Plastered Crania and Community Rituals in the Pre-Pottery Neolithic Levant

by

Hanah Romsburg

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Chapter 1: Introduction

During the Pre-Pottery Neolithic, complicated mortuary ritual developed in the Levant, which expanded upon traditions of earlier time periods. During the earlier Natufian and Pre-Pottery Neolithic A periods there was already an emphasis on the head and especially the face, and crania were removed after burial. However, in the PPNB, these practices were expanded and contained more elaborate elements than the previous time periods. The emphasis on the face and post-mortem cranium removal is evidenced through a more elaborate form with the plastered skulls. Not only was the cranium removed, but also decorated. Furthermore, large-scale anthropomorphic statuary was constructed with an emphasis on the face, to be used in public ceremonies. The focus on the head is also seen through its absence. Already present in earlier time periods through headless burials, this theme began to appear through headless figurines of both animals and humans. The skull was a focus in life as well as in death, evidenced by skull modification during life. The plastered skulls bring these focuses into mortuary practices. These practices and symbolic representations are all interconnected strands of a changing worldview resulting from sedentism, domestication and societal changes.

In the wake of growing populations and increasing social stratification that developed in the PPNB, the plastering of skulls distinguished certain powerful individuals from the rest of the community while simultaneously bringing the community together by means of the associated rituals. Factors from the life of the individual concerned affected whether or not the cranium would be plastered in death, which is likely tied to *in vivo* skull modification.

Large scale anthropomorphic statuary additionally played a significant role in community rituals and further emphasized the focus on the face. Animal remains and animal figurines associated with burials provide an interesting intersection of animals and humans to symbolize power and, in at least one case from Kfar HaHoresh, communal feasting. Plastered crania, *in vivo* modification, large-scale statuary, and feasting collectively offer a glimpse at a Neolithic world view in which community ties remained important, while certain individuals gained greater prestige and status. Villages appear in the Natufian; however, they are one of the hallmarks of the PPNB and the inhabitants were adapting to this and other changes, potentially redefining their role in the world. The increasingly complicated rituals, mortuary, communal or otherwise, represent this shift.

Figure 1: Map of PPNB sites (In Simmons 2010, 125). The sites discussed in this paper are circled.

Chapter 2: Geography, Chronology, and Development in the Pre-Pottery Neolithic Levant

The Levant is a term that describes the geographic region which includes the modern countries of Israel, Palestine, Jordan, and Lebanon.[1] Simmons defines the boundaries of the Levant as the Mediterranean Sea in the east, the Taurus and Zagros mountains in the north, the Euphrates River Valley in the northeast, and the Negev, Sinai, and Syro-Arabian deserts in the south and southeast.[2] It is divided into the northern, central, and southern Levant.[3] Most of the sites from which plastered skulls originate are in the central and southern Levant.[4] Jericho, 'Ain Ghazal, and Kfar HaHoresh are Levantine sites that produced plastered skulls in the Middle Pre-Pottery Neolithic B (MPPNB).[5]

The Neolithic period in the Near East is divided into the Pre-Pottery Neolithic (PPN) and Pottery Neolithic (PN). The period predating the Neolithic is the Epipaleolithic, which lasted from about 20,000 BP to 10,000 BP and is further subdivided.[6] Directly predating the PPN, and arguably the "threshold" of the Neolithic in the Near East is the Natufian, the last segment of the Epipaleolithic period.[7] The Natufian period lasts about 2500 years; although there are different viewpoints on the starting and

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[1] Karina Croucher, "Keeping the Dead Close: Grief and Bereavement in the Treatment of Skulls from the Neolithic Middle East," *Mortality* 23, no. 2 (2018): 105, https://doi.org/10.1080/13576275.2017.1319347.

[2] Alan H. Simmons, *The Neolithic Revolution in the Near East: Transforming the Human Landscape* (Tuscan, AZ: University of Arizona Press, 2010), 30.

[3] Simmons, *The Neolithic Revolution in the Near East,* 30.

[4] Yuval Goren, Nigel A. Goring-Morris and Irena Segal, "The Technology of Skull Modelling in the Pre-Pottery Neolithic B (PPNB): Regional Variability, the Relation of Technology and Iconography and their Archaeological Implications," *Journal of Archaeological Science* 28 (2001): 672, doi:10.1006/jasc.1999.0573.

[5] Alexandra Fletcher, Jessica Pearson, and Janet Ambers, "The Manipulation of Social and Physical Identity in the Pre-Pottery Neolithic Radiographic Evidence for Cranial Modification at Jericho and its Implications for the Plastering of Skulls," *Cambridge Archaeological Journal* 18, no. 3 (2008): 312, doi:10.1017/S0959774308000383.

[6] Simmons, *The Neolithic Revolution in the Near East,* 46.

[7] Simmons, *The Neolithic Revolution in the Near East,* 46.

ending dates, it spans from about 12,800 to 10,200 BP.[8] It is subdivided into the Early

and Late Natufian and sometimes the Final Natufian.[9] Following the Natufian period is

the Pre-Pottery Neolithic, which is further divided into the Pre-Pottery Neolithic A

(PPNA) spanning from ca. 10500 to 9500 BP and the Pre-Pottery Neolithic B (PPNB)

from 9500 to 7500 BP.[10] The PPNB lasted approximately 2000 to 2100 years and is

further subdivided into the Early, Middle, Late, and Final PPNB.[11] The Final PPNB is

sometimes alternately classified as the PPNC and is a transitional period into the Pottery

Neolithic.[12]

During the Late Natufian certain practices were established that continued into

and influenced the PPNA and PPNB, concerning rituals of ancestors and "veneration of

the dead."[13] In the Late Natufian, c. 13500 to 11500 BP, the foundation for later mortuary

practices was established: the burial of single individuals, subsequent removal of the

crania, and then "a secondary burial of individual or multiple skulls in ritual events

involving household and community representation."[14] Additionally, there is continuity

from the PPNA to the PPNB, such as individual burials under the floors of houses and in

extramural locations, few to no grave goods, and crania sometimes removed from infants

and children.[15]

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[8] Simmons, *The Neolithic Revolution in the Near East,* 50.
[9] Simmons, *The Neolithic Revolution in the Near East,* 50.
[10] Simmons, *The Neolithic Revolution in the Near East,* 39-40.
[11] Simmons, *The Neolithic Revolution in the Near East,* 123.
[12] Simmons, *The Neolithic Revolution in the Near East,* 123.
[13] Goren, Goring-Morris and Segal, "The Technology of Skull Modelling in the Pre-Pottery Neolithic B," 671.
[14] Ian Kuijt, "Place, Death, and the Transmission of Social Memory," *American Anthropological Association Number 10* (2001): 84.
[15] Ian Kuijt, "The Regeneration of Life: Neolithic Structures of Symbolic Remembering and Forgetting," *Current Anthropology* 49, no. 2 (April 2008): 176, doi: 10.1086/526097

The majority of the plastered skulls date to the MPPNB. Several transitions affected the lifestyles of the populations and communities in the Levant during this time period. In the PPNB in general there was an increase in elaborate ritual, confirmed plant and animal domestication, increased long-distance trade, changing architecture, and the "emergence of villages."[16] There was a shift in domestic architecture from the PPNA to the PPNB, moving from round to rectangular structures.[17] Especially during the MPPNB, there were larger non-domestic structures both in and away from the site, with artifact assemblages distinct from the domestic structures.[18] In the PPNB, there was definite domestication of both plants and animals, while wild resources continued to contribute to the overall diet.[19] Crops included "winter wheat, two-row and six-row barley, peas, lentils, chickpeas, vetch, and horse bean."[20] During the PPNB there was an increased use of sheep, goat, and cattle. For example, at 'Ain Ghazal by the MPPNB goats were likely domesticated and by the LPPNB goats, possibly sheep, and cattle were all domesticated at 'Ain Ghazal.[21] Other animal resources continued to be supplied through hunting, such as gazelle, deer, boar, and other mammals.[22] Often which species was used varied by region and site.[23] With the combination of wild and domesticated resources, the diet in the PPNB was more varied than the later PPNC during which domesticated resources were used more heavily. Villages increased greatly in size throughout the PPNB, most of which were occupied year round, although some smaller sites were potentially seasonally

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[16] Simmons, *The Neolithic Revolution in the Near East,* 123, 133, 145.
[17] Simmons, *The Neolithic Revolution in the Near East,* 133.
[18] Simmons, *The Neolithic Revolution in the Near East,* 137.
[19] Simmons, *The Neolithic Revolution in the Near East,* 139.
[20] Simmons, *The Neolithic Revolution in the Near East,* 140.
[21] Simmons, *The Neolithic Revolution in the Near East,* 142.
[22] Simmons, *The Neolithic Revolution in the Near East,* 140.
[23] Simmons, *The Neolithic Revolution in the Near East,* 144.

occupied.[24] Furthermore, there was an increase in population density, as well as an increase of occupations in semi-arid zones during the MPPNB.[25] In this social environment, hierarchies emerged and with them came differing rituals and activities that produced material goods, allowing these shifts to be documented in the archaeological record.[26] In terms of the physical features of the humans living in this period, crania tended to be shorter and broader with longer facial measurements than in the Natufian. Although "literally hundreds of human skeletons have been recovered from PPNB sites...there have been few systematic studies of these."[27] This means that there is potentially much more to be learned from these skeletons when viewed more holistically.

Certain practices became predominant in the MPPNB and some rituals established in earlier time periods changed, becoming more complex and standard, particularly in regards to mortuary practices, including skull removal, modification, and caching.[28] Cranial removal does not just appear literally, but also in artistic representations, such as in paintings at Çatalhöyük and statues and figurines at 'Ain Ghazal and Jericho.[29] Other ritual behavior from this time periods is related to large anthropomorphic statuary, animal remains as offerings, animal and human figurines, and stone masks.[30] Rather than individual burials there are some burials of adult men and women in a single grave.[31] The lack of grave goods is a continuing feature of this time period.[32] There was a focus on

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[24] Simmons, *The Neolithic Revolution in the Near East,* 145.
[25] Fletcher, Pearson, and Ambers, "The Manipulation of Social and Physical Identity," 310.
[26] Fletcher, Pearson, and Ambers, "The Manipulation of Social and Physical Identity," 310.
[27] Simmons, *The Neolithic Revolution in the Near East,* 146.
[28] Fletcher, Pearson, and Ambers, "The Manipulation of Social and Physical Identity," 310.
[29] Fletcher, Pearson, and Ambers, "The Manipulation of Social and Physical Identity," 310.
[30] Kuijt, "Place, Death, and the Transmission of Social Memory," 84-6; Fletcher, Pearson, and Ambers, "The Manipulation of Social and Physical Identity," 310.
[31] Kuijt, "Place, Death, and the Transmission of Social Memory," 86.
[32] Kuijt, "Place, Death, and the Transmission of Social Memory," 86.

skulls in the elaboration of mortuary practices from later periods, including skulls being modified with paint, plaster, and shells and an increase of skull caching as well as of other ritual objects.[33] Kuijt takes these changes to reflect a changing worldview, representing the connection between households and individuals through communal ancestor worship, while reducing the differences between them.[34] The standardization of mortuary practices is another feature of the MPPNB.[35] Although the practices of skull removal, decoration, and caching tend to be placed in one category, there were regional variations of these practices as well.

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[33] Kuijt, "Place, Death, and the Transmission of Social Memory," 84.
[34] Kuijt, "Place, Death, and the Transmission of Social Memory," 86.
[35] Kuijt, "Place, Death, and the Transmission of Social Memory," 86.

Chapter 3: Plastered Skulls of the Pre-Pottery Neolithic

Plastered skulls are one of the most intriguing aspects of mortuary ritual in the PPNB Levant, 9500 to 7500 BP. This practice was fairly widespread, although the majority of plastered crania originate from the central and southern Levant, from sites including Jericho, 'Ain Ghazal, Kfar HaHoresh, Tell Ramad, Beisamoun, and Nahal Hemar.[36] There are approximately sixty-one plastered skulls that came from the sites listed above and seventy-three total coming from Jordan, Syria, Israel, and Turkey.[37] Skulls were often removed from the body after a period of primary interment, and a small number of the removed skulls were plastered with their facial features remodeled onto the skull. Most of the facial features were remodeled: eyes, nose, eyebrows, but the mouth was often not modelled or "modelled only minimally."[38] Although the face, sides, and base were covered, there is a lack of plaster on the cranial vault; potentially this indicates the inclusion of some form of headgear or hair to the skull.[39] Various materials were used in the creation of plastered skulls, based on local availability, including "plaster, marl, animal collagen, shell and paint."[40]

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[36] Goren, Goring-Morris and Segal, "The Technology of Skull Modelling in the Pre-Pottery Neolithic B," 672; Fletcher, Pearson, and Ambers, "The Manipulation of Social and Physical Identity," 312; Michelle Bonogofsky, "Including Women and Children: Neolithic Modeled Skulls from Jordan, Israel, Syria and Turkey," *Near Eastern Archaeology* 67, no. 1 (2004):118; Michelle Bonogofsky, "Reassessing "Dental Evulsion" in Neolithic Plastered Skulls From the Levant Through the Use of Computed Tomography, Direct Observation, and Photographs," *Journal of Archaeological Science* 29 (2002): 961, doi:10.1006/jasc.2001.0792.

[37] Bonogofsky, "Including Women and Children," 118.

