



Interpreting a ritual funerary area at the Early Neolithic site of Tell Qarassa North (South Syria, late 9th millennium BC)



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ABSTRACT

The analysis of a funerary area dated to the late 9th millennium BC (Early to Middle PPNB) sheds new light on the ritual practice of the first farming communities in Southern Syria. Deceased individuals were buried in oval graves, placed on their side in a flexed position and oriented along an E-W axis. Skulls and, in some cases, long bones were later extracted for certain funerary rituals in which the memory of the deceased was relevant and which were carried out in an abandoned house and its attached courtyard. However, veneration seems to be not the only aim of these practices and many other lines of interpretation (worship, revenge, divination, protection, propitiation, relief, witchcraft, etc.) should also be explored. Secondly, without invalidating the fact that communal and prearranged ritual ceremonies may have existed during the PPN, our study stresses the importance of the funerary practices as the result of numerous rituals repeated on the initiative of small groups of individuals to satisfy diverse and unsuspected needs.

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1. Introduction

Funerary rituals act as one of the most important mechanisms of ideological regeneration and are a fundamental vehicle to be able to define, develop and strengthen identities, collective memories and social relationships (Kuijt, 1996, 2008; Chénier, 2009). Funerary archaeology gained momentum with the theoretical and methodological contributions of Processual Archaeology (Binford and Binford, 1968; Binford, 1972). Cross-cultural ethnographic contexts were used to build up middle range theories which would allow the extraction of information on the social organization of Prehistoric groups (Brown, 1971; Binford, 1971; Saxe, 1971), integrating them into predefined social categories of human evolution (band, tribes or chiefdoms and egalitarian vs

ranked societies) which were proposed by the neo-evolutionary anthropologists (Service, 1962; Fried, 1967). However, the idea that mortuary practices directly reflect society, which was at the base of the Processual approach, has been criticized as funerary practices can distort or invert real social relations because of different cultural attitudes to death (Hodder, 1980) or because of manipulations of the dead by social groups in benefit of their own interests (Parker Pearson, 1982). The understanding of the symbolic codes guiding the funerary ritual should be based on the contextual information of the archaeological record, while ethnographic information can be used as a background for establishing different interpretative hypotheses but not as a source of evidential value in archaeological interpretations (Hodder, 1982). Thus, the detailed reconstruction of ritual practices in time and space and their explanation in the context of our global knowledge of the period is of outstanding relevance to infer the social meaning of the funerary ritual.

Funerary practices in the Pre-Pottery Neolithic in the Near East are the result of a long cultural tradition whose first manifestations date back to the Epipaleolithic (ca. 12,700–9800 BC), were defined and standardised in the Pre-Pottery Neolithic A (PPNA) and

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attained their maximum sophistication in the Pre-Pottery Neolithic B (PPNB) (ca. 9800–7000 BC) (Bouquetin, 2003; Belfer-Cohen, 1991; Hershkovitz and Gopher, 1990; Goring-Morris, 2000; Kuijt, 2008; Croucher, 2012). These funerary practices became extremely complex in the PPNB, when they may have included some or all of the following stages: (1) the interment of the body in a primary burial, (2) the later opening of the grave for removal and manipulation of the body remains, mainly the skull, which may (3) finally be re-deposited again in a different place.

There is a general consensus on the meaning of the funerary rituals during the PPN as a way to establish a bridge between living communities and their deceased forbears (Goring-Morris, 2000), in order to cement the society through ancestor veneration (Bar-Yosef and Alon, 1988; Hershkovitz and Gopher, 1990; Bienert, 1991; Bonogofsky, 2001; Kuijt and Goring-Morris, 2002). In this sense, secondary funerary practices would have been associated with collective acts aimed at the cohesion of the group (Goldstein, 2000; Schroeder, 2001), in an attempt to reduce the conflicts that the new way of living in extended communities would have provoked (Goring-Morris, 2000) or hiding, though a shared egalitarian ethos, the first social differences which were emerging between individuals and households (Kuijt, 2000).

Following this line of interpretation, it has been suggested that Neolithic societies in the Near East would not consider the primary burial as a permanent deposit, but as a stage in active remembrance, which included the removal of skulls and their burial in public ceremonies. These secondary mortuary practices would have been aimed at the articulation of a shared identity, which required the rituals to be highly standardized and communal, crosscutting kin, generations and households, and carried out at a prearranged time (Kuijt, 2008). Some scholars go beyond this intra-village level in their interpretation of funerary rituals as mechanisms of social integration, suggesting inter-village interaction in Kfar HaHoresh, which could represent a regional funerary and cult centre for nearby lowland villages (Goring-Morris et al., 2008; Goring-Morris, 2008).

However, it is acknowledged that there are still very few funerary contexts dating from the PPN in the Near East which are published in detail, with the paucity of data creating a challenge for global interpretations (Belfer-Cohen and Goring-Morris, 2008; Kuijt, 2008). In this context, the need for a bottom-up approach has been stressed, starting with the detailed reconstruction of the funerary practices in their context as a previous step to access their social and symbolic meaning (Croucher, 2012). In this paper, the multidisciplinary study of the funerary area at Tell Qarassa North (Sweida, southern Syria) (Fig. 1), dated in the late 9th millennium BC, in the transition from the Early to Middle PPNB reflects great diversity of practices in the funerary ritual, suggesting that behind the funerary act there must have been a wide range of aims and meanings (Croucher, 2010). Beyond the single desire to use funerary practices as social cement, some funerary practices show more negative feelings, such as spite or fear. Moreover, the interpretation of an abandoned house at Tell Qarassa North as a place to carry out rituals associated with the secondary deposition of human remains shows that instead of highly standardized, communal and prearranged ceremonies, these rituals were probably the result of decisions taken by individuals or small groups of people, carried out in a quite continuous way, and with diverse motives (probably worship, but maybe also divination, protection, propitiation, relief, witchcraft, etc.) which should also be explored.

2. Materials and methods

Tell Qarassa North was first sounded by C. Nicolle in 2007, in the framework of the project on the *Prehistoric and Protohistoric*

occupation around the Qarassa ancient lake, directed by F. Braemer (Braemer et al., 2007, 2011). In 2007, some architectural remains dating from the early PPNB were documented and, among them, a primary burial of an individual in a flexed position was identified. Fieldwork was restarted in 2009 and 2010 by a Spanish team (Ibáñez et al., 2010). In the first year, Area 1 was excavated, with two excavation sectors, one in Squares XYZ/65to69,¹ with a surface area of 65 m², and the other in Squares UV/67, with a surface area of 12 m². In 2010, the excavation in Area 1, in squares XYZ, continued, and the surface area was enlarged to 72 m², at the same time as a new excavation area, Area 2, was opened in Squares JKLMN/41to44. It was in Area 2 that a skull cache was found (Santana et al., 2012), contemporary with the funerary zone in Area 1 studied here.

2.1. Presentation of the archaeological area

Several architectural structures were uncovered in Squares XYZ (Fig. 2). Space A is a rectangular room with rounded corners. The stratigraphy in this space indicates it was an enclosed room covered with a roof. This room possessed two occupation levels, with floors of beaten earth. The oldest occupation phase ended when the house caught fire, which enabled good preservation of the roof structure (Balbo et al., 2012). After the fire, a new beaten earth floor and roof were made. After a second phase of use of the house, the structure was abandoned. To the west of Space A, a doorway led to Space B, of similar size on the north–south axis, but longer on the east–west axis. This space displayed a stratigraphy of beaten earth floors and levels of sedimentary deposits, but the fill contained neither stones from the destruction of walls nor levels formed by the roof falling in or burning down. This suggests it was an open courtyard. Two occupation levels were also detected in this space, consisting of successive layers of beaten earth. The occupation levels in both Spaces A and B date to the middle of the ninth millennium BC, with determinations of 9320 ± 50 BP² and 9300 ± 50 BP².

Following these occupation phases, the architecture was abandoned, leading to the accumulation of a first layer of architectural and colluvial debris (SU 3). Above this level, a second layer of debris, including large blocks from the sidewalls, was deposited inside the perimeter of the building (SU 4). It is within this second fill that the funerary area studied here was located. To the south and south-west of Space A, part of another two rectangular rooms, Spaces C and D, with beaten earth floors were uncovered. These two rooms were also re-used as a funerary area. This funerary level was dated to the second half of the 9th millennium BC: 9100 ± 60 BP³.

