

Human and Cattle Remains in a Simultaneous Deposit in the Hellenistic Necropolis of Jal al Bahr in Tyre: Initial Investigations

Un dépôt simultané d'humains et de bovins dans la nécropole hellénistique de Jal al-Bahr à Tyr : premières données

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Abstract Excavations at the Hellenistic necropolis of Jal al Bahr in Tyre (southern Lebanon) have uncovered eight human skeletons buried together with the remains of five cattle crania and mandibles and five vertebral segments (thoracic, lumbar, and sacral vertebrae in various combinations). This deposit, which is separate from the primary single burials in the necropolis, revealed human bodies buried in atypical positions simultaneously with cattle remains and has raised the question of the significance of these remains. Archaeoanthropological and archaeozoological approaches were used in this study to elucidate and discuss funerary practices that differed from the classic burial practices known to exist in Hellenistic Tyre.

Keywords Simultaneous human and cattle remains · Hellenistic necropolis · Tyre · Funerary archaeology · Biological anthropology · Archaeozoology

Résumé La nécropole hellénistique de Jal al-Bahr à Tyr (Liban Sud) a livré un dépôt de huit squelettes humains déposés simultanément avec cinq crânes et cinq segments du tronc (côtes et vertèbres) de bovins. Ce dépôt localisé à proximité d'une nécropole constituée de sépultures individuelles a révélé des positions atypiques des individus humains associés à des restes bovins (crânes, thorax) et nous a conduits à nous interroger sur la signification de ces vestiges. L'approche archéoanthropologique et archéozoologique nous a permis d'appréhender et de discuter certaines pratiques mortuaires originales et distinctes des modes d'inhumations classiques connus pour l'époque hellénistique à Tyr.

Mots clés Inhumations simultanées homme/bovins · Nécropole hellénistique · Tyr · Archéologie funéraire · Anthropologie biologique · Archéozoologie

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Introduction

This article presents the preliminary results from an excavation of a multiple deposit in the Jal al Bahr necropolis in Tyre, southern Lebanon. Tyre is located on Lebanon's coastal road, 70 km south of Beirut (Fig. 1). The ancient city consisted of a mainland settlement and an island city lying a short distance offshore. The island city contained the harbor and residential area with the palaces and temples, whereas the cemeteries were located on the mainland. Tyre was a Phoenician maritime metropolis during most of the first millennium BC. At the end of the 6th century BC, it was incorporated into the 5th Persian Satrapy until 332 BC, when Alexander the Great conquered the city after building a causeway linking the island city with the mainland. With the end of its rule by the post-Alexandrian Seleucid Empire, Tyre came under Roman influence in 64 BC as

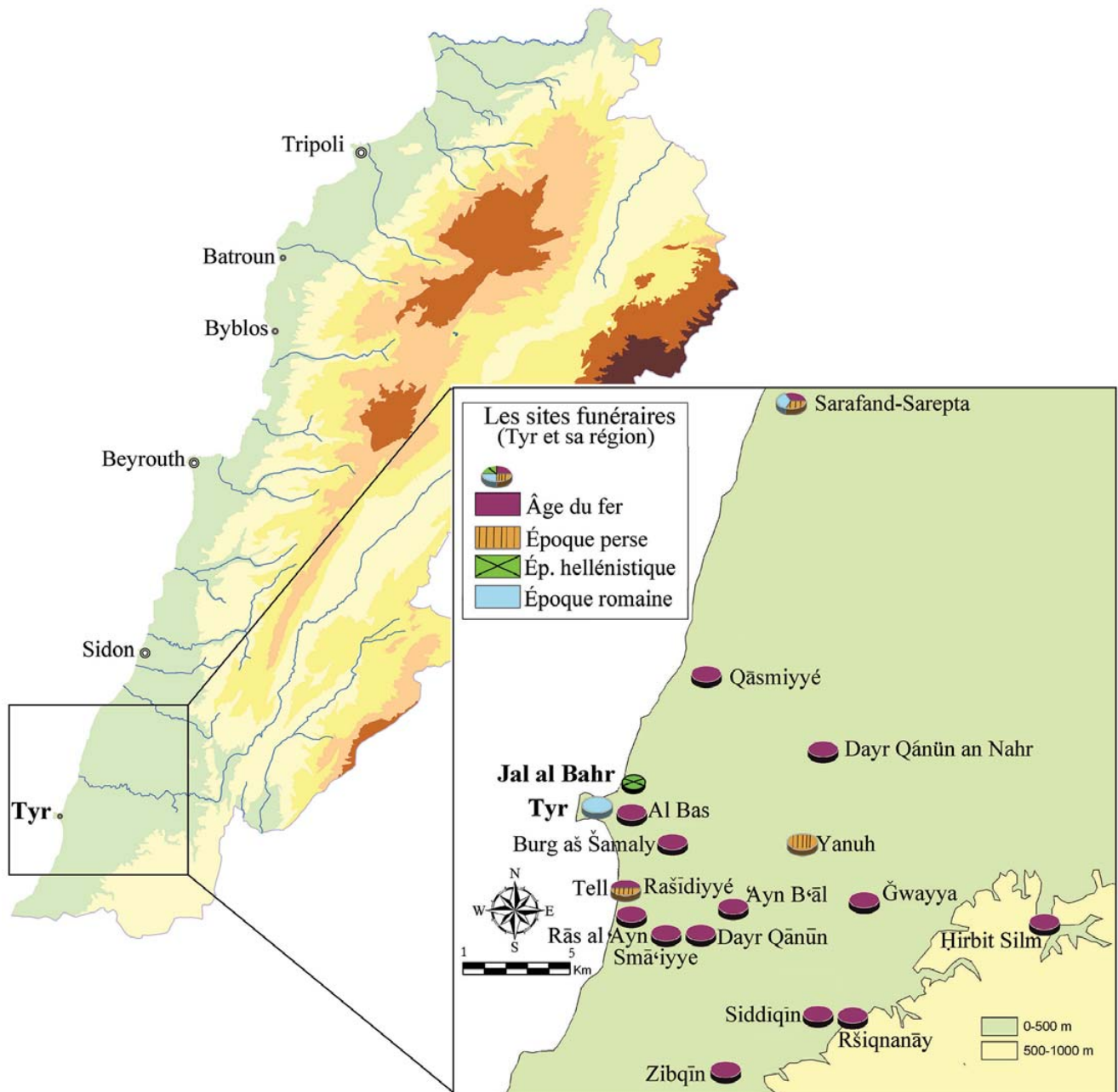


Fig. 1 Map of funerary sites in the Tyre region [1] / Localisation des sites funéraires dans la région de Tyr (Elias, 2010)

part of the new province of Syria, which was established by Pompey the Great's settlement of the Levant [2].