[38] Mike Parker Pearson, *The Archaeology of Death and Burial* (College Station, TX: Texas A&M University Press, 2016), 158.

[39] Fletcher, Pearson, and Ambers, "The Manipulation of Social and Physical Identity," 312.

[40] Bonogofsky, "Including Women and Children," 118.

Skull removal, caching, and plastering, encapsulated in the term, "skull cult," are often connected to worship or veneration of the dead or ancestors.[41] There is a difference between the concept of ancestors and "ancestor cult" with the latter requiring both "awareness of…the permanence of death which can be contrasted to the transitory nature of life" and beliefs that the ancestors have supernatural powers.[42] Those with increased status in the community, such as ritual specialists or elders, are often the group who is allowed to interact with the ancestors. Pearson further states that "ancestor cults are localized and are characteristic of farming communities which rely on seasonal mobilization of communal labour, requiring unity among the living."[43] During the PPNB, there was a rise of agricultural villages and the subsequent reliance on community members working together lends support to the idea that plastered skulls helped to hold the community together. To further this statement, it follows that the mortuary rituals had as much, if not more, to do with the realm of the living as they did with the deceased ancestors.

Ancestor worship is sometimes viewed as worship of male ancestors; however, Bonogofsky has argued against the idea of the skull cult and male ancestor worship. Via osteological examination, DNA analysis, CT scans, and other methods of aging and sexing, Bonogofsky demonstrates that women and children make up part of the plastered skull sample.[44] Bonogofsky argues that the plastered crania are not solely the result or manifestation of ancestor worship, but rather that they are part of an "inclusive type of

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[41] Goren, Goring-Morris and Segal, "The Technology of Skull Modelling in the Pre-Pottery Neolithic B," 671.

[42] Pearson, *The Archaeology of Death and Burial*, 159.

[43] Pearson, *The Archaeology of Death and Burial*, 158.

[44] Bonogofsky, "Including Women and Children," 118.

funerary ritual that focused on the handling, modeling, and care of the skulls of females, males, and children."[45] However, Fletcher, Ambers, and Pearson argue that women and children may be included in ancestor worship, because ancestor worship is not about the individual, but rather it is part of a generalized and communal concept.[46] They additionally state that children, though infrequently, are sometimes part of rituals, including post-mortem head removal, at both Jericho and 'Ain Ghazal.[47]

The plastered skulls often lack their mandible, meaning that rather than being skulls, they are more accurately termed crania.[48] In the majority of the literature, these artifacts continue to be called "plastered skulls" or modelled skulls, so this is the terminology that will be used throughout this paper. The mandible was often left with the remaining skeleton when the cranium was removed.[49] Schulting argues that the absence of the mandible is evidence that the skulls were closer to ancestor worship than trophy heads taken from enemies. Schulting notes that if the skulls were trophy heads it would be more likely for the mandible and uppermost vertebrae to be present as well as some form of peri-mortem trauma, which is not the case.[50]

Plastered skulls fit into the broader context of mortuary practices, which are varied in the PPNB, including a range of treatments of the body, including:

> primary adult burial with no skull removal, primary burial with secondary removal and caching of adult skulls, secondary burial of disarticulated or partially articulated groups of adults, burial of infants in single graves often without skull

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[45] Bonogofsky, "Including Women and Children," 119.
[46] Fletcher, Pearson, and Ambers, "The Manipulation of Social and Physical Identity," 318-9.
[47] Fletcher, Pearson, and Ambers, "The Manipulation of Social and Physical Identity," 318-9.
[48] Bonogofsky, "Including Women and Children," 118; Rick J. Schulting, "Mesolithic Skull Cults?" (Presented at Ancient Death Ways: Proceedings of the Workshop on Archaeology and Mortuary Practices, Uppsala, May 16-17, 2013, 20-21.
[49] Schulting, "Mesolithic Skull Cults?," 21.
[50] Schulting, "Mesolithic Skull Cults?," 21-22.

removal, sub-floor intramural burial, extramural burial and some associated examples of artificial cranial modification.[51]

This practice is part of the PPNB Interaction Sphere, a set of practices held in common by cultures throughout the Near East during this time period.[52] The Interaction Sphere includes practices such as "chipped stone typologies, subsistence based on cultivation and herding, rectangular architecture, the utilization of burnt lime plaster and ritual practices focused on skulls."[53] Additionally, the term "skull cult" is often applied to the "range of mortuary rituals involving removal, decorating and caching of skulls."[54] Despite the similarities, it is important to note the differences between the sites, especially regarding the plastered skulls. There is great variation in regards to the plastered skulls themselves, with different traditions present at each site.

Only a small percentage of the removed skulls were plastered, meaning that only certain individuals received this treatment; potentially these people were the more privileged in the society.[55] One of the most interesting questions in regards to the skull cult is what sort of factors and features were considered in selecting the skulls of certain individuals. The shape of the skull itself is a potential factor in the equation. Sex and age are often considered as potential features that determine selection; however, plastered skulls came from both males and females and individuals of varying ages.[56] Possibly it was those who were "ritual practitioners in life" whose skulls were plastered post-mortem, because of the high proportion of plastered skulls that had undergone skull

[51] Fletcher, Pearson, and Ambers, "The Manipulation of Social and Physical Identity," 311.
[52] Goren, Goring-Morris and Segal, "The Technology of Skull Modelling in the Pre-Pottery Neolithic B," 672.
[53] Fletcher, Pearson, and Ambers, "The Manipulation of Social and Physical Identity," 310.
[54]Alexandra Fletcher et al., "Beneath the Surface: Imaging Techniques and the Jericho Skull," in *Regarding the Dead: Human Remains in the British Museum,* ed. Alexandra Fletcher, Daniel Antoine, and J.D. Hill (London: British Museum, 2014), 91.
[55] Kuijt, "The Regeneration of Life," 177.
[56] Bonogofsky, "Including Women and Children," 118.

deformation or others who were important in the community, such as representatives of the households.[57] Kuijt speculates that it could have been ritual practitioners throughout various households whose heads became plastered skulls, which would have emphasized kinship and connection.[58] In any case, those who specialized in ritual would have held an important position due to their level of interaction with the ancestors and their role in the creation of plastered skulls.[59] He alternately suggests that it could have been leaders or elders within the community.[60]

Because skull plastering was a rare practice and only certain individuals were chosen, it indicates that some form of status, either ascribed or achieved, was applied to those chosen individuals.[61] However, Fletcher, Pearson & Ambers argue that plastered skulls represent more than just a status symbol or skull cult.[62] They further state that rituals, including those surrounding death, need not reflect the social reality; rather they often "idealize social relations and mask inequality."[63] Furthermore, and tied in with the idealization of reality, the practice of plastering skulls is not about the individual concerned, but about them or the memory of them, becoming a generalized and communal concept, thus "restrict[ing] the consolidation of social differentiation into hereditary power, authority, or status."[64] The lack of grave goods in burials is significant in that it demonstrates another means through which the playing field was leveled in death.

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[57] Kuijt, "Place, Death, and the Transmission of Social Memory ," 94.
[58] Kuijt, "Place, Death, and the Transmission of Social Memory ," 94.
[59] Kuijt, "Place, Death, and the Transmission of Social Memory ," 94.
[60] Kuijt, "The Regeneration of Life," 177.
[61] Fletcher, Pearson, and Ambers, "The Manipulation of Social and Physical Identity," 318.
[62] Fletcher, Pearson, and Ambers, "The Manipulation of Social and Physical Identity," 318.
[63] Fletcher, Pearson, and Ambers, "The Manipulation of Social and Physical Identity," 319.
[64] Fletcher, Pearson, and Ambers, "The Manipulation of Social and Physical Identity," 319.

Mortuary rituals fulfill many functions, expanding beyond the death of a person or people. Death itself is a moment in the community in which social relationships can be defined and renegotiated. The rituals that surround death can provide a space in which this, the definition and renegotiation of relationships and identity, takes place, as well as in which members of the living community confront mortality.[65] Secondary mortuary rituals, which tend to be communal events of great significance, provide a space, both physically and in communal memory, for this to happen.[66] Furthermore, they can regulate or consolidate power politically, economically, and socially or, alternatively, "idealize and mask daily social relations."[67] Mortuary rituals solidify individual, household, and community ties, which are connected to the identity of each level in society and the space in which the rituals occur. The space in which they take place, the material culture used, and the ritual itself all represent a collective memory and identity.[68] Although these rituals were communal, Kuijt argues that only certain individuals were in charge of the ritual, which also had an audience. Sometimes the rituals were more about bringing the community together via participation than "a direct reflection" of the dead.[69]

An interesting theory connected to this selection process is the Theory of Continuing Bonds, a theory applied to the subject of plastered skulls by Croucher. This theory states that death does not cause the relationship between the living and the dead to cease; rather, throughout time and cultures, there is a need for the living to remember the dead, as opposed to moving on after the death.[70] Moreover, material culture, such as

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[65] Kuijt, "Place, Death, and the Transmission of Social Memory," 81.
[66] Kuijt, "Place, Death, and the Transmission of Social Memory," 84.
[67] Kuijt, "Place, Death, and the Transmission of Social Memory," 81.
[68] Kuijt, "Place, Death, and the Transmission of Social Memory," 81.
[69] Kuijt, "Place, Death, and the Transmission of Social Memory," 82.
[70] Croucher, "Keeping the dead close," 104, 113.

plastered skulls, often has an important role to play in the grieving process.[71] With this theory in mind, Croucher suggests that the way the individual died determined whether the skull was to be plastered or not.[72] If the person died suddenly or too soon, there may have been a greater need or desire for that individual to continue playing a significant role in the lives of the remaining living members of the community.[73] As Croucher notes, this idea does not necessarily negate or replace other theories around the selection of plastered skull; however, it adds another dimension to the discussion.[74] She argues more generally that the emotions of the past people need to be considered account in order to acquire a more comprehensive understanding.[75]

Ian Kuijt theorizes about the connection between space, memory, and identity and how these are interconnected with mortuary and community rituals, including modeled skulls. He argues that the "material culture and use of space," especially in the MPPNB, connects the living and the dead both physically and symbolically.[76] Skull removal is often connected to holding together community ties and "reaffirming household and community beliefs.[77]" In regards to space, the architecture was clearly linked to mortuary practices, because the dead were interred under the floors of residential structures, connecting generations and households.[78] For example, at 'Ain Ghazal, the location of the cranium was marked in red paint on the white plaster floor, so after a period long enough for the body to decay, the cranium was removed and plastered for

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[71] Croucher, "Keeping the dead close," 104.
[72] Croucher, "Keeping the dead close," 114.
[73] Croucher, "Keeping the dead close," 114.
[74] Croucher, "Keeping the dead close," 114-15.
[75] Croucher, "Keeping the dead close," 114-15.
[76] Kuijt, "Place, Death, and the Transmission of Social Memory," 80.
[77] Kuijt, "Place, Death, and the Transmission of Social Memory," 80.
[78] Kuijt, "Place, Death, and the Transmission of Social Memory," 89.

ritual use before being cached alone or in a group at the end of its ritual life.[79] At 'Ain

Ghazal, Jericho, and Beidha, new structures are built in the same location as old ones for

over one hundred years and the layout of the residential structures is consistent, at 'Ain

Ghazal for over 200 years.[80] The caching of skulls within a house represents a communal

aspect of the practices and references the ancestors who were interred in the same way.[81]

Kuijt argues both that a form of leadership was present in the Neolithic and that this was

strongly connected to the removal and plastering of skulls, residential space, and

identity.[82] However, Kuijt does not think MPPNB mortuary rituals only represent the

social organization, but are embedded in "a broader base of specific beliefs based on

world view and symbolic themes."[83]

Plastered skulls could represent both individual and communal identity. This

practice's connections to ancestor worship would mark a communal aspect, while

simultaneously focusing on an individual. Another individual aspect is that the practice of

plastering skulls requires individuals, ritual practitioners, with specialized knowledge.[84]

This would have been regulated and balanced with the other practices functioning as a

leveling mechanism: standardized structures, a lack of grave goods, and lack of burial of

household groups.[85] Furthermore, the secondary mortuary ritual, removal and reburial of

the skulls, would have connected the entire community, increasing "contact and

connection between and across household and kin lines."[86] Skull removal and reburial

especially fits into the theme of both individual and communal action, because there is a

[79] Kuijt, "Place, Death, and the Transmission of Social Memory," 89.
[80] Kuijt, "Place, Death, and the Transmission of Social Memory," 93.
[81] Kuijt, "Place, Death, and the Transmission of Social Memory," 89-90.
[82] Kuijt, "Place, Death, and the Transmission of Social Memory," 80.
[83] Kuijt, "Place, Death, and the Transmission of Social Memory," 82.
[84] Kuijt, "Place, Death, and the Transmission of Social Memory," 86.
[85] Kuijt, "Place, Death, and the Transmission of Social Memory," 86, 89.
[86] Kuijt, "Place, Death, and the Transmission of Social Memory," 86.

focus on the individual whose skull it is, while also idealizing the "links between the

living, the deceased, and the collective ancestors.[87]

The plastered skulls connected the living community to the dead and

"construct[ed] a collective and individual social memory."[88] Plastered skulls were

replastered several times, suggesting use over a large span of time, possibly over multiple

generations.[89] They had naturalistic features and were likely used in an interactive

manner.[90] With the plastered skulls there is a focus on the face, which is seen in other

rituals of the PPNB. The caching and modification of skulls is a method of connecting

generations across the past, present, and future. Mortuary rituals are often

commemorative in nature, forming a link to the life of the individual. [91] Kuijt argues that

the act of plastering skulls goes beyond ancestor worship to be a means of first

remembering and then forgetting the dead.[92] Memory and identity are strongly

connected.[93] Over time memory becomes conventionalized and simplified to be

accessible, understandable, and to provide meaning for everyone in the community.[94]

This applies to mortuary practices, because the symbolism within them should be readily

understood by all members of the community.[95] Social memory and mortuary ritual are

both connected and standardized.[96]

The plastered skulls are not portraiture. Because they are plastered without the

mandible, their features, though naturalistic, are not in their natural positions on the

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[87] Kuijt, "Place, Death, and the Transmission of Social Memory," 89.
[88] Kuijt, "Place, Death, and the Transmission of Social Memory," 94.
[89] Kuijt, "Place, Death, and the Transmission of Social Memory," 94.
[90] Kuijt, "Place, Death, and the Transmission of Social Memory," 94.
[91] Kuijt, "The Regeneration of Life," 171.
[92] Kuijt, "The Regeneration of Life," 172.
[93] Kuijt, "Place, Death, and the Transmission of Social Memory," 81.
[94] Kuijt, "Place, Death, and the Transmission of Social Memory," 81.
[95] Kuijt, "Place, Death, and the Transmission of Social Memory," 81.
[96] Kuijt, "Place, Death, and the Transmission of Social Memory," 86.

skull.[97] Moreover, there is less diversity in the features of the plastered skulls than would

be expected to occur in natural circumstances.[98] Additionally, plastering the skull does

not take into account the original shape and features; the purpose was not to create a

portrait of the individual true to their physical appearance in life.[99]

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[97] Kuijt, "The Regeneration of Life," 179.
[98] Kuijt, "The Regeneration of Life," 179, 181.
[99] Fletcher, Pearson, and Ambers, "The Manipulation of Social and Physical Identity," 318.

