

The Ordinary Neolithic People of Abu Hureyra

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Abstract

The study of the often fragmentary bones from Pre-pottery and later Neolithic levels of the Abu Hureyra tell has revealed the everyday lives of the families who lived there between ten and eight thousand years ago. Excavations explored the settlement in seven trenches A-G. Already trenches B, D, E and G have shown that initially the villagers were hunters and gatherers who progressed to growing cereals then to husbanding domesticated animals and acquired the skills of techniques to aid manufacture and storage of their produce. Burials from trenches A, C and F confirm this picture. The first Neolithic PPNB burial in trench E, if a foundation burial, may signal a change in focus from the closure deposits of abandoned buildings to a bond with the future. Later arrivals, of a physically distinctive tribe, marked their arrival at Abu Hureyra with secondary burials in the largest building within the host settlement. It may be they who introduced successful methods of shepherding, specialist crafts, and, above all, integrated with the host population. Situated at the edge of the desert the inhabitants of Abu Hureyra were subsistence farmers vulnerable to the vagaries of any change in the climate and it is not easy to understand how their ideological identities developed over time; they appear less sophisticated or hierarchical than their neighbours.

Keywords: *Abu Hureyra, Neolithic, Craftsmen, Identity, Farming, Nomadic pastoralists*

Introduction

It is with gratitude to Andrew Moore for his gift to me of the study of the human remains from Tell Abu Hureyra that I offer this overview of the Neolithic people that he and his team excavated. Many challenging hours were spent with a dedicated group of Extra-mural students of the University of London teasing out the identities and lives of the inhabitants of the *Village on the Euphrates*. The excavation methods in the 1970s, which were exemplary and Andrew Moore's

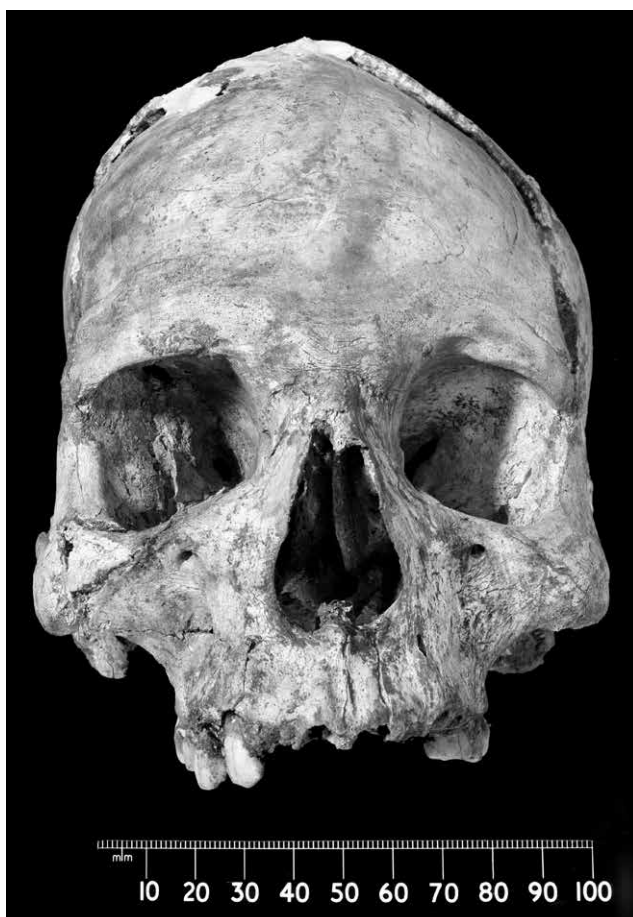


Figure 1. A man of Abu Hureyra about 8000 years ago.

generosity in sharing data and field notebooks have enabled the recognition of the bone signatures of some of the extraordinary skills of the ordinary people of Abu Hureyra.

Tell Abu Hureyra was a large tell on the southern bank of the Euphrates River, to the south east of Aleppo in northern Syria. Six trenches, A to G, across the tell were excavated by Andrew Moore for the Syrian Government during short seasons in 1972 and 1973 in advance of the building of the Tabqa dam. Despite the urgency of the task all the soil excavated was sieved for plant and animal remains. Since then there has been an extensive program of identification, analysis and dating. The site spans 3000 years with evidence for extensive settlement in the Epipalaeolithic (AH1), the Neolithic (AH2) and the Modern (Historic) Periods (15th-19th centuries).

Here I shall try to follow the social identities of the communities that lived on the tell during the Neolithic Period, concentrating on the human remains from trenches A, C and F, to complement the lives of the people from trenches B, D, E, and G already reconstructed in *Village on the Euphrates* (Moore *et al.* 2000).

Epipalaeolithic: New Land

The Younger Dryas cooling episode 12,900 years ago was triggered when an asteroid or comet impacted earth. Thermal radiation from air shocks was sufficient to melt surface sediments at temperatures up to or greater than the boiling point of quartz (2,000 °C) with Abu Hureyra near the centre of a high energy airburst impact (Bunch *et al.* 2012). More than 150 species of plants showed the distinct effects of the transition to cooler, dryer conditions during the Younger Dryas (12.9-11.5kaBP)¹. Gazelles migrated away to find pastures available in successive seasons (Legge and Rowley-Conwy 1987; Moore 2000, 12-13).

