The Living Dead

A Diachronic Survey and Analysis of Head Treatments from the Epipaleolithic to the Early Bronze Age in Southwest Asia

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Introduction

Humans in prehistoric Southwest Asia treated the head in a variety of meaningful ways for nearly 20,000 years. Complex hunter-gatherer cultures from this region were the first to transition into sedentism and agriculturally based lifeways. The following work is concerned with identifying ways in which the human head was treated by these diverse Southwest Asian cultures throughout the *longue durée* of the Epipaleolithic into the Early Bronze Age (c. 23,500-4,000 cal BP). Comparing aspects of head treatments diachronically and geographically allows for an analysis of possible correlating trends, innovations, and transformations. These changes are viewed from the perspectives of 100 archaeological sites through 25 categories of head treatments from five Southwest Asian regions. Cultural significance of the head may be evidenced primarily from mortuary practices, human-animal associations, and anthropomorphic imagery discovered in over a century of archaeological research in the region. Treatments of the head may provide insight into concepts related to identity, aesthetics, symbolism, ritual, emotion, and mortality for these prehistoric cultures. Concepts of which continue to hold relevance for present cultures.

Following a review of pertinent scholarship regarding the 25 categories selected (Tab. 99) and methodology employed for analysis, the findings are presented and diachronically discussed via five major classifications of head treatments with examples from sites which illustrate various treatments in the current study. Not every site in the database is included in the discussion of findings, but a summary of head treatments for all sites in the database is provided (Appendix). This may allow for further intrasite, regional, and chronological analysis. The current study is concerned with evidence for the practice of a given head treatment at a particular site and not the minimum number of individuals (MNI) involved in a category. An individual-based analysis is beyond the scope of this work, but a MNI table for sites included in the database is provided for further research (Appendix).

	Head Treatment	Summary Description	Example Sites
	Burial Site Treatments		
1.	Head Orientation	*head orientations of articulated and/or acephalous skeletons specified in the literature; orientation of separated skulls/crania*	Hakemi Use; Tell Sabi Abyad; Jericho
2.	Headrests	*stones, clay, or perishable materials placed under the skull to elevate the head*	Ohalo II; Hayonim Cave
3.	Head Markers	*maṣṣeboth, stones, bones, horns, or other objects used to mark the location of skulls in articulated, acephalous, and separated skulls/crania burials*	Kharaneh IV; Zahrat adh-Dhra‘ 2; Azraq 18
4.	Charnel Houses	*entire structures or designated areas of structures used for processing of human corpses and/or secondary burials*	Çayönü; Shkārat Msaied; Abu Hureyra; Bouqras
	Skull Removal		
5.	Acephalous Skeletons	*postcranial remains of individuals whom underwent skulls/crania removal or movement*	Jerf el-Ahmar; Çatalhöyük;

			Nevalı Çori
6.	Separated Skulls	*skulls which were intentionally removed from cephalic extremities to undergo display and/or burial (isolated & cached); includes decorated, pigmented, and modeled skulls*	Jericho; WF16; Tell Aswad; Çayönü; Çatalhöyük
7.	Separated Crania	*crania which were intentionally removed from cephalic extremities to undergo display and/or burial (isolated & cached)*	Jericho; Tell Qaramel; Nevalı Çori; Eilat
8.	Skulls/Crania Caching	*skulls and/or crania found buried together*	Qermez Dere
9.	Skulls/Crania Movement	*skulls and/or crania found moved or arranged, which may or may not be related to the custom of skull removal*	Ba'ja; Urjat el-Mehed; Bab edh-Drah'
10.	Mandibulae Burials	*intentionally deposited mandibulae (isolated & cached)*	Tell Sheikh Hassan
11.	Skull Fragments	*large and small fragments of skulls and crania*	Tell Qarassa North
Skull Modifications			
12.	Artificial Cranial Modification (ACM)	*in vivo shaping of the cranium via wrapping, cradle boarding, or other methods*	Byblos; Choga Sefid; Jericho
13.	Burning	*use of fire regarding skulls*	Mylouthkia
14.	Defleshing	*postmortem removal of skull tissue with stone tools*	Tell Qaramel; Çatalhöyük
15.	Head Decorations	*decoration of the head with bones, headdresses, shells, beads, horns, fabrics, etc*	el-Wad; Eynan; Boncuklu
16.	Skull Pigmentation	*postmortem application of pigment on a skull*	Çatalhöyük
17.	Modeled Skulls	*postmortem modeling facial features on a skull or cranium with plaster or other materials*	Jericho, Tell Aswad
18.	Perforated Holes	*holes pierced or drilled into cranial elements*	Kfar HaHoresh
Animal Association			
19.	Animal Association	*association of animal bones, horns, or imagery in relation to the human head*	Kfar HaHoresh; Göbekli Tepe
Anthropomorphic Imagery			
20.	Masks	*masks of stone, bone, or other materials*	Nahal Hemar
21.	Statuary	*statues which may depict head treatments*	Göbekli Tepe
22.	Figurines	*anthropomorphic figurines which may depict head treatments*	Çatalhöyük; Hakemi Use
23.	Carvings	*carvings of various sizes and materials which may depict head treatments*	Tell Qarassa; Peqi'in Cave
24.	Engravings	*engravings upon stone, bone, or other materials which may depict head treatments*	Jerf el-Ahmar; Hacılar
25.	Paintings	*paintings upon structures and/or artifacts which may depict head treatments*	Çatalhöyük; Domuztepe

Tab. 99. Summary of the 25 head treatments in the current study.

Literature Review (4,515 total words)

Burial Site Treatments (BST)

Aspects of head treatment designated as BST in the present study are often included within wider discussions of mortuary practices, such as Binford's *Mortuary Practices: Their Study and Their Potential*, who was relatively dismissive of symbolic and/or spiritual 'propositions' for head orientations and instead gravitated towards a social-hierarchical explanation.[1] *Mortuary Practices: Their Social, Philosophical-Religious, Circumstantial, and Physical Determinants* was a later and more integrative survey in which Carr challenged the representationist paradigm of social position in favor of 'philosophical-religious factors' for orientation.[2] The cross-cultural ethnographic surveys by Binford and Carr did not include Southwest Asian cultures but may have been influential, as both social standing (i.e. age) and symbolism regarding 'sunset and sunrise and thoughts of death and rebirth' were suggested by Akkermans for head orientations in *Burying the Dead in Late Neolithic Syria*.[3]

Descriptions of headrests are even less common in excavation reports than head orientations, but 'pillowing' is described in a brief survey of Epipaleolithic-PPNB mortuary practices *Different Strokes for Different Folks* by Goring-Morris and Belfer-Cohen.[4] A large stone, slabs of stone, or cairns near the head were used to mark the location of Late Epipaleolithic burials, as detailed in *Death, Ritual, and Natufian Social Structure* by Byrd and Monahan.[5] Kuijt's *Negotiating Equality through Ritual* suggested that individual stones or cairns were used to mark the location of the skull for later removal.[6] However, Webb and Edwards proposed general location awareness as sufficient for the marking of burials in *The Human Skeletal Remains and Their Context*, a discussion of burial types at Late Natufian Wadi Hammeh 27.[7] Pierced stone mortars from a burial area were interpreted as serving both as tombstones and indicators of belief regarding Natufian afterlife in Stekelis and Yizraeli's preliminary report on *Excavations at Naḥal Oren*.[8] *Different Strokes for Different Folks* interpreted these mortars as a method 'to channel libations to the dead.'[9] This theory may garner further support from the earliest archaeological evidence for beer brewing, which occurred at a funerary area in *Fermented Beverage and Food Storage in 13,000y-Old Stone*

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[1] Lewis Binford, 'Mortuary Practices: Their Study and Their Potential', *Memoirs of the Society for American Archaeology*, 25 (1971) Approaches to the Social Dimensions of Mortuary Practices, 6-29 (pp. 12-13, 22; Tab. 4).

[2] Christopher Carr, 'Mortuary Practices: Their Social, Philosophical-Religious, Circumstantial, and Physical Determinants', *Journal of Archaeological Method and Theory*, 2(2) (1995) 105-200 (pp. 157-165; Tab. 13-14).

[3] Head orientations at Tell Sabi Abyad were found usually to the east. Five out of ten adults, but only two of 24 children had western head orientations. Peter M.M.G. Akkermans, 'Burying the Dead in Late Neolithic Syria' in *Proceedings of the 5th International Congress on the Archaeology of the Ancient Near East Madrid, April 3-8 2006*, ed. by Joaquín Mª Córdoba et al. Actas del V Congreso Internacional de Arqueología del Oriente Próximo Antiguo, Vol. 3, (Madrid: Centro Superior de Estudios sobre el Oriente Próximo y Egipto, 2008) pp. 621-645, (p. 632).

[4] Nigel Goring-Morris and Anna Belfer-Cohen, 'Different Strokes for Different Folks: Near Eastern Neolithic Mortuary Practices in Perspective' in *Religion at Work in a Neolithic Society*, ed. by Ian Hodder, (New York: Cambridge University Press, 2014), pp. 35-57, (pp. 40-41, 47).

[5] Bryan Byrd and Christopher Monahan, 'Death, Ritual, and Natufian Social Structure', *Journal of Anthropological Archaeology*, 14(1) (1995), pp. 251-287 (p. 267; Tab. 3).

[6] Ian Kuijt, 'Negotiating Equality through Ritual: A Consideration of Late Natufian and Pre-Pottery Neolithic A Period Mortuary Practices', *Journal of Anthropological Archaeology*, 15(4) (1996), pp. 313-336, (pp. 322, 325).

[7] Stephen Webb and Phillip Edwards, 'The Human Skeletal Remains and their Context' in *Wadi Hammeh 27: An Early Natufian Settlement at Pella in Jordan*, ed. by Phillip C. Edwards, Culture and History of the Ancient Near East, Vol. 59, (Leiden: Brill, 2013), pp. 367-382, (p. 379).

[8] These artifacts are also described as stone pipes. Moshe Stekelis and Tamar Yizraeli, 'Excavations at Naḥal Oren: Preliminary Report', *Israel Exploration Journal*, 13(1) (1963), pp. 1-12, (pp. 11-12; Pl. 3B-C).

[9] Goring-Morris and Belfer-Cohen, 'Different Strokes for Different Folks', p. 40.

Mortars at Raqefet Cave, Israel by Liu et al.[10]

Like other BST, charnel houses contained regional variances and common themes. Benz in *Beyond Death* observed that burials were often found in northern areas of many charnel structures (e.g. Qermez Dere, Nevalı Çori, Abu Hureyra, Çayönü).[11] Özbek stated in *Culte des Cranes Humains a Çayönü*, that the chamber room skulls were charred, due to what Le Mort et al. in *Feu et Archéoanthropologie au Proche-Orient (Épipaléolithique et Néolithique)* suggested was an intentional conflagration at the final abandonment and burial of the 'Skull Building' charnel house at Çayönü.[12] However, differential charring of skulls was interpreted in *Village on the Euphrates* by Moore et al. as evidence for the accidental nature of a fire which caused the abandonment of a charnel room at Abu Hureyra.[13] In *Death, Fire and Abandonment*, Verhoeven referenced experimental research on the difficulties involved in burning loam/clay/mud buildings as evidence in support of intentionality regarding ritual abandonment for the 'Burnt Village' at Tell Sabi Abyad.[14] Verhoeven also discussed the charnel house at Bouqras as a possible parallel.[15] This proposal gained support by Merrett and Meiklejohn concerning Bouqras and they also suggested that the differential charring of skulls at Abu Hureyra may be cited as evidence of an accidental fire in accordance with Moore et al. if the intended result was cremation, but may be interpreted as a purposeful conflagration if intended result was the ritual death of the structure.[16]

Skull Removal (SR) and Skull Modification (SM)

Bocquentin et al. in *Headless but Still Eloquent!* compiled a database of 65 sites from the Epipaleolithic-PPNC/EPN that exhibited forms of SR with a focus on acephalous skeletons (Fig. 99), as opposed to the more widely studied separated skulls and crania.[17] Bocquentin et al. opens *Headless but Still Eloquent!* by listing the primary difficulties encountered by researchers of Neolithic mortuary practices, which include incomplete and/or biased reporting of graves, terminological discrepancies, fragmented and poorly preserved burials, and complexities of prehistoric mortuary practices. 'In order to avoid the difficulties' as those

[10] Li Liu et al, 'Fermented Beverage and Food Storage in 13,000y-Old Stone Mortars at Raqefet Cave, Israel: Investigating Natufian Ritual Feasting', *Journal of Archaeological Science: Reports*, 21 (2018), pp. 783-793.