In 2010, a construction project was planned in plot 1627 in the Jal al Bahr district and a rescue excavation was undertaken before the construction phase, in accordance with the law on heritage conservation in Lebanon. A team of archaeologists from the Directorate of Antiquities of Southern Lebanon undertook excavations between 2010 and 2012. These revealed a necropolis, the closest known funerary site to the settlement of ancient Tyre during the Persian and the Helle-

nistic periods. It is located outside the city to the northeast, 200 m from the shore in an area covered by beach sand.

The site comprises two distinct areas. The first is the necropolis, containing around 300 skeletons mainly lying east to west, with the cephalic extremity to the east. The individuals deposited are generally in a supine position, and abundant grave goods suggest a burial date between the end of the Persian period and the end of the Hellenistic period. The second area is located about 10 m to the west of the last row of burials in the necropolis and revealed a complex deposit

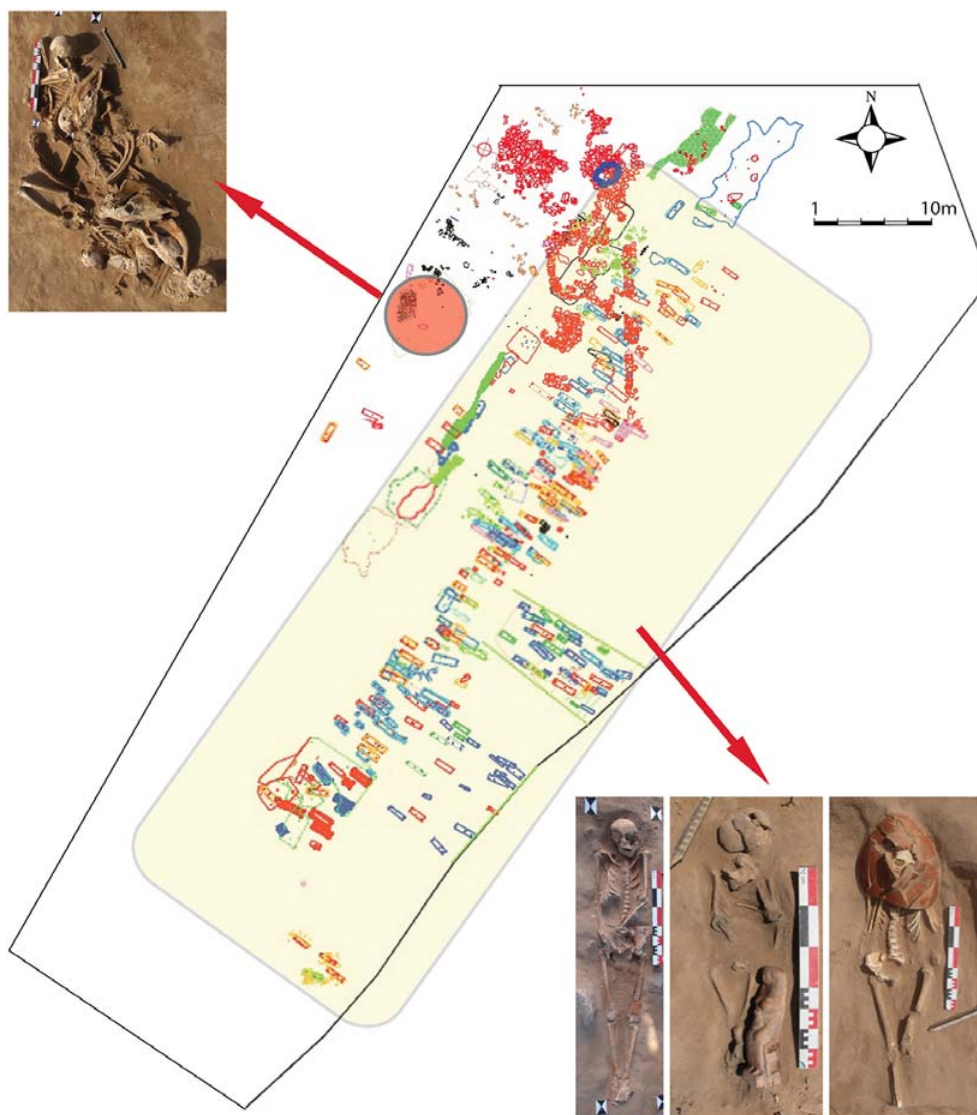


Fig. 2 Plan of the Jal al Bahr necropolis (Plan and photos: DGA Lebanon) / *Organisation de l'espace sépulcral dans la nécropole de Jal al Bahr (plan et photos : DGA Liban)*

comprising eight human skeletons buried simultaneously with five cattle crania and mandibles and five vertebral segments, with no grave goods (Fig. 2). Direct radiocarbon determination dates this deposit to 340–320 BC or 200–250 BC¹. The dating corresponds either to the transition period from Persian to Hellenistic rule of the city, in the same period as the siege of Tyre by Alexander the Great, or to the transition from the Hellenistic to the Roman period. This deposit is of particular interest due to its unusual nature. This paper considers evidence to elucidate the circumstances that led to these burials. The deposit cannot be considered as an ordinary burial as

these were people buried in the same space at the same time, and therefore sharing a relationship at least in death [3]. Whether they died at the same time, and how they died, are therefore relevant questions to be addressed to explain this unusual occurrence. Furthermore, the animal remains found placed with the human remains raise questions about the nature of this association, and on whether they indicate sacrificial and ritual offerings. In this article a number of possible scenarios are discussed to explain this co-occurrence.

