

*Articulating the disarticulated: human remains from the Early Neolithic of the eastern Fertile Crescent (eastern Iraq and western Iran)*

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## **Articulating the disarticulated: human remains from the Early Neolithic of the eastern Fertile Crescent (eastern Iraq and western Iran)**

**Sam Walsh and Roger Matthews**

(Note: all cited dates are calibrated BC)

### **The Neolithic transition in the eastern Fertile Crescent**

In the eastern Fertile Crescent region of the Middle East, the Early Neolithic period, *c.* 9800-7000 BC, is critical in hosting one of the earliest transitions from hunter-forager to sedentary farmer and animal herder, the so-called Neolithic transition (Mithen 2003; Barker 2006).

During this period, in the context of a steadily ameliorating climate in the aftermath of the Younger Dryas cold spell, small groups of humans across the hilly flanks and high plains of the Zagros chain of mountains of western Iran and eastern Iraq developed their food-procuring strategies to include new modes of intensified plant cultivation (Riehl *et al.* 2013) as well as herding and penning of previously wild animals (Zeder 1999), leading in due course to domestication of a range of plant and animal species.

By 7500 BC human communities of the region had domesticated goat and sheep and were on the way to becoming settled farmers living in villages consisting of houses constructed of mud-brick and pisé. Plausible social implications of the increased permanence and density of settlement in the Early Neolithic include a heightened sense of attachment to place, and a concern to address issues of tension between the development of personal, familial and social identities. Treatment of the human dead was a key arena for the acting out of this discourse, as is vividly attested in the archaeological record across the Middle East by elaboration of rituals and practices connected with death and burial (Croucher 2012).

One key region of pristine change within the Early Neolithic transition is the central Zagros mountains of western Iran and eastern Iraq (Fig. 1). This region is the focus of a major programme of excavations and analyses, the Central Zagros Archaeological Project (CZAP) co-directed by Roger Matthews and Wendy Matthews of the University of Reading (Matthews and Fazeli Nashli 2013; Matthews *et al.* 2013). Four Early Neolithic sites are under investigation through application of an integrated programme of excavation and laboratory analysis: Sheikh-e Abad and Jani in Iran and Bestansur and Shimshara in Iraq,

whose combined occupation spans *c.* 9800 to 7500 BC, or the entirety of the Pre-Pottery (or Aceramic) Neolithic of the region.

A critical component of this dramatic episode of change relates to the disposal and treatment of the human dead. In this article, we examine the evidence for human burial and disposal of the dead at two of the CZAP sites before situating the results within the context of Early Neolithic burial practices across the eastern Fertile Crescent. In approaching these mortuary assemblages we follow Liv Nilsson Stutz (2014) in seeing the lifeless human body and its post mortem treatment as vehicles for the negotiation of codes of social interaction and behaviour:

“The handling of the human cadaver constitutes a recurrent and universal theme in mortuary practices. Through the treatment of the human cadaver the survivors control death with the aim of producing a death that is socially acceptable and holds a place within the general cosmology.” (Stutz 2014, 719).

### **The dead of Sheikh-e Abad, Iran**

With the onset of the Neolithic across the Middle East we see a significant increase in the quantity and diversity of human burials at multiple sites (Croucher 2012). From the CZAP sites, six human burials were excavated at the Early Neolithic site of Sheikh-e Abad in western Iran, all six dating to *c.* 7600 BC (Cole 2013) (Fig. 2). These burials were laid individually in pits probably through the floors of architectural levels since eroded off the top of the mound. At least four of the burials were adult males: most had signs of dental disease and two had dental anomalies (Cole 2013, tables 14.2-14.4). Overall, tooth-wear patterns of these individuals appear more in keeping with a hunter-gatherer lifestyle rather than that of an agriculturalist. The Sheikh-e Abad burials are mainly flexed inhumations, variously oriented. The exception, Burial 707, is in a partially supine position with legs in flexion. This individual is also lacking a head which is possibly a case of deliberate skull removal prior to burial. One infant burial had been placed under the floor in the corner of a small room. Two of the burials have traces of red ochre, and traces of black organic matter, perhaps matting, were found under one skeleton.