[11] Marion Benz, 'Beyond Death: The Construction of Social Identities at the Transition from Foraging to Farming', in *The Principle of Sharing, Segregation and Construction of Social Identities at the Transition from Foraging to Farming,* ed. by Marion Benz, Studies in Early Near Eastern Production, Subsistence, and Environment, Vol. 14, (Berlin: ex oriente, 2010), pp. 249-276, (pp. 263-264; Note 25).

[12] Metin Özbek, 1988, 'Culte des Cranes Humains a Çayönü', *Anatolica* 15 (1988), pp. 127-137, (p. 129). Françoise Le Mort Françoise et al, 'Feu et Archéoanthropologie au Proche-Orient (Épipaléolithique et Néolithique): Le Lien avec les Pratiques Funéraires, Données Nouvelles de Çayönü (Turquie)', *Paléorient*, 26(2) (2000), pp. 37-50.

[13] Acephalous skeletons, single skull deposits, and skull caches were among the skeletal remains of 24 (MNI) individuals found (Trench B; Phase 8 Building; Room 3) in a charnel room at Abu Hureyra. A.M.T. Moore, Gordon Hillman and A.J. Legge, *Village on the Euphrates: From Foraging to Farming at Abu Hureyra*, (New York: Oxford University Press, 2000), pp. 205-206, 280-282; Fig. 8.16-17; 10.2; Tab. 10.2). A detailed burial table for Trench B can be referenced at <URL https://www.rit.edu/academicaffairs/abuhureyra/burial_tables.php> [Accessed Jan 16th 2020].

[14] Marc Verhoeven, 'Death, Fire and Abandonment: Ritual Practice at Late Neolithic Tell Sabi Abyad, Syria', *Archaeological Dialogues*, 7(1) (2000), pp. 46-65, (pp. 52-53).

[15] Verhoeven, 'Death, Fire and Abandonment', pp. 61-62

[16] Deborah Merrett and Christopher Meiklejohn, 'Is House 12 at Bouqras a Charnel House?' in *Faces From the Past: Diachronic Patterns in the Biology of Human Populations from the Eastern Mediterranean, Papers in Honour of Patricia Smith*, ed. by Marina Faerman et al, BAR International Series 1603, (Oxford: Archaeopress, 2007), pp.127-139, (pp. 135-136).

[17] Fanny Bocquentin, Ergul Kodas and Anabel Ortiz, 'Headless but still Eloquent! Acephalous Skeletons as Witnesses of Pre-Pottery Neolithic North-South Levant Connections and Disconnections', *Paléorient*, 42(2) (2016), pp. 33-52.

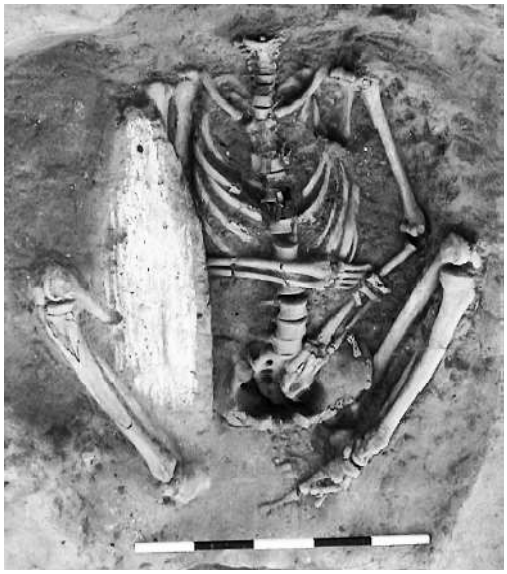


Fig. 99. Acephalous skeleton (Sk. 4593) from Çatalhöyük. Bocquentin et al (2016), p. 37; Fig. 3.

listed above, Bocquentin et al. focused on the 'well-documented' practice of skull removal.[18] However, all of the above difficulties apply to the study of SR, as may be evidenced via the 12 'clusters' of contexts for human remains in *Headless but Still Eloquent!*[19]

Difficulties of documentation in excavation reports include statements that several skulls were found, but do not specify a number or other pertinent contextual information. *Headless but Still Eloquent!* understandably attempts to avoid such generalities by studying 128 of the most well-documented acephalous skeletons from only 29 sites in order to 'parse the removal process itself.'[20] However, the relatively small sample size of sites and skull removal criteria in *Headless but Still Eloquent!* may lead to a skewed view of head treatments at individual sites and the region as a whole. For example, Bocquentin et al. stated that Eynan ('Ain Mallaha) was 'resistant to the prevalent custom of skull removal.'[21] However, an isolated skull with a complete burial was described in Bocquentin's *Pratiques Funéraires, Paramètres Biologiques et Identités Culturelles au Natoufien*.[22] In *Les Hommes de Mallaha (Eynan), Israël*, Perrot et al. described a secondary skull burial found in a building that may have served ritual purposes.[23] A human calvaria was found at Eynan in a non-burial possible ritualistic context, as described by Valla in *Aspects du Sol de l'Abri 131 de Mallaha (Eynan)*.[24] Bocquentin's *A Final Natufian Population* revised the list of burials at Eynan, but the burials listed above were not removed, nor were they listed in the revised table.[25] The exclusion of 'isolated bones from outside the sepulchral contexts' like those listed above may fit a predefined category, but provide a less than accurate view of head treatments at a particular site like Eynan.[26]

A more inclusive approach was applied in the current study in order to avoid such pitfalls and provide a wider panorama of head treatments on a site-by-site basis. Sites in the present study where therefore not excluded based on vagueness regarding the number of acephalous skeletons and/or separated skulls in archaeological reports. The criteria of what constitutes

[18] Bocquentin, Ergul and Ortiz, 'Headless but Still Eloquent!', p. 34.
[19] Ibid., p. 39; Tab. 2.
[20] Ibid., pp. 41-42; Tab. 3.
[21] Ibid., p. 47.
[22] An isolated skull (H17) was included with a complete burial (H19). Fanny Bouquetin, 'Pratiques Funéraires, Paramètres Biologiques et Identités Culturelles au Natoufien: Une Analyse Archéoanthropologique'(unpublished doctoral thesis, Université Bordeaux 1, 2003), pp. 252-253; Fig. 124.
[23] An isolated skull (H37) was discovered in *or* on the ground of a possibly ritually used building (Structure 1). Jean Perrot , Daniel Ladiray and Odile Soliveres-Massei, 'Les Hommes de Mallaha (Eynan), Israël', *Mémoires et Travaux du Centre de Recherche Français de Jérusalem,* Series 7, (Paris: Association Paléorient, 1988), p. 43.
[24] A '*calotte crânienne*' (H102) was discovered in a structure (Structure 131) with objects interpreted as possibly 'religieux.' François Valla, 'Aspects du Sol de l'Abri 131 de Mallaha (Eynan)', *Paléorient*, 14(2) (1988), pp. 283-296. Perrot, Ladiray and Soliveres-Massei, 'Les Hommes de Mallaha (Eynan)', Pl. 28.
[25] Fanny Bocquentin, 'A Final Natufian Population: Health and Burial Status at Eynan Mallaha', in *Faces From the Past*, ed. by Faerman et al, pp. 66-81, (p. 69; Tab. 1).
[26] Bocquentin, 'A Final Natufian Population', in *Faces From the Past*, ed. by Faerman et al, p. 68.

adequate documentation may vary and result in a nonrealistic representation of head treatments, including Skull Removal. A report entry of several skulls is admittedly vague, but it is not zero. Archaeological methods are continually developing and although past records may lack certain information today deemed relevant, they have value and should not be excluded no more than current methods which may be judged inadequate in the future.

In *The Tyranny of the Ethnographic Record, Revisited*, Belfer-Cohen and Goring-Morris agreed with the need for precise terminology raised in *Des Crânes et des Vautours ou la Guerre Oubliée* by Testart.[27] *Tyranny of the Ethnographic Record* laments the tendency to equate the practice of postmortem skull removal with decapitation and referenced previous criticisms from their comments published in Kuijt's *The Regeneration of Life*, where Belfer-Cohen and Goring-Morris stated, 'Decapitation is performed *in vivo*, whereas skull removal is a postmortem activity.'[28] However, the terminological issue raised by Testart primarily concerned the materials used for cephalic detachment and not necessarily the time in which the action was performed. Testart used '*décapitation*' to refer to the severing of the head with a metallic instrument, but used '*décollation*' to indicate a cutting of the neck in order to detach the head accomplished by stone or other materials.[29] Contextually, *Des Crânes et des Vautours* is concerned with the removal of heads as forms of war trophies and according to Testart, *décollation* could occur on a living or dead enemy.[30] However, *Headless but Still Eloquent!* noted the French distinction between *décapitation* for 'execution' and *décollation* for 'postmortem dismemberment.'[31] Bocquentin et al. thus reserved 'decapitation' to refer to either beheading or 'the active separation of the head from the neck on a fresh corpse,' the latter of which may be used for head-hunting or mortuary purposes.[32] Although English does not possess separate terms, adjectival descriptions of *antemortem decapitation* as 'cause of death' and *perimortem decapitation* performed 'soon after death' may suffice to distinguish the two practices. *Headless but Still Eloquent!* notes that although variances are plentiful, perimortem decapitation will evidence cutmarks on the cervical vertebrae located at the weakest part of the neck and antemortem decapitation will display cutmarks which 'are sharp and unidirectional.'[33]

The two forms of decapitation described above are distinguished from a method of cephalic removal performed after burial, when taphonomic processes allowed for a substantial deterioration of joints and a later hole was dug to locate and remove the skull or cranium (Fig. 99).[34] After removal, the first and perhaps the second cervical vertebrae were

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[27] Anna Belfer-Cohen and A. Nigel Goring-Morris, 'The Tyranny of the Ethnographic Record, Revisited', *Paléorient*, 35(1) (2009), pp. 107-108. Alain Testart, 'Des Crânes et des Vautours ou la Guerre Oubliée', *Paléorient*, 34(1) (2008), pp. 33-58.

[28] Belfer-Cohen and Goring-Morris, 'Tyranny of the Ethnographic Record', p.107; Note 1. Belfer-Cohen and Goring-Morris 'Comments' in Ian Kuijt,'The Regeneration of Life: Neolithic Structures of Symbolic Remembering and Forgetting', *Current Anthropology*, 49(2) (2008), pp. 171-197, (pp. 186-187).

[29] Testart, 'Des Crânes et des Vautours', p. 41.

[30] '*La décollation se pratique sur un ennemi mort, vivant, ou très peu de temps après une bataille*.' Ibid., p. 43.

[31] Bocquentin, Ergul and Ortiz, 'Headless but Still Eloquent!', pp. 36-37; Fig. 3; Note 2.

[32] Ibid., pp. 36-37.

[33] Decapitation is often evidenced with cutmarks on the C2 (axis) and C3 vertebrae.