Materials and methods

To investigate this deposit and overcome the problems due to the lack of archaeoanthatological field observations, we studied each individual in the laboratory in conjunction

¹ Direct radiocarbon dating was performed on individual 8, using a 2-SIGMA CALIBRATION (95% probability): Cal BC 340 to 320 (Cal BP 2290 to 2270) and Cal BC 200 to 50 (Cal BP 2150 to 2000), Beta – 369853, Beta Analytic Inc. (AMS-Standard delivery).

with photographic and field records. We applied archaeothanatology methods to reconstruct the position of each individual by analysing the process whereby a corpse is transformed into a skeleton, then reconstructed the sequence of burials from excavation backwards through the stages of transformation of the buried corpses [4]. The order of deposition of the individuals is clearly shown by analysing the superimposition of the skeletons. In addition, three-dimensional modelling techniques were used to help to record the variable positions of individuals.

Concerning the bioanthropological study of these remains, adult sex was determined from the *os coxae* following the methods of Bruzek and Murail et al. [5,6]². Adult age-at-death was determined from morphological changes in the auricular surface of the ilium [7]. The age of children was assessed from the developmental stages of their deciduous and/or permanent teeth [8,9] and from their skeletal maturation [10]. We also recorded other biological data that may be crucial to the interpretation of this deposit. The presence or absence of certain nonmetric anatomical variations was recorded to assess affinities among the individuals in the group [11,12]. The cranial nonmetric anatomical variations were recorded following Hauser and De Stephano [13] and Gemmerich [14]. Infra-cranial nonmetric anatomical variations were assessed following Finnegan [15], Saunders [16], and Thomas [17]³. Oral and dental health status was assessed by observing periodontal disease, calculus [18], and caries [19]. We also recorded the presence of traumatic injuries and biological stress indicators such as linear enamel hypoplasia. We also noted any pathological lesions and markers of physical activity [20,21]. The bones were also examined systematically for signs of cut-marks and peri-mortem fractures [22].

Our initial observations of the faunal remains found in the Jal al Bahr deposit mostly revealed cattle remains. Both taurine cattle (*Bos taurus*) and humped cattle (*Bos indicus*) are attested in the Levant since the Late Bronze Age [23,24] and Iron Age [25–28]. To distinguish between these two types of domestic cattle, different criteria were considered. Bifid spinous processes of the vertebrae are the main criteria used to distinguish between them, as the last thoracic vertebrae of humped cattle (zebu) have this characteristic [24,29,30]. Other cranial features also distinguish *Bos indicus* from *Bos taurus* [31]. Age-at-death was estimated on the basis of epiphyseal fusion [32], dental eruption, and attrition patterns [33]. Bone modifications

were assessed as related to either butchering activity or natural taphonomic processes [34].

Results

The deposit is located in the north-western part of the necropolis (Fig. 3). The edges and bottom of the pit were not described during the excavation. The pit had been dug in the sand and its edges could not be identified. However, the positions of the bones have enabled us to propose a reconstruction of its shape. The pit was dug in a north-south direction and is roughly oval in shape, 1.90 m in length, 1.80 m in width, and around 0.50 m in depth. The following section summarises the archaeoanthropological and archaeozoological examination and analysis of the skeletal remains recovered from this deposit.

Analysis of the human remains

The main archaeological data and the age and sex of the individuals are summarised in the Table 1.

Careful observation and meticulous recording of the state of preservation of the skeletal remains and of the arrangement of specific joints, especially those of the most labile bones of the hands and feet, supported the interpretation that all were primary deposits, i.e., which decomposed in their primary deposition location (Fig. 4).

The decomposition occurred in a filled space. All of the joints are in close anatomical connection (Fig. 4A). The bones of the skeletons lie directly on top of each other with no intervening sand layers. From the preservation of connected anatomical segments and the absence of rearrangements associated with successive burials (disarticulation due to placing corpses on top of bodies deposited previously) we were able to conclude that these were also simultaneous primary deposits. This indicates that all of the individuals were buried at about the same time. When several corpses are deposited simultaneously in the same pit, all of the bodies interact with each other. Besides the preservation of anatomical relationships in general, several bone displacements were observed and appear to have been associated with the decay of the soft tissues of the individuals, which created empty spaces. As examples we present two special cases. The first is skeleton 2, for which there is no evidence of abnormal positioning, except that the craniofacial region is oriented face down; its position is probably due to the deposition of individual 7 whose vertebral column was in direct contact with the craniofacial region of individual 2 (Fig. 4B). Bone displacement synchronous with the decomposition of several superimposed bodies is also indicated by individual 5, whose vertebrae form a curve produced by

² At the time, we only took measurements from six adults found in the deposit. A secondary sexual diagnosis using discriminant function analysis will be initiated after recording metric data from the entire sample of the necropolis, which will serve as reference population.

³ Although this is a preliminary study and the sample is statistically not significant, it was interesting to test the results pending the study on the entire assemblage from the necropolis.



Fig. 3 The deposit of eight human skeletons with five cattle crania and mandibles and vertebral segments in the Jal al Bahr necropolis (Photo: DGA Lebanon) / *Le dépôt de huit individus humains associés à cinq crânes et mandibules et segments vertébraux de bovidés dans la nécropole de Jal al Bahr (photo : DGA Liban)*

cranial movement due to an empty space below the cephalic extremity (Fig. 4C).

There was no uniform orientation or position of the individuals. The shape and dimensions of the pit conditioned the position of several individuals (i.e., individuals 3, 5, and 7) (Fig. 7). The arrangement of some bodies was restricted by contact with other corpses. For example, the left upper limb of individual 1 was in an extended position close to the body, constrained by the presence of individual 3 resting against its left humerus. The position of individual 7 was influenced by the presence of individuals 2 and 4, which lay on top of it. This position suggests that the bottom of the grave was U-shaped, and that individual 7 was placed in this position due to the restricted space in the pit.

From a biological point of view, this deposit revealed a small group of eight individuals from different age groups: two immature individuals and six adults, including one woman, were present (Table 1). No obvious pattern of deposition with respect to the age or sex of the individuals was

discerned. The only constant was the simultaneous presence of adult and immature individuals with associated cattle remains in the same burial context.