Chapter 4: PPNB Sites with Plastered Skulls

Jericho

Jericho is an archaeological site with a "limited Natufian encampment at the site's base," and predominantly PPNA and PPNB occupations. This site is a 70 foot tall, oval mound, on the edge of the Jordan Rift Valley.[100] Garstang was the first to excavate Jericho, from 1935 to 1936; he excavated in the middle of the mound and found Neolithic material, including two Pre-Pottery Neolithic buildings in his main trench.[101] Kathleen Kenyon was the next person to excavate at this site, spending seven seasons here from 1952 to 1958.[102] She spent part of her time continuing to excavate Garstang's main trench and digging elsewhere at the site, leading her to find a large Pre-Pottery Neolithic occupation 400 feet to the south of Garstang's main trench. She classified this level as PPN because of the "stereotyped architecture" and because the planning changed with the introduction of pottery. [103] In this PPN occupation, Kenyon found evidence of agriculture and domestication, animal figurines, and a "mother goddess" figurine.[104] She additionally found a total of ten plastered skulls.[105]

It is important to look at burial practices at Jericho in general when considering plastered skulls. Kenyon found the remains of about thirty people in an area of about 17.4 by 5.8 meters, dating to the PPNB. The remains were in a variety of positions and conditions: intact, flexed, intact except a displaced skull located close by, or collections

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[100] Kathleen M. Kenyon, "Excavations at Jericho," *The Journal of the Royal Anthropological Institute of Great Britain and Ireland* 84, no. ½ (Jan-Dec. 1954): 103.
[101] Kenyon, "Excavations at Jericho," 103.
[102] Simmons, *The Neolithic Revolution in the Near East,"* 86.
[103] Kenyon, "Excavations at Jericho," 105.
[104] Kenyon, "Excavations at Jericho," 105-7.
[105] Eugen Strouhal, "Five Plastered Skulls from Pre-Pottery Neolithic B, Jericho: Anthropological Study," *Paléorient* 1, no. 2 (1973): 231, https://doi.org/10.3406/paleo.1973.4169.

of articulated limb bones detached from the trunk. Because there was a general lack of heads in this group, Kenyon postulated that this group of burials consisted of the individuals whose crania became plastered skulls.[106]

Skulls from Jericho

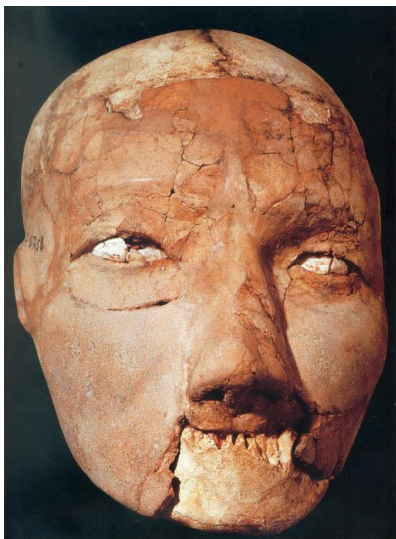At Jericho, a total of ten plastered skulls were discovered, all by Kathleen Kenyon.[107] In 1953, Kenyon found a cache of seven plastered skulls, which she described as a "group of portrait heads" in a heap of debris between two floors, without signifiers of a particularly religious or specialized space.[108] They were placed between two walls in Square DI.[109] The plastered skulls in this cache are numbered as D110 through D116 and were dated to the Middle PPNB or c. 10100-9250 calibrated 14C years BP.[110] In 1956,

Figure 2: Plastered skull D112 from Jericho (Courtesy of ARTSTOR, 41822003667613.fpx).

two additional skulls were found seven meters from the cache in Square DI; these were D117 and D118.[111] Subsequently, another skull, numbered E22, "was found in square EIII – EIV."[112]

Kenyon describes the skulls in the cache of seven with an emphasis on their realism, with covered jaws and faces and packed dirt on the inside. All had shells for

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[106] Kenyon, "Excavations at Jericho," 108.
[107] Strouhal, "Five Plastered Skulls," 231; Fletcher, Pearson, and Ambers, "The Manipulation of Social and Physical Identity," 310.
[108] Kenyon, "Excavations at Jericho," 107-8.
[109] Fletcher, Pearson, and Ambers, "The Manipulation of Social and Physical Identity," 309.
[110] Fletcher, Pearson, and Ambers, "The Manipulation of Social and Physical Identity," 309.
[111] Fletcher, Pearson, and Ambers, "The Manipulation of Social and Physical Identity," 309.
[112] Fletcher, Pearson, and Ambers, "The Manipulation of Social and Physical Identity," 309.

eyes, mostly cockle shells, but one with cowrie shells, and all but one did not have a mandible. Further, most of the crania had no covering on the top of the head, although one, D114, had "bands of dark brown paint" which may represent a headdress or hair.[113] Kenyon noted that the soft tissue on the crania had previously decayed or been removed before plastering, indicating that these were therefore not death masks.[114] That they were found in a disorganized pile makes them different from other skull caches which seem to have been deliberately arranged.[115]

Goren, Goring-Morris, and Segal studied skulls from various sites, including Jericho. From Jericho they studied a skull at the Ashmolean Museum in Oxford, registration number 1955-565 (Kenyon's D111), and a skull at the Rockefeller Museum in Jerusalem with the registration number JPE 121.32 (Kenyon's E22). The Ashmolean Museum's Jericho skull was found in the cache of seven, in square D I of Kenyon's excavations; this is the skull which possessed cowrie shell eyes. Additionally, iron-oxide ochre was likely used to produce the pink pigment that is present on this skull. The mandible was removed, as was common. Despite the removal of the mandible, the features are in approximately correct anatomic positions.[116]

The other skull that was examined from Jericho, JPE 121.32, also originates from the cache of seven found in Square D I. This skull has bivalve shells to represent the eyes, causing a more open-eyed appearance than the cowrie shells portray. Similar to the other Jericho skull, there was red paint and possibly resin on the surface. Furthermore,

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[113] Fletcher, Pearson, and Ambers, "The Manipulation of Social and Physical Identity," 317.
[114] Kenyon, "Excavating Jericho," 107-8.
[115] Fletcher, Pearson, and Ambers, "The Manipulation of Social and Physical Identity," 309.
[116] Goren, Goring-Morris and Segal, "The Technology of Skull Modelling in the Pre-Pottery Neolithic B," 673.

the mandible was removed; however, the chin was reconstructed allowing the features to be in their proper anatomical locations.[117]

'Ain Ghazal

'Ain Ghazal is another significant site; it is a site in Jordan that is contemporary to, though far larger than Jericho, about three times the size.[118] The site covers at least twelve to thirteen hectares, although an estimated ten percent of the site was destroyed during the construction of a nearby highway. Rollefson began excavations at this site in 1982; there were six seasons, from 1982-1985 and 1988-89.[119] The population there probably ranged from 2500 to 3000 people, 500 to 600 families, and increases in population may have put strain on the community.[120] In the 8th millennium BCE, 'Ain Ghazal was first settled and agriculture was beginning.[121] (The excavators used BCE for dates, rather than BP, which has been used throughout this paper). According to Rollefson and Simmons, from 7250 to 6200 BCE 'Ain Ghazal "enjoyed a successful way of life that changed little over these 50 generations." [122] The peak of the culture occurred in the mid sixth millennium BCE.[123] By 6500 BCE, the site covered about 9.3 hectares and by the seventh millennium the site grew an additional 2.8 hectares.[124] Overexploitation eventually led to the decline of the site; however, agriculture and the

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[117] Goren, Goring-Morris and Segal, "The Technology of Skull Modelling in the Pre-Pottery Neolithic B," 673.

[118] Gary O. Rollefson and Alan H. Simmons, "Life and Death of 'Ain Ghazal," *Archaeology* (Nov/Dec 1987): 38.

[119] Gary O. Rollefson, Alan H. Simmons and Zeidan Kafafi, "Neolithic Cultures at 'Ain Ghazal, Jordan" *Journal of Field Archaeology* 19, no. 4 (Winter, 1992): 444, https://www.jstor.org/stable/530427.

[120] Rollefson and Simmons, "Life and Death of 'Ain Ghazal," 38, 43.

[121] Rollefson and Simmons, "Life and Death of 'Ain Ghazal," 40.

[122] Rollefson and Simmons, "Life and Death of 'Ain Ghazal," 40.

[123] Rollefson and Simmons, "Life and Death of 'Ain Ghazal," 38.

[124] Rollefson and Simmons, "Life and Death of 'Ain Ghazal," 41.

culture continued after 6200 BCE with major changes.[125] In general widespread change occurred with the PPNB in the Southern Levant, affecting both 'Ain Ghazal and Jericho, from about 6200 to 5800 BCE.[126]

The dead were often buried either under the house floors or in the courtyards. The burials at 'Ain Ghazal were normally placed in a flexed position, without their heads. The heads were sometimes in a separate burial or effigy, and sometimes modelled with plaster, red ochre, and asphalt. Infants occupied a different role in society which was reflected in the burial practices. If they were younger than one year of age, they normally retained their heads in burial, potentially indicating that they lacked the status of person or member of the family. This is tied into the high infant mortality rate, which accounted for about thirty percent of the overall mortuary population. Interestingly, given the assumed lack of status, infants often were buried in potent contexts which held symbolic significance, such as skull cache pits, and in or under walls and thresholds.[127]

Figure 3: Plastered faces from 'Ain Ghazal (In Schmandt-Besserat 2013, 222)

Plastered skulls at 'Ain Ghazal

There were two plastered skulls found in 1983 which were in very poor preservation condition. During a survey in 1987, another skull was found practically falling out of a road cut section. Part of the skull was removed in 1987, including the occipital, parietal, and temporals; however, the rest was not removed until

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[125] Rollefson and Simmons, "Life and Death of 'Ain Ghazal," 40, 44.
[126] Rollefson and Simmons, "Life and Death of 'Ain Ghazal," 44.
[127] Rollefson and Simmons, "Life and Death of 'Ain Ghazal," 41.

the 1988 field season. In regards to stratigraphy, this skull was underneath a plastered floor of a residential structure.[128] This artifact was a plastered cranium (lacking the mandible) of a male aged to thirty years or older. Eyes, a nose, the right cheek, and an ear were plastered features on this cranium, which dated to the PPNB, specifically between c. 6700 and 7000 BC. This plastered cranium is currently housed at the Museum of Jordanian Heritage.[129]

Kfar HaHoresh

Kfar HaHoresh is another important site, which has been excavated since 1991 with Goring-Morris as the field director.[130] It was a "centralized mortuary-cum-cult site in Neolithic of the Levant."[131] Specifically, it is located in Northern Israel and possibly played a role as "a central shrine serving neighbouring villages."[132] Kfar HaHoresh's timeline spans the late Early PPNB to the Late PPNB, about 8000-6800 BCE. The site itself covers about three-quarters to a whole hectare and is divided into four major activity zones. On the eastern side of the excavation there was a production area evidenced by kilns and artifacts associated with flint-knapping. The midden area covered the southern and western sections of excavation and had burnt bones and ash. Additionally, there was a cult area to the west and north of excavations with plaster, stone hearths, and monoliths. Finally, there was a funerary area in the central and especially western area of excavation, consisting of lime plaster surfaces and a variety of burials. The burials were primary and secondary as well as singular and multiple. Post holes were

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[128] Alan H. Simmons et al, "News and Short Contributions," *Journal of Field Archaeology* 17, no. 1 (Spring, 1990): 107, https://www.jstor.org/stable/530401.
[129] Simmons et al, "News and Short Contributions," 108.
[130] "Main Page," The Hebrew University of Jerusalem, last modified November 2, 2011, http://khh.wiki.huji.ac.il/index.php/Main_Page.
[131] Nigel Goring-Morris and Liora Kolska Horwitz, "Funerals and feasts during the Pre-Pottery Neolithic B of the Near East," A*ntiquity* 81 (2007): 902.
[132] Goring-Morris and Horwitz, "Funerals and Feasts," 902.

also common throughout this section, although they were not associated with any "functional architectural features."[133]

The demographics of this site differ from others, indicating that only a select few individuals were allowed burial here.[134] Unlike at 'Ain Ghazal there were no obvious rectangular structures with associated burials; rather there were L-shaped walls associated with the burials. There were sixty or more individuals buried at this site: male and female individuals of a range of ages and primary and secondary burials. There were fifteen with their heads removed. There were also purposeful secondary burial arrangements with long bones placed around a pit which contained mandibles. There were plastered skulls in three different locations and in two of these locations there were caches of skulls. One of the caches included three skulls and one cache was of four skulls.[135]

Skulls from Kfar HaHoresh

KNH-Homo 1, in the Israel Museum in Jerusalem, comes from Kfar HaHoresh. This skull was found in good preservation condition and the mandible was removed, causing the features to be placed in anatomically incorrect positions.[136] Although the plastered skulls are not portraiture, it is possible that some of the features recreated on this skull were similar to those of the individual during their lifetime. The features were compressed vertically due to the absence of the mandible, and the angle from which a person views the skull changes the appearance and perspective of the features drastically.

