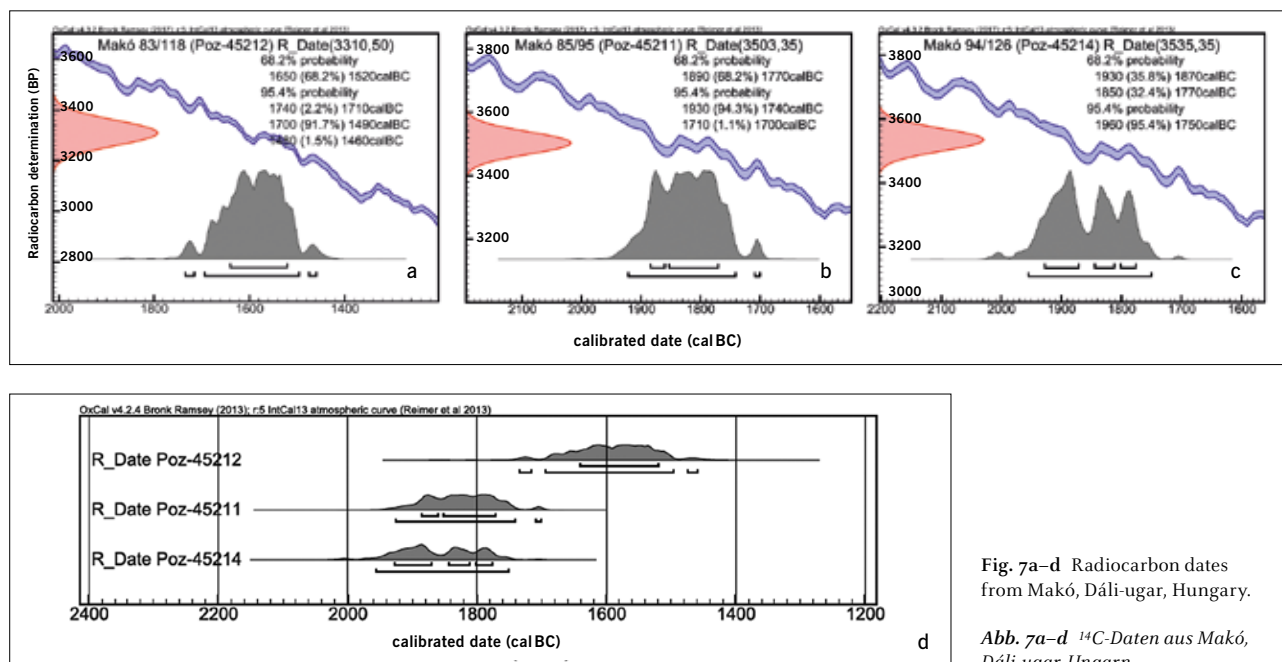


Fig. 7a–d Radiocarbon dates from Makó, Dáli-ugar, Hungary.

Abb. 7a–d ^{14}C -Daten aus Makó, Dáli-ugar, Ungarn.

Site	Feature	Lab code	BP	Cal BC (1 σ)	Cal BC (2 σ)
Makó, Dáli-ugar (52733)	85/95	Poz-45211	3503 \pm 35	1890–1770 cal BC (68.2%)	1930–1740 cal BC (94.3%) 1710–1700 cal BC (1.1%)
Makó, Dáli-ugar (52733)	83/118	Poz-45212	3310 \pm 50	1650–1520 cal BC (68.2%)	1740–1710 cal BC (2.2%) 1700–1490 cal BC (91.7%) 1480–1460 cal BC (1.5%)
Makó, Dáli-ugar (52733)	94/126	Poz-45214	3535 \pm 35	1930–1870 cal BC (35.8%) 1850–1770 cal BC (32.4%)	1960–1750 cal BC (95.4%)

Tab. 1 Radiocarbon dates from Makó, Dáli-ugar, Hungary.

Tab. 1 ^{14}C -Daten aus Makó, Dáli-ugar, Ungarn.

Features 286 and 67), possible decapitation (Feature 67), and the dropping of tied-up bodies into the pits (Features 67 and 287).

The chronology of the site can provide important clues to the interpretation of these burials. It seems that the settlement was actually occupied for three to four centuries, which means that the burials may not have been connected to a single phase or a single event. We have three radiocarbon dates from three features at the site that date the occupation to between c. 1930 and 1520 cal BC (1 σ) (Tab. 1; Fig. 7)². The dated samples, however, were not taken from the human bones; they came from an earlier phase of the excavation, before the remains were discovered. Thus, the issue of chronology must remain open until further analyses are carried out.

Érd, Hosszúföldek (Pest County, central Hungary)

The site is located just south of Budapest, between Érd and Százhalombatta, Pest County, on the banks of the Benta

River (Fig. 8). Here, a large, multiperiod site with more than 4000 features was excavated in 2004 in advance of the construction of the M6 motorway (Ottományi 2005). A large proportion of the settlement features belonged to the Middle Bronze Age and were characterised by Vatya style material. Twenty-four pits yielded the remains of a total 36 individuals, including 24 more or less complete skeletons (Pap et al. 2008; Earle et al. 2014). While a number of pits contained multiple human remains, three features can be singled out as »real« mass graves (Szeverényi/Kiss 2018, 45 f.).

Feature 705

Feature 705 was a round pit with walls slightly widening towards a flat, even bottom. Its diameter was 210–220 cm. It contained the remains of six individuals: four complete skeletons (1032, 1033, 1035, 1042) and single bones of two other individuals (1139, 1345) (Fig. 9). There were also two dog skeletons and a bovine skull, four intact ceramic vessels (Fig. 10) and two bronze objects.