Dental pathologies such as caries, calculus and periodontitis were observed in individuals 1 and 2. Linear dental enamel hypoplasia was also found in individuals 1 and 2, in addition to an enthesopathy of the patellar attachment of the *M. quadriceps femoris* tendon in individual 2. Several individuals (1, 2, 4, and 8) share the same nonmetric anatomical variations (seven cranial and four infra-cranial). Their interpretation remains difficult in the absence of a comprehensive study of individuals from the contemporary necropolis; at most, at this stage, the evidence suggests a relatively homogeneous group (Table 2).

Analysis of the animal remains

The animal remains found with the human skeletons consisted of five cattle crania in anatomical connection with

Table 1 Age and sex determination of human skeletons, orientation of the bodies, and limb positions and their stratigraphic relationships / *Détermination de l'âge, du sexe des humains, la position générale des individus et celle de leurs membres ainsi que de leurs relations stratigraphiques*

Code ind.	Age (years)	Sex	Orientation position	Upper limbs	Lower limbs	Closer relationship
1	[> 30]	I	NS supine	Right forearm flexed to 45° Left arm extended behind the cervical vertebrae	Extended	Under 2 and 3
2	[> 30]	I	SN supine	Right forearm flexed at 90° Left arm extended	Extended	Under 5 and 8
3	[2–3]	I	SN left side	Right and left forearms flexed behind the back	Flexed at 45°	Against 2 with cattle cranium B placed on the cranium
4	[20–29]	F	NS supine	Right forearm extended above the head and flexed at 45° Left arm extended above the head	Extended with the right foot crossed over the left	Under 5 and 8
5	[> 20]	I	WE supine	Right and left forearms flexed with hands on the <i>os coxae</i>	Extended, slightly flexed at the knee with feet superimposed	Above 2 and 4
6	[5–9]	I	SN prone	Right and left forearms flexed above the head	Absent	Above 5
7	[> 20]	I	WE right side	Right and left forearms flexed in front of the torso	Right and left flexed onto the thorax	Under 8 and the cattle vertebrae V3
8	[> 20]	I	SN left side	Right and left forearms flexed in front of the torso	Right and left slightly flexed	Above 7 and the cattle vertebrae V3

F: Female; I: Indeterminate; NS, North-south; SN: South-north; WE: West-east.

their mandibles and five segments of the thorax and the vertebral column, also in close connection (Fig. 3, Table 3). These remains are visible in the site photographs, but not all of them were available at the time of our study. Only four crania and mandible and a single group of vertebrae and ribs were recovered during excavation⁴. The latter consisted of three lumbar, three thoracic and four unidentified vertebrae, and five ribs (three left and two right). As they appear in the photographs, the other segments consist of articulated thoracic vertebrae and ribs, articulated thoracic and lumbar vertebrae, articulated lumbar vertebrae and a sacrum. All the bones recovered were highly fragmented and some pieces were recovered separately from the corresponding crania and mandibles, such as five horn-cores and six lower teeth (incisor and molar fragments).

Taphonomic cracking, root etching, and concretions were frequently observed on the bones and fresh breaks attest to

those resulting from excavation processes. A series of cut marks was also visible on some of the bones (NISP = 19; frequency of cut-marked bones per NISP = 19/38 (Figs. 5, 6A–E, Table 4). The mandibles and crania—particularly the frontal and nasal bones and the horn-cores—bear skinning marks. The zygomatic arches, hyoid bones, ribs, and vertebrae have cut marks associated with meat extraction. The butchering process did not split the vertebrae or chop the ribs into sections, but produced simple cut marks from filleting and severing the muscle insertions. The four skulls that were analysed were classified into three age categories: 2–4 years (one individual), 6.5–9 years (two individuals), and 9–11.5 years (one individual) (Table 3).

Concerning the bone morphology, the three preserved thoracic spinous processes were bifid (Fig. 6F, G). The only criterion that could be investigated on the fragmented crania from Jal al Bahr was the morphology of the external auditory meatus of two specimens. These appear as incomplete tubes, as found in most *Bos indicus* crania [35]. The aforementioned observations suggest that at least two crania and one vertebral column belonged to zebu cattle.

⁴ The other bovine remains were not collected as they were damaged and highly fragmented during the excavation and the period of exposure before recovery.



Fig. 4 Some features relating to the interpretation of the characteristics of the deposit. A: Skeletal remains of individual 6 in anatomical connection (and, importantly, with the labile hand and foot connections preserved). B: Example of individual. 2: Despite perfect anatomical connections, the movement of the cranium is linked to the disappearance of flesh in individual 7. C: The craniofacial region of individual 5 is backward leaning so that the basicranial surface with the mandible is visible uppermost (Photos: DGA Lebanon) / *Quelques particularités relatives à l'interprétation des caractéristiques du dépôt* : A : préservation des connexions des ossements des mains et des pieds de l'individu 6 ; B : exemple de l'individu 2, malgré la connexion anatomique parfaite, nous pouvons observer le mouvement du crâne lié à la disparition d'un grand volume de chair de l'individu 7 ; C : le bloc crâniofacial de l'individu 5 est penché en arrière, de telle sorte qu'il est en vue caudale avec la mandibule visible (photos : DGA Liban)

A bovine calcaneus and second phalanx, an ovicaprid radius, and two large mammal long bone shafts were also recorded. These are not visible in the photographs of the animal remains associated with the human skeletons, but were recorded during excavation as elements retrieved from the fill of the burial pit. The ovicaprid radius bore chop marks and the shaft was fractured with a heavy-bladed tool.

The animal remains deposited with the human corpses represent a type of specialised selection: they consist of only parts of the axial skeletons of five cattle (skull, thorax, and vertebral column). However, there was no selection based on age. The remains were buried before decomposition of the ligaments that maintain anatomical connections. No gnaw marks or trampling abrasions were recorded and neither were any modifications of the bone surface due to weathering. These observations suggest that the period of exposure was brief and the bones were buried immediately. Recurrent butchery marks show that the cattle remains were processed prior to their deposition in the pit. The hide was removed and the meat extracted.