In Squares UV, the stratigraphy consisted of a lower level, associated with a wall (SU 14, 16 and 17), which was overlain by a thin level of charcoal, on top of which an upper occupation level (SU 3 and 4) is associated with another wall. This upper level was used as a burial area and was dated in Layer SU 4 to the late 9th millennium BC: 9030 ± 60 BP.³ Squares XYZ and UV are separated by 7 m of non-excavated archaeological deposits. However, comparison between the two stratigraphic sequences, and radiocarbon determinations, suggests that the two funerary areas are contemporary.

2.2. Bioarchaeological methodology

The study of the funerary context at Tell Qarassa North followed the procedures of “archaeothanatology” (Duday et al., 1990; Duday

¹ In 5 × 5 m² trenches.

² INT CAL04, 2 sigma radiocarbon age calibration; Cal BC 8710 to 8450; Beta-272103; AMS dating of wood charcoal.

³ Cal BC 8310 to 8200 and Cal BC 8030 to 8020; Beta-274098; AMS dating of a *Leguminosae* seed.



Fig. 1. Map with Tell Qarassa North and the sites cited in the text.

and Guillon, 2006; Nilsson Stutz, 2006; Duday, 2009; Harris and Tayles, 2012). This approach provides a theoretical and methodological framework based on taphonomy and archaeological deposit formation processes, through observations in the field complemented in the laboratory. It enables a reconstruction of developments in the mortuary space by assessing the natural processes in the decomposition of the body and anthropic and natural taphonomic agents. With these data, the primary or secondary location of the remains, the initial position of the body, and the nature of the mortuary practices regarding the body can be determined.

Burial contexts (BC) are characterised as primary burial, secondary burial and indeterminate (Andrews and Bello, 2006). Primary burials are those in which the body decomposes while maintaining its articulations in primary position. Secondary burials consist of the movement of the skeletal remains as a result of human action. We would add a further category, exposed secondary deposit, in which some bone remains are placed on a surface.

The MNI was calculated by taking into account body size, age and sex, following the procedures in Buikstra and Ubelaker (1994) and Outram et al. (2005). The methods used to estimate age and sex were adapted to the representation of the skeletal elements conserved. In the case of adults, age was assigned by the degree of tooth wear, the morphological appearance of the auricular surface of the ilium and the pubic symphysis and the condition

of the sternum ends of the ribs (Buikstra and Ubelaker, 1994; Buckberry and Chamberlain, 2002; Schmitt, 2005; Brothwell, 1989). In the sub-adult individuals, the age was determined according the pattern of dental eruption, the synostosis of the post-cranial skeleton and the size of the long bones (Buikstra and Ubelaker, 1994; Scheuer and Black, 2000; Coqueugniot and Weaver, 2007). The sex of adult individuals was determined by the morphological appearance of the skull and pelvis (Buikstra and Ubelaker, 1994; Bruzek, 2002). When these skeletal regions were not present, the individuals were included in the group of indeterminate. Sex was not assigned to the sub-adults due to diagnostic problems in the sexual determination of immature individuals (Scheuer and Black, 2000).

The “bone representation index” (BRI) was calculated for each of the two excavation areas following the protocol of Bello and Andrews (2006). The index expresses the frequency of each bone in a sample as the ratio between the number of bones observed and the number of bones expected according to the minimum number of individuals: $100 \times \Sigma (\text{number observed}/\text{number expected})$.

2.3. Geoarchaeological methodology

A first sedimentological description of the profile was performed in the field (Balbo et al., 2012). Further analyses were



Fig. 2. Distribution of the burial contexts (BC) in Area 1 at Tell Qarassa North.

carried out in the laboratory using undisturbed blocks and loose samples extracted during excavation. Geophysical (LOI, PSD), geochemical (pH, EC) and micromorphological analyses were used to study the stratigraphy. Samples for particle size distribution (PSD) were treated with 4.5% sodium pyrophosphate solution ($\text{Na}_4\text{P}_2\text{O}_7$), 30% hydrogen peroxide solution (H_2O_2) and 7% hydrochloric acid solution (HCl) to disperse clay particles and eliminate organic matter and carbonates. Each sample was run through a Malvern Mastersizer to measure particle sizes between 0.02 and 2000 μm (Last, 2001). PSD sample preparation involved: (a) mechanical sieving and elimination of the >2 mm fraction, (b) 7% HCl bath (eliminate carbonates), (c) 35% H_2O_2 bath (eliminate organic matter), (d) 4.4% sodium pyrophosphate (hedrametaphosphate) bath (undo clay bonds). Samples were washed with H_2O and whirlpooled at 3000 rpm for 5 min between baths. Measurements were taken using a Malvern Mastersizer with pump speed 2450 and ultrasonic displacement 9.50. Results are the average of

three measurements per sample (Jones, 2003; Syvitski, 1991). Particle size categories were used as defined in Last (2001).

Magnetic susceptibility was measured in 10 cc samples using Bartington Instruments MS2G at magnetic resolution 0.1 (Evans and Heller, 2003). Variations in magnetic susceptibility were used to identify periods of increased sediment input, probably related to flood events. MagSus was mass specific (based on density), corrected by volume (sample volume constant 10 cc), mass and pot's MagSus. Measurements were taken in LF (low frequency) with a drift limit of 5 SI units. Container weight was considered constant at 4.2 gr, container MagSus constant at -0.451 SI units. Measurements are the average of three readings per sample.

Sediment colour determination was defined using Munsell colour charts on dry sediments in the field. Carbon, total organic and carbonate content were reconstructed using loss-on-ignition analysis, by furnacing and reweighing dried samples at 400 °C, 550 °C and 950 °C for 2 h (Heiri et al., 2001; Matthiessen et al., 2005;

Nelson and Sommers, 1996). The mass loss between 105 °C and 400 °C was used as a proxy for organic-matter content, whereas the mass loss between 400 °C and 480 °C was assumed to represent the content in charcoal. Finally, the mass loss between 480 °C and 950 °C was taken as an indicator of the carbonate content (Heiri et al., 2001; Nelson and Sommers, 1996).

Microscopic observation of thin sections was performed using a Leica DM 2500 and Leica MZ 9.5 coupled with a Leica DFC490 camera. Description followed established guidelines. Relevant features are reported here (Stoops, 2003, 2010).

3. Results

3.1. Bioarchaeology

The systematic study of the skeletal assemblage at Tell Qarassa North determined a minimum number of 25 individuals. The distribution according to sex consists of three women, two men and 20 indeterminate individuals. The latter group includes the 15 sub-adults that were not sexed (Tables 1–3).

The BRIs were calculated for each sector (XYZ and UV; Fig. 3). The results indicated that the skeletal representation was significantly smaller in Squares XYZ. In both cases, the limbs display high percentages above the mean, only exceeded by the pelvises, with

percentages of nearly 90% in Squares UV. The skull was one of the elements less frequently represented, although the percentage was significantly higher in Squares UV, with 55%, compared with 18% in Squares XYZ. The mandible was noticeably more frequent in Squares UV, with percentages of nearly 70%.

3.1.1. Squares XYZ

A complex and diverse funerary context comprising primary burials and secondary deposits was found in Squares XYZ (Table 3). The walls of the architecture were the elements that organised the funerary space (Fig. 2).

Six individual primary burials were recorded, five of them situated near the walls of the building (BC 3, 5, 7, 23 and 25), while the other grave was dug near a terracing wall (BC-19). In five cases, they were burials with the body placed in flexed or semi-flexed lateral decubitus and in a single case (BC-5) in flexed supine decubitus. The homogeneity of the sediment in the fill and the soil where the graves were dug in some cases hampered a perfect delimitation of the grave size. However, the position of certain skeletal remains suggested the so-called “wall effect” (Duday and Guillon, 2006; Duday, 2009), produced by a physical boundary, in this case probably the grave wall. Only in BC-19, some stones were placed in the bottom of the grave to level off a horizontal surface.

The lower limbs of the individual in BC-5 (Fig. 6) were in an anti-anatomical position, with the ankles disarticulated and the palmar surface in contact with the anterior face of the tibiae, probably because the body had been tied up. Ropes or other objects to fasten the body may have been used in order to place the body in the flexed supine position, and they would have been particularly necessary if the individual was buried when in a state of rigor mortis (24–36 h after death) (Etzeberria and Herrasti, 1994; DiMaio and DiMaio, 2001).

Four of the primary graves (BC 3, 5, 7, 23) were reopened in order to remove the cranium and, in some cases, a number of post-cranial remains. In all cases, the mandible was disarticulated and left in the grave in a secondary position.