² The radiocarbon dates were calibrated using OxCal v4.3.2 Bronk Ramsey (2017)

(see Bronk Ramsey 2009), and the IntCal13 atmospheric curve (Reimer et al. 2013).

Fig. 8 Érd, Hosszúföldek, Hungary. Site map. Red line: known extension of site before excavation; black area: excavated area.

Abb. 8 Érd, Hosszúföldek, Ungarn. Karte der Fundstelle. Rote Linie: vor der Ausgrabung bekannte Ausdehnung der Fundstelle; schwarze Fläche: Ausgrabungsfläche.

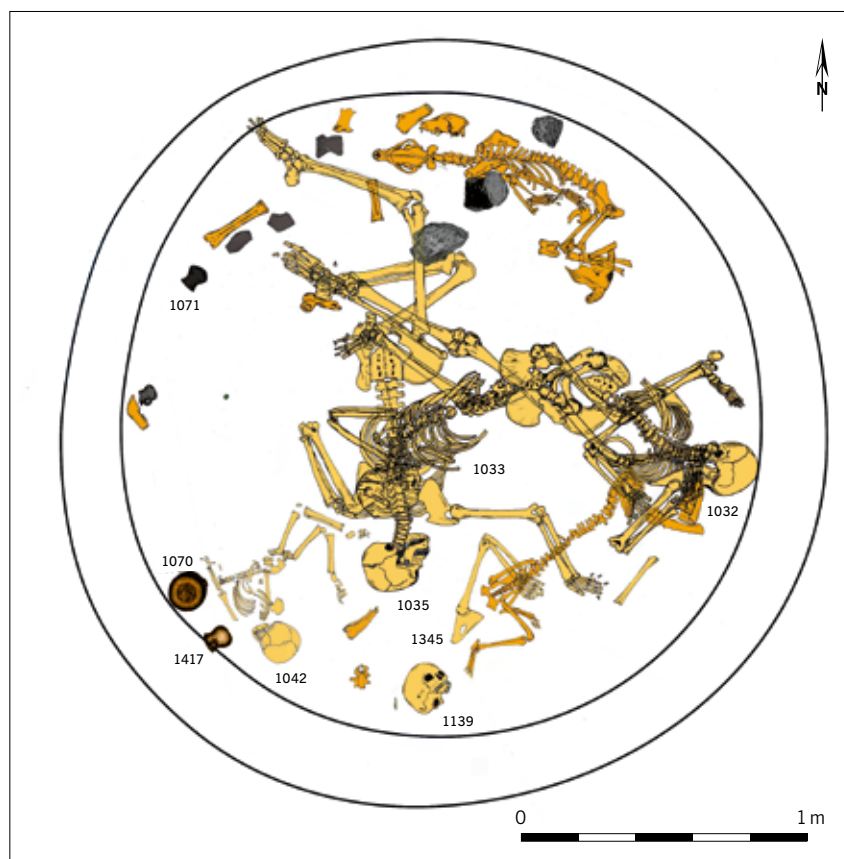
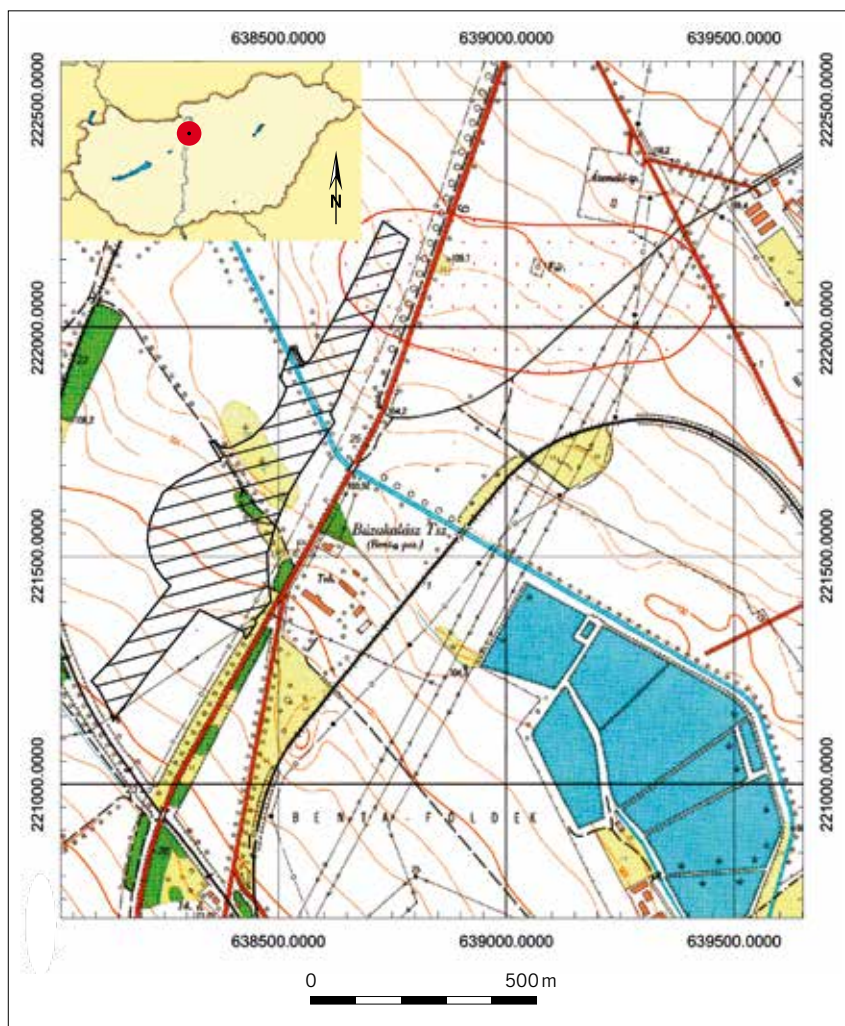


Fig. 9 Érd, Hosszúföldek, Feature 705. Location of human remains (1032, 1033, 1035, 1042, 1139, 1345) and intact vessels (1070, 1071, 1417).