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[133] Goring-Morris and Horwitz, "Funerals and Feasts," 904.
[134] Goring-Morris and Horwitz, "Funerals and Feasts," 902.
[135] Goring-Morris and Horwitz, "Funerals and Feasts," 904.
[136] Goren, Goring-Morris and Segal, "The Technology of Skull Modelling in the Pre-Pottery Neolithic B," 675-6.
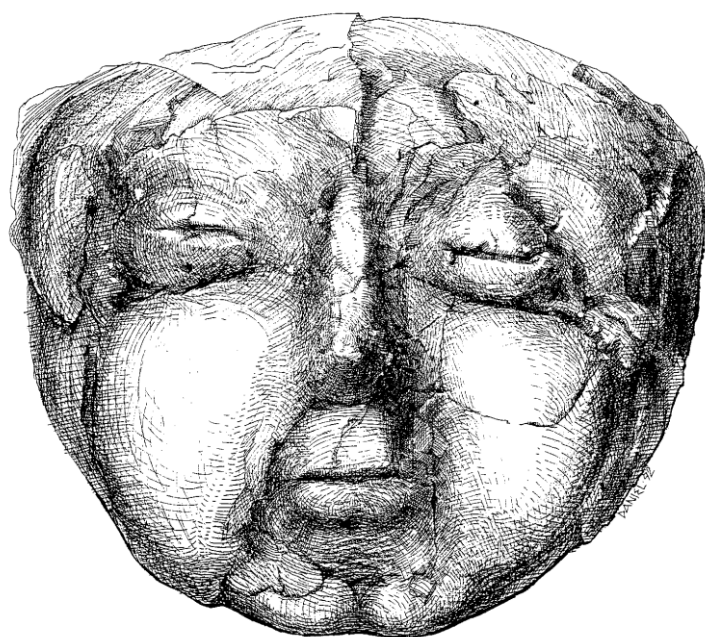
Figure 4: Modelled Skull from Kfar HaHoresh, KHH Homo 1 (Goren, Goring-Morris, and Segal 2001, 677).

The head belonged to an adult male aged about twenty-five.[137] The skull was also coated in a red wash and similar to plastered skulls from 'Ain Ghazal.[138]

One of the plastered skulls, KHH Homo 8, was found in 1994, associated with a "stone-built small oval installation on a lime-plaster surface in a different area of the site." Because of its close proximity to the surface, it was damaged by plowing. This skull was similar to Homo 1 in regards to style, and in that the plaster was in layers.[139]

Nahal Hemar

Nahal Hemar Cave is situated in the Judean Desert, about twenty kilometers to the west of the southern tip of the Dead Sea.[140] It consists of a four by eight meter chamber and dates to the PPNB.[141]The cave was plundered both before and after excavations began.[142] I. el-Turi and D. Alon found the cave while completing a survey in 1983.[143]

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[137] Goren, Goring-Morris and Segal, "The Technology of Skull Modelling in the Pre-Pottery Neolithic B," 676; Goring-Morris and Horwitz, "Funerals and Feasts," 904-5.

[138] Goren, Goring-Morris and Segal, "The Technology of Skull Modelling in the Pre-Pottery Neolithic B," 676.

[139] Goren, Goring-Morris and Segal, "The Technology of Skull Modelling in the Pre-Pottery Neolithic B," 677.

[140] Ofer Bar-Yosef, Tamar Schick, and David Alon, "Nahal Hemar Cave," in The New Encyclopedia of Archaeological Excavations in the Holy Land, ed. Ephraim Stern, (Israel: The Israel Exploration Society & Carta, The Israel Map & Publishing Company, Limited, 1993), 1082; B. Arensburg and I. Hershkovitz, "Artificial Skull 'Treatment' in the PPNB Period: Nahal Hemar," (People and Culture in Change: Proceedings of the Second Symposium on Upper Paleolithic, Mesolithic and Neolithic Populations of Europe and the Mediterranean Basin, Tel Aviv University, Israel, 1989), 115.

[141] Bar-Yosef, Schick, and Alon, "Nahal Hemar Cave," 1082.

[142] Bar-Yosef, Schick, and Alon, "Nahal Hemar Cave," 1082.

Subsequently, in June of the same year, O. Bar-Yosef and D. Alon started excavations under the Israel Department of Antiquities and Museums.[144] Due to the assemblage of artifacts and the physical nature of the cave itself, it is likely that Nahal Hemar Cave was used for temporary storage, rather than habitation during the PPNB.[145] Both domestic and ritual artifacts were found at this site; many of the artifacts were preserved very well, including those made from organic material.[146] Preserved artifacts made from organic material included "string, rope, basketwork, fabric, and wooden tools."[147]

In terms of ritual objects, there were four figurines depicting human faces carved from pieces of a long bone, which used "asphalt, red ocher, green dioptase, and lime plaster…to mark eyes, hair, and beard."[148] Moreover, two stone masks were also found at this site.[149] One of the masks is fragmentary, including only the low part of the face; however, the other mask depicts the entire face.[150] Furthermore, human remains from six to eight people were found at Nahal Hemar Cave, which included only pieces skulls and neck vertebrae.[151] This array included six decorated skulls, with layers of asphalt placed on the back of the skull, though not on the front.[152] It is possible that these ritual artifacts are all related to each other as well as connected to broader ideas about focus on the face and ancestor worship.[153]

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[143] Bar-Yosef, Schick, and Alon, "Nahal Hemar Cave," 1082.
[144] Bar-Yosef, Schick, and Alon, "Nahal Hemar Cave," 1082.
[145] Bar-Yosef, Schick, and Alon, "Nahal Hemar Cave," 1084.
[146] Bar-Yosef, Schick, and Alon, "Nahal Hemar Cave," 1082.
[147] Bar-Yosef, Schick, and Alon, "Nahal Hemar Cave," 1082.
[148] Bar-Yosef, Schick, and Alon, "Nahal Hemar Cave," 1083.
[149] Bar-Yosef, Schick, and Alon, "Nahal Hemar Cave," 1084.
[150] Bar-Yosef, Schick, and Alon, "Nahal Hemar Cave," 1084.
[151] Bar-Yosef, Schick, and Alon, "Nahal Hemar Cave," 1083.
[152] Bar-Yosef, Schick, and Alon, "Nahal Hemar Cave," 1084.
[153] Bar-Yosef, Schick, and Alon, "Nahal Hemar Cave," 1084.

Skulls from Nahal Hemar

Plastered skulls from Nahal Hemar share similar features with the skulls from

Jericho, including markers indicative of the way crania were potentially manipulated *in*

vivo. Asphalt is a distinguishing feature of the Nahal Hemar skulls, while skulls at other

sites are covered with plaster or clay; however, asphalt was generally more available in

Dead Sea Region.[154] Asphalt was also used on ritual artifacts from other sites, such as the

eyelids and irises of anthropomorphic statues and the eyelids of plastered skulls at 'Ain

Ghazal.[155] Another notable difference between these modified skulls and those from other

sites is that they lack remodeled facial features, which Arensburg and Hershkovitz

suggest could mean that separate limestone masks, such as the two found at the site,

replaced remodeling. [156]A geometric design was applied to some of the Nahal Hemar

skulls. Homo 2, the skull of a male about 45 years old, has an asphalt layer covering the

occipital region and a combing pattern of parallel longitudinal lines. [157] Similarly, Homo

8, a male skull aged to 50 years with asphalt covering the occipital-parietal sections.[158] A

diagonal grid pattern was formed over the first layer of asphalt on Homo 8 by placing

"rolled cords of asphalt" first horizontally and then diagonally. [159] Similar features occur

on Homo 9, which is again a male skull, aged about twenty-five to thirty years old. [160]

Homo 9 has asphalt on the parietal and some occipital bones as well as a diagonal grid;

while this pattern is different than the pattern on Homo 8, it still consists of rolled cords

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[154] Arensburg and Hershkovitz, "Artificial Skull 'Treatment' in the PPNB," 122.
[155] Arensburg and Hershkovitz, "Artificial Skull 'Treatment' in the PPNB," 122.
[156] Arensburg and Hershkovitz, "Artificial Skull 'Treatment' in the PPNB," 123.
[157] Arensburg and Hershkovitz, "Artificial Skull 'Treatment' in the PPNB," 117.
[158] Arensburg and Hershkovitz, "Artificial Skull 'Treatment' in the PPNB," 119.
[159] Arensburg and Hershkovitz, "Artificial Skull 'Treatment' in the PPNB," 119.
[160] Arensburg and Hershkovitz, "Artificial Skull 'Treatment' in the PPNB," 121.

of asphalt placed over an initial asphalt layer. [161] These three skulls are similar in that they are all male and all have had geometric asphalt decoration. The geometric grid and line patterns could be compared to the painted pattern on D114 from the Jericho cache, indicating the practice used for *in vivo* modification.

Figure 5: Skull with geometric designs from Nahal Hemar Cave (Courtesy of The Israel Museum, Jerusalem, https://www.imj.org.il/en/collections/197933).

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[161] Arensburg and Hershkovitz, "Artificial Skull 'Treatment' in the PPNB," 121-22.

Chapter 5: *In Vivo* Cranial Modification

Headshaping, Cultural Cranial Modification (CCM), and *in vivo* skull modification are terms that refer to a form of body modification involving the shaping of an infant's head to "flatten and/or elongate the human skull;" it is a widespread practice both geographically and across time periods.[162] This is an aspect of ritual practice that could link the life of an individual to mortuary practices. The plasticity and rapid growth of human skulls in infancy allows for this practice to permanently modify the skull's shape.[163] In general, this modification could be the result of an intentional action seeking to modify the shape of the head, or the unintended side effect of a cultural practice serving a different purpose.[164] However, when the alteration is intentional, "external objects, such as wooden boards, stones, bandages, or...repetitive manual moulding" are generally necessary.[165] Headshaping, which can be achieved
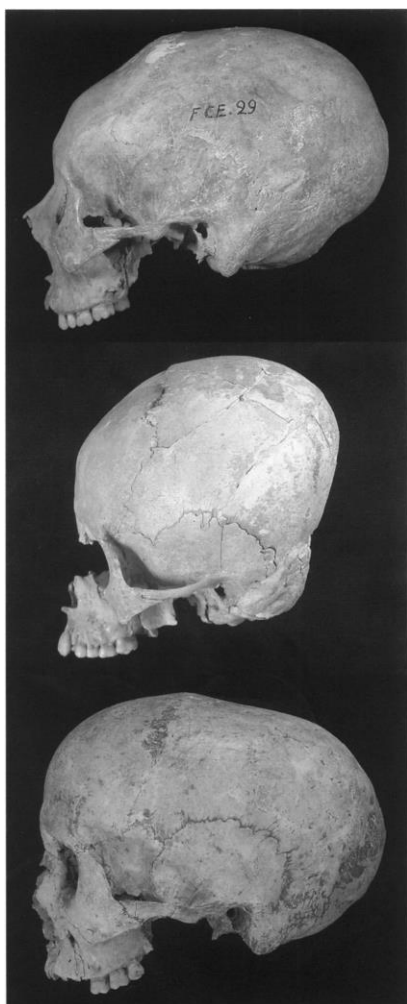

Figure 6: Skulls showing circumferential modification (top), antero-posterior (middle), and post-bregmatic (bottom) modification (In Lorentz, 2009, 79).

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[162] Kirsi O. Lorentz, "The Malleable Body: Headshaping in Greece and the Surrounding Regions," *Hesperia Supplements* Vol. 43 (2009): 75; K.O. Lorentz, "Marking Identity through Cultural Cranial Modification within the First Sedentary Communities (Ninth to Eighth Millennium BCE) in the Near East: Tepe Abdul Hosein, Iran," *International Journal of Osteoarchaeology* 27 (2017): 974; Aurelie Daems and Karina Croucher, "Artificial Cranial Modification in Prehistoric Iran: Evidence from Crania and Figurines," *Iranica Antique* XLII (2007): 3.