[34] Various holes and later burial cuts may have facilitated postmortem skull removal, but stratigraphically verified pits solely for the purpose of skull/cranium retrieval were discovered in the 'Bos Pit' at Kfar HaHoresh (Locus 1005; Indiv. 19-1) and Çatalhöyük (North Area; Building 129; Sp. 77; F.3686; Sk. 20430). Nigel Goring-Morris and Liora Kolska Horwitz, 'Funerals and Feasts During the Pre-Pottery Neolithic B of the Near East', *Antiquity* 81(314) (2007), pp 902-919, (p. 906). Vered Eshed, Israel Hershkovitz and A. Nigel Goring-Morris , 'A Re-Evaluation of Burial Customs in the Pre-Pottery Neolithic B in Light of Paleodemographic Analysis of the Human Remains from Kfar HaHoresh, Israel', *Paléorient*, 34(1) (2008), pp. 91-103, (p.97; Tab. 2). Scott Haddow and Christopher Knüsel, 'Skull Retrieval and Secondary Burial Practices in



Fig. 99. Example of an acephalous burial *in situ* from 'Ain Ghazal. Croucher (????), p. 5; Fig. 1.

often attached.[35]

Postmortem skull removal may be accomplished by torsion or a stone blade with varying degrees of disturbance to the postcranial remains.[36] Postmortem torsionic removal may be observed from finds at Beidha described by Cauvin in *Les Premiers Villages de Syrie-Palestine du IXème au VIIème Millénaire av. J.-C* and separate examples of postmortem removal via torsion and cutting were described by Andrews et al. in *The Human Burials at Çatalhöyük*.[37]

Possible lines of symbolism and/or pragmatism regarding either torsion or stone tool removal are difficult to ascertain, but were not likely arbitrary. Likewise, the methods of decapitation and postmortem skull removal may have held symbolic and/or pragmatic distinctions. In order to determine however, the plausibility of either removal scenario many other contextual factors are needed for consideration, details of which are not provided in many burial excavation reports. Even when some details are provided, factors such as the dislocation of joints in postcranial remains may indicate postmortem skull removal, but a lack of dislocation or indications of cutmarks is not definitive evidence for decapitation.[38] Therefore, decapitation and postmortem skull removal are treated in the current study as dual

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the Neolithic Near East: Recent Insights from Çatalhöyük, Turkey', *Bioarchaeology International* 1(1-2), pp. 52-71, (pp. 57-59; Fig. 4, 6-8).

[35] The method of postmortem skull removal may contain attached C1 (atlas) and possibly C2 (axis) vertebrae.

[36] Postmortem skull removal (which in some instances was actually cranium removal) is the most common term to describe the practice and the introduction of further terminology may have the effect of creating further confusion and so the term is retained in the current study. However, in light of the discussion above concerning antemortem and perimortem decapitation, perhaps *postmortem decapitation* describing the 'removal of the cephalic extremity following burial' may be a more natural description even though 'decapitation' in general normally describes the removal of the entire skull and not only the cranium.

[37] Terminological issues and vagueness in reports from about a half century ago are evident. Based on the excavations of Kirkbride at Beidha, Cauvin stated that adult and adolescent burials were 'often found without their skulls' before explaining the torsion manner by which they were removed, '*Les sépultures d'adultes et d'adolescents sont souvent trouvées sans leurs crânes: des observations attentives concernant les vertèbres cervicales encore en place, parfois retournées, montrent que les crânes ont dû être détachés par une torsion habile et non pas simplement sectionnés*.' Jacques Cauvin, 'Les Premiers Villages de Syrie-Palestine du IXème au VIIème millénaire av. J.-C.,' (Lyon: Maison de l'Orient et de la Méditerranée Jean Pouilloux, 1978), pp. 1-161 (p. 130). Kirkbride stated that six adult burials were discovered, but the 20 children uncovered retained their skulls. The 'somewhat macabre' burial practices of 'decapitation of the dead and secondary burial beneath the house floors seem to have been the lot of the majority of adults found.' Diana Kirkbride, 'Beidha: An Early Neolithic Village in Jordan,' *Archaeology*, 19(3) (1966), pp. 199-207, (pp. 206-207; Fig. 12). Besides descriptions like 'often found' or 'the majority' of six burials (four to five?), the term 'decapitation' was used differently than was discussed above. While vagueness is not at issue, terminological issues persist in more recent and detailed reports concerning Çatalhöyük. Two examples of postmortem skull removal following a burial period via torsion (Building 1; F.29; Sk.1466) and a stone blade (South Area; Building 6; F.492; Sk.4593) were described as 'decapitation burials.' Peter Andrews, Theya Molleson and Başak Boz, 'The Human Burials at Çatalhöyük', in *Inhabiting Çatalhöyük: Reports from the 1995-99 Seasons*, ed. by Ian Hodder, (Cambridge: British Institute of Archaeology at Ankara, 2005), 261-278, (pp. 267-273; Fig. 11.8-15).

[38] Bocquentin, Ergul and Ortiz, 'Headless but Still Eloquent!', p. 37.

modalities resulting in separated skulls.

Once untethered, the skull may have received a number of treatments described below (e.g. display, pigmentation and/or modeling, secondary burial, caching, discard) and likely other usages not preserved for archaeological discovery. Though chronological and regional variances may be observed, the removal of the human skull and subsequent treatments thereof constituted a fairly ubiquitous mortuary custom in the otherwise highly variable ways in which Epipaleolithic and Neolithic cultures treated the dead in Southwest Asia. In *Beyond Death*, Benz states that, 'At least 283 Natufian and Pre-Pottery Neolithic skull burials are known.'[39] Bocquentin et al. later listed 255 found isolated skulls and crania in *Headless but Eloquent!*[40]

The issue of what constitutes skull or cranium removal receives much attention in *Headless but Still Eloquent!*, but this practice is expanded in the present study. Bocquentin et al. stated that SR decreased everywhere except the Southern Levant during the MPPNB-LPPNB, but 'secondary collective handling including skull displacement' already attested in the EPPNB continued.[41] The 'manipulations of skulls' via secondary handling may not qualify for SR as defined in *Headless but Still Eloquent!*, but constitutes a form of head treatment in the present study.[42] Bocquentin et al. described such skull treatments as 'a kind of pot-pourri' which may trivialize any symbolism concerning removing a human skull from one place to another.[43] Contemporaneous with the 'remembering and forgetting' work of Kuijt's *Regeneration of Life*, Chesson's *Remembering and Forgetting in Early Bronze Age Mortuary Practices on the South Eastern Dead Sea Plain, Jordan* discussed Bab edh-Drha' skulls often found on the left side of carefully arranged collective tombs (Fig. 99).[44]



Fig. 99. Shaft tomb A 69 from Bab edh-Drah' with skulls arranged on the left and postcranial bones collected upon a reed mat in the center. Ilan (2002), p. 95.

The elusive meaning(s) of skull removal has sparked several theories. This practice was first described by Kenyon as a 'cult of skulls' related to ancestor veneration in *Digging Up Jericho*.[45] Though there is a discrepancy regarding an exact total, a relatively large number of skulls and crania were discovered at Jericho in a variety of contexts, some of

[39] Benz, 'Beyond Death', p. 262.
[40] The 255 skulls and crania (Category Code A-D) does not include the 377 'pot-pourri' secondarily handled skulls and crania discovered with postcranial remains (Category Code F). Bocquentin, Ergul and Ortiz, 'Headless but Still Eloquent!', p. 39; Tab. 2.
[41] Bocquentin, Ergul and Ortiz, 'Headless but Still Eloquent!', p. 40.
[42] Ibid., p. 40.
[43] Ibid., p. 39; Tab. 2.
[44] Meredith Chesson, 'Remembering and Forgetting in Early Bronze Age Mortuary Practices on the South Eastern Dead Sea Plain, Jordan', in *Performing Death: Social Analysis of Funerary Traditions in the Ancient Near East and the Mediterranean*, ed. by Nicola Laneri, (Chicago: The University of Chicago, 2007), pp. 109-139, (pp. 117, 131; Fig. 6.3).
[45] Kathleen Kenyon, *Digging Up Jericho*, (London: Praeger, 1957), pp. 60-63, 84.

which were modified by pigment and/or plaster.[46] Nearly 50% of all Levantine skulls were found at Jericho, according to Nigro's *Beheaded Ancestors*.[47] Kenyon's 'skulls cult' in *Excavations at Jericho* as a form of ancestral veneration led to interpretations related to resource management. Cauvin related skull usage within the '*culte des ancêtres*' to hereditary transmission of agricultural parcels in *Les Premiers Villages*.[48] The ancestral cult interpretation was prominent in Bienert's *Skull Cult in the Prehistoric Near East*, but also included a fertility cult theory found to be lacking evidence in Garfinkel's *The Life Cycle of Pre-Pottery Neolithic B Plastered Skulls from the Southern Levant*.[49]

The ancestor cult was also understood to encompass a 'veneration of semimythical heroes' described by Goring-Morris in *The Quick and the Dead*.[50] The exclusion of heroines was indicative of equating ancestors with male elders, inherent in the ancestral veneration interpretation until a study of 61 plastered skulls in Bonogofsky's *Neolithic Plastered Skulls and Railroading Epistemologies* in which it was demonstrated that age and sex were not 'consistent factors in the selection of skulls for special treatment.'[51] The inclusion of women and children, as well as young and old males for skull plastering 'steers us towards a definition of ancestor worship, in its broadest sense as the material representation of the dead among the living, rather than the veneration of elderly males.'[52]



Fig. 99. Three rows of unmodified crania from Jericho (D 200.6c 1-10). Kenyon (1981), Pl. 36b, 213.

Unmodified skulls and crania, as well as those which were pigmented and/or modeled could receive caching treatment and were discovered in a variety of arrangements, such as circles, rows, and without apparent organization. All of which were described by Kenyon in *Excavations at Jericho* (Fig. 99-99).[53] Based on

[46] Nigro listed 45 skulls, but did not list single skull burials unless they were modified or found incorporated into architecture. Benz included single skull burials and listed 76 skulls. Lorenzo Nigro, 'Beheaded Ancestors: Of Skulls and Statues in Pre-Pottery Neolithic Jericho', *Scienze dell'Antichità*, 23(3) (2017), pp. 1-30, (pp. 1, 6, 13, 20, 30; Tab. 1-2). cf. Benz, 'Beyond Death', pp. 252, 254, 257-258; Tab. 1-3.

[47] Nigro, 'Beheaded Ancestors', p. 1.

[48] Kenyon, Kathleen, 'The Architecture and Stratigraphy of the Tell' in *Excavations at Jericho,* Vol. III, ed. by Thomas Holland, (London: British School of Archaeology in Jerusalem, 1981), p. 53. Cauvin, 'Les Premiers Villages', pp. 134-135.

[49] Hans-Dieter Bienert, 'Skull Cult in the Prehistoric Near East', *Journal of Prehistoric Religion*, 5 (1991), pp. 9-23. cf. Yosef Garfinkel, 'The Life Cycle of Pre-Pottery Neolithic B Plastered Skulls from the Southern Levant', in *Settlement, Survey and Stone: Essays in Honour of Gary Rollefson*, ed. by Bill Finlayson and Cheryl Makarewicz, (Berlin: ex oriente & London: Council for British Research in the Levant, 2014), pp. 145-158, (p. 153).

[50] Note the many references in *Life in Neolithic Farming Communities* for the 'widespread agreement' of the ancestor veneration and hero cult interpretation. Also, Goring-Morris suggests a 'cult of the founders' aspect to ancestral veneration. Nigel Goring-Morris, 'The Quick and the Dead: The Social Context of Aceramic Neolithic Mortuary Practices as Seen from Kfar HaHoresh' in *Life in Neolithic Farming Communities: Social Organization, Identity, and Differentiation*, ed. by Ian Kuijt, (New York: Kluwer Academic/Plenum Publishers, 2000), pp. 103-131, (pp. 107, 124, 127).