Abb. 9 Érd, Hosszúföldek, Bef. 705. Lage der menschlichen Reste (1032, 1033, 1035, 1042, 1139, 1345) und der vollständigen Gefäße (1070, 1071, 1417).



Fig. 10a–d Middle Bronze Age Vatya style pottery from Feature 705 at Érd, Hosszúföldek. a 1071; b 1069; c 1070; d 1417.

Abb. 10a–d Mittelbronzezeitliche Keramik im Vatya-Stil aus Bef. 705 in Érd, Hosszúföldek. a 1071; b 1069; c 1070; d 1417.

The detached human skull (1139) of a 16–20-year-old female (?) was the first deposit to have been made and lay at the bottom of the pit. Above the skull – clearly thrown in – was the skeleton of a 2–3-year-old child (1042), lying in a prone position with the arms underneath the upper body and the legs bent at the knees. Above this was the skeleton of a 35–45-year-old man (?) (1035), lying in a prone position, with the head turned to the left, the left arm raised, and the right arm beside the body, bent back at the elbow. Above this, evidently thrown in, was the skeleton of a juvenile (15–18-year-old) individual (1033), lying on its right side and bent slightly forward. The lower mandible was missing and the left arm was found in its place. The spine was also slightly misplaced. The legs were slightly bent. A dismembered right arm (1345), lying approximately half a metre from the skull, might also have belonged to this skeleton. The uppermost skeleton was that of an approximately 18–22-year-old woman (?) (1032), lying face down, with one arm under the abdomen, the other bent back in front of the face, the right leg extended, and the left leg bent under the body.

Feature 1039

Feature 1039 was a shallow, 30 cm-deep pit, approx. 180 cm in diameter, with straight walls and a slightly undulating

bottom. It contained the remains of two adults and a neonate. The skeleton of a 50–60-year-old woman (?) lay on its right side with the legs pulled up in front of the body and the arms bent in front of the chest (1550). This deposition must have been contemporary with that of the neonate lying close to (or, perhaps, in) her arms, between the two adults. The skeleton of a 20–25-year-old man lay on its left side, with the legs slightly bent (1534). One of the legs lay on top of one of the woman's, indicating a later deposition – even if only slightly (Fig. 11). A fragmentary cup was placed approx. 10–15 cm behind the lumbar vertebrae of the woman.

Feature 1581

Feature 1581 was a round pit, approx. 210 cm deep and 210 cm in diameter, with walls slightly widening towards a convex bottom. The fill of the pit contained three complete human skeletons (2427, 2432, 2433), five dog skeletons (2425, 2429, 2430, 2434, 2435), the skeleton of a piglet (2440), three intact cups (2426, 2428, 2436), a bronze pendant (2438), a bronze pin (2439), a pair of bronze rings (2437), and a bone pin (2431) (Fig. 12).