[163] Lorentz, "Marking Identity through Cultural Cranial Modification," 973-4.

[164] Lorentz, "The Malleable Body," 77-78; Daems and Croucher, "Artificial Cranial Modification in Prehistoric Iran," 2.

[165] Daems and Croucher, "Artificial Cranial Modification in Prehistoric Iran," 3.

through methods such as cradle boards, bindings, or headdresses, requires advanced

knowledge of the body and anatomy.[166] There are three general forms of cranial

modification: circumferential or circular, antero-posterior, and post-bregmatic.[167]

Circumferential or circular modification is achieved through "bandaging the head

circumferentially." [168] Superior flattening of the calvarium through the use of headgear

defines post-bregmatic modification. [169] With antero-posterior modification, the occipital

and/or frontal part of the cranium is flattened or modified. [170] Often headshaping would

have either resulted in a quite obvious change or have been easily emphasized through

nonpermanent means, such as hairstyle or headdress.[171] There are several potential

reasons for performing cranial modification. It could signify the individual's gender,

family connections, group ties, ethnicity or status. [172] Headshaping could represent a

combination of these factors, or result from an entirely separate reason. Whatever the

reason, this process marks the individual with an irreversible identity which they were not

in control of at the time of modification, being too young to acknowledge or understand

the process and its lasting effects.[173] Not only would this mark the person with a specific

identity, but it also might have affected the subsequent construction of identity.[174] Others

in the community might treat the person with cultural cranial modification differently or

they might be exposed to different circumstances, shaping their personal identity or role

in the community. Despite the intangible concepts which may be represented by such

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[166] Lorentz, "The Malleable Body," 75.
[167] Lorentz, "The Malleable Body," 78.
[168] Lorentz, "The Malleable Body," 78.
[169] Lorentz, "The Malleable Body," 78.
[170] Lorentz, "The Malleable Body," 78.
[171] Daems and Croucher, "Artificial Cranial Modification in Prehistoric Iran," 17.
[172] Lorentz, "Marking Identity through Cultural Cranial Modification," 974; Lorentz, "The Malleable Body," 75.
[173] Lorentz, "Marking Identity through Cultural Cranial Modification," 974.
[174] Daems and Croucher, "Artificial Cranial Modification in Prehistoric Iran," 17.

cranial modification, Daems and Croucher note that this practice is also tied to aesthetics: "concepts of beauty, and appearance, even if those notions differ vastly from our own," even if there are additional factor.[175]

A study by Alexandra Fletcher, Jessica Pearson & Janet Ambers examined the Jericho skull, D113, and determined that *in vivo* modification had occurred. Skull D113 possesses a plaster base making it possible for the skull to stand upright, as is true for other skulls from Jericho, D114, D112, and D118, implying these artifacts were meant, at least in part, to be displayed.[176] Additionally, D113 has no mandible, a feature shared by the others skulls found in the same cache, excluding Jericho's D112.[177] Other features include stylized lips, a

Figure 7: Skull D113 from Jericho (In Fletcher, Pearson, and Ambers 2008, 310).

stylized ear and a plaster nose, which is no longer attached.[178] The plaster facial features end at the eye sockets and temple; however, the edges of the plaster are rough, indicating that the original plaster was more extensive but has since eroded.[179] Additionally, the skull was found to be filled with coarse soil, which could not be post-depositional because all potential points of entry were sealed with plaster.[180] There is no evidence that the skull was painted.[181] The skull most likely belonged to an individual forty to fifty

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[175] Daems and Croucher, "Artificial Cranial Modification in Prehistoric Iran," 14.
[176] Fletcher, Pearson, and Ambers, "The Manipulation of Social and Physical Identity," 313.
[177] Fletcher, Pearson, and Ambers, "The Manipulation of Social and Physical Identity," 313.
[178] Fletcher, Pearson, and Ambers, "The Manipulation of Social and Physical Identity," 314.
[179] Fletcher et al., "Beneath the Surface," 94.
[180] Fletcher, Pearson, and Ambers, "The Manipulation of Social and Physical Identity," 314.
[181] Fletcher et al., "Beneath the Surface," 95.

years old of indeterminate sex.[182] Despite the estimated age, the smooth plaster gives the

impression of a young face and there are no recognizable indicators of gender in the

facial features. [183] The most important visible feature of the Jericho skull, at least for the

purposes of this study, was a depression in the cranial vault, which did not have any

remaining plaster, spanning approximately from ear to ear, because it is a visual marker

of *in vivo* modification.[184]

The width of the diploë is important in determining whether a skull was modified.

The diploe is the inner table of the cranial vault whose thickness remains constant in

unmodified (*in vivo*) skulls, but whose width varies if cranial modification occurs.

According to Fletcher, Pearson and Ambers, there are no "genetic, natural, or medical"

reasons which account for a variation in diploë thickness, making this feature useful for

accurate determination of cranial modification. Variations in the diploë of D113 were

visually observed and then confirmed with a radiograph, strongly indicating *in vivo*

cranial modification had occurred.[185]

Additional evidence of this practice comes from "extra ossicles in the lambdoid

suture" which were likely caused by stress to the skull resulting from cranial

modification.[186] A skull from Nahal Hemar, Homo 9, also features these extra ossicles,

likely caused by stress due to cranial modification.[187] The change to D113 would have

been too subtle to notice in life without previous knowledge of the modification, leading

Fletcher, Pearson and Ambers to conclude that the "knowledge of an individual having

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[182] Fletcher, Pearson, and Ambers, "The Manipulation of Social and Physical Identity," 315.
[183] Fletcher et al., "Beneath the Surface," 95.
[184] Fletcher, Pearson, and Ambers, "The Manipulation of Social and Physical Identity," 313-4.
[185] Fletcher, Pearson, and Ambers, "The Manipulation of Social and Physical Identity," 315.
[186] Fletcher, Pearson, and Ambers, "The Manipulation of Social and Physical Identity," 315.
[187] Fletcher, Pearson, and Ambers, "The Manipulation of Social and Physical Identity," 315.

undergone this process was more important than physical manifestation."[188] In other

words, the community at large or at least those performing the modelling of the skull

after death would have been aware of the *in vivo* modifications, without requiring the

visual cues to understand the implied symbolism. Fletcher, Pearson, and Ambers argue

that because plastering the skull does not require that the plastered features are based on

the underlying skull shape, the practitioners' knowledge that the person had undergone *in

vivo* modification was more important in the selection process than the actual shape of the

skull.[189] Furthermore, Fletcher et al. argue that the knowledge of cranial modification

could have affected the selection process.[190] Even if the features plastered on to the skull

were not based upon the original shape, this does not negate the fact that the shape of the

skull itself was a factor in the selection process. The *in vivo* modification would have

been more obvious after the flesh had decayed, and at the time of skull removal, it is

likely that the flesh would no longer have been present. The evidence that Fletcher,

Pearson, and Ambers present seems to support the argument that the underlying shape of

the skull was selected for. *In vivo* skull modification could have affected if the skull was

plastered after death without dictating the shape and position of the facial features on the

plastered skull. During life, even if the modification to the skull was subtle, additive

features, such as hair style or headdress could have been utilized to accentuate the

change, making the modification appear more visually prominent. As stated above, Kuijt

argues that mortuary practices form a bridge between the life and death of the

deceased,[191] which adds weight to the idea that *in vivo* cranial modification was

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[188] Fletcher, Pearson, and Ambers, "The Manipulation of Social and Physical Identity," 318.
[189] Fletcher, Pearson, and Ambers, "The Manipulation of Social and Physical Identity," 318.
[190] Fletcher et al., "Beneath the Surface," 98.
[191] Kuijt, "The Regeneration of Life," 171.

connected to the plastering of skulls. Furthermore, the shape of many figurine heads was elongated, indicating that this preference for shape was represented in more artifacts than just the plastered skulls. It would have affected selection, without affecting how it was modelled. The status or identity associated with the shape of the skull could have held greater significance that the aesthetic shape.

D113 is not the only skull from Jericho which exhibits features associated with cultural cranial modification. Kurth, Rohrer and Ertl determined cranial modification in D110 and D111, which were found in the same cache as skull D113.[192] Moreover, D114, also from same cache, has a painted stripe running from temporal to temporal across the parietal, which could represent how the skull was modified in life.[193] The painted stripes on D114 and "the linear nature of the depression associated with the compressed diploë [of D113], suggests that bindings were used."[194] Fletcher, Pearson, and Ambers note that D113's modifications are similar to E22, D110, D112, D114, and D118.[195]

Figure 8: Skull D114 from Jericho, showing painted stripes
(Courtesy of Schmandt-Besserat 2013, 244).

[192] Fletcher, Pearson, and Ambers, "The Manipulation of Social and Physical Identity," 315.
[193] Fletcher, Pearson, and Ambers, "The Manipulation of Social and Physical Identity," 317.
[194] Fletcher, Pearson, and Ambers, "The Manipulation of Social and Physical Identity," 317.
[195] Fletcher, Pearson, and Ambers, "The Manipulation of Social and Physical Identity," 317.

Shape is another feature which distinguishes these Nahal Hemar skulls from those of other sites while making them similar to each other. Although this characteristic is atypical for the Mediterranean region, these skulls are short and broad, potentially indicating a selection for this shape of skull.[196] At Jericho both narrow and wide skulls are found together; however, the wider skulls are those that are plastered.[197] Skulls A130C and J54B, which were narrow and not plastered, were found with J5757, J5758, and J6934, which were wider and plastered.[198] Arensburg and Hershkovitz hold that the modifications were to make the skulls fit into the physical concept of some sort of ideal, "perhaps relating to a concept of rule and seniority of the elder person."[199] In other words, they argue that the modifications were physical manifestations of the status, whatever that may be determined by, of the person in question.

The factors that select for certain skulls being chosen over others for post-mortem plastering are an important facet of the practice of modelling or plastering skulls. It is possible that cranial modification during life factored into this decision process, although several scholars caution against jumping immediately to this conclusion without a better statistical understanding of cranial modification in the entire population.[200] However, the shape of the skull could have been a factor in the decision process, with selection in favor of a "broad vault and low and wide face" which could be the result of *in vivo* modification, removal of the mandible, or a combination of these factors.[201]

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[196] Arensburg and Hershkovitz, "Artificial Skull 'Treatment' in the PPNB," 124, 127.
[197] Arensburg and Hershkovitz, "Artificial Skull 'Treatment' in the PPNB," 124.
[198] Arensburg and Hershkovitz, "Artificial Skull 'Treatment' in the PPNB," 124.
[199] Arensburg and Hershkovitz, "Artificial Skull 'Treatment' in the PPNB," 129.
[200] Fletcher, Pearson, and Ambers, "The Manipulation of Social and Physical Identity," 319-320.
[201] Arensburg and Hershkovitz, "Artificial Skull 'Treatment' in the PPNB," 127.

Although it is difficult to draw specific conclusions without more context and statistical information about who and how many in the population underwent this process, it appears that cultural cranial modification was significant and relevant to skull plastering. It is possible that this was a marker of hereditary status or a cultural practice which was applied to the majority of members in the community.[202] Further research needs to be completed to more fully understand the distribution of cultural cranial modification throughout the general population in order to understand how this practice applies to skull plastering. However, it seems likely that these practices were connected. Moreover, *in vivo* modification demonstrates a focus on the head, connecting the two skull modification practices together in this regard if not directly.

Cultural Cranial Modification in Iran: An Ethnographic Analogy

To provide a comparative case, in what is modernly known as Iran, from the Late Neolithic to the Middle Chalcolithic there are several skulls that have been modified *in vivo*. In this area and time, there are a reported 285 sites, in eighteen of which skeletal remains have been found.[203] Out of those eighteen, five of the sites have skulls with evidence for cranial modification: Ganj Dareh, Tepe Ghenil, Ali Kosh, Choga Sefid, and Choga Mish, dating between the ninth and fifth millennium BCE.[204] Out of the total count of forty skulls there were twenty-seven skulls with evidence of cranial modification, mostly resulting from use of bandages for manipulation.[205] All fourteen skulls found at Ganj Dareh were modified as were all eight skulls found at Choga

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[202] Fletcher, Pearson, and Ambers, "The Manipulation of Social and Physical Identity," 319-20.

[203] Daems and Croucher, "Artificial Cranial Modification in Prehistoric Iran," 5-7.

[204] Daems and Croucher, "Artificial Cranial Modification in Prehistoric Iran," 5.

[205] Daems and Croucher, "Artificial Cranial Modification in Prehistoric Iran," 5, Table 1.