[51] Michelle Bonogofsky, 'Neolithic Plastered Skulls and Railroading Epistemologies', *Bulletin of the American Schools of Oriental Research*, 331 (2003), pp. 1-10, (p. 8).

[52] Alexandra Fletcher, 'Finding and Losing the Person Within: A Neolithic Plastered Skull from Jericho' in *Digging Up Jericho: Past, Present and Future*, ed. by Rachael Sparks et al, (Oxford: Archaeopress, 2020), pp. 93-102, (p. 99).

[53] Much of the skeletal remains from Jericho were studied as a part of the Anthropological Collection in Munich and were assigned concise numbers. The more lengthy Jericho numbers are references from Thomas Holland (ed.), *Excavations at Jericho,* Vol. III. A cache of six unmodified skulls (Munich: E11-16; Jericho: E 12.3 A-F) were found (Stage VIII; Trench NE; Square EI-II) in an open area near a building (Building I). Ten unmodified crania (Munich: D35-44; Jericho: D 200.6c 1-10) were found (Stage VIIIC; Trench I; Square DI) in rows about 5 m from a tower near a wall (Wall BS). Nine plastered skulls (Munich: D110-118; Jericho: D.612, 10.6k; Reg. 530-535, 2000-2001) were found (Stage XIV-XVIIA; Trench I; Square DI) in the space between two walls (Wall 56, 72). Kenyon suggested that the nine plastered skulls were from the EPPNB (Stage XVI) and intentionally discarded into the MPPNB (Stage XVIIA) fill. Kenyon, 'Architecture and

ethnographic examples and logistics of multiple skulls found buried together, Kuijt's theory in *Negotiating Equality through Ritual* suggested that 'removed skulls were cleaned and prepared for collective reburial as part of a community event' and in *Keeping the Peace*, Kuijt discussed whether skull caches derived from single or multiple households.[54] SR and related ritualistic practices were suggested in the influential scholarship of Kuijt to have helped facilitate social cohesion in *Negotiating Equality through Ritual* and ease societal tension in *Keeping the Peace*.[55]

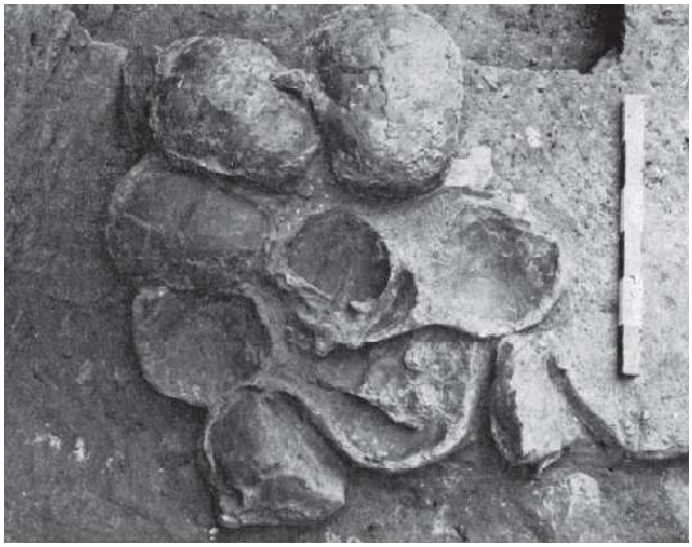


Fig. 99. Circular orientation of Jericho skulls (E 12.3 A-F). Kenyon (1981), Pl. 155a, 302c.

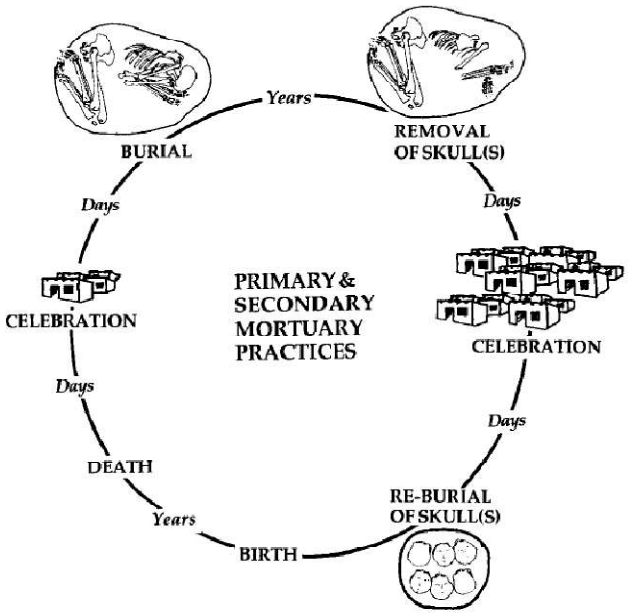


Fig. 99. Illustration of primary and secondary mortuary practices in Kuijt (1996), p. 318; Fig. 1. Note 'days' following the celebration and re-burial of skulls.

Later in *Regeneration of Life*, Kuijt argued that 'rather than being a reflection of ancestor worship,' these practices may have initially focused on the individual identity of the deceased only to later transform into shared memory of the dead as a communal linage.[56] Garfinkel argued that this theory is a 'diametrically opposite interpretation' of Kuijt's earlier works and implied a 'regeneration cult' with customs unknown in the PPNB.[57] After skull removal, Kuijt indeed expanded the timeline following community celebration from 'days' in *Negotiating Equality through Ritual* (Fig. 99) to 'days to years' in *Regeneration of Life* (Fig. 99).[58]

Stratigraphy' *Excavations at Jericho*, Vol. III, ed. by Thomas Holland, pp. 53, 77, 287; Pl. VII:c, VIIIa, 36a-b, 50a-b, 59a, 155a, 220-223, 239, 302b-c, 303. Gottfried Kurth and Olav Röhrer-Ertl, 'On the Anthropology of the Mesolithic to Chalcolithic Human Remains from the Tell es-Sultan in Jericho, Jordan', in *Excavations at Jericho*, Vol. III, ed. by Thomas Holland, pp. 436-437, 444-445.

[54] Kuijt, 'Negotiating Equality through Ritual', p. 326; 'Keeping the Peace: Ritual, Skull Caching, and Community Integration in the Levantine Neolithic' in *Life in Neolithic Farming Communities*, ed. by Ian Kuijt, pp. 137-160, (pp. 155-156).

[55] Kuijt, 'Negotiating Equality through Ritual', p.???; 'Keeping the Peace', p.???.

[56] Kuijt, 'Regeneration of Life', p. 172.

[57] Garfinkel, 'Life Cycle of Pre-Pottery Neolithic B Plastered Skulls', p.153.

[58] Kuijt, 'Negotiating Equality through Ritual', p. 318; Fig. 1. cf. Kuijt, 'Regeneration of Life', p.175; Fig. 2.

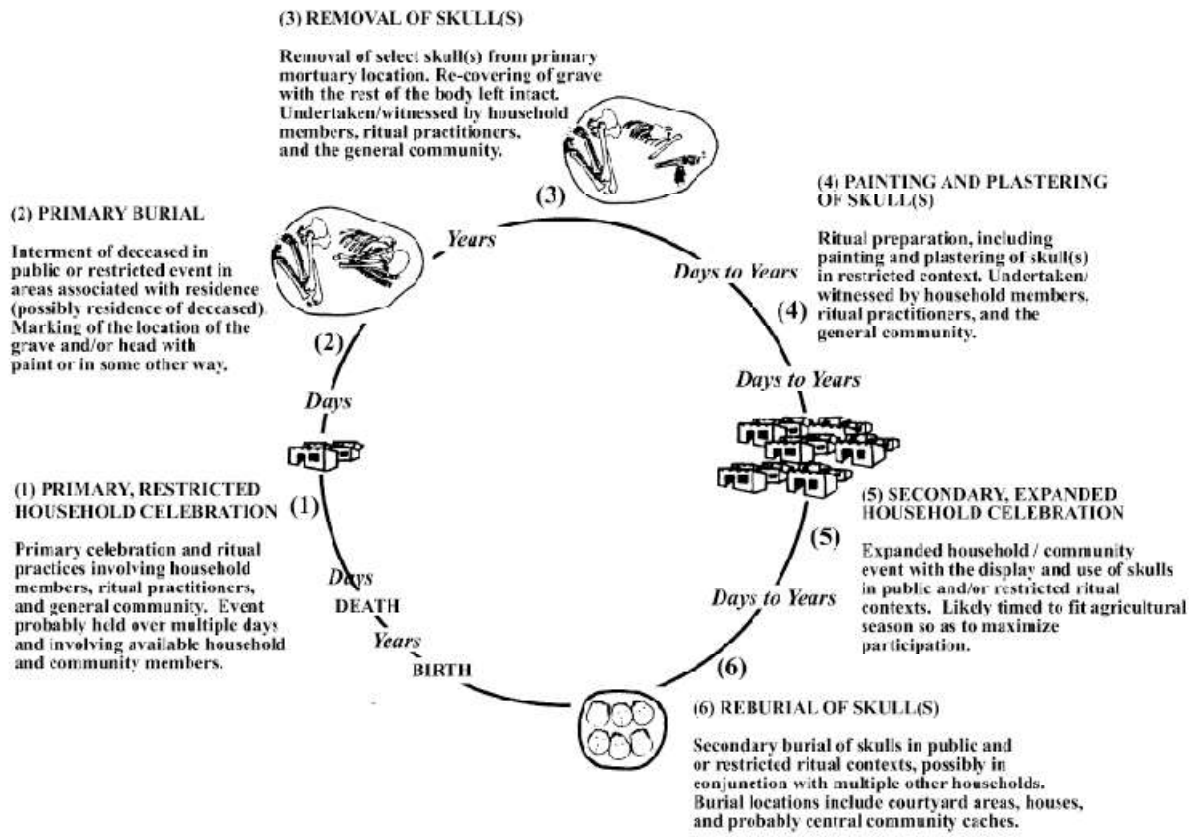


Fig. 99. Illustration of primary and secondary mortuary practices in Kuijt (2008), p. 175; Fig. 2. Note 'days to years' following the secondary, expanded household celebration and reburial of skull(s).

However, this does not demonstrate diametrically opposed concepts nor a full-fledged regeneration cult. The organic nature by which Neolithic mortuary practices developed allowed for multifaceted motivations and perhaps unanticipated consequences of later beliefs. Kuijt's overall theory of SR and circulation providing community cohesiveness and easing tensions via collective memory describes the effects of the practice, but these consequences may only be observed after the fact. Such pragmatic results may have not been the initial intention and something as common as the virtually universal emotion of human bereavement may have been originally responsible, as described in Croucher's *Keeping the Dead Close*.[59]

In *Negotiating Equality through Ritual*, Kuijt also argued for a 'deliberate standardization' in groups of three and detailed a number of examples in *Keeping the Peace*, though noting that there were some exceptions.[60] However, Benz demonstrated that 'this was not the case' in *Beyond Death*, referencing inaccurate citations from Kuijt concerning caches from Jericho.[61] While not a numerical standard of tri-caches, it is unlikely that the number of skulls cached together held little significance to those who participated in and/or performed the joint burial of separated skulls. Identity is key in Kuijt's interpretation, but only initially as successive generations became further removed from the lifetime of the deceased. It may be assumed that the initial impact of a skull on a community or household would change and

[59] Karina Croucher, 'Keeping the Dead Close: Grief and Bereavement in the Treatment of Skulls from the Neolithic Middle East', *Mortality*, 23(2) (2018), pp. 103-120.
[60] Kuijt, 'Negotiating Equality through Ritual', p. 328; 'Keeping the Peace', pp. 151-155; Tab. 6.1-2; Fig. 5.
[61] Benz, 'Beyond Death', pp. 251, 256, 261; Note 11, 20.