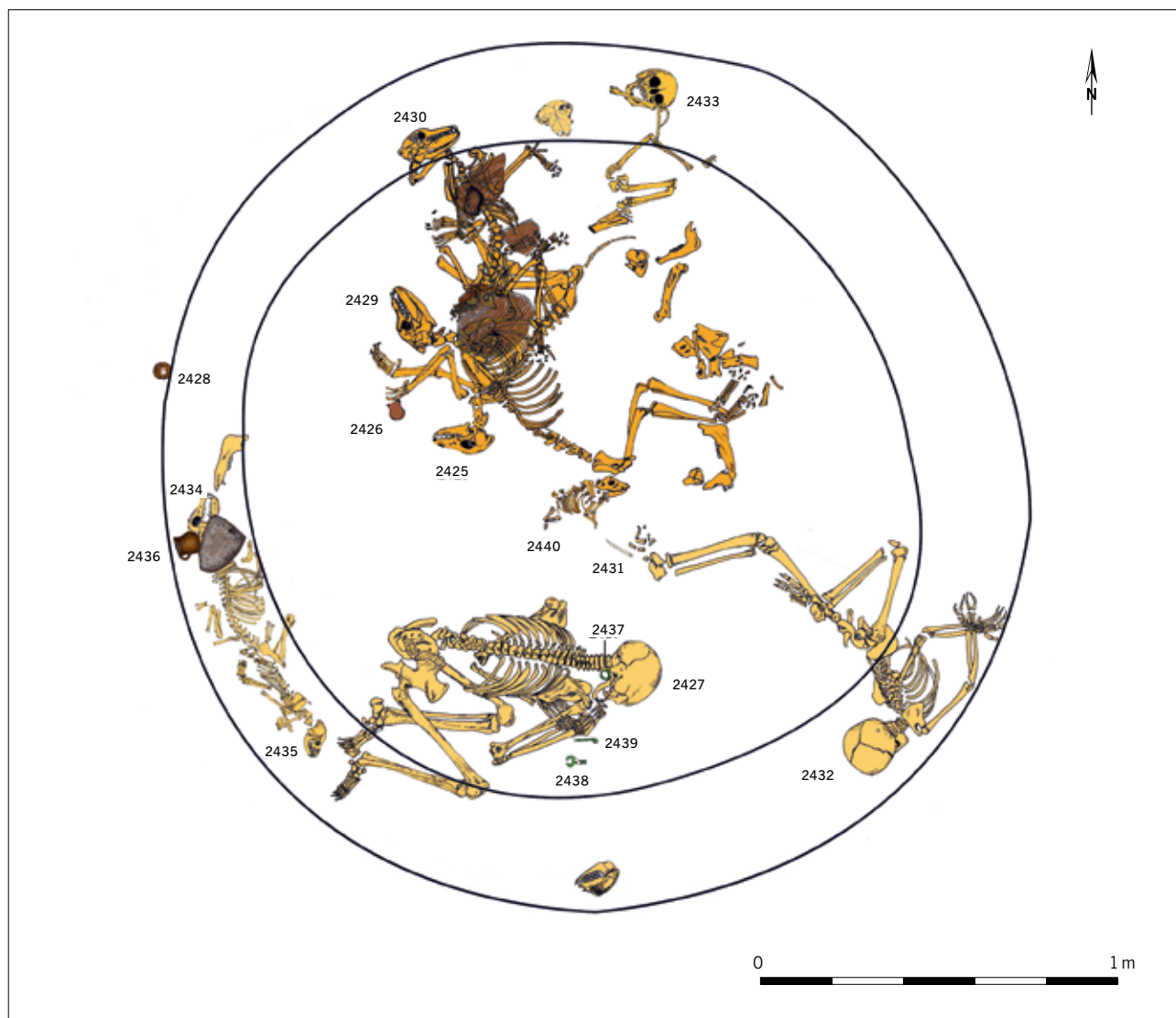
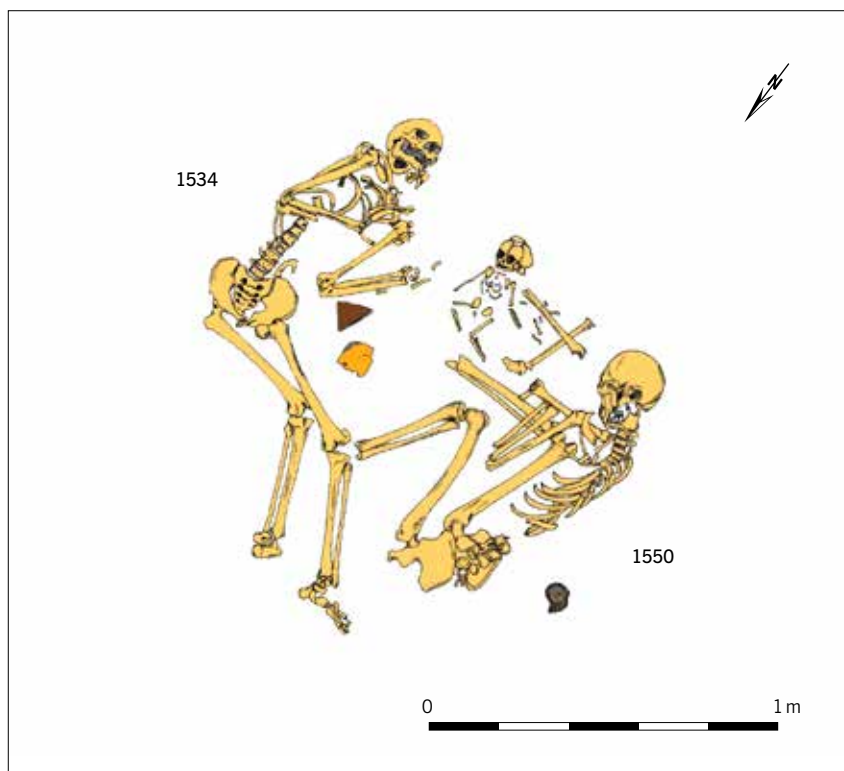
In this case, the sequence of deposition is not entirely clear (partly due to the lack of detailed documentation) (Fig. 13). It seems that the first deposition consisted of pig

Fig. 11 Érd, Hosszúföldek, Feature 1039. Human remains (1534, 1550, infant unnumbered), pottery fragment and animal bone between the adults and fragmentary cup behind Skeleton 1550. Yellow: bone, brown: pottery.

Abb. 11 Érd, Hosszúföldek, Bef. 1039. Menschliche Reste (1534, 1550, Kind ohne Nummer), Keramikfragmente und Tierknochen zwischen den Erwachsenen; fragmentierte Tasse hinter Skelett 1550. Gelb: Knochen; braun: Keramik.

Fig. 12 (below) Érd, Hosszúföldek, Feature 1581. Human remains (2427, 2432, 2433), dog skeletons (2425, 2429, 2430, 2434, 2435), the skeleton of a piglet (2440), three intact cups (2426, 2428, 2436), a bronze pendant (2438), a bronze pin (2439), a pair of bronze rings (2437), and a bone pin (2431). Yellow: bone, brown: pottery, green: bronze, grey: stone, white: worked bone.

Abb. 12 (unten) Érd, Hosszúföldek, Bef. 1581. Menschliche Reste (2427, 2432, 2433), Hundeskelette (2425, 2429, 2430, 2434, 2435), Skelett eines Ferkels (2440), drei vollständige Tassen (2426, 2428, 2436), ein Bronzeanhänger (2438), eine Bronzenadel (2439), ein Paar Bronzeringe (2437) und eine Knochnadel (2431). Gelb: Knochen; braun: Keramik; grün: Bronze; grau: Stein; weiß: bearbeiteter Knochen.