Inside the architecture, six secondary deposits of different kinds were found. BC-12 is a skull cache, consisting of a male cranium and the remains of another sub-adult skull, represented by fragments of the parietal, left temporal and the left mandible (Fig. 7). This deposit was prepared with three stones placed horizontally, aligned on a north–south axis. The facial skeleton of the adult cranium rested on the central stone in the line, facing east. Its right temporal had moved, together with several fractured portions of the right malar. The two crania in this deposit do not display impact marks or cut marks, although they fractured longitudinally when the bone was dry, as a result of natural degradation processes (Lovell, 1997). The movement of the temporal of the adult cranium was caused by a natural disarticulation. This movement suggests that the cranium was on the surface for a time, uncovered by sediment.

Table 1
Palaeodemographic data from Squares XYZ and UV.

Individual No.	Square	BC No	SEX	AGE
1	UV	BC-4.1	Indeterminate	1 year ± 4 months
2	UV	BC-8.1	Indeterminate	1.5 years ± 4 months
3	UV	BC-9.1	Indeterminate	9 months ± 3 months
4	UV	BC-10.1	Male	20–25 years
5	UV	BC-10.2	Indeterminate	Infant
6	UV	BC-10.3	Indeterminate	10 months
7	UV	BC-10.4	Indeterminate	Infant
8	UV	BC-11.1	Indeterminate	10–11 years
9	UV	BC-14.1	Indeterminate	Adult
10	UV	BC-17.1	Indeterminate	1 year ± 4 months
11	UV	BC-18.1	Male	Adult
12	UV	BC-24	Indeterminate	6 year ± 24 months
13	XYZ	BC-1.1	Indeterminate	Adult
14	XYZ	BC-1.2	Indeterminate	Young adult
15	XYZ	BC-1.3	Indeterminate	Infant
16	XYZ	BC-2.1	Indeterminate	Adult
17	XYZ	BC-3.1	Female	20–25 years
18	XYZ	BC-5.1	Male	25–30 years
19	XYZ	BC-7.1	Indeterminate	3 years ± 8 months
20	XYZ	BC-12.1	Female	Adult
21	XYZ	BC-12.2	Indeterminate	3 years ± 12 months
22	XYZ	BC-16.1	Female	17–19 months
23	XYZ	BC-16.2	Indeterminate	Adult
24	XYZ	BC-19.1	Sub-adult	1 year ± 4 months
25	XYZ	BC-23.1	Sub-adult	Infant
26	XYZ	BC-25.1	Indeterminate	Young adult

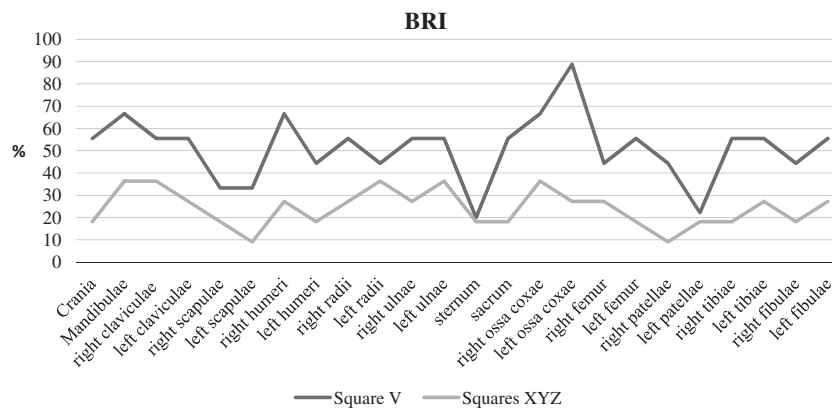
Table 2
Description of the burial contexts (BC) in Squares UV.

BC	Square	MNI	Deposit type	Burial type	Position	Position type	Orientation	Skull	Skull position	Removal of post-cranial bones	Decomposition
4	UV	1	Burial	Individual grave	Primary	Semi-flexed lateral	W–E	Present	W	No	Filled space
8	UV	1	Burial	Individual grave	Primary	Flexed lateral	W–E	Absent	W	No	Filled space
9	UV	1	Burial	Individual grave	Primary	Indeterminate	W–E	Present	W	Indeterminate	Indeterminate
10	UV	4	Burial	Collective grave	Primary/Secondary	Flexed lateral	W–E	Absent	W	Yes (10.1)/No (10.2)	Delayed filled space
11	UV	1	Burial	Individual grave	Primary	Flexed lateral	W–E	Present	W	No	Filled space
14	UV	1	Burial	Individual grave	Primary	Indeterminate	W–E	Present	W	Indeterminate	Indeterminate
17	UV	1	Burial	Individual grave	Primary	Flexed lateral	W–E	–	W	–	Filled space
18	UV	1	Not excavated	Not determined	Not determined	Not determined	W–E	Present	W	–	Not determined
24	UV	1	Burial	Individual grave	Secondary	–	–	Absent	–	No	Filled space

Table 3

Description of the funerary spaces (BC) in Squares XYZ.

BC	MNI	Deposit type	Burial type	Position	Position type	Orientation	Skull	Skull position	Removal of post-cranial bones	Decomposition
1	3	Secondary	Exposed secondary	Secondary	–	–	Absent	–	–	Indeterminate
2	1	Secondary	Indeterminate	Indeterminate	Indeterminate	Indeterminate	Absent	Indeterminate	–	Indeterminate
3	1	Burial	Individual grave	Primary	Flexed lateral	NE–SW	Absent	NE	Yes	Filled space
5	1	Burial	Individual grave	Primary	Flexed supine	SE–NW	Absent	SE	No	Delayed filled space
7	1	Burial	Individual grave	Primary	Semi– flexed lateral	W–E	Absent	W	Yes	Filled space
12	2	Skull cache	–	Secondary	–	W–E	–	–	–	Indeterminate
16	2	Secondary	Collective grave	Secondary	Indeterminate	–	–	–	–	Filled space
19	1	Burial	Individual grave	Primary	Flexed lateral	W–E	Present	W	Indeterminate	Filled space
23	1	Burial	Individual grave	Primary	Flexed lateral	W–E	Absent	W	–	Filled space
25	1	Burial	Individual grave	Primary	Flexed lateral	W–E	Absent	–	Indeterminate	Indeterminate

**Fig. 3.** Bone representation index (BRI) in Squares XYZ and UV.**Fig. 4.** Examples of primary burials in Square UV. In Photo A (BC-11), the individual preserves the skull, while in Photo B (BC-8), the skull was removed when the grave was reopened.

BC-1 is a deposit of skeletal remains placed over the collapse of the north-west wall of the building. Most of these bones come from the upper limb and belong to a MNI of three individuals (an adult and two sub-adults).

BC-2 is constituted by part of a right arm and six fragments of ribs. The right ulna and the radius were articulated. The hand was displaced *en bloc* from the carpal joint to the current position (Fig. 8). Several phalanges, metacarpals and carpals preserve their articular connections, suggesting that this movement occurred

when the bones still retained soft tissue holding the joints together. The rib fragments came from the back of the thorax, and all of them appeared on their inner surface, maintaining the primary position.

BC-16 is another secondary deposit in an L-shaped grave in the south-west corner of Space 2 in the architecture (Fig. 9). It consists of an area with well-defined limits, with a surface of shallow horizontal deposits. The remains of two individuals were found. The largest concentration was in the north-west part of the grave and



Fig. 5. Burial context 10. Double burial with removal of the skull from the adult individual.

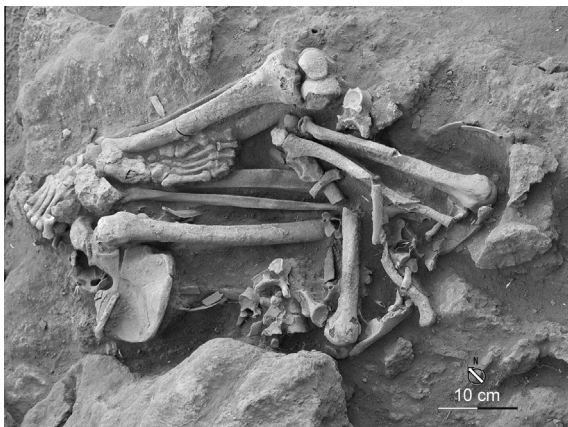


Fig. 6. Burial context 5. The lower limbs of the individual were in an anti-anatomical position, with the ankles disarticulated and the palmar surface in contact with the anterior face of the tibiae.