Internal organisation of the simultaneous deposit

This multiple deposit yielded the remains of eight skeletonised humans buried with the remains of axial skeleton ele-

Table 2 Nonmetric anatomical variations (NMAV) present in the simultaneous deposit at Jal al Bahr and shared by individuals 1, 2, 4, and 8 / *Les variations anatomiques non métriques (VANM) présentes dans le dépôt simultané de Jal al Bahr qui sont partagées par les individus 1, 2, 4 et 8*

Code	NMAV present	Individuals
A4	Supra nasal suture	2,4
A7*	Median supraorbital notch	2,4
B15	Marginal tubercle of zygomatic bone	2,4
C5*	Mandibular torus	1,2,4
C7	Foramen of Serres	2,4
C8	Mylohyoid bridge	2,4
E4	Suprascapular foramen	1,4
F1*	Olecranon perforation	1,4
H2***	Poirier's facet (iliac print)	2,4,8

ments of five cattle. On the basis of the above observations, the sequence of successive deposition of these remains in the pit was reconstructed as follows (Fig. 7). The first individuals deposited were individuals 1 and 2, both adults of indeterminate sex more than 30 years of age at death. These two individuals were deposited simultaneously and

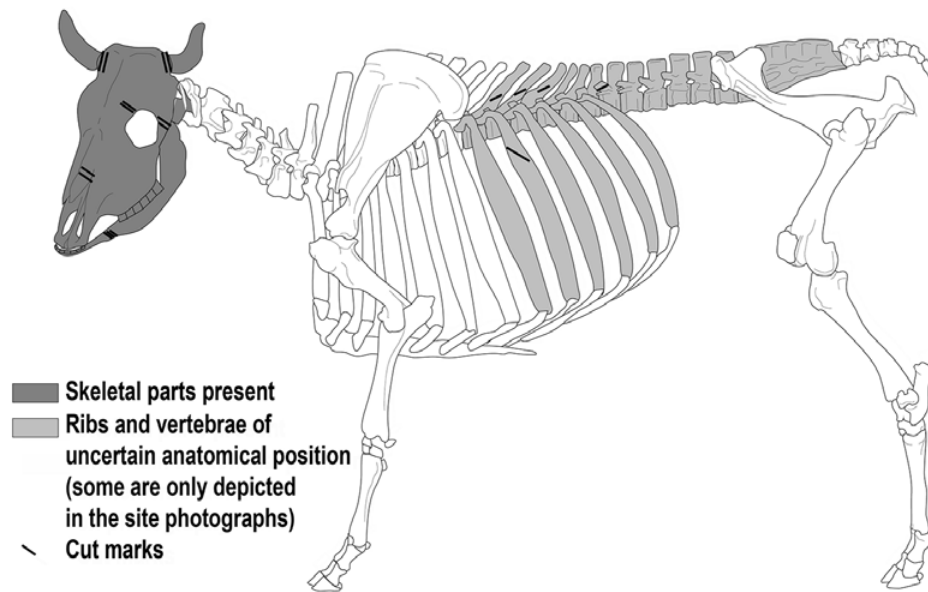


Fig. 5 Location of cut marks observed on the cattle remains (drawing by M. Coutureau) / *Localisation des traces de découpe observées sur les restes de bovins (dessin d'après M. Coutureau)*

Table 3 Quantification of the articulated cattle remains in NISP (number of identified specimens) and age-at-death estimation (based on dental eruption and attrition sequence and epiphyseal fusion). The cranium and mandible B and thorax segments V1, V2, V4 and V5, not recovered during excavations, are visible in the site photographs / *Quantification en NR (nombre de restes) des restes de bovins et estimation de l'âge (basé sur l'usure dentaire et l'épiphysation des os postcrâniens)*

Id	Skeletal part	Dental age (years)	Skeletal age (years)	Number of identified specimens
A	Cranium, mandible	6.5–9		1
B	Cranium, mandible (?)			1
C	Cranium, mandible	9–11.5		1
D	Cranium, mandible	2–4		1
E	Cranium, mandible	6.5–9		1
V1	Lumbar vertebrae, sacrum			1
V2	Thoracic vertebrae, ribs			1
V3	Thoracic, lumbar vertebrae, ribs		<5	1
V4	Thoracic, lumbar vertebrae (?)			1
V5	Ribs			1

lay in a supine position. Individual 3 (2–3 years of age at death) is part of the same group and had been placed snugly against the left upper limb of individual 2. In addition, the bovine cranium B had been deposited on top of this individual's head.

This group is followed by individual 4, an adult female 20–29 years of age at death, who had been placed on top of individual 1. Individual 5, an adult of indeterminate sex more than 20 years of age at death, lay on individuals 1, 2 and 4. The bovine cranium A was wedged between adult 5 and the immature individual 6, who was 5 years old at

death. Individual 7, an adult of indeterminate sex more than 20 years of age at death, was added later. The bovine thorax segment and vertebral column V3 were found directly above this individual. Individual 8, an adult of indeterminate sex, had been deposited last. The bovine vertebral segments V2 and V4 lay on the pelvis of individual 2. The bovine thorax segment V5 was deposited in the northwest part of the pit, after which a series of remains were added in sequence: bovine cranium C, bovine vertebral column V1, followed by bovine crania D and then E, which lies on the cranium of individual 5.

Table 4 Frequencies of cut marked cattle specimens by anatomical category / <i>Fréquence des traces de découpe observées sur les restes de bovinés</i>		
Butchery process	Anatomical category	Frequency (NISP)
Skinning	Mandible	3/3
	cranium	
	Nasal bone	1/1
Skinning/extraction of horn	Frontal bone (supraorbital margin)	2/4
	Frontal bone (base of horn-core)	3/8
Meat removal	Zygomatic	2/4
	Hyoid bone	3/4
	ribs	1/5
	vertebrae	Spinous/transverse process

Discussion

We will now briefly summarise the main characteristics of this deposit. First, it consists of a single pit that was intentionally dug into the sand and its filling is homogeneous. The soil level and the exact pit depth are unknown. The pit contour is not well defined, but appears to have been roughly oval, based on the positions of the skeletons. There is no evidence to suggest that the pit was initially used for a different purpose. The deposit is close to the last rows of burials in the necropolis, but its relationship with the surrounding context remains unclear (the archaeological study of the various remains found in the area was still incomplete at the time of writing). There is no proof that this pit is part of the necropolis, whose characteristics are very different. It could be contemporary with some individual graves; however, only a single radiocarbon date was determined, with a very wide margin of error. All the human and animal remains found in the pit were buried simultaneously, without any associated grave goods. The internal organisation of the remains does not match any specific pattern, and no particular arrangement can be discerned, either for the human or for the animal remains.