Eventually migrations of people began in the late Epipalaeolithic and new settlements, including Abu Hureyra (AH1) with its round houses, the earliest of these sites and Dja'de el Mughara, Mureybet, and Jerf el Ahmar, along the middle Euphrates emerged (Akkermans and Schwartz 2003, 28-29; Asouti and Fuller 2013, Fig. 7). Tool kits and exploited fauna differ between sites and there was not much cutting of plants to judge from low levels of gloss on tools (Olszewski 2000, 148).

The primary animal was the gazelle and any hunter-gatherer group that depended heavily on such animals would have had to pursue a mobile way of life (Moore 2000, 12-13). They would have hunted in bands using a sophisticated desert kite² to drive animals that migrated every year to be near the water when they calved (Legge and Rowley-Conwy 1987). This was a seasonal and intense activity that must have involved the whole community. Then, as the climate deteriorated, the site was partially abandoned. Only isolated fragments of human bone were recovered from this period.

Neolithic PPNA: Food for the Quick and Homes for the Dead

In due course people returned to the deserted area and constructed a new village (AH2) in a new style – rectangular buildings with several rooms. The building again represents an intense cooperative enterprise. The African architect Diébédo Kéré sums up the human need for shelter:

“A living space is about intimacy and feeling secure, – as children we would build shelters using branches and leaves. We wanted to feel secure, to define our own territory in the middle of the vast landscape...In African tradition, building a house involves the whole community with everyone participating” (Kéré 2014, 139f).

Archaeologically there can be a lag between sources of evidence – floral and faunal changes take years to become visible in the record whereas a new building and burials are immediate. Demographics constructed from burials are a particularly

- 1 It seems preferable to give the original uncalibrated BP radiocarbon date as was used in the “Village on the Euphrates” given the number of versions now available for calibrating to BPcal. or cal.BC. These charts are now readily available (See Asouti and Fuller 2013).
- 2 Desert kites have walls sometimes kilometres long converging towards an enclosure that could be used as animal traps by hunters.

rewarding source for the Neolithic because so many were within buildings that became a focus for burial as well as for living.

The decline in wild cereals that was triggered by the cool dry climate of the Younger Dryas precipitated cereal cultivation. Farming began in earnest adding three wheat species and barley to the repertoire, eventually replacing over the next 2500 years, the wild grasses that had been staples. Relative to the great variety of seed foods used in AH1 times, the range of cultivated grains used by 8500 BP represents a significant narrowing of dietary diversity that could well have impacted human health (Hillman 2000, 421f). As indeed it did.

PPNB: Hunting to Herding

Herding adds a unique dimension in the relationship that develops between herdsman and the lead animal. Sheep and goats have a social system that is based on a single dominant leader. They have a home range but do not defend a territory in the same way that deer and antelope will and will adopt a human leader (Clutton-Brock 1981, 55). This led to a series of experiences that define the Neolithic. Among pastoralists it is traditional for the shepherd to guard and move his flocks with a 'bellwether' that has been specially reared by the shepherd to be a natural flock leader. There is a bond between them. There was a major change in attitude from hunter empathy with the hunted animal to the pastoralist's bond with his flock through the lead animal.

The deepest levels excavated were in trench E, which reached an abandoned Epipalaeolithic round house over which sterile layers had accumulated. These had been levelled in preparation for the building of a new rectangular house. In the middle of one room we meet our first inhumation: fragments of a skull, femur and a few other bits of bone, evidently a secondary burial – a foundation burial. Remains of ancestors sometimes travelled with migrants to be buried within their new home. Foundation burials could symbolize attachment to place and signal a change in focus from the closure deposits of abandoned buildings that look back to the lineage, to a commitment to the future. This we see as an intellectual witness for the Neolithic (Molleson and Arnold-Forster 2015). Later, neonates interred in walls may also have been foundation burials (Chamel 2014, 186).

The demographic profiles of burials in intramural spaces reflect domestic settlement patterns that could be from one family over several generations or an extended family having right of burial in that particular space. Genetic markers can help identify lineage identity. A cluster of rare traits relative to the prevalence of these traits in the general population can identify a kinship. There is some evidence for kinship among the multiple burials, while immigrants might be the best reason for a cluster of mandibular and dental traits late in PPNB (Molleson 2006; Molleson and Rosas 2012). For the rest, from the lack of such clusters, matings were within the settlement or with nearby settlements of similar genetic makeup (Alt *et al.* 2013; Molleson *et al.* 2005*a*).

Grindstones and demography give different emphases of identity. At Abu Hureyra there appears to be a saddle quern to each household, evidence that the daily basis of living was the family. At Çatalhöyük, while a saddle quern is located

within the building the number of burials seems greater than the number of people who would have lived there at any one time. Radiocarbon dates indicate 80-100 years usage of the space (Hodder 2005). There is a uniformity of burials within the area of excavation. This may be the point: right of burial within a given area need not be for reasons of kinship exclusively, but for a group; however, the blackened ribs in the old from long exposure to the smoky atmosphere of the enclosed rooms at Çatalhöyük argue that rooms were primarily for living in (Molleson 2007a).

In order to recognize individuals having an identity that overrides kinship we might seek out the signs of lifestyle. Most would have been acquired during an individual's lifetime, while others defined by extreme environmental conditions, including nutritional. Some nutritional conditions wittingly or unwittingly can induce congenital epigenetic traits that persist across generations. The signs of identity in the Neolithic are drawn from morphologies induced by early life activities.