Fig. 7. Skull cache BC-12.

comprised the mandible and right hemi-pelvis of an adult (20–23 years), and the complete upper right limb, left hand, and left tibia and fibula of a sub-adult (17–19 years). Some bones maintained their articular unions: the left tibia and fibula, and the upper right limb. The arm was found beneath the right hemi-pelvis, lying horizontally and articulated with its wrist and hand, which was in

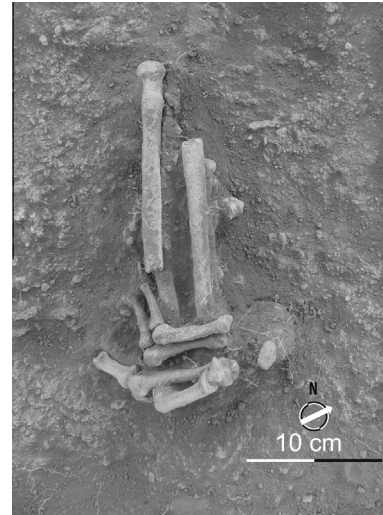


Fig. 8. Secondary burial context BC-2. Right ulna, radius and right hand displaced from their primary position.

palmar position. The left tibia and fibula appeared with their posterior face in strict articular connection. Beneath the skeletal remains located in the north-west of BC-16, at a depth of 5–10 cm, an articulated right hand was found on its lateral-palmar face. These remains had been placed on two fragments of a stone recipient and belonged to an adult. To the south-east of these skeletal remains, in the central part of the grave, a left hand was found with its wrist in palmar position. These remains conserved their articulations in primary position (Fig. 10). Owing to the degree of synostosis of the epiphysis, it is logical to suppose that these remains belong to the sub-adult represented by the bones in the north-west part of the grave.

The state of skeletisation of the remains of the two individuals had advanced very little, as the hands in this deposit maintain their articular unions in strict primary position. Certain factors can influence the time and order in which the articulations dislocate, such as environmental conditions, desiccation and the funerary actions themselves (Sellier, 1987; Crubézy et al., 1992; Duday, 1995). The inter-phalange and carpal connections disappear approximately three weeks after death, which suggests that it is likely that these skeletal regions were removed from the body in less than one month (Bass, 1997; Duday and Guillon, 2006; Duday, 2009). At the same time, the dislocation of the epiphysis articulations of the ulna and radius from their shafts in one of the hands in BC-16 may be interpreted as a “dislocation in paradoxical order”, since they maintained their unions with the carpals and these with the metacarpals and phalanges (Maureille and Sellier, 1996). No marks can be seen indicating these skeletal elements were separated by cutting, so, most probably, they were simply pulled out.

After BC-16 had been sealed, a peri-natal individual was buried in the eastern half of the grave. This burial, BC-23, was found altered and in a poor state of conservation. The body was placed in flexed lateral decubitus, on an east–west axis with the head in the west. The skeletal representation of this individual is partial, as the cranium, mandible, tibiae and fibulae are missing. It is therefore feasible to propose that the grave was affected when the skull was being removed, as occurred in other graves at Tell Qarassa North.

In addition to these primary and secondary deposits, isolated human bones were found throughout the excavation area. One of these was a left clavicle with cut marks made with a lithic implement (Fig. 11). This must have occurred when the deltoid muscle was sectioned in order to dismember the left shoulder. The deltoid muscle is one the largest units of flesh on the upper limb and

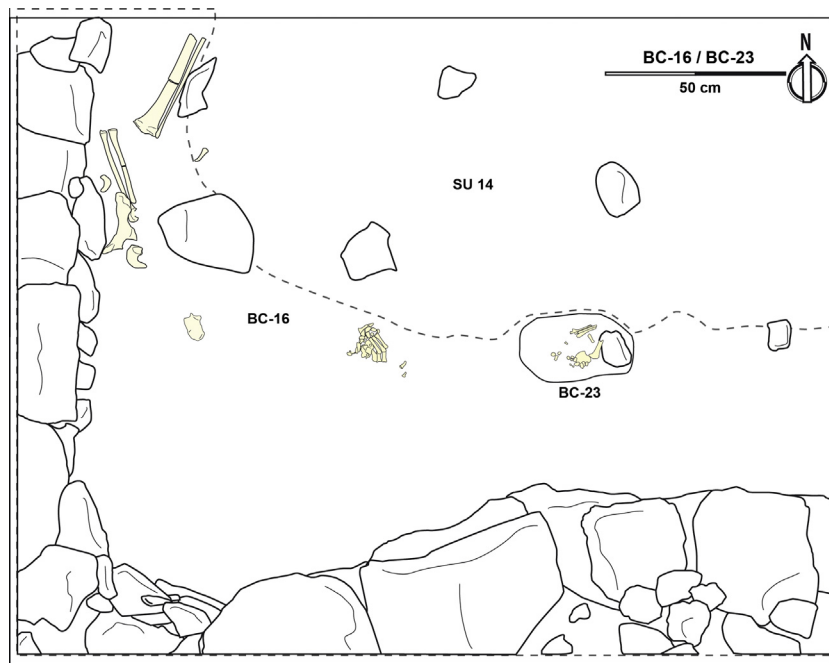


Fig. 9. Secondary burial BC-16 and primary burial BC-23.



Fig. 10. Burial context 16. Detail of articulated hand in secondary position.

covers the articulation of the shoulder. It is fixed to the lateral face of the humerus and the lateral epiphysis of the clavicle, precisely in the area with the cut-marks, to which it is joined with fleshy and aponeurotic fibres (Dufour, 2004).

3.1.2. Squares UV

A high concentration of primary, secondary, individual and double burials were documented in Squares UV, a surface area of barely 12m² (Table 3, Fig. 2).

Burial contexts BC-4, 8, 9, 11, 14 and 17 are primary individual interments in oval-shaped graves with the bodies in flexed/semi-flexed lateral position, on an east–west axis with the head in the west (Fig. 4). Three of these graves (8, 11 and 17) were reopened to remove the skull. The distribution of the skeletal remains within the grave and the maintenance of primary position in joints with labile connections, as for example, in carpals, metacarpal/metatarsal-phalangeal and interphalangeal joints, and the vertebral axis,

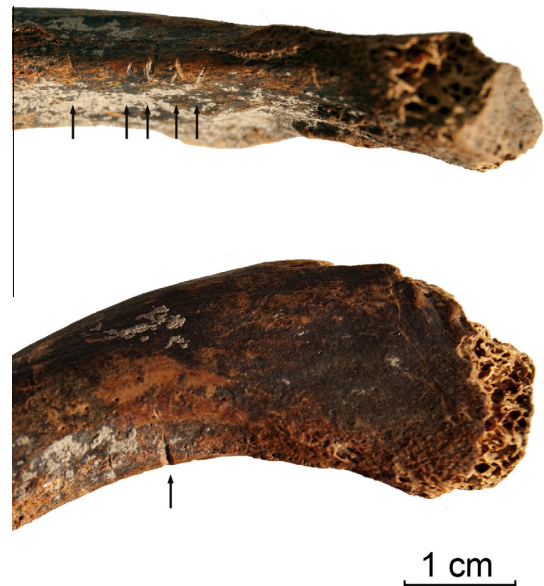


Fig. 11. Left clavicle with cut marks made with a lithic implement.

indicate that the decomposition process took place in a filled space (Duday and Guillon, 2006; Duday, 2009). Moreover, BC-8 and BC-17 are also subadults whose joint connections are weaker than in adults.

Grave BC-14 held the remains of an adult individual who only preserved the cranium, the mandible, part of the upper right limb (humerus, radius and ulna), the right hemi-pelvis and some phalanges. The limb bones maintained their articular unions in strict primary position. However, the other bones appeared in a secondary position but keeping certain anatomical relationships. Overall, the position of the bones suggests that it is a primary burial that suffered major alterations. In this case, the proximity of later architectures makes it difficult to determine whether these changes

were related to burial practices or, instead, to incidental episodes affecting the individual.