What we have is a small group of eight individuals from different age groups, including a woman and children. These individuals were placed together over a very short period of time in circumstances that are unclear. We, therefore, investigated the event that could have led to such an assembly. It must be remembered that it is very difficult to determine the cause of death of an individual by examining only the skeleton [36]. In skeletonised remains, the manner of death can be determined but not the cause [37]. A massacre of civilians or a criminal act cannot be excluded, given the demographic composition of the small group and the lack of grave goods, but there is no evidence of traumatic lesions on the bones. The hypothesis of an infectious disease epidemic cannot be ruled out, and we currently have no arguments to reject this possibility except for the small number of indivi-

duals, although the absence of careful placement of the deceased could support this interpretation.

People buried together are linked in death and may be expected to have died under circumstances that were similar or perceived as such. We have already mentioned the possibility that this mortality crisis could have been caused by armed conflict⁵ or by execution, neither of which will always leave physical evidence [38]. A famine, a minor outbreak of an epidemic disease, or a collective natural accident [39] could also have caused a mass mortality. The association of human remains with selected cut-marked animal remains reflects the complexity of this deposit. The acquisition of these elements inevitably led us to attempt an interpretation of the deposit.

Based on the pattern of cattle remains in the deposit, there appears to have been a selection of the animal body parts placed in the burial pit; only parts of the axial skeleton were included with the human remains. Specific selections of faunal remains are common in funerary contexts. For instance, in the Levant, at the end of the Late Bronze Age, faunal funerary deposits reflect a preference for selected body parts such as crania [40]. Investigations of the bone surfaces have revealed that the hide, meat, and horns were removed. This shows that the animal deposits were not portions of meat deposited in the tomb as food for the dead. In this context, the cattle bones derive from the butchery and consumption of animals. Defleshed bones in funerary contexts may be indicative of a banquet feast [41], in which the dead symbolically took part together with the living community [42]. This interpretation may apply to the funerary deposit in question in this study. It can be suggested that the cattle bones are feasting remains placed in the grave to evoke the symbolic participation of the dead in the funerary banquet. The association of animal with human remains brings to mind the idea that when animal remains “are

⁵ Death by suffocation affecting soft tissue only without leaving marks on bones.