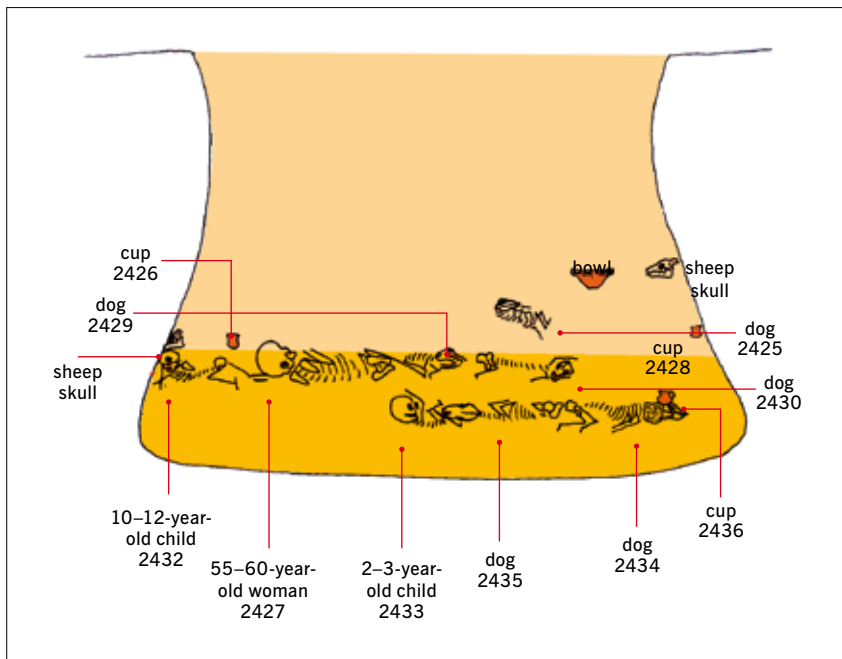


Fig. 13 Erd, Hosszúfölkék, Feature 1581. Reconstructed section.

Abb. 13 Érd, Hosszúfölkék, Bef. 1581. Rekonstruierter Schnitt.

long-bones and mandibles, scattered at the bottom of the pit. Then the body of a 2–3-year-old child (2433) was placed in the pit with two dogs (2429, 2434), one in the centre, one near the wall of the pit, and a pig (2434). They were separated from the animal bones by a layer of fill. The child's skeleton was incomplete, probably as a result of taphonomic processes. The child appeared to have been thrown into the pit; the skeleton lay on its back with legs up and splayed. The dog lying at the edge of the pit (2434) had a small, intact cup (2436) and a quernstone placed above its head. Two further dogs (2430, 2435) were probably deposited at the same time or immediately afterwards, one in the centre, one at the edge of the pit. The deposition of the two other humans (2427 and 2432) followed those of dogs 2429 and 2435, respectively, although the sequence is impossible to determine. The skeleton of a woman of over fifty years of age (2427) lay just south of the centre of the pit in a crouched position, the upper torso turned slightly downwards, the legs bent and pulled up in front of the upper body, the left arm under the torso, the right arm bent in front of the chest. A pair of bronze hair-rings lay at the back of the head, and a bronze pendant and a bronze pin with rolled-back head at the right hand. The body of a 10–12-year-old juvenile individual (2432) had been thrown into the pit, probably with hands tied. The skeleton was lying with the head bent back against the south-east wall of the pit, the upper body prone, the arms slightly bent, partly under the torso, the left leg extended and the right leg tightly flexed. A bone pin (2431) was found next to the right foot. The sequence of depositions then continued with two cups (2426, 2428), a sheep's skull, a fifth dog (2425) and, finally, a large, intact bowl, deposited at a depth of 110 cm and a sheep's skull at a depth of 90–100 cm.

A great variety in the way human remains were deposited was evident at this site too. Pit 106 contained the incomplete remains of a 20–30-year-old individual, associated with an intact cup. In Pit 154, the mandible of an adult man was

found placed on a large piece of stone, with a dog deposited above it. In Pit 207, the skeletons of an 8–10-year-old child and a 20–24-year-old woman were discovered under the skeletons of two goats and a young small ungulate. They seemed to have been thrown into the pit. A series of pits had only single skeletons: for example, Pit 945 contained the skeleton, evidently thrown in, of a 25–30-year-old woman, with missing arms, Pit 182 contained the disturbed skeleton of a juvenile individual, Pit 806 that of a 4–5-year-old child, while Pit 772 contained a female infant (Allentoft et al. 2015, Suppl. Tab. 1).

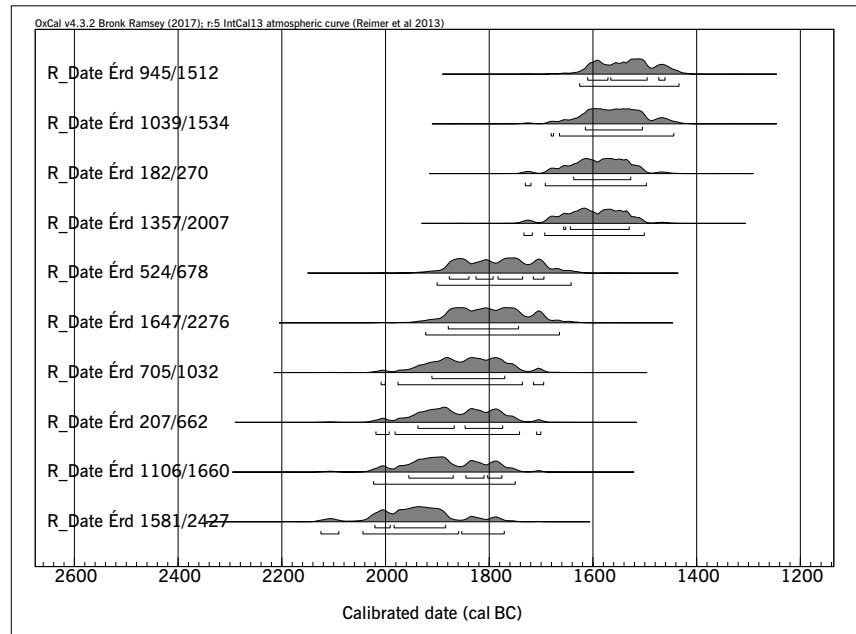
Chronology is again very important for the interpretation of these human remains. We have ten Bronze Age radiocarbon dates from the site (Tab. 2; Uhnér 2010), scattered between c. 2000 cal BC and 1450 cal BC, showing that the settlement was occupied throughout the Middle Bronze Age (Fig. 14). Since the samples were taken from the human remains, it is also clear that the skeletons cannot be connected to a single event, such as an attack on the settlement or a single epidemic. The deposition of human remains, in various forms, must have been practiced throughout the entire Middle Bronze Age at this site.