PPNB: Craftsmen of Trench A

Nowadays probably only musicians and athletes in training impose such stresses on the young body that the bone morphology is actually modified. In the past, the conditions of demanding and unrelenting exertion may have been more common and more evident, especially if the stresses had been imposed while the bones were still growing. It is for these reasons that very occasionally we can recognise changes on excavated bones that can be attributed to specific postures and associated with particular tasks. The labour-intensive necessity of craft production has effects leading to role specialization and, ultimately, on social stratification and hierarchies.

The remains of a minimum of 22 individuals were recovered from rooms excavated in Neolithic levels of trench A. Inclusions of bones from other individuals in graves and scraps of bone could bring the number of other individuals to about 30 (including 12 neonates, an infant, a juvenile, six adults, five females and one male) and eight or ten of undetermined age. Thus, the demographic distribution is not natural for a domestic settlement. We must assume that most of the males and many of the females were buried outside the walls of the building.

The matrix was constructed by Tim Compton, who was able to confirm the Neolithic age of the deep sounding but was not able to allocate to 2A or 2B phases on the basis of animal bone content as there was frequently so little animal bone. Human bone from burial Tr.A 73.B194 dated 8,180 +/- 200BP (OxA-4660) provides a date for Period 2B. This was a period in which large-scale sheep and goat herding superseded gazelle hunting as the principal source of meat for the inhabitants of Abu Hureyra (Legge and Rowley-Conwy 1987; Moore and Hillman 1992).

All of the adults from trench A show signs of task-related wear of the teeth. Evidence for task-related dental abrasion was remarkable. Grooving and chipping of especially the anterior teeth point to fairly intensive use of the teeth to prepare fibres for manufacture. The fibres were not all of the same material. Some were very fine and created sharp edged grooves on the teeth (Figure 2); other grooves are more rounded and suggest basket making (Figure 3). The females have larger



Figure 2. Tr.A73.853. Sharp edged grooves on the upper teeth from pulling a spun plant thread across them.

mandible condyles than the one Historic Period female in which it could be measured, which suggests the use of greater masticatory forces than normally related to food hardness and therefore task related. Generally dimensions for the Neolithic females are smaller than for their Historic counterparts.

Parallels with modern documented sources indicated that in several individuals the teeth were part of process of making baskets from reeds. The broader grooves can be attributed to plant stems such as *Scirpus* reeds (Jennings 1957; Molleson 2014). The sharp-edged grooves as noted on mature female, Tr.A73.853, may have been created by a spun thread, but this is difficult to establish, although it is perhaps relevant that there are signs that the hand bones of Tr.A73.2565, who also has grooved anterior teeth, were subjected to prolonged gripping and rubbing actions (Figure 4). The attachment for the muscle that rotates the thumb (*Opponens pollicis*) on the first metacarpal is pronounced, which together with a pit on the palmar surface of the middle phalanx of the middle finger can be associated with movements used in spinning or basket making. The proximal phalanges of the hands have well-developed lateral ridges. Another female, with a grooved upper lateral incisor also has a pronounced tubercle for attachment of *O. pollicis* on the first metacarpal. The complex of features suggests that weaving and basket-making crafts were being developed during the mid PPNB Neolithic. Calculus had formed on many of the dentitions, presumably as a result of the enhanced salivation induced by constantly having something in the mouth.

Figure 3 (next page). Tr.73.2771. Rounded grooves on the upper and lower teeth from pulling plant fibres over them.





Figure 4. Tr.A73.2565. Hand bones with strong attachment areas for the muscles used for gripping.

Some of the mandibles have a forward development of the coronoid process (Figure 3). This is seen to persist despite disuse atrophy of the fractured jawbone of Tr.A73.2564. It is already present in the fragment of mandible of a five-year-old Tr.A73.2772. These features suggest a familial trait rather than a trait acquired through activity, although five years would not be too soon for a child to become involved in the family craft (Molleson 1996). This child is remarkable for the band of red cinnabar (mercuric sulphide) across its forehead (Figure 5a) (Molleson *et al.* 1992). The paint could have been applied during life possibly as a treatment during illness, as has been suggested for the red stains of realgar (arsenic sulphide) on many of the sick children found in Building 1 at Çatalhöyük in Turkey (Molleson *et al.* 2005b).

PPNB: Workers of Trench C

The Neolithic human bones in trench C were recovered principally from a major collective burial pit, a particularly large group. The pit was at one side of the trench, which had to be expanded in the second season to retrieve the burials, which

Figure 5a. TrA.73.2772.
Band of red cinnabar painted
across the forehead has
transferred to the bone after
disappearance of the skin.



Figure 5b. Tr.C73.846B.
Streak of red cinnabar on the
maxilla and palate originally
painted on the upper lip.



were still under the baulk. Consequently, the burials come from two contexts in successive seasons, level 39 in 1972 and level 9 in 1973. They should, however, be treated as one contemporaneous burial group.

Field plans show that these were not tidy inhumation burials (in contrast to the remarkable sitting burials reconstructed at Tell Halula by Ortiz *et al.* (2013)). There was no consistency in the disposition of the bones when excavated, although some appear to be partly articulated. In many cases, the cranium and mandible and post-cranial skeleton had been separated. Complete, even fragmented, skeletons were rare. Yet the pit includes the best-preserved adult cranium Tr.C73.845 (Figures 1, 6). Some burials, given a single skeleton number, proved to contain several individuals. It makes more sense if skull Tr.C73.847 goes with Tr.C73.849 and Tr.C73.850 skull goes with Tr.C73.847 post-cranial. Tr.C73.847/73.849 would have been a crouch burial lying on its right side, head to north. The assemblage has many characteristics of secondary burial. Infants and neonates must have been buried elsewhere.