Fig. 99. Man from Cameroun with cranial trophy. Testart (2008), p. 45; Fig. 15.

develop as time passed and more skulls were added, thus creating a revered collective of the dead. Both Kuijt and Garfinkel denounce the ancestor cult theory, but perhaps a broadening of what is meant by the term may be constructive.[62] The dead comprised ancestors of all ages and genders, some of which were more readily remembered than others and continued to purposefully exist via skull representation.

Another theory on the purpose for skull removal also pertains to identity, but not the veneration of collective kith and kin. Rather, vanquished enemies were early considered a possible motivation for cephalic removal according to Kenyon and Tushingham in *Jericho Gives Up Its Secrets*.[63] This theory was expounded upon over a half century later by Testart in *Des Crânes et des Vautours* (Fig. 99).[64] Testart's theory received criticism from Kuijt's *Neolithic Skull Removal* for claiming to be 'pan-Neolithic,' but relying heavily on a 'Çatal Höyük driven model.'[65] Belfer-Cohen and Goring-Morris echoed this criticism in *Tyranny of the Ethnographic Record* and also criticized the 'overbearing importance of ethnographic analogies' in Testart's '*exposé*.'[66]

In *The Plastered Skulls*, Schmandt-Besserat also criticized dependence on supposed ethnographic parallels geographically far removed in favor of Ancient Near Eastern parallels 'some 5,000 years closer in time' and which 'belong to the same cultural tradition.'[67] With Testart, Schmandt-Besserat also suggested that separated heads may have been enemy trophies, but from the 'vastly different' circumstance of warfare, reaching its zenith in Assyrian gore and were thought to contain apotropaic and necromantic powers (Fig. 99).[68] The notion of

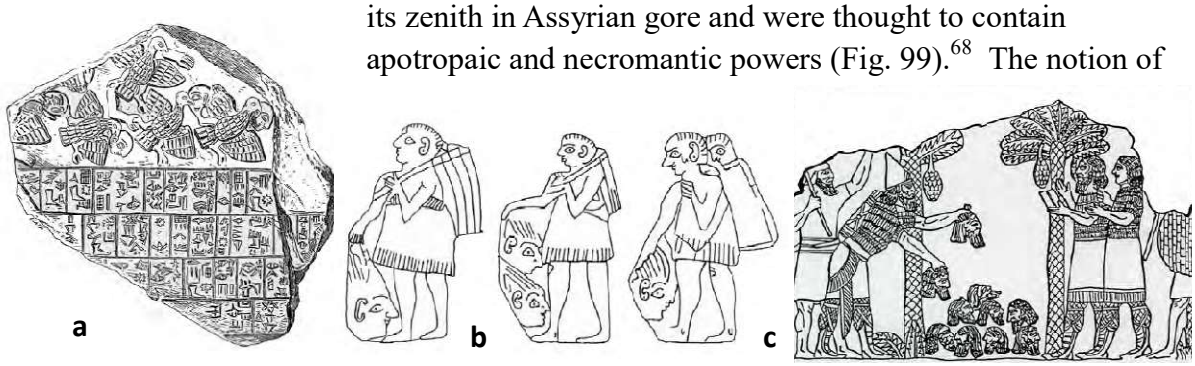


Fig. 99. (a) Fragment of the Stele of Vultures, (b) Eblaite soldiers with heads,(c) Assyrian soldiers counting heads. Schmandt-Besserat (2013), p. 245; Pl. 6.2.3.

[62] Kuijt, 'Regeneration of Life', pp.171-172. Garfinkel, 'The Cycle of Pre-Pottery Neolithic B Plastered Skulls', p.153.
[63] Kathleen Kenyon and A. D. Tushingham, 'Jericho Gives Up Its Secrets', *National Geographic*, 1 January 1953, pp. 853-870, (p. 870). Kenyon, *Digging Up Jericho*, p. 63.
[64] Testart, Des Crânes et des Vautours', pp. 33-58.
[65] Ian Kuijt, 'Neolithic Skull Removal: Enemies, Ancestors, and Memory', *Paléorient*, 35(1) (2009), pp. 117-120, (pp. 118-119).
[66] Belfer-Cohen and Goring-Morris, 'Tyranny of the Ethnographic Record', p. 107.
[67] Denise Schmandt-Besserat, 'The Plastered Skulls' in *'Ain Ghazal Excavation Reports: Symbols at 'Ain Ghazal*, Vol. 3, ed. by Denise Schmandt-Besserat, (Berlin: ex oriente, 2013), pp. 215-245, (pp. 231, 234-235).
[68] Ibid., (pp. 231-234).

one umbrella meaning for SR and related practices for all time periods and sub regions seems antiquated according to Belfer-Cohen and Goring-Morris, 'Through time and careful research, it has become increasingly clear that the iconographic vocabularies of the north and south Near Eastern regions differ considerably, which definitely bears on the meanings imbued in superficially similar appearances.'[69]

Skull modifications such as defleshing or plastering were postmortem treatments, but Artificial Cranial Modification (ACM) is the only modification included in the database which occurred *in vivo* (Fig. 99).[70] *Artificial Cranial Deformation in the Shanidar 1 and 5 Neandertals* was suggested by Trinkaus and later withdrew for Shanidar 5 in *A New Reconstruction of the Shanidar 5 Cranium* by Chech et al., whereas the validity of the theory for Shanidar 1 rests on a reassessment of the cranium.[71] While a Mousterian origin for the practice may be doubtful, *Artificial Cranial Deformation in the Proto-Neolithic and Neolithic Near East and its Possible Origin* by Meiklejohn et al. observed evidence for the custom on at least two Late Epipaleolithic individuals from Shanidar Cave.[72] Meiklejohn et al. detailed four forms of ACM (Fig. 99) and observed forms of the practice on a fragmentary cranium from Tepe Ghenil, as well as all of the specimens available for study from Ganj Dareh and the charnel house at Bouqras.[73] Theories pertaining to identity and social hierarchy for the practice were suggested in *Deformed Skulls at Tell Arpachiyah* by Molleson and Campbell, as an idealized

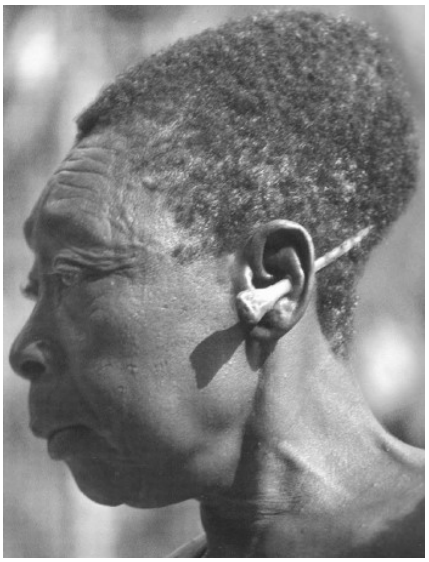


Fig. 99. Woman from Mangbetu, Africa with an artificially modified cranium. Croucher (????), p. 196 ; Fig. 16.4.

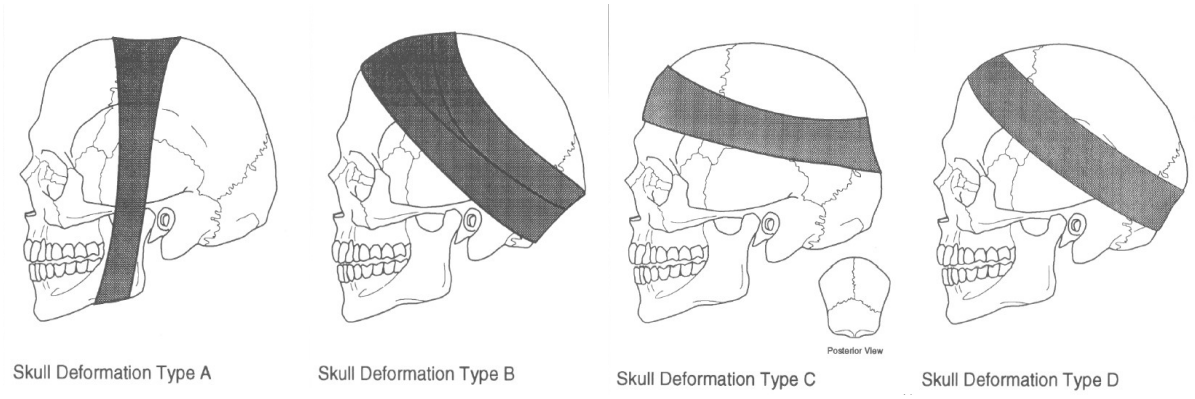


Fig. 99. Four types of ACM via wrapping. Meiklejohn et al (1992), p. 90; Fig. 2.

[69] Belfer-Cohen and Goring-Morris, 'Tyranny of the Ethnographic Record', p. 107.
[70] In the literature, ACM is also called Deformed Skulls, Cranial Deformation, Artificial Cranial Deformation, Cultural Cranial Modification, Intentional Cultural Cranial Modification Headshaping, Head Binding, Cradle-boarding, etc.
[71] Erik Trinkaus, 'Artificial Cranial Deformation in the Shanidar 1 and 5 Neandertals', *Current Anthropology*, 23(2) (1982), pp. 198-199. Mario Chech et al, 'A New Reconstruction of the Shanidar 5 Cranium', *Paléorient*, 25(2) (1999), pp. 143-146.
[72] The two individuals (SA295-A; SA337-A) were found (Layer B1) in a 'Proto-Neolithic burial site' which was a 'roughly similar age' with the Levantine Natufian. Christopher Meiklejohn et al, 'Artificial Cranial Deformation in the Proto-Neolithic and Neolithic Near East and its Possible Origin: Evidence from Four Sites', *Paléorient*, 18(2) (1992), pp. 83-97, (pp. 84, 89, 91; Tab. 4; Note 49).
[73] Meiklejohn et al, 'Artificial Cranial Deformation in the Proto-Neolithic and Neolithic', pp. 89, 91; Tab. 4.

version of those not involved with manual labor (i.e. carrying items on the head).[74] Issues of identity and idealization related to possible representations of ACM in anthropomorphic figurines (Fig. 99) were discussed in Daems and Croucher's *Cranial Modification in Ancient Iran* and claimed that 'the practice is likely to have had different meanings in different locations and contexts.'[75]

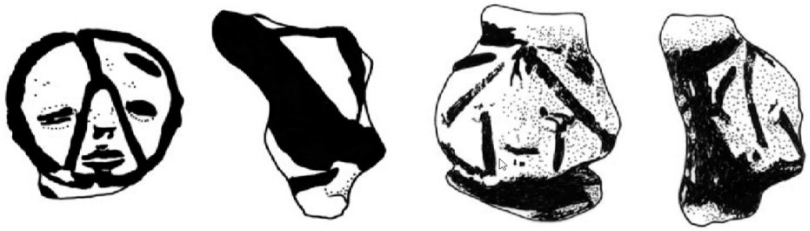


Fig. 99. Possible figurine representations of ACM from Choga Mish. Daems & Croucher (2007), p. 9; Fig. 4-5.