BC-10 is a grave with the remains of one adult and three sub-adults. This deposit was first used as a double grave to bury two individuals in a primary position: a male adult placed in a foetal position and a perinatal child placed next to his arms (Fig. 5). After the grave was sealed and some time had elapsed, it was reopened to remove the adult's cranium and other bones, such as the left femur. The opening of the grave caused serious damage to other parts of the body, especially in the middle of the grave. When the cranium was removed, the atlas was also lifted with it and then fell into the middle of the grave. It is likely that this bone was adhered to the cranium and was removed deliberately as the

atlanto-occipital articulation is one of the most persistent in the human skeleton (Duday and Guillon, 2006; Duday, 2009). In contrast, the other cervical vertebrae, including the axis, remained in their primary position. In the bottom of the grave, solely in the areas affected by the disturbances caused by removing the cranium and other bones, some remains of the two sub-adult individuals in secondary position were located. The skeletal representation of these individuals is incomplete and their remains do not maintain articular connections. These bones would have been deposited in the grave, probably deliberately, when part of the remains of the adult individual in a primary position were being removed.

BC-24 was a secondary burial of a group of bones partially representing the skeleton of a sub-adult individual. The remains

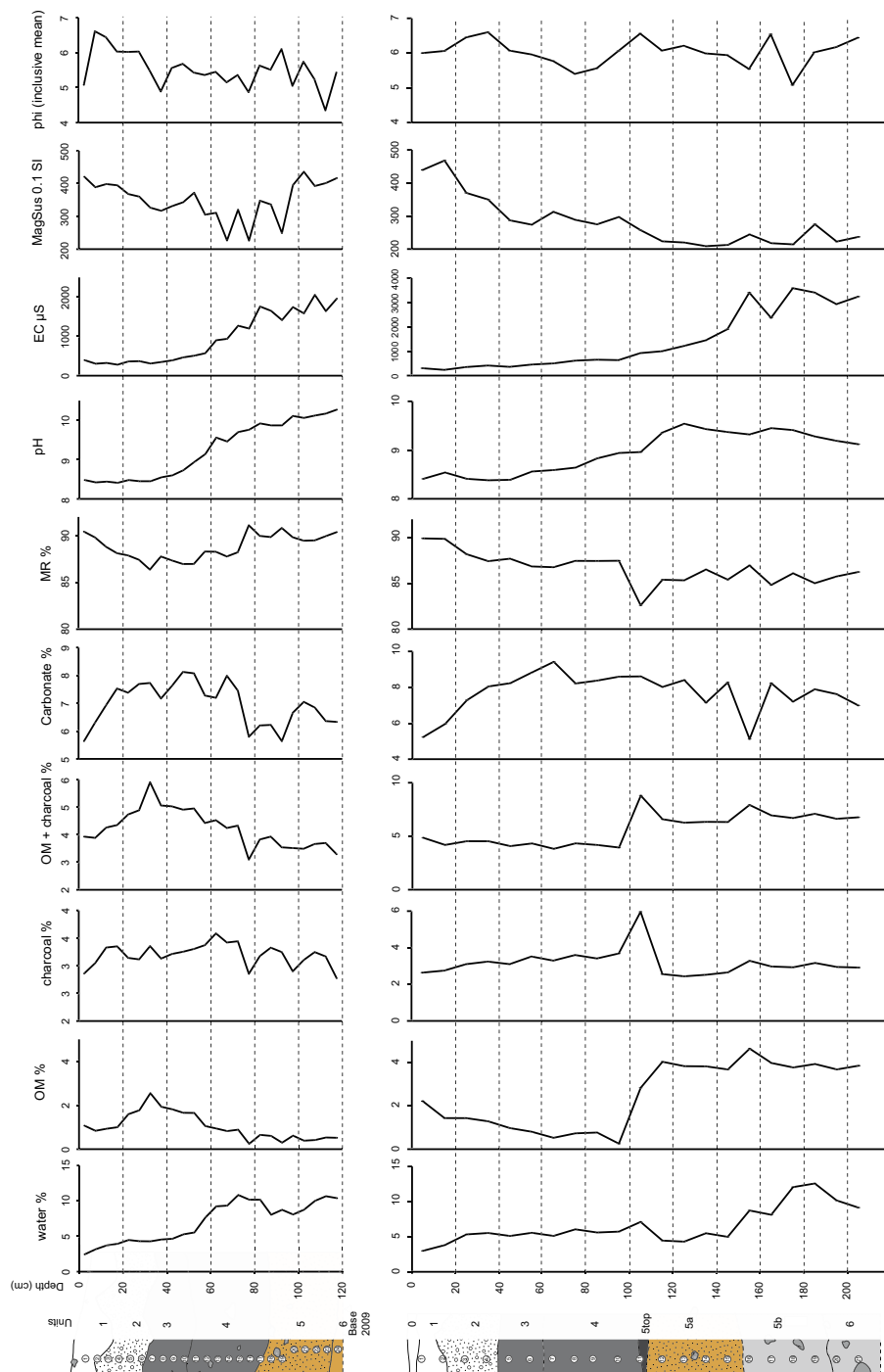


Fig. 12. Results from the physico-chemical characterisation of the sedimentary deposit in XZY and UV areas.

were grouped as if they were inside a pit whose limits could not be recognized. The skeletal elements consist mostly of the long bones of upper and lower limbs, several ribs and some vertebral arches. Not articular relationships were observed in the remains in this burial. The mandible is also present although, as in the case of the several primary burials, the cranium is missing. This secondary deposit is peculiar in that most of the bones were badly deteriorated (post-mortem fractures, loss of epiphysis, fragmentation, etc.) and it had a low skeletal representation.

3.2. Stratigraphy and significant micromorphological features

Results from the physico-chemical characterisation of the sedimentary deposit are reported in Fig. 12. Only significant micromorphological features are reported here.

The sediment accumulated inside building XYZ following its first abandonment is loose and includes common large basaltic clasts in SU5 and SU4, associated during excavation with the surrounding architecture. Irregular trends in particle sizes, Mag Sus, EC and pH values are observed for SU5 and SU4, and tend to stabilize upwards, starting from SU3. Horizontal and sub-horizontal

planes are observed in thin section at the interface between SU4 and SU3.

Regarding Squares UV, a series of possible palaeosurfaces was defined during excavation. Although similar to the profile described for XYZ (at least in its upper portion), the profile described for Squares UV is overall lighter in colour. As in XYZ, a clear change in sedimentation is noticed half way through the UV profile, in coincidence with SU5 top. Unit 5 top displays the highest contents in terms of charcoal and organic matter. However, magnetic susceptibility values remain low for Unit 5 top and no reddening is observed at the top of SU5a, indicating that charcoal concentrations are most likely not related to *in situ* burning (Canti, 2003; Ketterings and Bigham, 2000). As in Squares XYZ, the main burial phase in Squares UV is related to SU4 and SU3.

The lack of covering structures indicates that both areas were probably exposed to weathering and atmospheric agents during the period of formation of SU4 and SU3.

3.3. Figurines

A total of 19 objects made from unbaked clay were found in the excavated area. These are tubular objects with a widened base.