The Pit 39 assemblage appears to be the end of a deferred burial practice in which males were separated from females and children, and cranial from postcranial bones. Dimorphism between the sexes was not only marked by size and morphological differences but also activity markers; men habitually took up

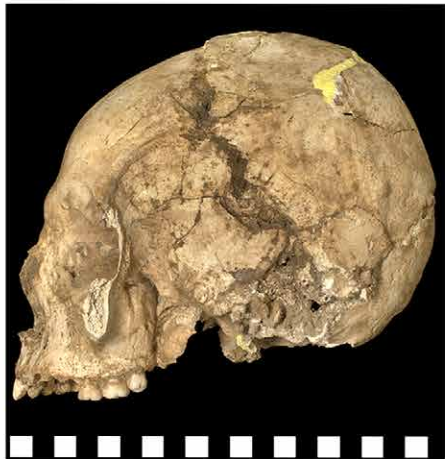
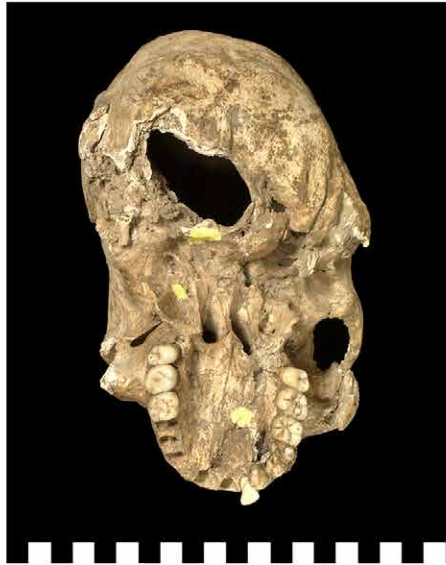
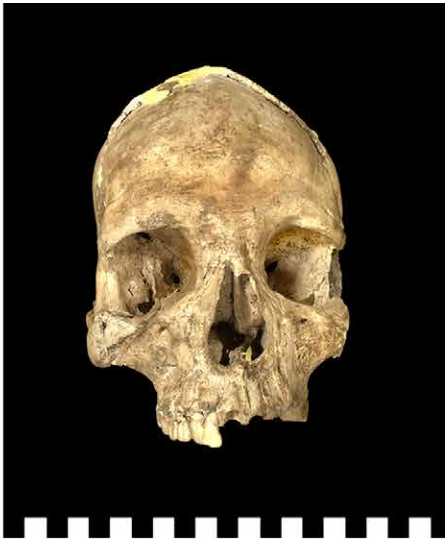


Figure 6. Tr.C73.845. Restored cranium of PPNB male.

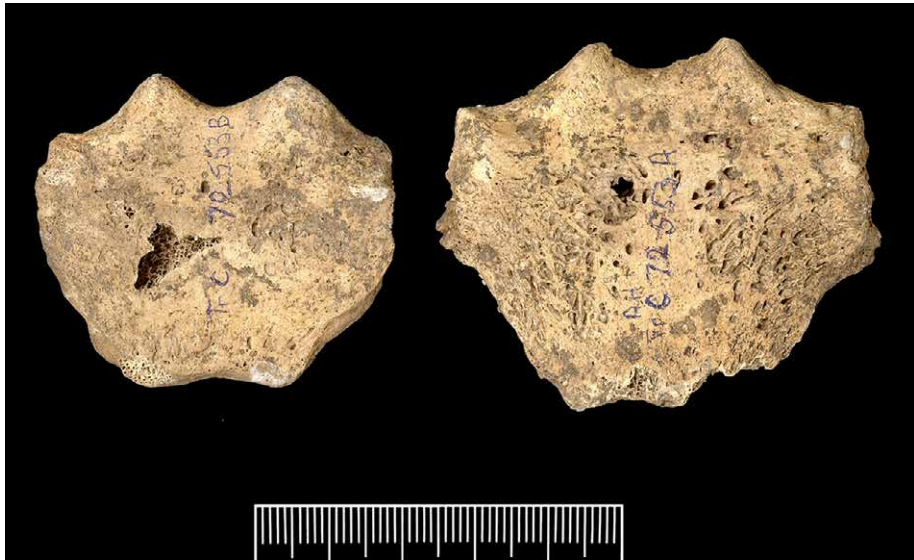


Figure 7. Tr.C72.553A and 72.553B. Size dimorphism in manubrium bone from sternum of, left, female and, right, male.



Figure 8. Tr.C73.843B and Tr.C72.553A. Habitual postures imprinted by squatting notch on patella, and kneeling articulation on first metatarsal of foot.

different postures, squatting, while the women knelt with their toes curled under the metatarsals (Figures 7 and 8). Many of the bones in this pit bear evidence of heavy load-bearing rather than the craftsmanship noted in trench A.

The quality of the building with plastered floors and painted walls is not inferior to buildings elsewhere. Were they perhaps the merchants distributing goods to market? An adolescent female, Tr.C73.846B, has a streak of cinnabar paint on the palate and upper lip (Figure 5b). Another juvenile has the mandible features of the

robust type of trench A. There are other links; the main collective burial in Trench C is close in age to the pit that contained the adolescents below the floor of the phase 8 PPNB house in Trench B (Molleson 2000).