The physical anthropological analysis of the skeletons found at Érd is in progress. The state of preservation of most skeletons and skulls was excellent. The upper limb(s) were missing in two cases. We observed numerous instances of post-mortem damage to the bone fragments, including gnawing by rodents (1129/1706) and bite marks left by a smaller (fox-sized) predator, possibly a golden jackal (705/1345). In the latter case, the predator must have detached the arm from the trunk after death, since it was found a short distance away from the rest of the body, in another part of the pit.

With regard to demographic data, the skeletons from the »mass graves« included six children of undetermined sex, three women, and two men. In total, the human remains uncovered at the settlement (single bodies and partial skel-

Fig. 14 Radiocarbon dates from Érd, Hosszúföldek, Hungary.

Abb. 14 ¹⁴C-Daten aus Érd, Hosszúföldek, Ungarn.



Site	Feature	Lab code	BP	Cal BC (1 σ)	Cal BC (2 σ)
Érd, Hosszúföldek	705/1032	LuS-6053	3520 \pm 50	1920–1770 cal BC (68.2%)	2010–2000 cal BC (0.7%) 1980–1730 cal BC (92.2%) 1720–1690 cal BC (2.5%)
	1581/2427	LuS-6054	3585 \pm 50	2030–1880 cal BC (68.2%)	2130–2090 cal BC (3.7%) 2050–1770 cal BC (91.8%)
	207/662	LuS-6055	3535 \pm 50	1940–1860 cal BC (34.3%) 1850–1770 cal BC (33.9%)	2020–1740 cal BC (94.7%) 1710–1700 cal BC (0.8%)
	1357/2007	LuS-6056	3320 \pm 45	1660–1530 cal BC (68.2%)	1740–1710 cal BC (2.2%) 1700–1500 cal BC (93.2%)
	1039/1534	LuS-6057	3280 \pm 50	1620–1500 cal BC (68.2%)	1690–1440 cal BC (95.4%)
	945/1512	LuS-6058	3255 \pm 45	1620–1490 cal BC (62.8%) 1480–1460 cal BC (5.4%)	1630–1430 cal BC (95.4%)
	182/270	LuS-6060	3310 \pm 45	1640–1520 cal BC (68.2%)	1740–1710 cal BC (1%) 1700–1490 cal BC (94.4%)
	524/678	LuS-6061	3460 \pm 50	1880–1730 cal BC (58.4%) 1720–1690 cal BC (9.8%)	1910–1640 cal BC (95.4%)
	1647/2276	LuS-6062	3475 \pm 50	1880–1740 cal BC (68.2%)	1930–1660 cal BC (95.4%)
	1106/1660	LuS-6063	3550 \pm 50	1960–1870 cal BC (43.6%) 1850–1770 cal BC (24.6%)	2030–1750 cal BC (95.4%)

Tab. 2 Radiocarbon dates from Érd, Hosszúföldek, Hungary.

Tab. 2 ¹⁴C-Daten aus Érd, Hosszúföldek, Ungarn.

etons) included ten adult females, seven adult males, three adults of undetermined sex, and twelve children.

The preliminary results indicated that the general health of these individuals was rather poor. Degenerative deformities, for instance of the spine (spondylosis) and the joints (arthrosis), indicated a high degree of physical exertion. Extremely pronounced muscle and sinew attachment areas were also quite common (Fig. 15). Parallel lines on the teeth, i.e., enamel hypoplasia, suggested frequent or long-lasting childhood infections with high fever, and possibly malnutrition (Fig. 16) (Ortner 2003). Periosteal appositions on the

lower limbs, signs of pleuritis, and lesions on the inner surfaces of skulls (endocranial lesions) (Fig. 17a–c) indicated some form of respiratory or other infectious disease, for instance tuberculosis (Hershkovitz et al. 2002; Lewis 2004). In order to confirm this diagnosis, palaeomicrobiological analyses will be carried out.

The manner of deposition of the bodies and their positions in the pits indicated, in some cases, violent deaths. The separation of limbs and heads, the probability of bodies being tied when deposited or thrown into the pits point in this direction. We found clear osteological evidence for



Fig. 15 Érd, Hosszúföldek, Feature 207/662. Enthesopathy on the left clavicle.

Abb. 15 Érd, Hosszúföldek, Bef. 207/662. Enthesiopathie am linken Schlüsselbein.



Fig. 16 Érd, Hosszúföldek, Feature 207/661. Hypoplasia on the canine tooth of an 8–10-year old child.

Abb. 16 Érd, Hosszúföldek, Bef. 207/661. Hypoplasie am Eckzahn eines 8–10-jährigen Kindes.

perimortem trauma in only two cases (although it must be borne in mind that the majority of violent causes of death may leave no osteological traces at all), neither of which was related to a »mass grave«. In the first case (806/1306), we identified a fracture on the back of the skull of a 4–5-year-old child caused by blunt force trauma (Fig. 18a–b). The edges of the wound were clearly ancient and the base of the fracture and the direction of the cracks were typical of perimortem trauma. There were no signs of healing, which was not surprising in light of the size and severity of the wound. On the skull of a 14–16-year-old juvenile (182/270) we observed more unambiguous perimortem wounds. It was possible to identify five, possibly six, wounds all around the skull, indicating multiple traumas inflicted from multiple directions.