## **The dead of Bestansur, Iraq**

Ongoing excavations at the Early Neolithic site of Bestansur in Iraqi Kurdistan have recovered evidence for human disposal at several points around the settlement. In Trench 7 a double burial includes one elderly male and a young adult female buried together (Fig. 3). The body of the male individual appeared to have been tightly bound prior to burial, perhaps because of death occurring at some distance from the site and the body being protected during transport to Bestansur. Other scattered human remains have been found in external activity areas around the settlement at Bestansur.

The major discovery of human remains at Bestansur comes from Space 50 in Building 5, Trench 10, radiocarbon dated to *c.* 7700 BC. Building 5 is a large rectilinear structure composed of plastered pisé, with Space 50 its largest room, covering an area of *ca.* 8 x 4.5m (Figs 4-5). Below the floors of this room there are multiple human burials in various states of articulation and orientation. At least 48 individuals are represented by these remains. Much of Space 50 has not yet been excavated and we expect to excavate many more individuals in future seasons. Of the individuals excavated so far, 38 are juveniles between the ages of perinatal infant to adolescence, and the majority of these are infants and young children. As well as the main skeletal assemblage, areas of scattered bones comprise small elements such as bones of the hands and feet, as well as single teeth, bone ends and partial vertebrae.

So far, evidence for palaeopathology within the assemblage is limited to indications of physiological stress and/or malnutrition through dental enamel defects in juvenile individuals and extra bone formation, in the form of thickened crania, in adults. There is also a small amount of joint degeneration in some adult bones. The adult remains seem to have been predominantly located towards the north and western ends of Space 50, much of which is still to be excavated. Many of the juveniles so far excavated were placed within view of the threshold at the southern end of this room. Finds associated with the Building 5 human remains include multiple beads of clay, shell and carnelian, as well as four cowrie shells that may once have been inserted into the eye sockets of skulls (Figs 6-7). Such objects were associated with both adults and juveniles. There are also deliberate spreads of red pigment on selected bones (Fig. 8).

There are multiple episodes of human burial in Space 50, partly attested by cuts through the room floors, which together demonstrate the variability of burial practices in the Early

Neolithic. Both articulated and disarticulated adults and juveniles were deposited in multiple individual and collective deposits into sub-floor packing. A significant example is that of a female adult which was at least partially disarticulated and deposited in a deliberate manner. As part of this deposit a humerus and ulna were placed as if articulated but with the appropriate joints at the wrong ends. The majority of distinct individuals in the sub-floor phase are of juveniles aged from birth to eight years of age, two of which were together in a double burial, while the others had been layered overlying each other.

Subsequent to this phase there is a spread of scattered and disarticulated small skeletal elements, predominantly teeth, and bones of the extremities on surfaces and in fill above the floors. These remains are those typically left behind after the complete defleshing and removal of the larger skeletal elements (Galloway *et al.* 1997; Bello and Andrews 2006). Also associated with this phase was a cranial fragment found on traces of matting or basketry (Fig. 9), which could indicate potential storage or tidying of smaller fragments. Lastly, an adult flexed burial relates to the upper fill and closure of Building 5.

The plan of Building 5 is distinctive (Fig. 4), with a long rectangular ante-room with portico entrance, in which a large stone with multiple cut-marks was placed. A small sub-rectangular room, Space 48, contained deeply stratified ash with small amounts of unburnt human bone (one hand bone, and two teeth, all adult). It may be that the repeated and highly contained burning attested by the thick ash deposits in Space 48 relates to the cleansing of ritual paraphernalia involved in the burial practices, such as mats and baskets, through their deliberate and regular destruction by fire.

Underlying Building 5 we have clear traces of an elaborate mud-brick building, with lavishly plastered and painted walls, Building 8, which we have yet to excavate (Fig. 4). We anticipate that this building may be an earlier version of Building 5 and may also have served as special place for treatment and burial of human remains.