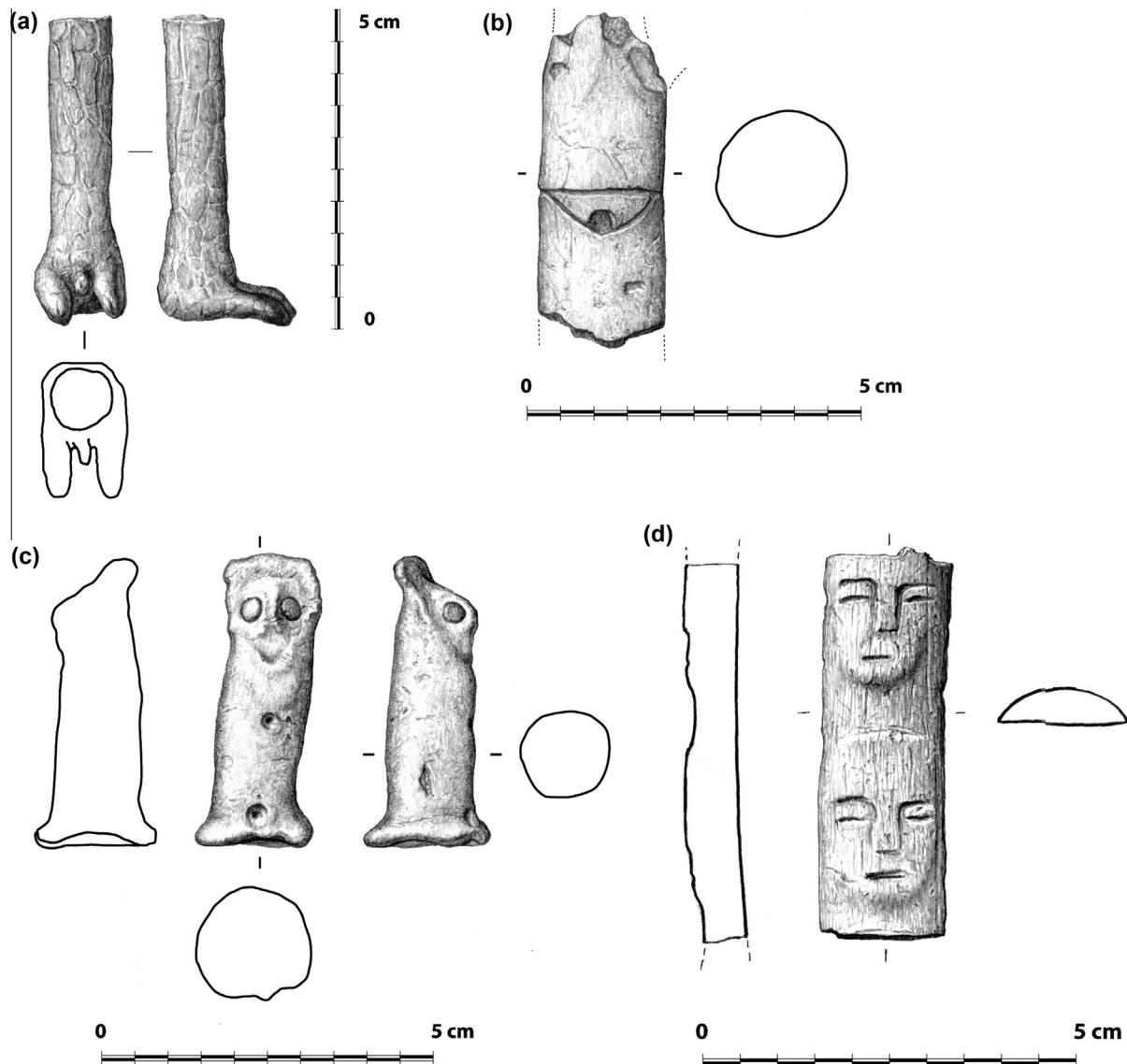


Fig. 13. Human depictions found in the funerary area. A–C: Figurines in unbaked clay. D: Bone wand with the engraved depiction of two human faces. Drawings: M.A. Núñez.



Fig. 14. Millstone in functional position among the stones fallen from the destruction of the walls after the abandonment of the building.

Despite being highly schematic representations, certain anatomical details in some of them suggest that they are human schematisations (Fig. 13). In two cases, the genitals are marked, allowing the identification of their sex, which is male in the case of one figurine (Fig. 13a) and female in the other (Fig. 13b). These figurines are clearly associated with the funerary levels. In Squares UV, eight figurines or fragments were found in the excavated deposit, of which six appeared in the strata corresponding to the funerary level (SU 3 and 4), where the volume of sediment excavated in the funerary level is similar to that excavated in the older levels. In Squares XYZ, out of 12 clay figurines or fragments, ten were found in the strata belonging to the funerary level, where the volume of sediment excavated in this level is approximately half that excavated in the older habitation levels. In addition, the funerary level in Squares UV (SU4) yielded a bone wand (Fig. 13d) with two human faces engraved in low relief (Ibáñez et al., 2014).

3.4. Tool caches

Four intentional concentrations of tools have been found at the site. They are, first, a set of two polished axes; second, a pair of ground stone tools; third, two quern handstones, and finally a cache of five bipolar blades. In all cases, the proximity and the arrangement of the objects reflects that they were intentionally grouped and deposited on the surface or in shallow pits. These caches are stratigraphically associated with the funerary levels, while no caches have been found in the underlying habitation levels.

3.5. A quern in functional position

In Square E3 in Y67, within Space A, a quern was found placed horizontally on its base (Fig. 14). The tool was found next to a series of stones from the destruction of the wall. The quern base was supported by smaller stones and the active surface was perfectly horizontal. This active area was intensely polished, although a circular area had been pecked in its centre to refresh the surface, so that the stone would regain its roughness in that small area.

4. Discussion

The study of the funerary area at Tell Qarassa North contributes information on: 1. the meanings of the funerary practices, opening alternative hypothesis of explanation to the commonly accepted one of ancestor veneration and 2. the rituals associated with the secondary deposition of human bones in an abandoned house.

4.1. Multiple and alternative meanings to ancestor veneration

The funerary ritual at Tell Qarassa North was expressed materially with a primary burial based on the interment of bodies in a grave in the ground, in a flexed or semi-flexed lateral position, on an east–west axis with the head facing west. The practice observed in the primary burials at Tell Qarassa North displays continuity with preceding periods, in the Natufian and the PPNA (Kurth and Röhrer-Ertl, 1981; Bar-Yosef et al., 1991; Cauvin, 1994; Byrd and Monahan, 1995; Kuijt, 1996; Bouquetin, 2003). Similar pattern is also observed in the PPNB, with numerous examples at the large number of settlements known in the region (Goring-Morris, 2000; Kuijt, 2008; Stordeur and Khawam, 2007). However, one of the burials at Tell Qarassa North displayed some peculiarities. In BC-5 (Fig. 6), the individual was placed on his back, the body had been tied and it was placed on the northwest–southeast axis. These characteristics seem to keep this individual apart from the symbolic benefits associated with the burial norm. In Ain Ghazal, it was noted that beside the canonical burials, a minority of individuals were deposited in trash pits (Rollefson, 1986). It seems, thus, that some individuals were discriminated after death.

Following the primary burial of the bodies, other successive funerary acts took place, particularly the reopening of the graves to remove the skulls and other bones, which were probably used in rituals of which we have little information, and finally the deposition of the remains in different kinds of secondary burials. The importance of the secondary manipulations of the bodies is seen in the BRI values. The low values recorded for the skull stand out among all the skeletal regions examined. The unequal representation of the skeletal remains, with an absence of the elements with greatest bone density and the presence of parts with less density, suggest a certain selection process as the result of a funerary practice that included the voluntary or involuntary disappearance and/or destruction of specific skeletal components (Duday and Sellier, 1990; Bello and Andrews, 2006; Beckett and Robb, 2006).

In Tell Qarassa North, the removal and manipulation of the remains was generally carried out when the cadaver was completely skeletised, although in some cases (BC-2 and 16), the manipulation took place when the body still preserved some soft tissue. The non-completely skeletised bodies were dismembered by pulling out or by cutting with lithic tools. The presence of cut marks on human bones has been documented at other PPN sites (Özkaya, 2009; Moore and Molleson, 2000; Coskun et al., 2012; Simmons et al., 2007; Andrews et al., 2005; Kanjou et al., 2013; Erdal, 2014) and on one of the mandibles in the skull cache in Area 2 at Tell Qarassa North (Santana et al., 2012). The diversity in the state of skeletisation seems to indicate that there was no fixed length of time between the time of burial and the removal of the remains, nor between the removal and the secondary deposition. In some cases (BC-16) the time elapsed between the burial of the body and the extraction of some remains was very short, less than one month.

The removal of skulls and their deposit in groups of different sizes, associated with complex funerary rituals, is characteristic of the funerary tradition in this region from the Natufian period onwards (Belfer-Cohen, 1991; Kuijt, 1996). In the middle PPNB, this practise acquired greater complexity with the modelling of plaster masks on the skulls, imitating facial features (Goring-Morris, 2000; Kuijt, 2008). The present study shows that skulls were removed from individuals of both sexes, both adults and sub-adults, although the skulls of adult individuals were removed more frequently than those of sub-adults, as this occurred to four out of six adults (67%), compared with four out of nine sub-adults (45%). This preferential selection has also been observed in some coetaneous sites (Cornwall, 1981; Rollefson et al., 1992), suggesting that some of the factors favouring the removal of the skull must

have been inherited (infantile individuals), while others were acquired (adult individuals) (Goring-Morris, 2000:114).