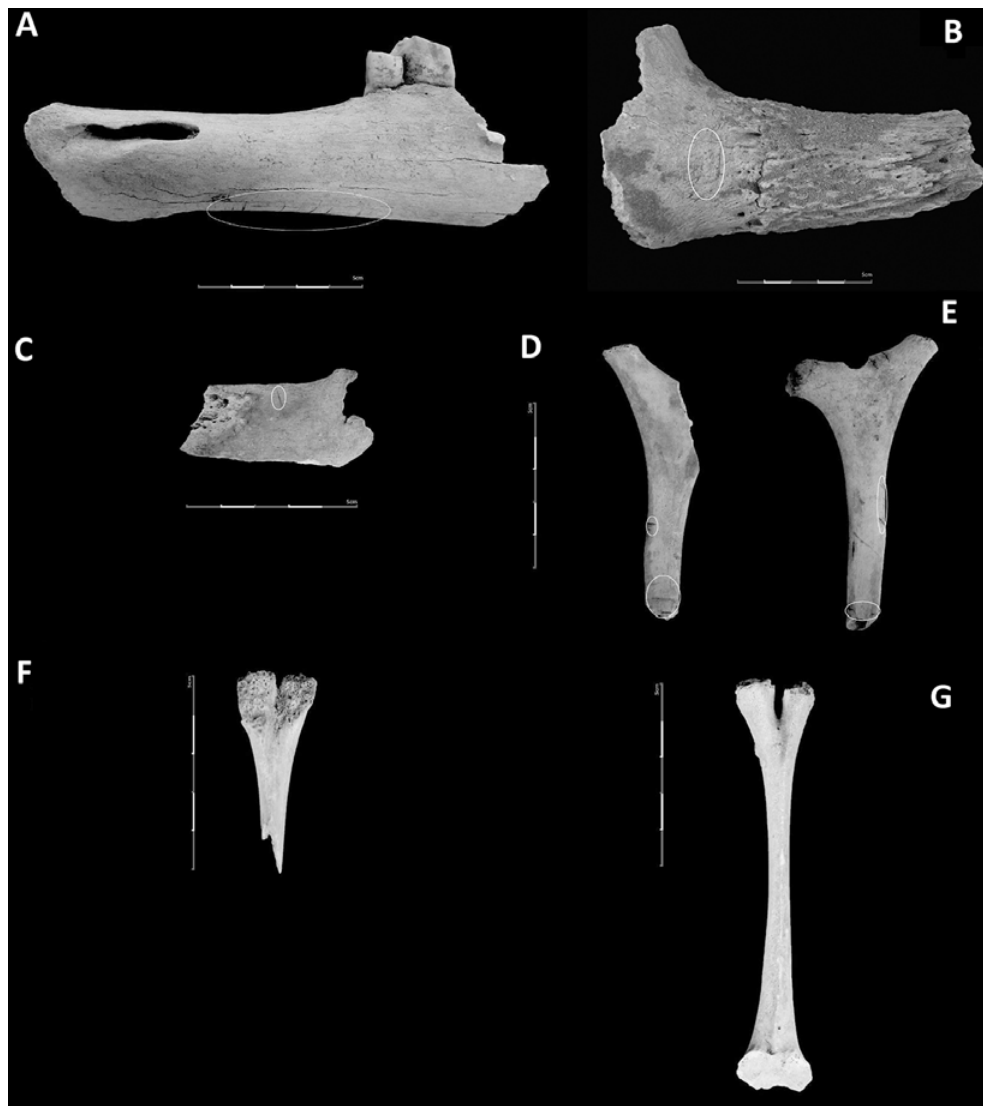


Fig. 6 Cattle remains. A, B, C, D & E: Location of cut marks on different skeletal elements (A: Left mandible. B: Right horn-core. C: Transverse process of lumbar vertebra. D & E: Hyoid bones). The cut marks are indicated by white circles. F & G: Bifid spinous processes of bovine thoracic vertebrae / Restes de bovinés, A, B, C, D & E : localisation des traces de découpe sur les différents éléments squelettiques. A : manibule gauche ; B : cheville osseuse droite ; C : processus transverse de vertèbre lombaire ; D & E : os hyoïdes. Les traces de découpe sont indiquées par des cercles blancs. F & G : processus épineux bifides de vertèbres thoraciques de bovinés

recovered from ritual contexts, such as inside temples or with human burials, their ritual purpose is readily ascertained” [43]. Animals, beyond their potential as a food source, have indeed been linked to belief systems [43,44]. Therefore, it is only after considering the religious beliefs of the period, as indicated by the funerary practices, that a ritual purpose of the cattle remains in the pit at Jal al Bahr could be demonstrated.

If this hypothesis of a funerary feast is considered, the large quantity of meat available from the sacrifice of five bovines is remarkable and would suggest a very large number of participants. Moreover, it potentially suggests differences with the daily domestic diet of the living community in

the Hellenistic period. Archaeozoological data from Tyre is lacking as no study has yet been undertaken, but in neighbouring cities, such as Hellenistic Beirut, ovicaprids are dominant among the faunal remains found in domestic contexts [45]. Particular ritual contexts appear to suggest important differences between ritual feasts and ordinary herd management strategies [46]. Moreover, sacrificing an expensive animal, such as a cattle, reflects the wealth of the group making the offering [47,48], as well as the social status of the deceased. For instance, in the Iron Age II necropolis of Tyre al-Bass, social status, and wealth are inferred from secondary rituals such as the duration and magnitude of the ritual proceedings that took place at the beginning and end of

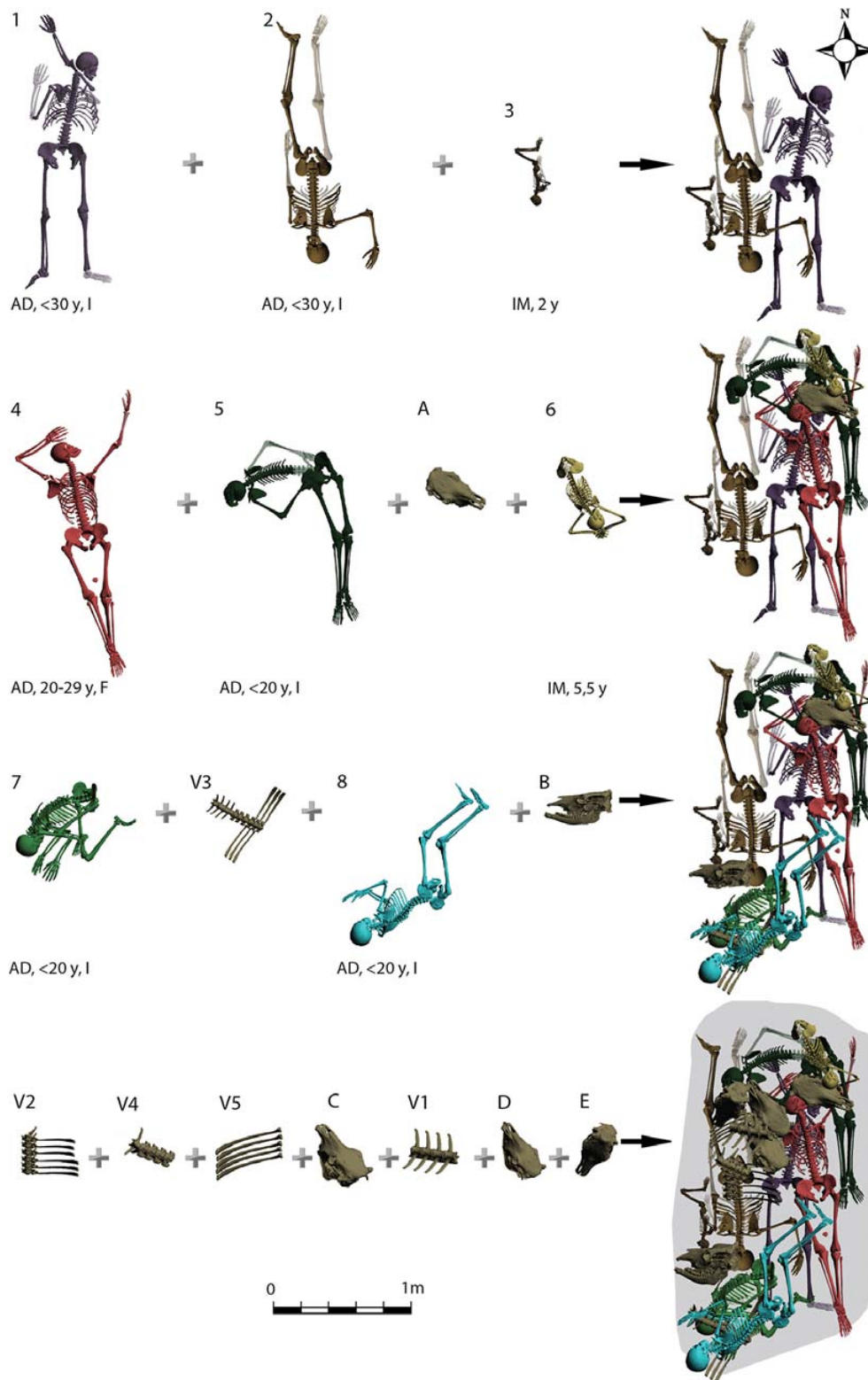


Fig. 7 Three-dimensional reconstruction of the simultaneous deposit at Jal al Bahr. The skeletal elements with uncertain positions are highlighted in light grey; the lateralization of skeletal elements present helped to determine their original positions (Modeling by G. Sachau-Carcel) / *La reconstruction 3D du dépôt simultané de Jal al Bahr. Les éléments squelettiques dont la position est incertaine sont surlignés en gris clair, c'est la latéralisation des éléments squelettiques présents qui a induit leurs positions initiales (modélisation par G. Sachau-Carcel)*

funerals [49]. With regard to the question of a ritual feast at Jal al Bahr, this may be addressed by studying the faunal assemblage recovered from stratigraphic units around the burial area (pits, accumulation layer, etc.); only in these contexts would evidence be found of ritual and commemoration activities taking place around the graves.