Sefid.[206] At Tepe Ghenil one of two skulls was modified; at Choga Mish one skull of the two found was modified.[207] At Ali Kosh, there were fourteen burials under house floors of both adults and children.[208] Three of the skulls from these fourteen burials were modified; all three were women, one of whom was buried with a fetus.[209] Even though these sites are from a later time period, a different geographic region, and have no evidence of cranial removal, they still offer a useful comparison. More recently, evidence of cranial modification was found at an addition site in Iran, Tepe Abdul Hosein.[210]

At Ganj Dareh there is *in vivo* cranial modification dating to 8300-7600 cal BCE.[211] At Tepe Abdul Hosein, a site contemporary to Ganj Dareh, in Iran, there is also evidence of cranial modification, predating that of Ganj Dareh.[212] Only five sets of remains out of twelve at Tepe Abdul Hosein were preserved completely enough to be examined for signs of cultural cranial modification (CCM). Of those five skulls, four exhibited evidence of circumferential cultural cranial modification.[213] In terms of sex distribution, three of the four skulls were male and the remaining skull was of unidentifiable sex.[214] These four skulls were classified as AH10035, AH 13029; AH 19001-skeleton 2, and AH11001 and these had evidence of two-band modification, which is a subcategory of circumferential cultural cranial modification.[215] Unlike D113 from Jericho whose modification would not have been obvious *in vivo*, these modifications

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[206] Daems and Croucher, "Artificial Cranial Modification in Prehistoric Iran," 5-6.
[207] Daems and Croucher, "Artificial Cranial Modification in Prehistoric Iran," 6-7.
[208] Daems and Croucher, "Artificial Cranial Modification in Prehistoric Iran," 6.
[209] Daems and Croucher, "Artificial Cranial Modification in Prehistoric Iran," 6.
[210] Lorentz, "Marking Identity through Cultural Cranial Modification," 973.
[211] Lorentz, "Marking Identity through Cultural Cranial Modification," 974.
[212] Lorentz, "Marking Identity through Cultural Cranial Modification," 974.
[213] Lorentz, "Marking Identity through Cultural Cranial Modification," 975, 977.
[214] Lorentz, "Marking Identity through Cultural Cranial Modification," 977, Table 2.
[215] Lorentz, "Marking Identity through Cultural Cranial Modification," 978-9.

would have been quite visible during life.[216] Interestingly, as with the asphalt coated

skulls of Nahal Hemar, these skulls are predominantly male. It would be easy to draw

potentially unwarranted conclusions about the male segment of the community being the

only individuals who underwent this cultural treatment. However, the sample size is far

too small to accurately determine any conclusions such as that.[217] Lorentz believes that at

this site the CMM does not symbolize status because it's too early in the Neolithic.[218]

However, some selective characteristic, abstract or physical, determined whether cultural

cranial modification occurred, unless the entire population went through this process.

Furthermore, all of the cranial remains found at both Ganj Dareh and Choga Sefid show

signs of artificial modification, meaning that either the entire population experienced this

cultural practice or only those who underwent this practice were allowed burial within

these sites.[219] Daems and Croucher believe the latter is more likely, that only certain

individuals, those with cranial modification, were afforded burial within these two

sites.[220]

At four of the five sites with skulls evidencing CCM, Ganj Dareh, Ali Kosh,

Choga Sefid, and Choga Mish, there are also human figurines which provide another lens

through which to view CCM.[221] At Choga Mish there are thirty-eight fragments of

human figurines; three of these pieces depict heads and two of these seem to evidence

cranial modification.[222] Daems and Croucher write, "The contour of the head is painted

black as if to accentuate a type of headgear, hairstyle, or the skull of the figurine. It is

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[216] Lorentz, "Marking Identity through Cultural Cranial Modification," 980.
[217] Lorentz, "Marking Identity through Cultural Cranial Modification," 982.
[218] Lorentz, "Marking Identity through Cultural Cranial Modification," 982.
[219] Daems and Croucher, "Artificial Cranial Modification in Prehistoric Iran," 7.
[220] Daems and Croucher, "Artificial Cranial Modification in Prehistoric Iran," 7.
[221] Daems and Croucher, "Artificial Cranial Modification in Prehistoric Iran," 8.
[222] Daems and Croucher, "Artificial Cranial Modification in Prehistoric Iran," 9. See Figures 4 and 5.

feasible that the black band encircling their heads indicates bandage bindings."[223] This is similar to the markings on Jericho's D114. Furthermore, one of these heads has a distinctively elongated shape.[224] These figurines date to the Early Susiana period; however, modified skulls date to the late Middle Susiana period at this site potentially indicating a tradition continuing from the Early to Middle Susiana period.[225] Aside from figurines, there are additionally sherds of pottery with decoration showing humans with elongated head shapes from other sites, including "Neolithic Tell Sabi Abyad in Syria and Chalcolithic Tell Madhur in Mesopotamia."[226] However, not every figure shown in this decoration has this head shape; only part of the population is being represented in this way.[227] This would indicate that only part of the population had undergone this process. The appearance could represent an ideal or generalized concept rather than reflecting the exact physical appearance of those in question.[228] Although Daems and Croucher note the speculative nature of their argument, it offers an interesting potential connection between actual human skulls modified either *in vivo* or as part of a death ritual, and human representations in artwork from the same sites.

Dental Evulsion and Skull Shape

Another factor to consider when thinking of skulls modified both *in vivo* and after death is dental evulsion; the removal of the teeth further changes the shape of the crania. Some scholars have argued that teeth were purposefully removed as part of the funerary

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[223] Daems and Croucher, "Artificial Cranial Modification in Prehistoric Iran," 9.
[224] Daems and Croucher, "Artificial Cranial Modification in Prehistoric Iran," 9, Figure 5.
[225] Daems and Croucher, "Artificial Cranial Modification in Prehistoric Iran," 9-10.
[226] Daems and Croucher, "Artificial Cranial Modification in Prehistoric Iran: Evidence from Crania and Figurines," 12.
[227] Daems and Croucher, "Artificial Cranial Modification in Prehistoric Iran," 11-13.
[228] Daems and Croucher, "Artificial Cranial Modification in Prehistoric Iran," 13.

ritual, to make the skulls fit into an idealized form or to make the skulls resemble elderly, toothless, male ancestors.[229] Bonogofsky argues against Strouhal's idea that teeth were removed on purpose to shorten the skull's appearance at Tell Ramad, Beisamoun and Jericho, because the teeth were still present in the damaged Tell Ramad skulls.[230] Bonogofsky studied or physically examined thirty skulls, all those that were published from Jericho, Tell Ramad, Beisamoun, Nahal Hemar, 'Ain Ghazal, and Kfar HaHoresh.[231] Her study included taking CT scans of seven of these skulls, six from Jericho and one from Tell Ramad. [232] In fifteen of the thirty, there were teeth present, numbering from one to eleven in an individual skull. [233] Five of the seven CT scanned skulls contained teeth, which included four of the six scanned from Jericho: J5756, J5757, NM 57.03, and AM 1955.565 and the one scanned skull from Tell Ramad: R 66-2. Bonogofsky further holds that some of the other skulls may contain teeth which have been either damaged or hidden and concludes that intentional dental evulsion was not a common occurrence if a practice at all. [234] Given Bonogofsky's study, it is unlikely that dental evulsion was used to purposefully modify the shape of the skull or represent a specific identity.

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[229] Bonogofsky, "Reassessing ''Dental Evulsion'' in Neolithic Plastered Skulls," 960; Bonogofsky, "Including Women and Children," 118.
[230] Bonogofsky, "Reassessing ''Dental Evulsion'' in Neolithic Plastered Skulls," 960.
[231] Bonogofsky, "Reassessing ''Dental Evulsion'' in Neolithic Plastered Skulls," 961, Table 1.
[232] Bonogofsky, "Reassessing ''Dental Evulsion'' in Neolithic Plastered Skulls," 961, Table 1.
[233] Bonogofsky, "Reassessing ''Dental Evulsion'' in Neolithic Plastered Skulls," 960.
[234] Bonogofsky, "Reassessing ''Dental Evulsion'' in Neolithic Plastered Skulls," 963.

Chapter 6: Statuary

Plastered crania made up only a small portion of an overarching cultural trend emphasizing the human head and post-mortem headlessness. Figurines and statuary are an additional component of this theme in the Pre-Pottery Levant. At Jericho, for example, in addition to the plastered skulls, Garstang found the head of an anthropomorphic statue.[235] Similar to the plastered skulls, this statuary head also has shells to represent the eyes, although without a central slit. This stylistic similarity and contemporaneity would suggest a close connection between plastered skulls and larger scale statuary. The materials used, plaster and shell, further this connection. On the other hand, Kenyon notes that the head is flatter than the plastered skulls and appears less realistic and more stylistic.[236] The plaster head appears to have once been part of an entire figure. [237] Additionally, Kenyon writes that the plaster head might come from a stratum that represents the transition from the PPN to the PN whereas the skulls come from a greater depth in the PPN. [238] Still, it is possible that they are from the same time period.

There was also an abundance of large scale statuary found at ʿAin Ghazal. In both 1983 and 1985 caches of human statuary were excavated, which Rollefson and Simmons argue are representative of a communal identity.[239] The statuary may be classified into two large categories: full body standing figures and busts. The full body standing figures depict both males and females and are about ninety centimeters tall. [240] There was also a separate single head found, which dates to 7100 +/− 80 BCE. [241] The busts range from

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[235] Kenyon, "Excavations at Jericho," 108.
[236] Kenyon, "Excavations at Jericho," 108.
[237] Kenyon, "Excavations at Jericho," 108.
[238] Kenyon, "Excavations at Jericho," 108.
[239] Rollefson and Simmons, "Life and Death at ʿAin Ghazal," 43.
[240] Rollefson and Simmons, "Life and Death at ʿAin Ghazal," 43.
[241] Rollefson and Simmons, "Life and Death at ʿAin Ghazal," 43.

thirty to forty centimeters in height and possess fewer anatomical details. [242] In cache 1,

found in 1983, there were a minimum of twelve statues and thirteen busts, [243] although

Grissom states there 26 total statues which date to 6750 +/- 80 B.C. (uncalibrated). [244] Of

the busts there was a female statue from the earlier group which was likely associated

with communal fertility. [245] In the first cache, the statues have only one head, rather than

the two-headed statues of cache 2, and the heads are wider. [246] They have round, bitumen

pupils in round and large eyes. [247] Their shoulders are sloped with demarcated waists;

their bodies are not as rectangular with somewhat curved torsos. Moreover, they have

arms and sometimes breasts and female genitals. [248] Further, they have designs and

painted stripes on their bodies. [249] These figurines are smaller than those of cache 2. [250]

In 1985, cache 2 was found, dating to 6570 +/- 110 B.C. (uncalibrated), including

fragments belonging to approximately seven different statues. [251] Five statues were

reconstructed, consisting of "two standing figures and three two-headed busts" and

additional fragments of two heads were found. [252] Rather than having stripes on their

bodies, some of cache 2's statues were "clothed" and also had applied cosmetics, with a

finger-painted pattern of textile on "skirts, trousers, and footwear." [253] In terms of

cosmetics, asphalt and "emerald green crystalline powder of dioptase" were utilized for

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[242] Rollefson and Simmons, "Life and Death at 'Ain Ghazal," 43.
[243] Rollefson and Simmons, "Life and Death at 'Ain Ghazal," 43.
[244] Grissom, "Neolithic Statues from 'Ain Ghazal: Construction and Form," *American Journal of Archaeology* 104, no. 1 (January 2000): 26, https://www.jstor.org/stable/506791.
[245] Rollefson and Simmons, "Life and Death at 'Ain Ghazal," 43.
[246] Grissom, "Neolithic Statues from 'Ain Ghazal," 28.
[247] Grissom, "Neolithic Statues from 'Ain Ghazal," 28.
[248] Grissom, "Neolithic Statues from 'Ain Ghazal," 28.
[249] Grissom, "Neolithic Statues from 'Ain Ghazal," 28.
[250] Grissom, "Neolithic Statues from 'Ain Ghazal," 28.
[251] Grissom, "Neolithic Statues from 'Ain Ghazal," 26-7.
[252] Grissom, "Neolithic Statues from 'Ain Ghazal," 26-7.
[253] Rollefson and Simmons, "Life and Death at 'Ain Ghazal," 43.

eye makeup and irises. [254] Although two-headed statues are present in later segments of the Neolithic and later periods, this representation is unusual in the PPNB.[255] The features of the heads in cache 2 are similar to the plaster skull found at ʿAin Ghazal in 1988 although chronologically close to the statuary.[256] They possess rectangular heads with pointed chins and diamond shaped bitumen pupils. [257] In regards to body features, they have rectangular bodies, flat torsos, no arms, no sexual features, no body paint, and are larger in size than cache 1's figurines. [258]

Additionally, there are features shared by statues in caches one and two. These features include a recessed brow, shallow depth, and flat back. [259] The recessed brow potentially indicates the inclusion of a wig or headdress formed from a different material. [260] The statues from both caches underwent a similar and complicated creation process as well. [261] Fresh reeds were used as armatures, which is the underlying framework onto which the statue was molded.[262] This conclusion was based on impressions on the fragments of material and indicated that the bundles of fresh reeds used ranged from two to six centimeters long. [263] According to Rollefson and Simmons, a twig and reed "stickman" frame was used as a base onto which plaster was molded and details were then formed. [264] Both at Jericho and Nahal Hemar, plaster statuary fragments have similar internal indentations that could be markers of the same sort of creation process using reed