### **The wider context: death and burial in the Early Neolithic of the eastern Fertile Crescent**

The human burials from Bestansur can be situated more richly by reviewing the contemporary evidence from other sites in the eastern Fertile Crescent. Burials of disarticulated human remains are common at Early Neolithic sites of the eastern Fertile

Crescent, while in the Later Neolithic, from *c.* 7000 BC, the trend is towards fully articulated burial of the dead under house floors. This practice of ‘domesticating the dead’ by bringing them fully into the home as articulated individuals buried under the floors of living rooms, reaches its apogee at Later Neolithic sites such as Çatalhöyük in central Anatolia (Larsen *et al.* 2015). We here briefly review some of the burial practices attested at key contemporary sites of the eastern Fertile Crescent.

Located approximately midway between Sheikh-e Abad and Jani, and at 1330m above sea level, the flat site of Asiab comprises extensive midden-like deposits over an area of some 2ha, the major excavated feature being a large pit, 8-10m in diameter, which may have served as a semi-subterranean living structure (Howe 1983, 115-7). The pit was filled with layers of ash and sequences of hearths, and within the pit fill there were two human burials, one sprinkled with red pigment. Large quantities of apparently human coprolites suggest that at least part of the large pit was used as a latrine at some stage. Recent radiocarbon dates for Asiab suggest occupation of the site at *c.* 8700 BC (Zeder 2006, 193-4), thus contemporary with some of the sequence at Sheikh-e Abad and probably with lower levels of Jani too.

Our understanding of the central Zagros Early Neolithic is enhanced by the site of Ganj Dareh (Smith 1990), part of a cluster of small Neolithic sites in the region. At Ganj Dareh issues of goat exploitation and early steps towards domestication have been to the fore. Ganj Dareh was occupied for a couple of centuries around 7950-7750 BC (Zeder 2006, 193-4), contemporary with Jani and upper levels at Sheikh-e Abad. Chemical analysis of human skeletons indicates a strong focus on a meat diet rather than consumption of plant resources (Schoeninger 1981). Human burials occur in large numbers at Ganj Dareh, generally inserted under house floors in levels D-A, and there is extensive evidence for deliberate skull shaping on both male and female skulls (Lambert 1979; Meiklejohn *et al.* 1992) and for secondary reburial. Child burials were set into wall niches.

Also in the high central Zagros, at 1860m above sea level, the site of Abdul Hosein was excavated in 1978 (Pullar 1990). Radiocarbon dates indicate occupation in the mid-late eighth millennium BC, overlapping with that at Ganj Dareh, Sheikh-e Abad and Bestansur. Early Neolithic human burials at Abdul Hosein are intriguing in their nature and positioning. One adult female was buried with a foetus under a plastered floor and a large stone bowl placed beside her head, while in the same building a crouched human burial was crammed

into an erstwhile doorway and plastered over (Pullar 1990, 10, pls 3-4). Another adult appears to have been buried in a slumped squatting position along with the scapula of a cow (Pullar 1990, 10, pl. 14 top), and a group of four individuals, two adult and two infants, were either killed and buried by roof collapse (Pullar 1990, 10, pl. 12), or may have been inserted into the fill of an abandoned building. In any case, the intricate association of human burials with architectural spaces is a dominant feature of the Early Neolithic of the Zagros and likely indicates a developing concern over ownership of space and increasing attachment to architectural place. As at Ganj Dareh, a significant proportion of the Abdul Hosein adult skulls, male and female, show evidence for deliberate head shaping.

Excavations at the site of Tepe Guran in the Hulailan valley of Luristan add to the picture of a marked transition from seasonal to year-round occupation by human communities at specific locales across the landscapes of the central Zagros (Mortensen 2014). The mound is at 950m above sea level and its lowermost levels, V-T, are of late Early Neolithic date, *c.* 7400-7000 BC (Zeder 2006, 195). A discrete deposition of human bones, including four skulls and limb bones, in a pit in the early levels at Guran suggests a form of curation of human remains prior to final burial (Mortensen 2014, 17-9). The clustering and deliberate arrangement of partly articulated and disarticulated bones from multiple individuals, as well as the mixture of adult and infant remains, makes a good comparison with the Space 50 evidence at Bestansur.