PPNB: At Home in Trench F

The very small collection of human bone from trench F adds to our knowledge of lifestyle at Abu Hureyra. It is interesting that both the vastus notch on the patella and kneeling articulation on the first metatarsal are found in the same skeleton (Tr.F73B27). At Çatalhöyük the kneeling articulation is associated with use of the saddle quern by girls and women while the vastus notch is associated with the squatting position habitually taken up by men but could also be induced by kneeling while pounding, a task that is usually undertaken by women or girls (Molleson 2007b). Unfortunately the metatarsal itself is too fragmented to measure for a direct sex determination, but the patella is small and other evidence from this skeleton suggests that it is that of a young female. Thus, women may have squatted in the 'hocker' position to carry out certain tasks, such as dehusking grains in a mortar. This young woman already bore evidence of quite hard work. The inclined proximal articulations of the phalanges of the toes of Tr.F73B8 suggest, unsurprisingly, that shoes were not worn.

Late PPNB: Immigration and Nomadism

Pastoral nomadism appeared not as a primitive form of husbandry but as an innovative way of seasonal exploitation of the sub-desert areas that are visible across vast areas of the Old World (Vigne 2011). In regions of semi-desert, nomadism developed very soon after the first domestication of sheep and goats. The first farmers spread into the Arabian steppes and deserts, which were probably much greener at that time but not green enough for true farming. Here, nomadism first developed as a division of labour; some inhabitants produced cereals while others moved with the sheep and goats into the neighbouring steppe and adopted an economy that could be called "herders and gatherers" (Ürþman *et al.* 2009).

Between PPNA and PPNB at Jericho there is an increase in goat remains from 4.3% to 50.2% and a decrease in gazelle from 55.4% to 14.1% (Clutton-Brock 1979). And significantly a major change in fauna at Abu Hureyra in trench B late in PPNB times when a switch from gazelle to sheep and goat abundance occurs (Legge and Rowley-Conwy 2000, 425). At Tell Aswad, sheep and goats were introduced from the Levant from mid PPNB. Slaughtered at one to two years they were evidently exploited for their meat. Incidentally, fired clay figurines of goats from the site have 'cork-screw' horns (Helmer and Gourichon 2008). Could they represent the breed favoured by pastoral nomads?

The clustering of individuals with evidence of task-related dental wear together with their distinctive jaw morphology suggests that basket making was a specialist craft largely carried out by members of one family (Molleson 1996). The possibility that this family were immigrants of a different tribe, designated as the ABO tribe, has been explored by Molleson and Rosas (2012). The newcomers brought their dead with them to be buried in the largest house at Abu Hureyra. Few in numbers

the ABO tribe made a big impact with specialist craftsmen who could make baskets for carrying produce to and from the fields, for storage and potentially for trade. Weaving and basketry are also recorded at El Kowm while nearby El Kowm-Caracol and Qdeir are described as complementary settlement and nomadic sites (Stordeur 1993). Did the ABO tribe also introduce pastoral nomadism? Although sheep and goats are present in earlier levels, the late PPNB animals are smaller (Legge and Rowley-Conwy 2000, 470-471).

PPNC Demographic Impact that Wasn't

A few shards of pottery were recovered in all trenches from late upper PPNB levels but the duration of PPNC is short-lived (Moore *et al.* 2000). The impact of being able to cook cereals to make a more digestible porridge for infant weaning leading to increased birth rate and potentially population increase should have been dramatic (Molleson 1995; 2000, 321). This potential, it seems, was held in check by increased child sickness that held the population at PPNB levels. This was foreseen by Hillman (2000, 421) and has now been documented by Chamel (2014). Abu Hureyra was abandoned in late PPNC times whilst occupation continued to Halaf times at Tell Halula, a site environmentally better placed to the north (Molist 2012; Ortiz *et al.* 2013). There, the charming houses with verandas and more sophisticated co-ordinated burial patterns may reflect the greater wealth of the area; whilst in their peripheral position on the edge of the desert the land surrounding Abu Hureyra had deteriorated beyond yielding even subsistence to an increasingly sickly population. Those that could migrate did.

Discussion

In assessing the ordinariness of the people of Abu Hureyra the daily lives of the nuclear family is a key feature. This includes provision on a daily basis of food, if not of shared meals and of rights to pasture which, when shared equally, does not generate hierarchies seen in other sites, such as those with their distinctive funerary procedures. Family has a force and significance of its own (Ram 2010, 44). Identity in which sharing is important and old and young in families are dependent on each other becomes the base from which networks are created.

Moving from subsistence to surplus would be a spur for reaching beyond the kin group – the body of craftsmen and merchants. At Abu Hureyra a morphologically distinct family bears evidence of task-related wear induced by habitual strong chewing forces in excess of normal food mastication. They appear around the time that there was a major swing from gazelle to sheep/goat husbandry and there is the possibility that these herdsmen were migrating pastoralists. Beyond the craft specialists would have been networks that extended to trading partners. Trade changed people's perspectives, though not in any obvious way. There isn't any evidence for emergence of hierarchies with their conspicuous body language of cranial remodelling, funerary rituals surrounding over-modelled crania, or buildings so notable at places like Tell Aswad and Jericho. But differences in roles have emerged from within the different trenches. Daily life operated from the household where the women by and large prepared and ground the grains, as noted

in trench F and seen throughout the site; then there are the labourers or perhaps travelling merchants in trench C; while the spinners, weavers and basket makers seem to be settled in the area of trench A.