The removal and manipulation of the skull has been regarded as a form of ancestor worship (Arensburg and Hershkovitz, 1989; Kenyon, 1979; Cauvin, 1994; Bar-Yosef and Alon, 1988). However, the symbolic characteristics of the two skull caches in Area 2 at Tell Qarassa North suggest that, on occasions, these deposits seem to be connected to reasons of a more negative kind, like fear or punishment (Santana et al., 2012). One oval room at Tell Qarassa North contained 11 crania placed in two independent groups. Most of the crania belong to young adults (six crania), with an age at death of approximately between 18 and 25 years. Those crania conserving sufficient diagnostic elements to determine the sex (eight crania) all belong to males. Only one individual, the 5-year-old child, has maintained the facial skeleton practically whole, while in the rest of the assemblage the cranial vault is the basic anatomical part. The position of most of the mandibles attempted to evoke their anatomical position, under the crania. The anatomical representation in the cranium cache is mainly the result of a deliberate anthropic choice which required that only the vaults of the crania and the mandibles should be present in the deposit, so the constituent parts of the viscerocranium were deliberately removed. Cranium 11, located in the centre of Group B, was fractured before being deposited and the fragments were placed on the other crania. When the crania had been placed on the floor of the room, the entrance was sealed with a stone wall and then the space was filled to a certain depth with sandy sediment, without stones, which enabled the preservation of the crania. This fill must have been deposited in a single event. Finally, the room was sealed with a layer of large boulders.

The human face is an element with great symbolic significance for the first Neolithic communities (Ibáñez et al., 2014). In the Natufian and the PPNA, naturalistic representations of human faces are practically non-existent. However, from the late ninth millennium onwards, new interest is seen in the representation of faces, which is expressed in human sculptures, as at 'Ain Ghazal and Nevali Çori, in masks and in modelled crania. The carved bone with two human faces found at Tell Qarassa North is a further example of this new trend. In the case of the modelled crania, the representation of the face seems to stress the presence of the deceased and increase the capacity of interaction with them. The deliberate mutilation of the facial skeleton therefore seems to imply the suppression of this possibility of interaction. The intentional destruction of the face is also documented in some human sculptures at the sites of Nevali Çori (Hauptmann, 2011) and Gobekli Tepe (Schmidt, 2011). The deposits at Tell Qarassa North can hardly be interpreted as a form of ancestor-veneration, because of the clear signs of ritual hostility towards the deceased individuals. These acts of ritual hostility can be interpreted as a form of vengeance or as a way of protecting the living from the harmful power of the dead. The fact that male individuals were selected and most of them were young suggests that the factors involved in the selection were connected to the typical characteristics of male individuals between 18 and 25 years of age, the time of their greatest physical strength. It is likely that the acts of ritual violence exercised on the crania were aimed at counterbalancing the supposedly inherent aggressiveness in crania belonging to young males.

The patterns of removal and deposition of skulls in Area 1 (Squares UVXYZ) display significant differences from those documented in Area 2 (Squares JKLMN). In Area 1, when the crania were removed, the mandibles were not taken, and indeed in BC-12 the mandible is not together with the cranium. It seems that for the meaning associated with the manipulation of skulls in Area 1, the presence of the mandible was not important. However, the skulls in Area 2 are associated with their mandible. In addition the cranium in BC-12 conserves the facial skeleton,

which was not mutilated as happened to the crania in Area 2. In consequence, the skulls in Area 1, which were probably exposed on the surface for some time, as indicated by the arrangement of stones and the displacement of parts of skull, reflect a different ritual practice and meaning from that documented in the caches of Area 2.

The present study also shows that, as well as the skull, other anatomical parts were removed, manipulated and re-deposited, above all the long bones of the limbs. As in the case of the skulls, adults are more commonly submitted to the extraction of long bones (66%) than subadults (25%). This practice seems an intensification of the skull extraction, as all the individuals submitted to long bone extraction also lack the skull, while the contrary is not always the case.

Abundant evidence has been found for the participation of post-cranial remains in complex funerary rituals in the Pre-Pottery Neolithic in the Near East. At Kfar HaHoresh, Nevali Çori and Çayönü, a large number of secondary contexts with articulated and disarticulated human remains have been recorded (Özdoğan and Özdoğan, 1998; Goring-Morris, 2000). In Area 2 at Tell Qarassa, a deposit of post-cranial bones, mostly limb long bones belonging to a single individual, was found together with the skull caches (Santana et al., 2012). These secondary deposits are so frequent that they become more common than primary burials at 'Ain Ghazal and Beidha (Rollefson, 2000; Byrd, 1994). It seems, thus, that even if the skull was the anatomical part preferentially extracted for funerary rituals, some buried individuals merited a more intensive ritual practice, for which the long bones of the extremities were the anatomical parts selected.

The way in which the human remains were arranged in the secondary deposits is varied, with some examples of inhumation (i.e. BC-16) and others of exposure of the remains on the surface (BC-1 and 12) (Fig. 15). In one case (BC-10), an ensemble of remains belonging to two sub-adults was deposited in a grave with two primary burials (an adult and a peri-natal) when the grave was opened to remove the skull and some post-cranial bones of the adult individual (BC-10.1). This action seems to indicate an exchange of some remains for others. Moreover, in some cases the remains seem to have been deposited with care in an organized way while in others the bones of several individuals, many of which were broken, were thrown on the surface.

In sum, most of the individuals of Tell Qarassa North were inhumed following a norm and then skulls and, in some cases, long bones also were extracted to perform certain mortuary rituals in which the memory of the deceased would be relevant. However, veneration seems to be not the only aim of these practices. In some cases, negative feelings towards the deceased explain better the ritual practices, as in the primary burial BC-5, where the body was tightly tied and deprived of the ritual benefits of its canonical orientation and position, or in the cranial caches of Zone 2, which were submitted to the intentional destruction of the face. Moreover, there seem to be no rules in the timing either of the extraction of the bones from the primary burials or of their secondary deposition, which suggests that both practices depended more on unexpected ritual needs than on a prearranged calendar for ancestor veneration. Finally, the high diversity in the characteristics of the secondary deposits, which is also observed in the site of Kfar HaHoresh (Goring-Morris et al., 2008), suggests that multiples goals and circumstances were probably associated with the secondary deposition of the bones. Some of the practices documented, like carelessly throwing an array of dry bones on the ruins of a fallen wall or abandoning some skulls on the surface so that they would be damaged, seem to show a *use and discard* praxis rather than respectful veneration.

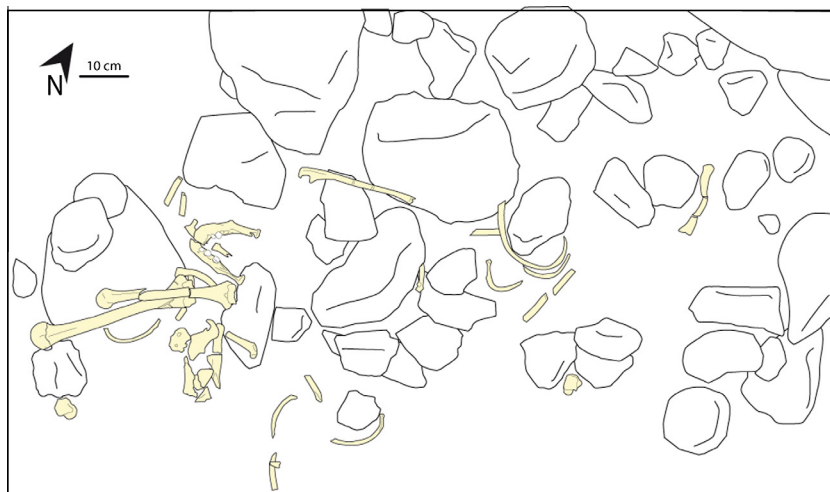


Fig. 15. Burial context 1. Example of an exposed secondary burial.

4.2. Funerary rituals in an abandoned house

The repeated burials in the same parts of the settlement at Tell Qarassa North means that it can be defined as an area for funerary uses. This grouping of burials in specific areas, which can be described as cemeteries, is seen at several Pre-Pottery Neolithic sites, and is first observed in the Natufian (Bar-Yosef, 1991; Perrot and Ladiray, 1988).

Sedimentological and chronological similarities between the two excavated areas suggest that the funerary use of Squares XYZ and UV was contemporaneous, though they display some significant differences. In Squares UV, most of the funerary spaces are primary burials (six primary burials with seven individuals, and two secondary deposits with three individuals). However, in Squares XYZ, there are the same number of primary and secondary deposits (five primary burials with five individuals, and five secondary deposits with eight individuals). The importance of the secondary deposits in Squares XYZ, in contrast with Squares UV, is also seen in the skeletal element representation patterns. In addition, in Squares UV, most of the remains belong to sub-adults (nine sub-adults and two adults), whereas in Squares XYZ, adult individuals predominate (five sub-adults and eight adults). It may be said that the area of Squares UV was more important as a place for primary burials, whereas Squares XYZ was used particularly for secondary deposits. As the individuals most often associated with the secondary manipulation of remains were adults, in Squares XYZ, the part used most for secondary deposits, adult individuals are more frequent. Therefore, the interior of a house and its outer courtyard in Squares XYZ were used most for secondary deposits, while UV was mainly an area for primary burials.