The deposition of the Guran remains in a pit dug into virgin soil, filled with layers of ash, suggests that these complex mortuary practices held significance within an increasing sense of attachment to place that is characteristic of many Early Neolithic sites of the Zagros region, before the appearance of evidence for significant architectural investment. The mortuary practices attested at Bestansur can perhaps best be viewed as a continuation and a development of these Early Neolithic intensifications of engagement with space, place and landscape on the cusp of the transition from mobile to sedentary. Early Neolithic levels at Guran are succeeded by more substantial, densely packed mud-brick houses with red ochre decoration on the walls and human burials under the floors, in contrast to the secondary burials in Early Neolithic levels at Guran.

The most fully excavated, analysed and published Neolithic site of north-western Iran is Hajji Firuz Tepe (Voigt 1983), situated at 1300m above sea level on the fertile Ushnu-Solduz valley to the south of Lake Urmia. The Neolithic architecture at Hajji Firuz consists of neat



rectilinear mud-brick buildings plastered with lime and with traces of red and black paint. Internal features include ovens and plaster storage bins. There are many human burials below floors, as well as so-called 'ossuary burials' comprising both primary and secondary interments with red pigment.

## HOUSES OF THE DEAD

The human remains from Bestansur can be further situated by reviewing the contemporary evidence from sites with so-called Houses of the Dead, in particular Çayönü in south-eastern Turkey and Abu Hureyra and Dj'ade al-Mughara in Syria. The famous Skull Building at Çayönü appears to have been in use for up to 1000 years from *c.* 8500 BC (Özdoğan 1999). The Skull Building was rebuilt through multiple phases before being destroyed by fire at the end of its life. In total at least 450 individuals are represented by the human remains from this building, principally as skulls and long bones, often in association with skulls and bones of wild cattle, and occasionally with burial goods such as beads. The curation and deposition of human remains within the Skull Building is tightly choreographed through space and time, with set stages in the sequential treatment of cadavers, skulls, skeletons and single bones. The age and sex distribution of the Skull Building dead appears to be inclusive of all categories, with the exception of infants below two years old, in contrast to the pattern seen at Bestansur Building 5.

A further connection between Çayönü and Bestansur and other sites of the Iraqi Zagros region is the occurrence of numbers of retouched obsidian blades of the type known as Çayönü tools, which appear from about 8000 BC, as well as the adoption of pressure blade lithic technology in eastern Mesopotamia and Anatolia at about the same time (Kozłowski 1999). The widespread occurrence of Çayönü tools across the eastern Fertile Crescent and their association with polished alabaster bowls and bracelets vividly attests the interconnectedness of Early Neolithic communities across the Taurus-Zagros zone, as also evidenced by commonalities in the traditions and practices of disposal of the human dead.

Further west, at the site of Abu Hureyra on the Syrian Euphrates, the Phase 8 building in Trench B, dating to *c.* 9000 BC, is a most informative parallel for Bestansur Building 5 (Moore and Molleson 2000). Room 3 of the Abu Hureyra building has the remains of at least 24 individuals laid on its successive floors through a lengthy period of time. It appears to have functioned as a room where bodies were placed in order to decay while deposited, to

enable the separation of skulls and other elements for deposition elsewhere. At least one skull had been wrapped in matting before being laid on the floor, similar to Bestansur where a skull fragment was found on the remains of matting. Destruction of the Abu Hureyra building by fire meant that the bodies on the floor of Room 3 were never removed from what was likely intended as a temporary resting place before progress to the next step of structured deposition, probably as formal burials under house floors. It is not yet clear whether bodies were being laid out on the floors of Space 50 at Bestansur, but a few scattered bones apparently lying on the floors suggest this possibility. If so, this would be a practice very similar to that attested at Abu Hureyra. At Abu Hureyra it is understood that the 30 individuals buried in pit 144 (Room 2) constitute remains from bodies which had been removed from Room 3 for burial in pit 144. Some of these pit remains were associated with beads of clay, turquoise and bone points, in contrast to the remains left in Room 3 which had no associated artefacts, in keeping with the transitory state of their presence on the floor of Room 3.