Animal Association (AA)

Perhaps not often considered in previous studies concerning the head, Animal Association was included as a main category of head treatment in the current work primarily due to the myriad examples of animal skeletal remains associated with human skulls and crania. The antiquity of the practice may be observed with the inclusion of Mammoth, rhinoceros, and fox skulls in some northern European Upper Paleolithic burials.[76] Pre-Natufian examples from Southwest Asia include a burial which contained two gazelle horns placed over a human skull, described in Muheisen's *The Epipalaeolithic Phases of Kharaneh IV* and from the first known instance of postmortem skull removal at 'Uyun al-Hammam.[77] Although *Headless but Eloquent!* stated that skull removal was 'not yet known in Geometric Kebaran contexts,' Maher's *2005 Excavations at the Geometric Kebaran Site of 'Uyūn al-Ḥammām, al-Kūra District, Jordan* described an acephalous skeleton found with grave goods, including a fox skull upon a layer of red ochre.[78] An adjacent burial contained a complete skeleton, a fragmented human skull with cervical vertebrae, and a headless fox skeleton.[79] It would seem that a movement and/or exchange of human and animal bones occurred. Excavators adduced that the human skull and headless fox skeleton belonged to the burial with the acephalous human skeleton and fox skull.[80]

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[74] Theya Molleson and Stuart Campbell, 'Deformed Skulls at Tell Arpachiyah: The Social Context', in *The Archaeology of Death in the Ancient Near East*, ed. by Stuart Campbell and Anthony Green, Oxbow Monograph 51, (Oxford: Oxbow Books, 1995), pp. 45-55, (pp. 51-52).

[75] Aurelie Daems and Karina Croucher, '
', *Iranica Antiqua*, 42 (2007), pp. 1-21, (p. 17).

[76] Francesco d'Errico and Marian Vanhaeren, 'Upper Palaeolithic Mortuary Practices: Reflection of Ethnic Affiliation, Social Complexity, and Cultural Turnover', in *Death Rituals, Social Order and the Archaeology of Immortality in the Ancient World: 'Death Shall Have No Dominion'*, ed. by Colin Renfrew, Michael Boyd and lain Morley, (Cambridge: Cambridge University Press, 2016), pp. 45-61, (p. 49).

[77] Mujahed Muheisen, 'The Epipalaeolithic Phases of Kharaneh IV' in *The Prehistory of Jordan: The State of Research in 1986*, ed. by Andrew Garrard and Hans-Georg Gebel, (Oxford: British Archaeological Reports 396, 1988), pp 353-367, (p. 358; Pl. 2). Lisa Maher et al, 'A Unique Human-Fox Burial from a Pre-Natufian Cemetery in the Levant (Jordan)', *PLoS ONE* 6(1) (2011), pp. 1-10, (p. 9).

[78] Bocquentin, Ergul and Ortiz, 'Headless but Still Eloquent!', p. 39. Actually, two acephalous skeletons (Burial A-B) were found (Grave I; Area H16) in the same grave, but erosion is likely the cause for the lack of a skull for one individual (Burial A). Lisa Maher, '2005 Excavations at the Geometric Kebaran Site of 'Uyūn al-Ḥammām, al-Kūra District, Jordan,', *Annual Department of the Antiquities of Jordan*, 51 (2007), pp. 263-272, (pp. 268-269). Maher et al, 'Unique Human-Fox Burial', p. 4.

[79] The adjacent grave (Grave VIII) was discovered 10 cm from Grave I. Maher et al, 'Unique Human-Fox Burial', pp. 4-5; Fig. 3.

[80] Ibid., p. 7.

Animal domestication is viewed as a hallmark of Neolithic innovation and a building block for current civilization, but further research has revealed that the human-animal relationship was more than one of mere sustenance. Peters et al. in *Subsistence and Beyond* demonstrated via a diachronic comparison of Neolithic sites, that animal symbolism was widespread for sedentary foragers and later agriculture-based communities.[81] Ingold's *The Animal in the Study of Humanity* questioned the human/animal dichotomy from the perspective of evolutionary behavior normally reserved for *Homo sapiens*.[82] This division was further questioned by Jones in *Considering Living-Beings in the Aceramic Neolithic of Cyprus*, 'The inclusion of animals into the category of humanity would blur the boundaries between domestication and slavery, hunting and homicide, carnivorous behaviour and cannibalism.'[83] This ontological turn from a predominately Western epistemological framework of dualism regarding humanity and nature allowed for an understanding of agency and communication between all living creatures, especially in the animism of hunter-gatherer and early agricultural societies described in Descola's *Beyond Nature and Culture*.[84]

The exact nature of this relationship is unknown, but the intertwinement between humans and animals extended to head symbolism, as evidenced in depictions from Göbekli Tepe and bucrania at Çatalhöyük described below. Human-animal entanglement was also demonstrated at Early Natufian Eynan. The abovementioned human calvaria described by Valla, was found together with a large fragment of a fox mandible, suggesting a significantly symbolic context.[85] Perrott et al. in *Les Hommes de Mallaha* described a pair of horn cores found adorning a human skull and another pair mixed with a disturbed burial.[86] In *Early Human Decapitation*, Kanjou et al. detailed the center of a circular structure near Tower 1 at PPNA Tell Qaramel that included an arrangement of two large stylized auroch horns over a pebbled-lined pit that contained four actual auroch bucrania.[87] Another structure contained a stone stela, white stone anthropomorphic figurine, human bones surrounded by rocks, and bull skeletons buried symmetrically on the north and south walls that may indicate, 'a ritual use of this building.'[88]

In *The 1992 Season of Excavations at the Pre-Pottery Neolithic B Settlement of Kfar Hahoresh*, Goring-Morris et al. described a red washed plastered skull found buried facing east in association with a headless gazelle skeleton.[89] Schwartz et al. described a possible

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[81] Joris Peters, Benjamin Arbuckle and Nadja Pöllath, 'Subsistence and Beyond: Animals in Neolithic Anatolia' in *The Neolithic in Turkey*, Vol. 6, ed. ed. by Mehmet. Özdoğan, Nezih Başgelen and Peter Kuniholm, (Istanbul: Archaeology and Art Publications, 2012), pp. 1-65, (p. 37).

[82] Tim Ingold, 'The Animal in the Study of Humanity' in *What Is an Animal?*, ed. by Tim Ingold (ed.), One World Archaeology 1, (London: Unwin Hyman, 1994), pp. 84-99.

[83] Paula Louise Jones, 'Considering Living-Beings in the Aceramic Neolithic of Cyprus', *Journal of Mediterranean Archaeology*, 22(1) (2009), pp. 75-99, (p. 77).

[84] Philippe Descola, *Beyond Nature and Culture*', trans. by Janet Lloyd, (Chicago: University of Chicago Press, 2013), pp. 129-143.

[85] A '*calotte crânienne*' (H102) was found (Structure 131) on a floor. Valla, 'Aspects du Sol de l'Abri 131', pp. 287-290.

[86] The burials (H25, H27) were found (Locus 10) with 'gazelle horns.' Perrot, Ladiray and Soliveres-Massei, 'Les Hommes de Mallaha (Eynan)', p. 59.

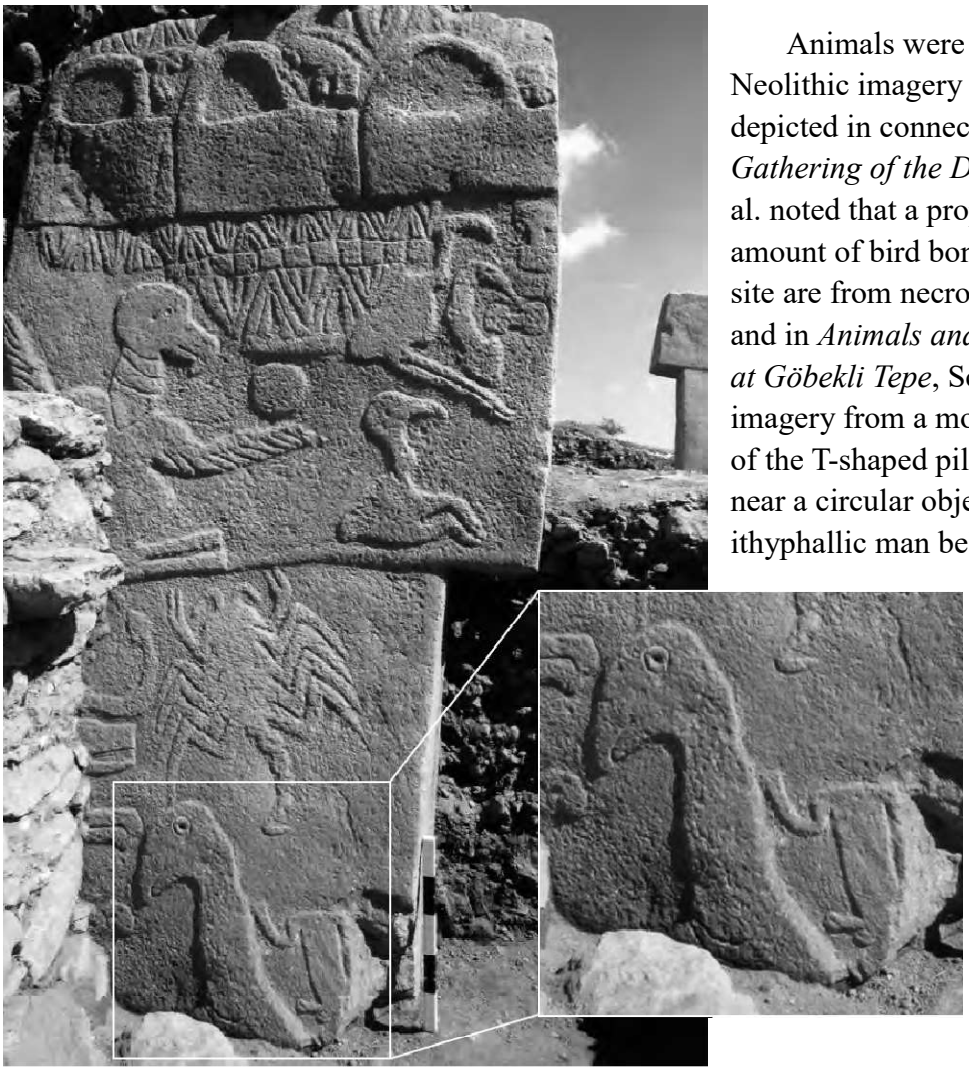
[87] Youssef Kanjou et al, 'Early Human Decapitation, 11,700–10,700 cal BP, within the Pre-Pottery Neolithic Village of Tell Qaramel, North Syria', *International Journal of Osteoarchaeology*, 25(5) (2013), pp. 743-752, (p. 745).

[88] Structure found in SW corner of Square K-4b,d/L-4a,c orientated on an E-W axis and measured 5 x 10 m. Kanjou et al, 'Early Human Decapitation', p. 745.

[89] The plastered skull (KHH Homo 1) was found (Trench I; Sq. H36; L1004) under a plastered surface associated with various lithics. Nigel Goring-Morris et al, 'The 1992 Season of Excavations at the Pre-Pottery Neolithic B Settlement of Kfar Hahoresh', *Journal of the Israel Prehistoric Society*, 26 (1994-5), pp. 74-121, (pp. 83-88, 105; Fig. 5-8). Israel Hershkovitz et al, 'Remedy for an 8500 Year-old Plastered Human Skull from Kfar Hahoresh, Israel', *Journal of*

sacrifice in *A Third-Millennium B.C. Elite Mortuary Complex at Umm El-Marra, Syria*, which contained human infant skeletons in mortuary association with equid skulls and headless equid skeletons.[90] The above examples serve to demonstrate the importance of Animal Association in connection with the head from the Epipaleolithic to the Early Bronze Age.

Anthropomorphic Imagery (AI)



Animals were often featured in Neolithic imagery and vultures were depicted in connection with death. In *Gathering of the Dead?*, Notroff et al. noted that a proportionally large amount of bird bones found at the site are from necrophagous species and in *Animals and a Headless Man at Göbekli Tepe*, Schmidt described imagery from a motif carved on one of the T-shaped pillars as a vulture near a circular object with a headless ithyphallic man below (Fig. 99).[91]

Fig. 99. Motif carved upon Pillar 43 from Enclosure D at Göbekli Tepe with close up of bird and acephalous ithyphallic man shown inset. Schmidt (2006), p. 39; Fig. 2.