I have wondered if the ABO people could be nomadic pastoralists but the relationship between pastoralism and nomadism is not clear-cut (see Arbuckle 2014; Martin 1999). Nomads are drawn to ruined structures (Cribb 1991, 151). Not only are these likely to be located close to important resources or access routes, but they also provide shelter, and rubble furnishes building materials for tent foundations, corrals and hearths. They may bury their dead in settlements. Inevitably some would be deferred (delayed) burials. In order to sustain the mobility and severed lifestyle a stable home base would have been imperative and I think that the stay-at-home cereal and craft producers would have provided the necessary support. The demographic imbalance at Abu Hureyra with more females than males that I have attributed to a preference to bury women near their work station in the home might be extended to males likewise being buried where they had spent most of their time, following their flocks; a supposition that cannot be demonstrated. I don't think that group identity is easy to identify on human remains; at least not directly, only tentatively by inference. Human relationships established through production strategies may create the basis for group affinities.

Corporate identity is imposed when rights and duties are extended beyond the kinship. But the very extension brings with it the need to define it, to make it recognizable (even secret societies have their signs). This should make the task of identifying corporate identity easier; there should be signs on the human remains, with cranial deformation the most obvious although most, like dress and ornament, would not have survived burial although the painted marks on Tr.A73.2772 and Tr.C73.846B may have originated as facial tattoos (Figure 5). We cannot assume that all basket makers belong to one guild or that an individual didn't have rights of membership to more than one identity.

The demography of the dead in courtyard pits at Abu Hureyra was biased; many were adolescents – and might best be interpreted as those 'let die' in some rite from which corporate identity can be inferred (Molleson 2000, 320). Human nature does not take kindly to authoritarian social control. People develop defence mechanisms and when they cannot assert their independence they react in ways that appear obstructive and devious. To avoid conflict strategies are developed to deal with those outside the norm. One of the functions of *rites de passage* could be not solely to indoctrinate the initiate into the group but also to turn the intractable into shamans, fortune-tellers, priests or even to obliterate those who aren't fit or don't conform, but none of the kind were recognized.

Right to burial or else 'a walk in the wilderness'. A walk in the wilderness could have been just that (Le Guin 2006). Stressed by overcrowding and a dearth of opportunities, the misfit gets away, maybe to migrate to another community where there are kith or kin – the extended kinship – for few communities will accept a total stranger. We can identify the newcomers at Abu Hureyra (Molleson and Rosas 2012). Right to burial was perhaps part of the group identity and denied by failure to be so identified. Why was the Çatalhöyük woman who apparently died in childbirth left in the space below Building 1 or the chronically sick "midden

man” left to die outside (Povinelli 2009)? Had they not met the requirements for inclusion in the group identity? Was he the first suicide? In earlier times, however, the sick were cared for and treatments attempted (Molleson 2007a).

The respective identities of groups tend to be emphasized when there is conflict but not recognized. Initially the first burials of the ABO tribe in the largest house in trench B may have been a statement of identity; the burials were invisible but the house was not and the living coming and going from it were distinctive. Conflict will eventually enlarge to violence and genocide, where a particular group is targeted. For signs we have to look outside the Neolithic to the massacre pits at Majnuna, described by Arkadiusz Sołtysiak (2007). Similarly evidence for individuals under restraint such as slaves and prisoners has to be sought in younger deposits. I would expect them to show reduced diversity, as do animals when domesticated.

It is recognized that group identity is re-enforced at times of stress, times of conflict or when there is a sense of insecurity, of loss, when the family is submerged within a larger society or structure and no longer offers the necessary support. Group identity is largely emotional – endorphins are released through activities that bond and therefore difficult to document with data (Dunbar *et al.* 2012). Inferences from the layout of structures or physique can be constructed – constructs shaped by our personal experiences – experiences of being a supporter of a particular football team, school, army; but these are institutions that were not yet constructed in the Neolithic, only the bonding of age or hunting cohorts, perhaps the craftsmen come near. The child already chewing fibres to make cord for weaving into baskets acquires the skills of a lifetime craft that will be recognized by similarly skilled specialists wherever he or she travels.

Both the construction and identification of group identity can be recognized to some extent in the physical appearance of excavated remains, but anthropologist Kim Tallbear, a native Dakota, at the University of Texas, Austin, warns:-

“Tribal identity is not just a matter of blood ties. ‘We need to stop conflating the concept of a tribe with a racial group. I and many of my relatives have non-native fathers, yet we have a strong sense of being Dakota because we were raised within an extended Dakota kin group. We have a particular cultural identity, based in a land that we hold to be sacred. That’s what gives our lives meaning. It’s what makes us who we are’” (Tallbear 2014, 29).

So it was with the ABO tribe.

What of the ‘Dispersal phenotype’? These could be lone migrants, who if they succeeded could be the fountainhead of a group. The newcomers at Abu Hureyra late in PPNB times seem to have been both successful (they had the largest house in Trench B) and influential, as their craft skills became significant resources for production (storage, cooking) and transport (trading) and potentially of major socioeconomic change.

I have not noted evidence for the practice of infanticide that might characterise a particular group, nor for combatants, priests or slaves, nor elite groups or chiefs. I suspect that chiefs were initially self-appointed – elders with many offspring- who can and did provide a benign or aggressive focus for corporate identity.

The End of the Village on the Euphrates

Why did it all end? Where did they go, these hard-working peaceful villagers of Abu Hureyra who had farmed the land and tended their flocks for two and a half thousand years? They liked to hunt the wild running hare, to have pretty beads but did not acquire exotic things. Physically there is nothing to distinguish them from their neighbors. They are, however, distinctive in their lack of cultural sophistication, such as elaborate burials and cults, and in their ability to integrate the new, whether people or skills.