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[254] Rollefson and Simmons, "Life and Death at ʿAin Ghazal," 43.
[255] Grissom, "Neolithic Statues from 'Ain Ghazal," 27.
[256] Grissom, "Neolithic Statues from 'Ain Ghazal," 28.
[257] Grissom, "Neolithic Statues from 'Ain Ghazal," 28.
[258] Grissom, "Neolithic Statues from 'Ain Ghazal," 28.
[259] Grissom, "Neolithic Statues from 'Ain Ghazal," 28.
[260] Grissom, "Neolithic Statues from 'Ain Ghazal," 28.
[261] Grissom, "Neolithic Statues from 'Ain Ghazal," 44.
[262] Grissom, "Neolithic Statues from 'Ain Ghazal," 29.
[263] Grissom, "Neolithic Statues from 'Ain Ghazal," 29.
[264] Rollefson and Simmons, "Life and Death at ʿAin Ghazal," 43.

armatures.[265] The plaster utilized for the statuary is the same plaster as that used for three of the plastered skulls found at this site, furthering the connection between these two types of material culture associated with ritual.[266] The two categories of objects were also stylistically and chronologically similar.[267]

In terms of use, the statues were likely displayed standing upright. Grissom notes that the statues potentially stood on painted plastered floors, indicated by the fact that the pigments on the statue bases match those of the floors.[268] The construction of the busts reaffirms this, because the twig and reed armature of the full figures' legs would have "extended 15 to 20 centimeters beyond the feet of the statues" anchoring the statues into a plaster base.[269] A similar method was used for the busts, with the reed and twig frame extending beyond the bust itself to anchor into a base.[270] According to Rollefson and Simmons, both the full figures and busts were anchored to the floor.[271] It is likely that they were adorned with clothing, and wigs or headdresses, which would have made their appearance more realistic.[272] Rollefson and Simmons speculate that full figures represent the higher ranked segment of a two-tiered religious hierarchy. The larger statues, the full figures, "fulfilled more important and most likely public functions, while the busts represent more specific, perhaps kin-related functions."[273] A priesthood potentially existed to care for these statues and complete rituals.[274] Kuijt argues that ritual specialists would have had specialized knowledge about the creation of the plastered skulls as well

[265] Grissom, "Neolithic Statues from 'Ain Ghazal," 29-30.
[266] Grissom, "Neolithic Statues from 'Ain Ghazal," 32.
[267] Grissom, "Neolithic Statues from 'Ain Ghazal," 44.
[268] Grissom, "Neolithic Statues from 'Ain Ghazal," 43.
[269] Rollefson and Simmons, "Life and Death at 'Ain Ghazal," 43.
[270] Rollefson and Simmons, "Life and Death at 'Ain Ghazal," 43.
[271] Rollefson and Simmons, "Life and Death at 'Ain Ghazal," 43.
[272] Grissom, "Neolithic Statues from 'Ain Ghazal," 43.
[273] Rollefson and Simmons, "Life and Death at 'Ain Ghazal," 43.
[274] Rollefson and Simmons, "Life and Death at 'Ain Ghazal," 43.

as the large scale anthropomorphic statues, such as those from 'Ain Ghazal.[275] The excavators further state that the caches of statuary likely represented "the attainment of a particularly sophisticated kind of communal identity."[276] Additionally, the statues are similar in regards to construction as those found at Jericho potentially indicating a "cultural link" between these two sites.[277]

Not only are the statues from 'Ain Ghazal and Jericho similar to each other, they are also very similar to the plastered skulls. The statues represent a distinctive focus on the face compared to other parts of the body. The most detail is put into the facial features, especially the eyes. The recessed brow, indicative that some form of headgear was added to the statue, would have further brought emphasis to the head. These features are strikingly similar to the features of the plastered skulls from Jericho and 'Ain Ghazal. Specifically, the shape of the eyes, under-emphasized mouth, and shape of the nose are similar, suggesting a connection between these two artifact types. Further, both artifacts were constructed in a similar fashion including both being constructed with multiple layers of plaster. The similarities in artistic style and contemporaneity suggest a link in function as well. Because the large-scale statues were used in communal rituals, it seems quite likely that the plastered skulls were used in similar function. Both are manifestations of the changing world view of the time.

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[275] Kuijt, "The Regeneration of Life," 171.
[276] Rollefson and Simmons, "Life and Death at 'Ain Ghazal," 43.
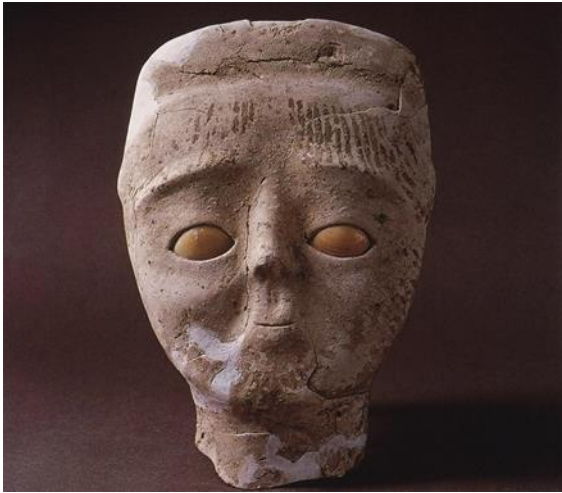[277] Rollefson and Simmons, "Life and Death at 'Ain Ghazal," 43.

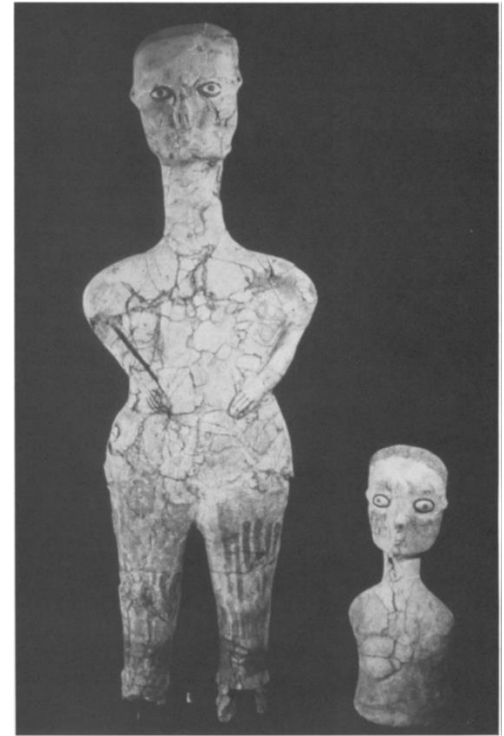Figure 9: Statuary head from Jericho (Courtesy of ARTSTOR, 41822003668090.fpx)

Figure 10: Statuary from 'Ain Ghazal (In Rollefson, Simmons, and Kafafi 1992, 467)

Figurines

While 'Ain Ghazal is more well-known for its large scale statuary, at this site there were also smaller figurines demonstrating another connection between plastered skulls, human activity, and other ritual objects. For example, all but one of the small human figurines found throughout the site were found with their heads detached from their bodies, including figurines of pregnant females. [278] Rollefson and Simmons suggest that the figurines were perhaps associated with a specific deceased person, due to the fact that both the figurines and all the deceased were decapitated. [279] Despite a likely

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[278] Rollefson and Simmons, "Life and Death at 'Ain Ghazal," 43; Rollefson and Simmons, "Neolithic 'Ain Ghazal," 392.

[279] Rollefson and Simmons, "Life and Death at 'Ain Ghazal," 43.

connection between these figurines and mortuary practices, most were not found in burial pits. [280]

Additionally, figures of pregnant women were present at the site, although the sex of the other figurines found was impossible to determine because of the stylistic features. [281] One of the pregnant female figurines was found in a burial context in which an infant was placed between the legs of an adolescent female. [282] This example, although not directly related to plastered skulls, is relevant for several other reasons. It connects an *in vivo* occurrence to the death of the infant and perhaps also the adolescent. A figurine bridges the gap between *in vivo* and post-mortem identity. Moreover, the burial itself perhaps reconstructed the circumstances in which both individuals died: during childbirth. Although this seems like an obvious conclusion, it is possible that the female was not in actuality the mother of the infant; caution is needed to not make unsupported ethnocentric assumptions. They may instead have been generalized figures after death, rather than retaining their individual properties and roles. In any case, the burial demonstrates a connection with figurines to both events in life and after death. Additionally, it further sets infants apart from the norm of mortuary ritual. Not only were infants often buried with their heads still attached to their bodies, but also different rules were applied in regards to figurines. Whereas none of the other types of figurines, the androgynous human figurines, were found in burial context the pregnant female figurine was. Different rules seem to have been applied to the infant; Rollefson and Simmons argue that because infants were not decapitated after death, they had not yet achieved the

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[280] Rollefson and Simmons, "Life and Death at 'Ain Ghazal," 43.
[281] Rollefson and Simmons, "Life and Death at 'Ain Ghazal," 41.
[282] Rollefson and Simmons, "Life and Death at 'Ain Ghazal," 41.

status of person or community member. [283] Also, if Rollefson and Simmons argue that infants did not attain community membership because they were not decapitated, it might follow that post-mortem headlessness denotes community membership.

[283] Rollefson and Simmons, "Life and Death at 'Ain Ghazal," 41.

Chapter 7: Figurines and Feasting: Human-faunal Associations

Finally, there is some overlap between animal bones and depictions found in ritual or special contexts and figurines or statuary from the PPNB. Animal figurines tend to be found in ritual locations during the PPNB.[284] According to Goring-Morris and Horwitz, in the Neolithic in general, it is possible that aurochs, rams, and sometimes wild boars symbolized power.[285] If these animals symbolized power, then it could be extended from power in life to power after death when present in funerary contexts. Cattle were especially prominent and potent; according to Rollefson and Simmons, "this emphasis on cattle figurines is a widespread phenomenon during the seventh millennium and perhaps may reflect a cultic association with this animal."[286] In some cases, animal figurines seem to be associated with hunting in terms of a type of sympathetic magic. For example, bovid figurines mostly in caches and pits, at both Çatalhöyük and 'Ain Ghazal, were "intentionally broken (maimed) or "killed" by the insertion of flint or obsidian blades that were stuck in their torso."[287] At 'Ain Ghazal specifically, there were two clay cattle figurines which had small blades inserted into their ribs and chest, in a sort of ritual killing or hunting magic.[288] This is an example of another connection, possibly perceived by the people of the time, between the figurines and reality, which further demonstrates the point that figurines were connected to rituals and events that in actuality. It is pertinent to note that this figurine also pertains to death.

Many interesting animal deposits come from Kfar HaHoresh. For example, at this site there were limbs and crania purposefully placed in the shape of an animal. There

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[284] Goring-Morris and Horwitz, Funerals and Feasts, 915.
[285] Goring-Morris and Horwitz, Funerals and Feasts, 915.
[286] Rollefson and Simmons, "Life and Death at 'Ain Ghazal," 43.
[287] Goring-Morris and Horwitz, Funerals and Feasts, 915.
[288] Rollefson and Simmons, "Life and Death at 'Ain Ghazal," 43.

were burials found in conjunction with animal remains, especially red fox bones, among

other correlations, such as pebbles, shells, flint caches, and lime fills.[289] A direct

connection between plaster skulls and animal remains comes in the form of KNH Homo

1, which was found in a cache between two plaster layers and in association with a

"headless gazelle carcass."[290] Adjacent to the back of the skull, there was a Byblos point

and fifteen to twenty centimeters down in pit there was a headless mountain gazelle. The

pit was sealed and capped with plaster, demonstrating a relationship between and the

importance of animals, plastered skulls and the use of plaster in general.[291]

Feasting

Feasting is another important component of animal associations and is

demonstrated clearly at Kfar HaHoresh. According to Goring-Morris and Horwitz,

"Feasts may serve a wide variety of goals such as personal aggrandisement, the forging

of links between individuals, communities, deities or ancestors, the creation of ties

between exchange partners and an occasion for exchanging durable goods, or as a

mechanism for the mobilisation of labour."[292] Feasting is a means of transforming

economic capital into symbolic capital.[293] In dispersing or even destroying one's own

material wealth, social prestige is gained in the process. Feasting can function as a

leveling mechanism and, simultaneously, distinguish certain individuals, which is

pertinent given the increasing population and possibly resulting increase in stress on the

community.[294] Feasting results in communal cooperation, coerced or otherwise, because

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[289] Goring-Morris and Horwitz, Funerals and Feasts, 904.
[290] Goren, Goring-Morris and Segal, "The Technology of Skull Modelling in the Pre-Pottery Neolithic B," 675.
[291] Goring-Morris and Horwitz, Funerals and Feasts, 905.
[292] Goring-Morris and Horwitz, Funerals and Feasts, 911.
[293] Goring-Morris and Horwitz, Funerals and Feasts, 911.
[294] Goring-Morris and Horwitz, Funerals and Feasts, 911.

of the large amount of time and labor that is required to prepare for a communal feast.[295]

Feasting is often connected to caching, another trend of the PPNB. [296]

     The *Bos Pit* at Kfar HaHoresh provides an interesting and clear example of feasting and its association with headlessness and mortuary practices. First, a pit was dug down into the ground and flat stones, a broken muller, and a core were placed at the base. Then 358 animal bones were placed in the pit, with 356 of them being partially articulated aurochs bones. Above the bones there was soil, a limestone slab and twelve angular stones. A flexed primary burial of a young adult male was subsequently placed atop that layer, with a lime plaster cap atop the burial. Later, a small hole was cut down into the plaster to remove the head from the burial and the hole was filled either post-depositionally or purposefully.[297]

     The bones found in the pit were predominantly of aurochs, meaning that they were not domesticated, but rather hunted.[298] Of the aurochs bones there were only some skull pieces and of those none included mandibles. The lack of skull pieces is likely connected to the overall practice of post-mortem skull removal and subsequent ritual use, such as bucrania from Çatalhöyük.[299] The bones were deliberately arranged and resulted from the same singular event.[300] Estimates indicate that 500 kilograms of the edible pieces of the aurochs, the meat and marrow, would have been provided from these animals, after the removal of innards and fat.[301] This meat fulfils the role of economic capital, which would become social prestige for the person organizing the event.