Discussion

The remains from Érd and Makó can be identified as *irregular burials* (to avoid pejorative terms such as »deviant«: Aspöck 2008). By irregular burials we mean »burials differing from the normative burial ritual of the respective period, region and/or cemetery« (Aspöck 2008, 17). In the cases of both of our study areas, we are fairly well informed about the character of »normative burials«. With regard to the Makó site, in the Maros region of the southern Great Hun-

garian Plain, large inhumation cemeteries separated from the settlements, with strict rules governing placement and orientation, have already been published and analysed in detail (e.g. Girić 1971; O’Shea 1996). In the case of Érd in central Hungary, large urnfields, again clearly separated from the settlements, are known from the close vicinity, some with thousands of burials (e.g. Vicze 2011). In both areas, these large cemeteries seem to be the resting place of the majority of the population, and human remains from the neighbouring, coeval settlements thus qualify as »irregular burials«, especially in central Hungary, where cremation overwhelmingly dominates in the cemeteries.

To understand these finds, we need to widen our scope to appreciate that they are, in fact, far from unique. Human skeletal remains in settlement features – including »mass graves« or burials with large numbers of skeletons – are a phenomenon that has recently attracted increased attention in the archaeological literature. Such finds provide a great opportunity to examine the issues of »irregular burials«, violence, and sacrifice within prehistoric societies throughout Europe, including Hungary (e.g. Müller-Scheeßel 2013; Gogâltan/Ailincăi 2016).

The occurrence of *mass graves* (see definition below) is not unique to the Bronze Age. During the past few decades, especially with the increase in large-scale rescue excavations in advance of major building and infrastructure pro-

jects, their number, from all periods, has increased considerably, and not only in Hungary. The famous German respectively Austrian Linear Pottery (LBK) mass burials at Talheim (Düering/Wahl 2014), Herxheim (Boulestin et al. 2009), Asparn/Schletz (Wild et al. 2004), Wiederstedt, and Schöneck-Kilianstädten (Meyer et al. 2015) provide ample evidence that many of these remains were connected to episodes of violence, probably associated with both warfare and sacrifice. A similar mass grave is known in Hungary from Esztergályhorváti (Barna 1996; Zoffmann 2007); whether its occupants should be interpreted as victims of warfare or sacrifice is still under debate (Barna 1996; Makay 2000).

Recently, a series of settlement burials have been published from Late Copper Age contexts³, and they continue after the period under study here, into the Late Bronze Age and well into the Iron Age (Király et al. 2013). Human remains are now also being discovered in increasing numbers in settlements from the last third of the 3rd millennium and first half of the 2nd millennium BC, our study period. They appear in the tells of the eastern part of the Great Pannonian Plain (e.g. Burlacu-Timofte/Gogâltan 2016; Furmánek/Jakab 1997; Jakab et al. 1999), in Early and Middle Bronze Age sites in central (Hanny 1997; Keszi 2019) and western Hungary⁴, and on the western periphery of the Carpathian Basin, in Únětice, Maďarovce and related contexts (e.g. Jelínek 2010; Jelínek/Vavák 2013). In fact, the number of such finds may even cast doubt on their character as »irregular« burials. For example, in a very small-scale excavation at a Middle Bronze Age site near Sóskút in the Benta Valley in central Hungary, one of two 2 × 2 m test trenches immediately yielded a pit with the body of a woman at the bottom (Earle et al. 2012), suggesting that settlement burials may be much more frequent than previously assumed. In fact, as numerous anthropological examples show, the variety of ways in which the bodies of the dead are and have been treated in human societies is quite large, with numerous instances of extensive secondary manipulation (e.g. Király 2016). Consequently, the discovery of human remains in settlements should come as no surprise, and must be investigated carefully to understand the relationship of the phenomenon with burial and ritual practices, cultural norms, and violence.

In the case of the multiple burials of human remains discussed here, the main issue is to distinguish those that may be the remains of human sacrifices, subsequently buried in settlement features, from those of victims of non-ritual violence (warfare) or some other cause of death (leading to »irregular burial«). In the relevant literature we find a series of criteria for identifying both »mass burials« (be they the result of warfare or sacrifice) and »sacrificial victims« (e.g. Verano 2001; Knüsel 2005, 58–61). Mass graves are distinguished by

- (1) the presence of a mass of bodies in a burial pit or pits;
- (2) disordered orientation of the bodies, indicating a disregard for the manner of deposition;

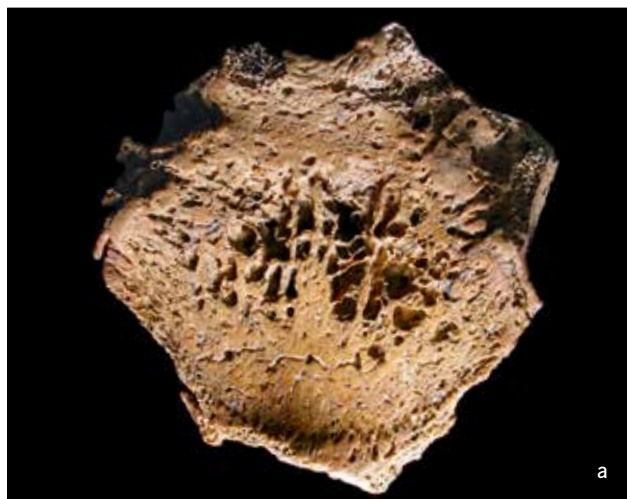


Fig. 17a–c Érd, Hosszúföldek, Feature 207/662. Hypervascularisation (a–b) and healed pleurisy (c) indicating a serious infection (a respiratory infection, possibly tuberculosis).