There is adaptation in response to change – climate, settlement, planting, herding, crafts, trade, and knowledge – towards increasing social complexity. But eventually in a deteriorating climate the land could no longer support the population; they suffered increasing levels of sickness and moved away. It was not quite the end, for over the years people did return to the tell to bury their dead.

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References

- Akkermans, P.M.M.G. and Schwartz, G.M. 2003. *The archaeology of Syria: from complex hunter-gatherers to early urban societies (ca. 16,000-300 BC)*. Cambridge: Cambridge University Press.
- Alt, K.W., Benz, M., Müller, W., Berner, M.E., and Schultz, M. 2013. Earliest evidence for social endogamy in the 9,000-year-old-population of Basta, Jordan. *PLoS ONE* 8(6): e65649. doi:10.1371/journal.pone.0065649
- Arbuckle, B.S. 2014. Pace and process in the emergence of animal husbandry in Neolithic Southwest Asia. *Bioarchaeology of the Near East* 8, 53-81.
- Asouti, E. and Fuller, D.Q. 2013. A contextual approach to the emergence of agriculture in Southwest Asia: reconstructing Early Neolithic plant-food production. *Current Anthropology* 54/3, 299-345.
- Bunch, T.E., Hermes, R.E., Moore, A.M.T., Kennett, D.J., Weaver, J.C., Wittke, J.H., DeCarli, P.S., Bischoff, J.L., Hillman, G.C., Howard, G.A., Kimbel, D.R., Kletetschka, G., Lipo, C.P., Sakai, S., Revay, Z., West, A., Firestone, R.B., and Kennet, J.P. 2012. Very high-temperature impact melt products as evidence for cosmic airbursts and impacts 12,900 years ago. *Proceedings National Academy of Sciences* 109 (28): E1903-E1912.

- Chamel, B. 2014. Bioanthropology et pratiques funéraires des populations Néolithiques du Proche-Orient: l'impact de la Néolithisation. (Étude de sept sites syriens – 9820-6000 cal. BC). *Thèse d'Archéologie des Mondes Anciens, Docteur de l'Université Lumière – Lyon 2*. Lyon: UMR 5133 Archéorient-Maison de l'Orient et de la Méditerranée. 784pp.
- Clutton-Brock, J. 1979. The mammalian remains from the Jericho Tell. *Proceedings of the Prehistoric Society* 45, 135-157.
- Clutton-Brock, J. 1981. *Domesticated animals from early times*. London: Heineman, BMNH.
- Cribb, R. 1991. *Nomads in archaeology*. Cambridge: Cambridge University Press.
- Dunbar, R.I.M., Baron, R., Frangou, A., Pearce, E., van Leeuwen, E.J.C., Stow, J., Partridge, G., MacDonald, I., Barra, V., and van Vugt, M. 2012. Social laughter is correlated with an elevated pain threshold. *Proceedings of the Royal Society B*, 279, 1731 1161-1167. doi:10.1098/rspb.2011.1373.
- Helmer, D. and Gourichon, L. 2008. Premières données sur les modalités de subsistance à Tell Aswad (Syrie PPNB moyen et récent, Néolithique céramique ancien) – Fouilles 2001-2005, in: Vila, E., Gourichon, L., Choyke, A.M., and Buitenhuis, H. (eds.). *Archaeology of the Near East VIII. Actes des huitièmes rencontres internationales d'archéologie de l'Asie du Sud-Ouest et des régions adjacentes*. Lyons: Maison de l'Orient TMO no. 49, 119-151.
- Hillman, G.C. 2000. The plant-based components of subsistence in Abu Hureyra 1 and 2, in: Moore, A.M.T., Hillman, G.C., and Legge, A.L. 2000. *Village on the Euphrates: from foraging to farming at Abu Hureyra*. New York: Oxford University Press, 416-422.
- Hodder, I. (ed.). 2005. *Inhabiting Çatalhöyük: reports from the 1995-1999 seasons. Çatalhöyük research project Volume 4*. Cambridge: McDonald Institute Monographs.
- Jennings, J.D. 1957. *Danger Cave*. Salt Lake City: University of Utah Anthropological Papers No. 27.
- Kéré, D.F. 2014. *Sensing spaces. Architecture reimagined*. London: Royal Academy of Arts.
- Legge, A.J. and Rowley-Conwy, P.A. 1987. Gazelle killing in Stone Age Syria. *Scientific American* 225, 88-95.
- Legge, A.J. and Rowley-Conwy, P.A. 2000. The exploitation of animals, in: Moore, A.M.T., Hillman, G.C., and Legge, A.L. *Village on the Euphrates: from foraging to farming at Abu Hureyra*. Oxford: University Press, 423-471.
- Le Guin, U. 2006. The ones who walk away from Omelas, in: Cassill, R.V. (ed.). *The Norton anthology of short fiction*. New York: W.W. Norton, 862-866.
- Martin, L. 1999. Mammal remains from the eastern Jordanian Neolithic, and the nature of caprine herding in the steppe. *Paléorient* 25, 87-104.
- Molist, M. 2012. Espaces domestiques et d'habitat dans le processus de consolidation des sociétés agricoles: la nouvelles documentation de la vallée de l'Euphrate (MPPNB-Halaf, VIIIe-VIIe millénaire av J.C), in: Montero Fenollás, J-L. (ed.). *Du village néolithique à la ville syro-mésopotamienne*. Universidad de Coruna: Bibliotheca Euphratica vol. 1, 55-65.