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[295] Goring-Morris and Horwitz, Funerals and Feasts, 911.
[296] Goring-Morris and Horwitz, Funerals and Feasts, 914.
[297] Goring-Morris and Horwitz, Funerals and Feasts, 906.
[298] Goring-Morris and Horwitz, Funerals and Feasts, 908.
[299] Goring-Morris and Horwitz, Funerals and Feasts, 910, 914.
[300] Goring-Morris and Horwitz, Funerals and Feasts, 910.
[301] Goring-Morris and Horwitz, Funerals and Feasts, 910-11.

The association between feasting and the headless burial is striking; it contributes to the overarching idea that the head, or lack thereof, was important in the worldview of PPNB people, as well as in terms of communal rituals. These practices are clearly connected, lending to the idea that the removal of the head was significant in a communal sense. Moreover, because feasting acts as a leveling mechanism, and given the clear connection between headless burial and feasting it is quite likely that the removal of skulls and subsequent modelling functioned, in part, as a leveling mechanism, or in conjunction with practices that accomplished this.
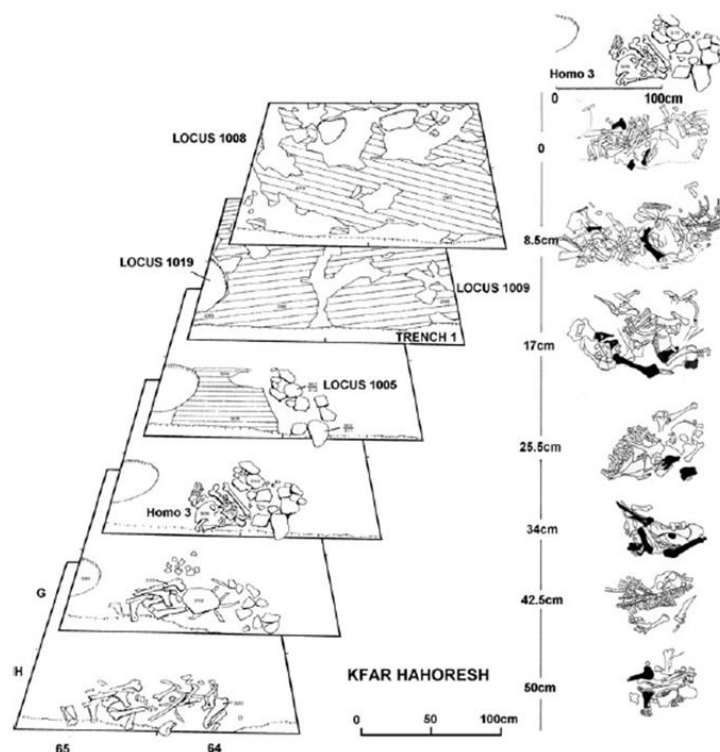

Figure 3. Isometric drawing of the 'Bos pit' showing the location of the human burial (Homo #3) and associated cappings and Bos bones at different depths in the pit (depths are relative to the top of the pit). Femora, on which the MNI count is based, are shown in black; articulated vertebrae with dark shading; stones are lightly shaded.

Figure 11: Drawing depicting *Bos* Pit (In Goring-Morris and Horwitz 2007, 907).

Chapter 8: Discussion and Conclusion

The main components discussed in the chapters above all indicate a changing worldview and changing perspective on humans' view of themselves in this world during the Pre-Pottery Neolithic Levant. Increasing sedentism and domestication in the PPN Levant led to changes in societal organization to which people needed to adapt. Social structures that had worked for mobile groups in the Epipaleolithic were no longer as effective for the villagers of the Pre-Pottery Neolithic. Sedentism and domestication produced changes, to which the members of the community adapted. The practices discussed above, such as skull modification after death and during life, anthropomorphic statuary with emphasized facial features, and headless anthropomorphic figurines, are all representations of concepts that began in the earlier Natufian, when these major changes were beginning to take place. The focus on the face is seen specifically in cases that removed crania had facial features modelled onto them and in the case of anthropomorphic statuary. The statues and busts from 'Ain Ghazal and Jericho had features that emphasized the face, particularly the eyes, while not providing much detail to the rest of the body. Furthermore, the stylistic similarities between these two artifact types indicate a similar function in representing communal identity. The developments to sedentary and agricultural lifeways are paralleled by increasingly complicated ritual practices, which use practices from previous time periods as scaffolding. While the emphasis on the head was clearly evident in the Natufian and PPNA, in the PPNB it becomes more of a focus on the face, with the facial features recreated in plaster.

In vivo skull modification is also connected to developments in the PPNB. Changes in how societies were organized could have resulted in increasing social stratification. That skulls were modified at an age too young for a person to have a voice in the matter indicates that some form of status is being imposed on these individuals. Similarly, the small percentage of removed crania that become plastered crania is indicative of a special treatment given only to a certain group. Shape plays an important role in both of these practices and the shape achieved through Cultural Cranial modification could have led to the cranium's plastering after death. CCM would further bridge the gap between life and death as well as reflect social changes of the time. As many scholars caution, a systematic study is needed of skull shape and *in vivo* modification in the other skulls before any definitive conclusions are drawn; however, the shape of the skull and the connection between CCM and the act of plastering skulls seems promising and worth more extensive research. The connection between practices in life and death is also evidenced by headless figurines. Both headless anthropomorphic figurines and animal figurines evidence the idea that these objects could represent and alter reality. The headless anthropomorphic figurines especially highlight the way figurines could connect life and death.

Removed crania could have functioned as a means of strengthening community ties in the wake of social changes. This is bolstered by the connections between the plastered skulls and other practices. The association between feasting and cranial removal at Kfar HaHoresh is a poignant example of this. Feasting often acts as a leveling mechanism and the example from Kfar HaHoresh represents a direct connection between

this practice and skull modelling. This particular practice would have strengthened communal ties, while increasing the status of certain individuals.

In summary, modelled crania, *in vivo* modification, statuary, figurines, and feasting are all related practices, with themes of focusing on the face and head, communal identity and community ties, bridging the gap between life and death. Increasing agriculture and sedentism led to increasing social complexity, which manifested in these symbolic practices and representations. These rituals should be viewed holistically, as interconnected parts of an evolving system, in order to maximize understanding of Pre-Pottery Neolithic peoples and their practices.

Bibliography

Arensburg, B. and Hershkovitz, I. "Artificial Skull "Treatment" in the PPNB Period: Nahal Hemar." People and Culture in Change: Proceedings of the Second Symposium on Upper Paleolithic, Mesolithic and Neolithic Populations of Europe and the Mediterranean Basin, Tel Aviv University, Israel, 1989.

Bar-Yosef, Ofer, Schick, Tamar, and Alon, David. "Nahal Hemar Cave." In *The New Encyclopedia of Archaeological Excavations in the Holy Land,* vol. 3, edited by Ephraim Stern, 1082-1084. Israel: The Israel Exploration Society & Carta, The Israel Map & Publishing Company, Limited, 1993.

Bonogofsky, Michelle. "Including Women and Children: Neolithic Modeled Skulls from Jordan, Israel, Syria and Turkey." *Near Eastern Archaeology* 67, no. 1 (2004): 118-119.

Bonogofsky, Michelle. "Reassessing "Dental Evulsion" in Neolithic Plastered Skulls from the Levant Through the Use of Computed Tomography, Direct Observation, and Photographs." *Journal of Archaeological Science* 29 (2002): 959-964. doi:10.1006/jasc.2001.0792.

Croucher, Karina. "Keeping the dead close: Grief and Bereavement in the Treatment of Skulls from the Neolithic Middle East." *Mortality* 23, no. 2 (2018): 103-120. https://doi.org/10.1080/13576275.2017.1319347.

Daems, Aurelie and Croucher, Karina. "Artificial Cranial Modification in Prehistoric Iran: Evidence from Crania and Figurines." *Iranica Antiqua* XLII (2007): 1- 21. doi; I().2143/IA.42.0.2017868.

Fletcher, Alexandra, Pearson, Jessica, Molleson, Theya, Abel, Richard, Ambers, Janet, and Wiles, Crispin. "Beneath the Surface: Imaging Techniques and the Jericho Skull." In *Regarding the Dead: Human Remains in the British Museum,* edited by Alexandra Fletcher, Daniel Antoine, and J.D. Hill, 91-102. London: British Museum, 2014.

Fletcher, Alexandra, Pearson, Jessica, and Ambers, Janet. "The Manipulation of Social and Physical Identity in the Pre-Pottery Neolithic Radiographic Evidence for Cranial Modification at Jericho and its Implications for the Plastering of Skulls." *Cambridge Archaeological Journal* 18, no. 3 (2008): 309-325. doi:10.1017/S0959774308000383.

Goren, Yuval, Goring-Morris, Nigel A., and Segal, Irena. "The Technology of Skull Modelling in the Pre-Pottery Neolithic B (PPNB): Regional Variability, the Relation of Technology and Iconography and their Archaeological Implications." *Journal of Archaeological Science* 28 (2001): 671–690. doi:10.1006/jasc.1999.0573.

Goring-Morris, Nigel and Horwitz, Liora Kolska. "Funerals and feasts during the Pre-Pottery Neolithic B of the Near East." A*ntiquity* 81 (2007): 902–919.

Grissom, Carol A. "Neolithic Statues from 'Ain Ghazal: Construction and Form." *American Journal of Archaeology* 104, no. 1 (Jan. 2000): 25-45, https://www.jstor.org/stable/506791.

Hebrew University of Jerusalem. "Main Page." Last modified November 2, 2011. http://khh.wiki.huji.ac.il/index.php/Main_Page.

Kenyon, Kathleen M. "Excavations at Jericho." *The Journal of the Royal Anthropological Institute of Great Britain and Ireland* 84, no. ½ (Jan-Dec. 1954): 103-110. https://www.jstor.org/stable/2844004.

Kuijt, Ian. "Place, Death, and the Transmission of Social Memory in Early Agricultural Communities of the Near Eastern Pre-Pottery Neolithic." In *Social Memory, Identity, and Death: Anthropological Perspectives on Mortuary Rituals,* edited by Meredith S. Chesson, 2001, 80-99.

Kuijt, Ian. "The Regeneration of Life: Neolithic Structures of Symbolic Remembering and Forgetting." *Current Anthropology* 49, no. 2 (April 2008): 171-197. http://www.jstor.org/stable/10.1086/526097.

Lorentz, Kirsi O. "The Malleable Body: Headshaping in Greece and the Surrounding Regions." *Hesperia Supplements* Vol. 43 (2009): 75-98. https://www.jstor.org/stable/27759958.

Lorentz, K.O. "Marking Identity through Cultural Cranial Modification within the First Sedentary Communities (Ninth to Eighth Millennium BCE) in the Near East: Tepe Abdul Hosein, Iran." *International Journal of Osteoarchaeology* 27 (2017): 973-983. DOI: 10.1002/oa.2609.

Pearson, Mike Parker. *The Archaeology of Death and Burial.* College Station: Texas A&M University Press, 2000.

Rollefson, Gary O. and Simmons, Alan H. "Life and Death of 'Ain Ghazal." *Archaeology* (Nov/Dec 1987): 38-45.

Rollefson, Gary O., Simmons, Alan H., and Kafafi, Zeidan. "Neolithic Cultures at 'Ain Ghazal, Jordan." *Journal of Field Archaeology* 19, no. 4 (Winter, 1992): 443-470. https://www.jstor.org/stable/530427.

Schmandt-Besserat, Denise. "The Plastered Skull." In *Excavation Reports 3: Symbols at 'Ain Ghazal*, edited by Denise Schmandt-Besserat, 215-245. Berlin, Yarmouk University, 2013. http://sites.utexas.edu/dsb/ain-ghazal/.

Schulting, Rick J. "Mesolithic Skull Cults?" Presented at *Ancient Death Ways: Proceeding of the Workshop on Archaeology and Mortuary Practices*, Uppsala, May 16-17, 2013.

Simmons, Alan H. *The Neolithic Revolution in the Near East: Transforming the Human Landscape.* Tuscan: University of Arizona Press, 2010.

Simmons, Alan H., Boulton, Ann, Butler, Carol Roetzel, Kafafi, Zeidan, Rollefson, Gary, Pozorski, Thomas, Pozorski, Shelia et al. "News and Short Contributions." J*ournal of Field Archaeology* 17, no. 1 (Spring, 1990): 107-121. https://www.jstor.org/stable/530401.

Simmons, Alan H. and Rollefson, Gary O. "Neolithic 'Ain Ghazal (Jordan): Interim Report on the First Two Seasons, 1982-1983." *Journal of Field Archaeology* 11, no. 4 (Winter, 1984): 387-395. https://www.jstor.org/stable/529317.

Strouhal, Eugen. "Five Plastered Skulls from Pre-Pottery Neolithic B Jericho: Anthropological Study." *Paléorient* 1, no. 2 (1973): 231-247. https://doi.org/10.3406/paleo.1973.4169.

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Hanah Romsburg