In Squares UV, where the main burial phase is related to SU4 and SU3, the beginning of the burial phase is marked by the deposition of a thin layer displaying a high concentration of charcoal and organic matter (SU5 top). SU5 top displays low magnetic susceptibility values and no reddening is observed in the underlying SU5a, indicating that charcoal concentrations are not related to *in situ* burning (Canti, 2003; Ketterings and Bigham, 2000). Thus, the spreading of burnt plants or wood could have preceded the use of UV as a cemetery, although a larger surface area should be excavated before this aspect can be confirmed.

In Squares XYZ, the general looseness of the infill accumulated in SUs related to funerary practices inside the building suggests that the area underwent consistent sediment input and reworking by natural (colluviation) and anthropic (intentional sediment input

and repeated excavations) processes, following initial abandonment. The stabilisation of particle sizes, Mag Sus, EC and pH values in SU3, with the diminished amount of mineral residue, suggests a reduced input of basaltic clasts. Occasional stabilization phases seem to have occurred during the infill process, during which the space inside the abandoned building was re-used. In particular, horizontal and sub-horizontal planes are observed in thin section at the interface between SU4 and SU3, indicating possible trampling (Adderley et al., 2010; Shahack-Gross, 2003; Sulas and Madella, 2012; Villagran et al., 2010). Incidentally, SU4 and SU3 contain most of the burials encountered in this area, suggesting that the indices of reuse of the abandoned building during this phase is most likely related to funerary practices. Building walls were used as points of reference to position the graves, as they are all located near them. This articulation of space probably made it easier to reopen the graves to remove the skull and other bones.

The primary burials, the reopening of the graves and the secondary deposition of the bones were probably carried out in the context of funerary rituals. A significant number of clay figurines were found within this cemetery area, which suggests these human representations formed part of the funerary ritual, as well as several tool caches, as has been suggested for tool caches found at the sites of Kfar HaHoreh (Barzilai and Goring-Morris, 2007), Shilourokambos (Briais, 2007) and Çatal Höyük (Carter, 2007).

The geoarchaeological and stratigraphic studies show that the house was abandoned and the walls had partially collapsed at the time it was used for burials. The house and outer courtyard were visited and activities took place involving the addition of ash and charcoal to the sediment. Although there is no evidence of human bones affected by fire at Tell Qarassa North, it has been suggested that fire was used in funerary rituals in the regional Pre-Pottery Neolithic, as at Çayönü and Aşıklı Höyük (LeMort et al., 2000). A quern in position to be used also suggests that some milling or grinding tasks were carried out inside the abandoned house, probably to prepare food. It has been suggested that some mortars found in a functional position in Natufian funerary contexts might have been connected with the preparation of food during collective funerary rituals (Nadel and Lengyel, 2009; Rosenberg and Nadel, 2014). Thus, some kind of food preparation and consumption could have been carried out during the funerary ceremonies.

The burial of individuals inside houses while they were still occupied has been documented at, for example, Tell Halula (Guerrero et al., 2009), in outside areas, as at Tell Aswad

(Stordeur et al., 2006), and in buildings or rooms specifically used for burials, such as at Dja'de (Coqueugniot, 2000), as well as for the storage of human remains, as at Çayönü (Özdoğan, 1995; Özdoğan and Özdoğan, 1998). The use of abandoned houses already occurred in the Natufian (Valla, 1981; Bouquetin, 2003: 344), and has been documented for the PPNB (Goring-Morris, 2000: 120) at the sites of Ain Ghazal (Rollefson, 2000), Yiftahel (Hershkovitz et al., 1986), Jericho (Kenyon, 1981) and Beidha (Byrd, 2005). It has also been suggested that, in some cases, the precise location of the burials was monitored by the builders who could have intentionally positioned new structures in relation to previous funerary areas. The use of abandoned houses or the intentional building of new structures over funerary areas may have been part of that discourse of links with ancestors, resorting to the use of the space and buildings (Kuijt, 1996; Goring-Morris, 2000).

In Tell Qarassa North, the enactment of the funerary rituals in a small area, the abandoned house, seems to indicate that they did not involve a large number of people, but rather that they were carried out by small groups, probably representing a fraction of the total number of inhabitants in the settlement. In this sense, the practice observed at Tell Qarassa North does not appear to support, for this specific context, the existence of public funerary ceremonies, carried out at a prearranged time, with the participation of a large group of people belonging to different households and performing precise and widely-shared rituals (Kuijt, 2008). The diversity observed in the practice is evidence of a flexible pattern, adaptable to the circumstances and needs of those participating in the ritual. Human burial contexts in Tell Qarassa North seem to be the result of individual or small group rituals (Verhoeven, 2002) more than public ones. We conceive the funerary rituals associated with the manipulation of human remains at Tell Qarassa North as the product of decisions taken by individuals or small groups of people (households?), carried out on a quite continuous, almost day-to-day basis, and probably with diverse motives (worship, divination, protection, propitiation, etc.). In this way, the record at Tell Qarassa North appears to be the result of numerous repeated “decentralised” funerary rituals rather than the product of large public ceremonies.

5. Conclusions

The funerary ritual in Tell Qarassa North displays a standard practice that consisted of the flexed lateral decubitus burial of individuals, with the body on an east–west axis. Despite this general norm, some individuals were singled out in the burial practice, probably with negative connotations. After a variable lapse of time, the primary burials were often opened to remove part of the skeleton, mostly the skulls, which were later deposited singly or in groups. Skulls were removed from individuals of both sexes, both adults and sub-adults, although the skulls of adult individuals were removed more frequently than those of sub-adults, suggesting that some of the factors favouring the removal of the skull must have been inherited, while others were acquired. Although skull ancestor worship may have been a major reason of skull manipulation, the characteristics of the two skull caches in Area 2 at Tell Qarassa suggest that, on occasions, these deposits seem to be connected to reasons of a more negative kind, like fear or punishment (Santana et al., 2012). Moreover, the lack of a fixed temporal schedule in the secondary manipulation and deposition of human remains suggests that these practices depended more on the specific needs of the living population, in which funerary rituals were a response to unexpected events, than on a prearranged calendar for ancestor veneration. Finally, the high diversity in the characteristics of the secondary deposits suggests that multiple goals and circumstances were probably associated with the secondary deposition of the

bones. Some of the practices documented, like carelessly dropping a group of dry bones on the ruins of a fallen wall or abandoning some skulls on the surface so that they might be damaged, seem to attest a use and discard praxis rather than respectful veneration.

Our study has shown that an abandoned building and its patio were preferentially used for the secondary deposition of the human remains, while in other areas of the necropolis primary burials were more common. The act of deposition or burial of human remains removed previously from graves must have been accompanied by a series of rituals, as suggested by the frequentation of the area documented by the geoarchaeological study and by the presence of the human remains themselves, the figurines and the tool caches, in which some food consumption could have taken place. The limited size of the place where these rituals must have been enacted, bounded by the walls of the house and courtyards, suggests that they were carried out by and for a small group of people, who may have sought some degree of privacy. Additionally, the diversity in the characteristics of the secondary deposits suggests great variability in the funerary practice and in the rituals carried out in the abandoned house. Because of this, we conceive the funerary practice and rituals associated with the manipulation of human remains at Tell Qarassa North as the result of decisions taken by individuals or small groups of people, carried out in a quite continuous way, and probably with diverse motives, rather than the product of large public ceremonies, temporally patterned and mainly aimed at preserving social cohesion at community or inter-community (regional) level.

In sum, we propose, first, that the interpretation of the funerary rituals during the PPN as a way to establish a bridge between living communities and their deceased forbears in order to cement society through ancestor veneration could be overstated and many other lines of interpretation (worship, revenge, divination, protection, propitiation, relief, witchcraft, etc.) which might play a role in the explanation of funerary rituals should also be explored. Secondly, without invalidating the fact that communal and prearranged ritual ceremonies could have existed during the PPN, our study stresses the importance of the funerary practices as the result of numerous repeated rituals carried out on the initiative of individuals or small groups to satisfy diverse and unsuspected needs.

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