Archaeological Science, 22(6) (1995), pp. 779-785. (maybe homo4?p.106)

[90] The infant skeletons were found (Tombs 1, 3; Installations A-D) with equid skulls and equid acephalous skeletons, which may suggest sacrifice. Glenn Schwartz et al, 'A Third-Millennium B.C. Elite Mortuary Complex at Umm El-Marra, Syria: 2002 and 2004 Excavations', *American Journal of Archaeology*, 110(4) (2006), pp. 603-641, (pp. 624-627, 632-634; Fig. 26-27).

[91] Jens Notroff, Oliver Dietrich and Klaus Schmidt, 'Gathering of the Dead? The Early Neolithic Sanctuaries of Göbekli Tepe, Southeastern Turkey', in *Death Rituals, Social Order and the Archaeology of Immortality*, ed. by Colin Renfrew, Michael Boyd and Iain Morley, pp. 77-78; Fig. 5.10. The motif was discovered in Enclosure D carved upon Pillar 43. Klaus Schmidt, 'Animals and a Headless Man at Göbekli Tepe,' *Neo-Lithics*, 2 (2006), pp 38-40, (pp. 39-40; Fig. 2).

The ‘heads’ of the anthropomorphic pillars at Göbekli Tepe are elongated, faceless, and somewhat rectangular. However, the elongated heads may have originally depicted faces, due to a similarly shaped and stylized pillar found with facial features at nearby Nevalı Çori in Hauptmann’s *Die Skulpturen des Frühneolithikums* (Fig. 99).[92] The vast majority of

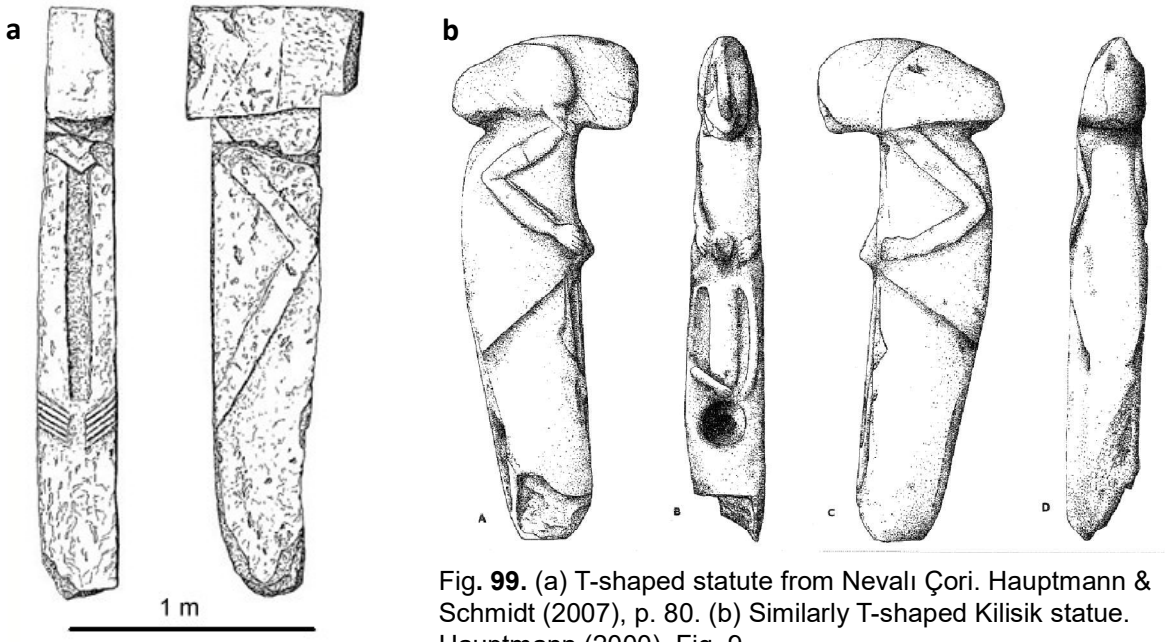


Fig. **99.** (a) T-shaped statute from Nevalı Çori. Hauptmann & Schmidt (2007), p. 80. (b) Similarly T-shaped Kilisik statue. Hauptmann (2000), Fig. 9.



Fig. 99. Selection of life-sized stone heads from Göbekli Tepe. Dietrich, Notroff & Dietrich (2018).

anthropomorphic sculptures at Göbekli Tepe are incomplete and stone heads were often found deposited next to the pillars (Fig. 99).[93] Dietrich in *Losing Your Head at Göbekli Tepe*, stated ‘The large number of broken off heads, and the regulated fractures, speak in favor of intentional fragmentation.’[94]

In addition to statuary, anthropomorphic figurines without heads or with elongated heads are included

[92] Harold Hauptmann and Klaus Schmidt, ‘Die Skulpturen des Frühneolithikums’, in *Badisches Landesmuseum Karlsruhe, Vor 12000 Jahren in Anatolien*: *Die ältesten Monumente der Menschheit*, (Stuttgart: Wissenschaftliche Buchgesellschaft, 2007), pp. 67-82, (p. 80). The pillar was found (Level III; Building 13C), designated as a *Kultgebäude*. Harald Hauptmann, ‘Ein Kultgebäude in Nevalı Çori’, in, *Between the Rivers and Over the Mountains: Archaeologica Anatolica et Mesopotamica Alba Palmieri Dedicata*, ed. by Marcella. Frangipane et al, (Rome: Gruppo Editoriale Internazionale, 1993), pp. 37-69; Fig. 16.

[93] At Göbekli Tepe, 34 out of 43 anthropomorphic sculptures are incomplete with the highest number of preserved fragments being the heads. Oliver Dietrich, ‘Losing Your Head at Göbekli Tepe’, *The Tepe Telegrams*, 5 May 2016, pp. 1-9, (p. 5), <https://tepetelegrams.wordpress.com/2016/05/05/losing-your-head-at-gobekli-tepe/> [Acessed 18th Feburary 2019].

[94] Dietrich, ‘Losing Your Head at Göbekli Tepe’, p. 5.

as a category of head treatment in the present study. In *Anthropomorphic Figurines of Predynastic Egypt and Neolithic Crete with Comparative Material from the Prehistoric Near East and Mainland Greece*, Ucko classified figurines into five typologies, which have served as a basis for future discussions: 1) cultic symbols of worship, 2) magic, 3) didactic, 4) entertainment, and 5) mortuary.[95] Though in strong disagreement with Ucko's distinction between cult and magic, Voigt applied these typologies to figurines in *Hajji Firuz Tepe, Iran* and later in *Çatal Höyük in Context*.[96] In both works Voigt only applied typologies 1-4 from Ucko, 'since all the Hajji Firuz (and Hassuna) figurines have been recovered from nonmortuary contexts.'[97] In *Çatal Höyük in Context*, the fifth typology from Ucko was not even referenced by Voigt who stated that, 'Ucko grouped his material into four functional classes that he defined on the basis of ethnographic accounts.'[98] The exclusion of mortuary typological discussion in *Çatal Höyük in Context* may be because figurines were not found in burial contexts until the last two seasons of excavation at Çatalhöyük, but the reason for exclusion was not stated.[99] Voigt reserved 'ruinous fresh breaks due to "killing" at the time of disposal' for cultic figurines.[100]
Prior to the discovery of figurines from the mortuary contexts of Ucko's fifth typology at Çatalhöyük, Meskell noted in *The Nature of the Beast* 'a striking parallel for the severed heads we find in the burial record can be found in the figurine assemblage.'[101]

A connection between the intentional breaking of anthropomorphic figurine heads and postmortem skull removal, was also suggested in Rollefson's *Ritual and Social Structure at Neolithic 'Ain Ghazal* who stated that since this figurine treatment 'parallels the postmortem treatment of so many of the MPPNB skeletons, this might be taken to reflect ritual death at the decease of the figurine's owner.'[102] Kuijt, in *Keeping the Peace* described decapitation as a 'common theme' regarding SR and anthropomorphic figurines.[103] Meskell's *Refiguring the Corpus at Çatalhöyük*, noted that 'most clay figurines whether sexed or not are missing heads,' but most stone figurines retain them and some were constructed with detachable heads.[104]

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[95] Peter Ucko, *Anthropomorphic Figurines of Predynastic Egypt and Neolithic Crete with Comparative Material from the Prehistoric Near East and Mainland Greece*, Royal Anthropological Institute Occasional Paper 24, (London: Andrew Szmidla, 1968), pp. 420-426.
[96] Mary Voigt, *Hajji Firuz Tepe, Iran: The Neolithic Settlement*, *Hasanlu Excavation Reports*, Vol. I, University Museum Monograph 50, (Philadelphia The University of Pennsylvania Museum of Archaeology and Anthropology, 1983), pp. 180-195; Tab. 28-31; 'Çatal Höyük in Context: Ritual at Early Neolithic Sites in Central and Eastern Turkey' in *Life in Neolithic Farming Communities*, ed. by Ian Kuijt, pp. 253-293, (Tab. 5-6).
[97] Voigt, *Hajji Firuz Tepe*, p. 186.
[98] Voigt, 'Çatal Höyük in Context', p. 257.
[99] An exception may be a speleothem figurine (10475.x2) found (South Area; B.42; Sp.2002; F.1512) in 2004,within the backfill of a disturbed grave with the skeletal remains of an adult (Sk.10499) and a juvenile (Sk.10476). Excavators assigned special importance to B.42 because of the large number of burials, grave goods, bucrania, and the only discovery of a plastered skull (Sk.11330) held by a complete skeleton (Sk.11306). Carolyn Nakamura and Lynn Meskell, 'Cultural and Environmental Materials Reports: Figurines and Miniature Clay Objects — 2004 Finds' in *Çatalhöyük 2004 Archive Report*. In 2016-2017, two burial pits containing 22 individuals were found (TPC Area; B.150; F.3855) in direct association with four anthropomorphic figurines (20736.x1; 20736.x3; 32806.x1; 32806.x2). Lynn Meskell, Carolyn Nakamura and Christina Tsoraki, 'Figurines' in *Çatalhöyük 2016 Archive Report*, ed. by Scott Haddow, 2016, pp.137-150. Lynn Meskell and Carolyn Nakamura, 'Building 150 Figurines' in *Çatalhöyük 2017Archive Report*, ed. by Scott Haddow, 2017, pp.185-190.
[100] Voigt, *Hajji Firuz Tepe*, p. 192; Tab. 3; 'Çatal Höyük in Context', p. 263; Tab. 3.
[101] Lynn Meskell, 'The Nature of the Beast: Curating Animals and Ancestors at Çatalhöyük', *World Archaeology*, 40(3) (2008), pp. 373-389, (p. 380).
[102] Garry Rollefson, 'Ritual and Social Structure at Neolithic 'Ain Ghazal' in *Life in Neolithic Farming Communities*, ed. by Ian Kuijt, pp. 165-190, (p. 168).
[103] Kuijt, 'Keeping the Peace', pp. 149-150.
[104] Lynn Meskell, 'Refiguring the Corpus at Çatalhöyük', in *Material Beginnings: A Global Prehistory of Figurative*

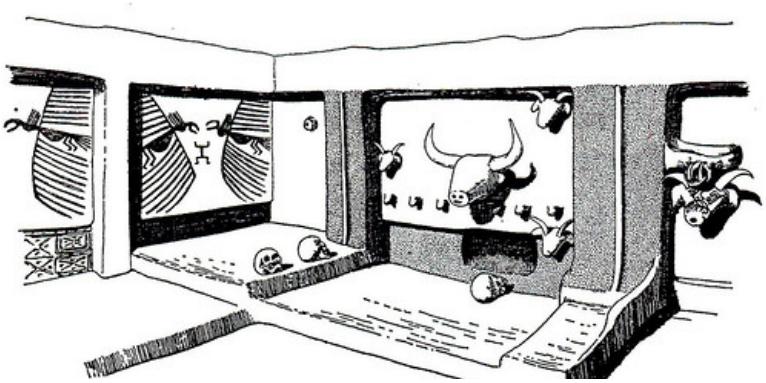


Fig. 99. Artistic reconstruction of 'Shrine' VII, at Çatalhöyük. Mellaart (1964), p. 68; Fig. 22.