- Molleson, T. 1995. The importance of porridge, in: Otte, M. (ed.). *Nature and culture*. Colloque de Liège, ERA. UL. 481-488.
- Molleson T. 1996. Skeletal evidence for identity and role in the Neolithic, in: *L'identité des populations archéologiques*, Sophia Antipolis: XVIe Rencontres internationales d'archéologie et d'histoire d'Antibes, 345-350.
- Molleson, T. 2000. The People of Abu Hureyra, in: Moore, A.M.T., Hillman, G.C., and Legge, A.L. 2000. *Village on the Euphrates: from foraging to farming at Abu Hureyra*. New York: Oxford University Press, 301-324.
- Molleson, T. 2006. The third hand: Neolithic basket makers of Abu Hureyra, in: Zadniska, E. (ed.). *Current Trends in Dental Morphology Research*. Łodz (2005): Proceedings of the 13th International Symposium on Dental Morphology, 233-243.
- Molleson, T. 2007a. Times of stress at Çatalhöyük, in: Marina Faerman *et al.* (eds.). *Faces from the past: diachronic patterns in the biology of human populations from the Eastern Mediterranean*. Oxford: BAR International Series 1603, Archaeopress, 140-150.
- Molleson, T. 2007b. Bones of work at the origins of labour, in: Hamilton, S., Whitehouse, R.D., and Wright, K.I. (eds), *Archaeology and women. Ancient and modern issues*. Walnut Creek: California: Left Coast Press, 185-198.
- Molleson, T. 2014. Craftsmen for food production: the human bone evidence for methods of food processing at Abu Hureyra, in: Milano, L. and Bertoldi, F. (eds.). *Paleonutrition and food practices in the ancient near east: towards a multidisciplinary approach*. Padova: History of the Ancient Near East / Monographs XIV, Sargon, 11-24.
- Molleson, T. and Arnold-Forster, T. 2015. A question of identity: is 72.501 from Tell Abu Hureyra, Syria, an early Neolithic foundation burial? *Paléorient* 41, 119-127.
- Molleson, T., Comerford, G., and Moore, A. 1992. A Neolithic painted skull from Tell Abu Hureyra, Northern Syria. *Cambridge Archaeological Journal* 2, 230-235.
- Molleson, T., Ottevanger, J., and Compton, T. 2005a. Variation in Neolithic teeth from Çatalhöyük (1961-1965). *Anatolian Studies* 54, 1- 26.
- Molleson, T., Andrews, P., and Boz, B. 2005b. Chapter 12: Reconstruction of the Neolithic people of Çatalhöyük, in: Hodder, I. (ed.). *Inhabiting Çatalhöyük: reports from the 1995-1999 seasons. Çatalhöyük Research project Volume 4*. Cambridge: McDonald Institute Monographs, 279-300.
- Molleson, T. and Rosas, A. 2012. Origins of the Neolithic people of Abu Hureyra, northern Syria. An attempt to address an archaeological question through a study of the mandibles. *Bioarchaeology of the Near East* 6, 3-20.
- Moore, A.M.T. 2000. The themes of the research, in: Moore, A.M.T., Hillman, G.C., and Legge, A.L. 2000. *Village on the Euphrates: from foraging to farming at Abu Hureyra*. New York: Oxford University Press, 3-17.
- Moore, A.M.T. and Hillman, G.C. 1992. The Pleistocene to Holocene transition and human economy in Southwest Asia: the impact of the Younger Dryas. *American Antiquity* 57/ 3, 482-494.
- Olszewski, D. 2000. The chipped stone, in: Moore, A.M.T., Hillman, G.C., and Legge, A.L. 2000. *Village on the Euphrates: from foraging to farming at Abu Hureya*. New York: Oxford University Press.

- Ortiz, A., Chambon, P., and Molist, M. 2013. "Funerary bundles" in the PPNB at the archaeological site of Tell Halula (middle Euphrates valley, Syria): analysis of the taphonomic dynamics of seated bodies. *Journal of Archaeological Science* 40, 4150-4161.
- Povinelli, E.A. 2009. The child in the broom closet. States of killing and letting die, in: Sarat, A. and Culbert, J.L. (eds.). *States of violence. War, capital punishment and letting die*. Cambridge: Cambridge University Press, 169-191.
- Ram, R. 2010. *The thread of identity*. Stroud: Amberley.
- Sołtysiak A. 2007. Preliminary report on human remains from Tell Majnuna (2007). *Iraq* 69, 161-163.
- Stordeur, D. 1993. Sédentaires et nomades du PPNB Final dans le désert de Palmyre (Syrie). *Paléorient* 19/1, 187-204.
- Tallbear, K. 2014. Tribal genetics. Interview by Linda Geddes. *New Scientist*, no. 2955, 28-29.
- Ürppmann, H.-P., Potts, D.T., and Ürppmann, M. 2009. Holocene (re-)occupation of eastern Arabia, in: Petraglia, M.D. and Rose, J.I. (eds.). *The evolution of human populations in Arabia, vertebrate paleobiology and paleoanthropology*. Heidelberg: Springer, 205-214.
- Vigne, J.-D. 2011. The origins of animal domestication and husbandry: A major change in the history of humanity and the biosphere, in: Job, D., Pelletier, G., and Pernollet, J.-C. (eds.). *On the trail of domestications, migrations and invasions in agriculture*. Comptes Rendus Biologies 334, 171-81.

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