Abb. 17a–c Érd, Hosszúföldek, Bef. 207/662. Hypervaskularisation (a–b) und eine verheilte Rippenfellentzündung (c) weisen auf eine schwerwiegende Infektion (der Atemwege, möglicherweise Tuberkulose) hin.

- (3) bodies that are in contact with one another;
- (4) the presence of traumatic injuries;
- (5) a shared pattern of traits related to the cause and manner of death.

³ Horváth 2004; Horváth 2010; Horváth 2014, 111–158; Köhler 2014; Köhler et al. 2017.

⁴ Somogyi 2002; Zoffmann 2002; Fábrián 2006; Köhler 2006; Kiss et al. 2015.



Fig. 18a–b Érd, Hosszúföldek, Feature 806. Perimortem trauma on the skull.

Abb. 18a–b Érd, Hosszúföldek, Bef. 806. Perimortale Verletzung am Schädel.



The identification of human sacrifice is more problematic and requires careful examination of both the evidence for violent treatment (e.g. multiple wounds, strangulation, binding of the hands) and the context of the burial (e.g. burial in a ceremonial complex, connection with iconographic evidence, etc.) (Verano 2001; Knüsel 2005, 60).

At both our sites, some of these criteria are met by the pits containing multiple bodies: there is evidence for a disregard for the manner of deposition of the bodies, for the binding of hands, and for missing limbs or other body parts. At Érd, the obvious perimortem trauma in at least two cases is not associated with the »mass burial«, but with depositions of single bodies; at Makó, detailed palaeopathological analysis is missing, but there are certainly indications for trauma and violence. At present, however, we cannot find a common

pattern related to cause and manner of death, indicating a ritualised, repetitive mode of sacrificial killing.

It is important to note three factors at both sites:

- (1) Despite the lack of order in the deposition of the bodies, many were apparently placed or thrown into the pits accompanied by objects (intact ceramic vessels and bronze jewellery) that would otherwise be considered »proper« grave goods;
- (2) The pits also contained a large number of complete or partial skeletons of animals that had been buried with the humans;
- (3) The demographic data (sex ratios and age distributions) are generally typical of a Bronze Age community (although they do not reflect any particular community

at a single point in time, since they date from different phases!) and are identical to similar data from regular cemeteries.

The first two factors show a contradiction between the seemingly careless mode of deposition and the provision of grave goods and perhaps of sacrificial animals, while the third indicates a lack of selection, and shows that we can exclude interpretations such as sacrifice of war captives (where we would expect mostly young males). At Érd, we also have to take into consideration the generally poor physical condition of the individuals: they show signs of infections, diseases, malnutrition, and extreme physical strain on their bodies. This raises the possibility of identifying some of them as slaves or at least as coming from the poorest segments of their community (cf. e.g. Parker Pearson 2005). On the other hand, an older woman (2427) was placed in an ordered, crouched position with bronze jewellery in Pit 1581, contradicting any such generalisation. Nonetheless, we would not consider this an ordinary intramural burial, since the normative treatment in the region in this period was cremation, with the ashes placed in urns⁵. Furthermore, the presence of children in some pits may indicate family members buried together – especially in Pit 1039, where all the bodies were probably deposited at the same time – which also perhaps requires a different interpretation (Szécsényi-Nagy et al. forthcoming).

Conclusions

As the above short analysis shows, it is extremely difficult to identify human sacrifice unambiguously in archaeological material, unless some very special circumstances have preserved an unusually large amount of information about the given archaeological context.

In the case of both the sites analysed in our study, we can establish that there was great variability in both the state in which the human remains were deposited and the mode of deposition, clearly indicating that there were multiple processes and diverse cultural practices that led to the deposition of human remains within the settlements. Some of these, e.g. the deposition of single human bones, may actually be previously unrecognised parts of »normative burial« in the form of the secondary manipulation of the buried bodies. The »mass graves« singled out here for analysis, however, show characteristics that differentiate them from the rest of the burials.

While the multiple burials from Érd and Makó have some important similarities in terms of injuries with multiple burials from central Europe, for example, at Eulau (Germany) (Haak et al. 2008; Meyer et al. 2009), they clearly differ from them in so far as they are not »pious« intramural burials: the placement of the bodies does not conform with the thorough and careful treatment of the bodies seen in a »normative« burial. Stable isotope analyses are currently being carried out on the remains from Érd (Szécsényi-Nagy et al. forthcoming). Although the full results are not available yet, it is safe to say that the Érd features contained both local and non-local individuals and they were not treated differently during their last journeys. The presence of animal remains, intact pottery vessels and bronze jewellery supports the view that these mass graves were connected to some form of sacrifice and ritual violence, rather than warfare or some other cause of death. The evidence also indicates that at least some of the persons deposited in these pits were probably of low social status, perhaps slaves. In the light of the chronological data, it is clear that we are dealing with a prolonged tradition of ritual acts, sacrifices, and possibly the secondary manipulation of human bodies, for which a single explanation cannot suffice; probably each will need to be considered individually.

The collection and analysis of human remains from Early to Middle Bronze Age settlement contexts will continue, and through the application of scientific methods, such as stable isotope analysis and archaeogenetics, and a deeper and more thorough analysis of the archaeological and physical anthropological aspects of the finds, we will gradually reach a better understanding of this prehistoric phenomenon.

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5 This is in contrast, for example, to burials in contemporary settlement features in central Europe, where there seems to have been an

intramural alternative to burial in cemeteries, with identical burial rites: Pankowski et al. 2013; Knipper et al. 2015.

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Source of figures

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