A better understanding of these practices requires a survey of the funerary sites in Tyre and its vicinity in the Hellenistic period. The large gap in the archaeological record of the Hellenistic era in Tyre is the first obstacle to this study. Jal al Bahr is the only Hellenistic necropolis uncovered in South Lebanon to date, even though, in the Tyre and Sidon region, many funerary structures have been excavated [1,50–52]: Maghārat Ablūn, Ayya, El Hara, Ain el-Helwé [53], and Wady Abou Ghays [54]. However, none of these sites has revealed animal remains in association with those of humans⁶. Furthermore, groups from the Hellenistic period in the region did not use a variety of burial programmes with bodies of the dead treated in different ways. The burials excavated are, for the most part, simple single primary supine inhumations; nor have any simultaneous deposits been uncovered elsewhere in the region. The case of Jal al Bahr is therefore quite unique. The burial of several individuals in a single space, together with cattle remains, is highly unusual. Looking beyond the Hellenistic period, earlier funerary sites dating to the Bronze and Iron Ages exhibit animal offerings as food for the dead or symbolic objects [55,56]. Nevertheless, none have yielded as many cattle remains in the same burial as at Jal al Bahr. In the Middle Bronze Age, ovicaprids were mainly deposited in graves as food offerings. Pig and cattle offerings were less frequent, except for cattle horn cores that are present as symbolic objects. Fish remains are significant in some sites, especially in Sidon. Gazelle horn cores and bird bones have symbolic significance [56]. In the Iron Age, there is evidence of ovicaprid, cattle, fish, and bird remains at the cremation site of Tyre Al Bass [57–61], of fish remains in Khaldé [62,63] and of symbolic *astragali* in Kamid el-Loz [64]. In inhumation sites, the display of grave goods seems to follow regular patterns: animal offerings were frequently deposited in a container, on a ceramic plate or in a jar, or directly on the floor beside the deceased. The case of Jal al Bahr shows clear differences with these earlier sites in that there was no careful treatment of the human corpses and no evident arrangement inside the grave to accompany the deposition of the animal remains. The cattle remains do not seem to

have been deposited ceremoniously; rather, it seems that all the occupants of the grave were buried simultaneously with no ceremonial attention given to their placement.

This absence of comparable sites in the region has prompted us to examine other parallels, such as from the ancient site of Roman period at Evreux, *Gallia Lugudunensis*, discovered in northern France [65]. This has several similarities with the Jal al Bahr deposit, especially in the deposition process of human and, in this case, equine remains grouped together in several small pits. Based on an argument not detailed here, but which relies on the analysis of the deposition of the human remains, the absence of grave goods, the lack of careful pit-digging, the deposition of partial pieces of equine carcasses after the recovery of raw materials, the authors interpret these as carcasses exploited opportunistically and discarded with humans in the same pit, possibly resulting from the removal of abandoned human corpses and animal carcasses from public streets. This type of practice is documented in textual sources for Roman Italy and could have taken place in the vicinity of cemeteries [65]. Despite the spatiotemporal distances and the different natures of the selected portions of the faunal remains in Evreux and Jal al Bahr, the comparison between the two sites is interesting and offers a novel interpretative analogy.

These cases of disposal of humans and animals in the same space lead us to a discussion of the status of the cattle remains at Jal al Bahr. As previously indicated, there are differences between this simultaneous deposit and the usual funerary practices involving animals. Perhaps the cattle remains do not indicate ritualistic treatment of the animals but rather represent butchery waste deposited opportunistically in a trench made to receive abandoned corpses. The specialised selection of the carcass parts at Jal al Bahr differs from the context at Evreux, however. It is, therefore, difficult to assert whether the animal remains at Jal al Bahr consist of a funerary deposit—because of the lack of evidence of any *mise-en-scène* inside the grave—or of ordinary butchery waste discarded together with humans, for a reason which is so far unclear.

Conclusion

The association of humans and cattle in a single pit at Jal al Bahr represents a unique archaeological case in the Levant during the Hellenistic period. In attempting to be as objective as possible in our analysis of this deposit, we have discussed its ritualistic nature, an interpretation classically employed in such associations, and proposed two other quite plausible interpretations. As our interpretation of this deposit cannot be further refined at present, this contribution is an opportunity to present some thoughts on the fundamental criteria required for the interpretation of archaeological contexts.

⁶ The role of extrinsic factors resulting in the lack of archaeological data should not be ignored. Some excavation techniques, especially older ones, were not scrupulous in the application of methods to recover faunal remains, which has certainly affected recovery, data gathering, and publications. Moreover, taphonomic processes could be responsible for the loss of animal bones under various environmental conditions.

This preceding discussion has brought us to some tentative interpretations of this deposit. The unusual positions of the human and animal remains which are not displayed in a way that denotes a *mise-en-scène* reflecting a ritual performance [66], lead us to present two possible hypotheses:

- a funerary hypothesis: this was an irregular burial (*sépulture de relégation*) [67,68], meaning that it was a minority practice reflecting a type of social exclusion linked to the circumstances of death, and was therefore a cultural choice for which the reasons are unknown;
- or, similarly to what has been demonstrated for the Evreux site, this was a waste disposal area for human and animal remains with no cultural involvement, and which might correspond—for the humans—to a denial of burial practices or an inability to undertake them. The deposition of cattle remains would therefore have been opportunistic.

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