The Abu Hureyra building is an intriguing parallel with which to aid interpretation of Building 5 at Bestansur, where similar practices may have been pursued, namely the laying out of cadavers on the floor to allow decay of fleshy elements, followed in time by the removal of large parts of the disarticulated remains for disposal or burial elsewhere. It is also likely that body parts were being carried across the landscape in seasonal movements of groups of people attached in some way to the settlement at Bestansur prior to their eventual disposal under the floors of Space 50.

The House of the Dead at Dj'ade al-Mughara, on the Syrian Euphrates and dated to *c.* 8000 BC (Coqueugniot 2000), also provides stimulating evidence with which to consider the Bestansur material. The Dj'ade House of the Dead consists of four small rectilinear rooms within which the remains of at least 38 individuals were found, mainly of infants and young adults. There are primary intact burials, groups of skulls and collections of disarticulated bones, much like the Bestansur Space 50 assemblage. The excavator suggests that primary burials may represent individuals who died at the site of Dj'ade, while secondary burials relate to deaths away from Dj'ade during episodes of seasonal movement.

## **Conclusions**

The emphasis on staged disarticulation of human remains and their sequential association with the tight stratigraphy of Building 5 at Bestansur enables us to reconstruct micro-histories of engagement between the living and the dead during an episode of fundamental change in the human condition, at the very origins of sedentarisation. This highly significant assemblage of human remains is still under excavation. The evidence from Bestansur and other approximately contemporary sites suggests that the transition from life to death in the Early Neolithic of the Middle East was a complex, enduring and highly charged process involving several stages of metamorphosis from complete cadaver to flesh-less and often incomplete, occasionally highly scattered, skeletal remains. Special buildings were constructed to serve as theatres of death, disintegration and disposal of the dead. The deconstruction and dispersal of the dead was managed; active participation with the decomposing remains may have been a part of the grieving process, prolonging the relationship with the deceased (Tarlow 2002, 91). Aspects of decomposition drastically change the appearance of the body through taphonomic processes such as *rigor mortis*, bloating, and collapse of the fleshy parts of the corpse prior to skeletonisation (Clark *et al.* 1997, 151; Gill-King 1997, 99; Duday 2006, 35). The placement of the bodies in Space 50 means that they were relatively enclosed from view, but the thresholds to the room would have enabled some viewing of the remains from outside areas. By contrast, at Sheikh-e Abad the dead, buried under floors, were in close proximity to the living; inhabiting space in a deliberate way to keep death foregrounded for the living (Stutz 2014, 721).

The existence and location of such buildings as Bestansur Building 5 and other Houses of the Dead may in themselves have been significant in attracting human communities to spend periods of time at specific locales in the landscape, recurrently engaging in the dramas of death and decay unfolding in and around these buildings. Such factors may have been every bit as important as issues of ecological opportunity in entangling human societies in long-term sedentism as a vital component of the Neolithic transition. The distinctive practices associated with death and disposal at Bestansur take their place amongst a wealth of elaborate funerary procedures, as human communities confronted tensions between personal and social identity, as well as intensified their claims to physical, social and cultural space through the centuries of the Early Neolithic across the Fertile Crescent.

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### **Figure captions**

Fig. 1. Map to show location of key sites.

Fig. 2. Neolithic human burials from Sheikh-e Abad, Iran.

Fig. 3. Double human burial from Trench 7, Bestansur, Iraq.

Fig. 4. Plan of Building 5, Trench 10, Bestansur, Iraq.

Fig. 5. Excavation of human remains in Space 50, Building 5, Trench 10, Bestansur, Iraq.

Fig. 6. Beads from human remains deposits in Space 50, Building 5, Trench 10, Bestansur, Iraq.

Fig. 7. Cowrie shells adjacent to human skull, Space 50, Building 5, Trench 10, Bestansur, Iraq.

Fig. 8. Spread of red pigment on human bones in discrete deposit, Space 50, Building 5, Trench 10, Bestansur, Iraq.

Fig. 9. Traces of matting or basketry on floor of Space 50, Building 5, Trench 10, Bestansur, Iraq.