In addition to figurines, head treatments were depicted in paintings. Mellaart's *Excavations at Çatal Hüyük, 1963* described a depiction of a headless person with vultures in a wall painting over a platform that contained human skulls found in a 'shrine' house.[105] Two of the vultures appear to have human legs and may depict a shamanic ritual.[106] Çatalhöyük was not alone in such depictions, as demonstrated in *Studies on the Halaf Pottery of the Kerküşti Höyük* by Sarıaltun and Erim-Özdoğan, in which stylized depictions of humans with elongated heads were illustrated on pottery.[107] In addition to figurine representations, *Cranial Modification in Ancient Iran* also described sherds depicting 'treatment or enhancement of the skull' from Late Chalcolithic sites.[108] Carter's *On Human and Animal Sacrifice in the Late Neolithic at Domuztepe* described a potsherd which depicts two acephalous bodies with a severed head surrounded by birds (Fig. 99) and another sherd depicts a row of human heads (Fig. 99).[109]



Fig. 99. Domuztepe sherd. Carter (2012), pp. 111; Fig. 9a.



Fig. 99. Domuztepe sherds. Carter (2012), pp. 115; Fig. 13b.

Representation, ed. by Colin Renfrew and Iain Morley, (Cambridge: McDonald Institute Monographs, 2007), pp. 143-156, (p. 153). An exception may be a marble anthropomorphic figurine (12102.x1) that was found (Area 4040; Level IV; Midden between B.57 and Sp.273) with an intentionally severed head, likely via an obsidian blade. Lynn Meskell and Carolyn Nakamura, 'Çatalhöyük Figurines' in *Çatalhöyük Research Project: Çatalhöyük 2005 Archive Report*, pp. 161-188, (p. 166; Fig. 8.1), <http://www.catalhoyuk.com/sites/default/files/media/pdf/Archive_Report_2005.pdf> [Accessed 5th May 2020].

[105] The painting was located over a corner platform in the elaborately decorated Shrine VII, 21. James Mellaart, 'Excavations at Çatal Hüyük, 1963: Third Preliminary Report', *Anatolian Studies*, 14 (1964), pp. 39-119, (p. 64; Pl. 12). Current nomenclature has replaced 'shrine' with 'history house.' Ian Hodder, and Peter Pels, 'History Houses: A New Interpretation of Architectural Elaboration at Çatalhöyük', in *Religion in the Emergence of Civilization: Çatalhöyük as a Case Study*, ed. by Ian Hodder, (Cambridge: Cambridge University Press, 2010), pp.163-186.

[106] Though they avoid the term, 'shaman,' see the discussions concerning 'tricksters' and 'individuals or elders specialized in ritual knowledge' draped in bird feathers at Çatalhöyük. *Religion in the Emergence of Civilization*, ed. by Ian Hodder, pp. 60-61, 130. Nerissa Russell and Kevin McGowan, 'Dance of the Cranes: Crane Symbolism at Çatalhöyük and Beyond', *Antiquity*, 77(297) (2003), pp. 445-455.

[107] Savaş Sarıaltun, Aslı Erim-Özdoğan, 'Studies on the Halaf Pottery of Kerküşti Höyük', *Anatolia Antiqua*, 19 (2011), pp. 39-52, (p. 43; Fig. 14.1, 3).

[108] Pottery sherds with depictions of elongated heads from Cheshmeh-Ali and Tall-I Bakun A were discussed. Daems and Croucher, 'Cranial Modification in Ancient Iran', p. 12; Fig. 13-14.

[109] Elizabeth Carter, 'On Human and Animal Sacrifice in the Late Neolithic at Domuztepe' in *Sacred Killing: The Archaeology of Sacrifice in the Ancient Near East* ed. by Anne M. Porter and Glenn M. Schwartz, (Winona Lake: Eisenbrauns, 2012), pp. 97-124, (pp. 111-115; Fig. 9, 13).

Methodology

This work is framed by three major parameters: 1) Geography, 2) Chronology, and 3) Head Treatments.

1) Geography

Southwest Asia is a broad geographical term that attempts to bypass certain ethnocentric, political, and/or religious designations for the area.

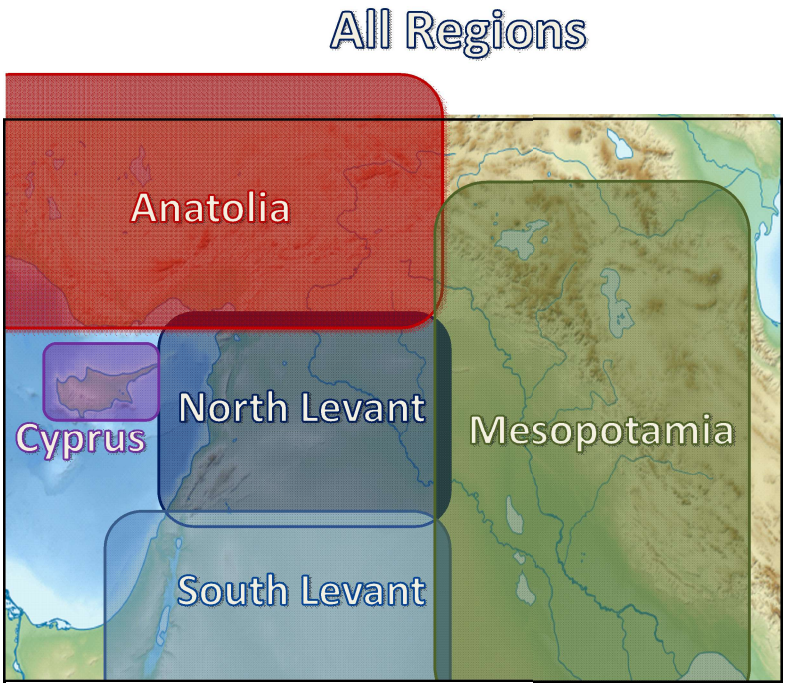


Fig. 99. Map of Southwest Asian regions included in the current study.

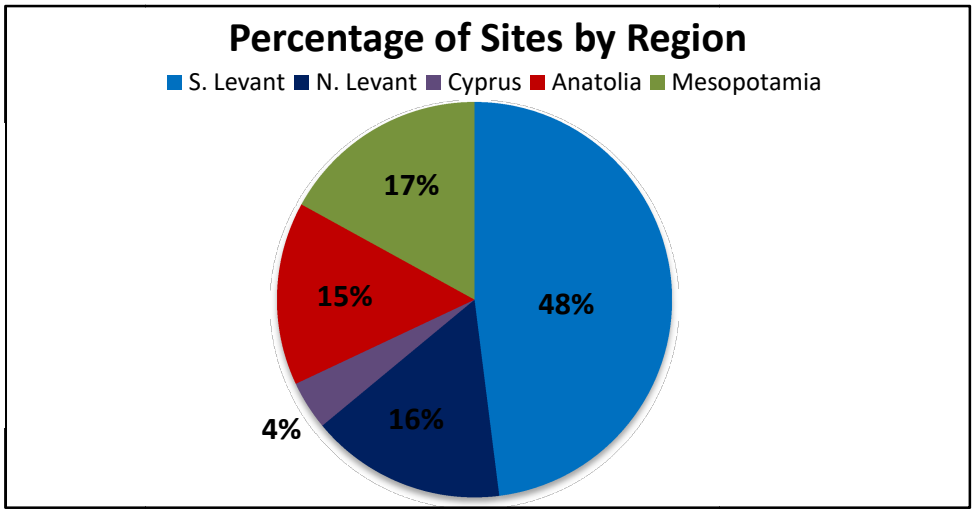


Fig. 99. Chart demonstrating the percentage of sites represented in the dataset according to region.

For the purposes of this study, Southwest Asia was divided into five regions (Fig. 99-99).[110] Knowledge of or interactions between sites included in the present study may be assumed on a both a chronological and geographical basis, as well as Anatolian obsidian finds in all of the regions under discussion.[111] The degree to which these sites interacted varied for each site and exactly how cultural boundaries may have been defined geographically for people inhabiting the chronological periods described below remains unknown. It is understood that these divisions will not be universally accepted, but the intention is primarily for the sake of simplicity and the avoidance of geopolitical nomenclature that is outdated and/or offensive.[112]

[110] Though modern geopolitical designations are avoided in this study, for the purposes of clarity the South Levant would include: the Egyptian Sinai Peninsula, Israel, the Palestinian National Authority, Jordan, northwestern Saudi Arabia, western Iraq, southern Syria, and southern Lebanon. The North Levant would include: northern Lebanon, northern Syria, and northern Iraq. Mesopotamia would include: Kuwait, eastern Iraq, eastern Iran, eastern Turkey, and southern Armenia. Anatolia would include the majority of Turkey.

[111]

[112] A quick internet search will demonstrate the multitude of designations for the area under discussion based on a variety of perspectives: the Orient, Middle East, Near East, Ancient Near East, Levant, Fertile Crescent, Palestine, the Holy Land, the

2) Chronology

Time Period	c. Date cal BP
Epipaleolithic (including Natufian)	24,000-12,000
Pre-Pottery Neolithic A (PPNA)	12,000-10,500
Pre-Pottery Neolithic B-C (PPNB-PPNC)	10,500-8,500
Pottery Neolithic-Early Bronze Age (PN-EB)	8,500-4,000

Tab. 99. Approximate calibrated radiocarbon dates for the time periods included in the current study.

The duration of time under discussion is approximately 20,000 years from the Early Epipaleolithic to the beginning of the Early Bronze Age. Like geographical terminology for the region, designations for time periods have fluctuated and are continually refined.[113] Sites were organized chronologically into four periods for analysis (Tab. 99)**.** A fairly standard division of cultural periods was adopted for the purposes of this work, but a more nuanced view is sometimes required primarily due to regional variances (Fig. 99).[114] Importantly, the selection of a date for a given site in this study was based on archeological finds related to the treatment of the head. Evidence may or may not derive from the occupational duration of a site. A detailed chronology for the Terminal Pleistocene and Early Holocene in Southwest Asia is beyond the scope of this work. However, since the intention of the study is to examine the treatment of the head throughout such a long time period, a sound chronology is vital. To that end, a chronological list of all the sites under discussion with details concerning the justification for a given date and selected dating references is provided (Appendix).

3) Head Treatments

The inclusive term 'head treatment' was chosen in order to encompass various concepts related to the head. A database of 100 sites was compiled, based on archeological evidence that demonstrate how people treated and/or viewed the human head. Evidence from eight sites either demonstrated a continual presence with distinctive finds for each successive period or a significant span of time between relevant finds, which merited inclusion in multiple cultural periods and provided a total of 108 'sites' for analysis. The evidence for each site was analyzed via 25 categories of head treatment (Tab. 00). The categories may be viewed in five major classifications: 1) Burial Site Treatments, 2) Skull Removal, 3) Skull Modifications, 4) Animal Association, and 5) Anthropomorphic Imagery.

Land of the Bible, etc.

[113] For example, the period of time once termed the 'Late,' 'Terminal,' or 'Final' PPNB is now most often referred to as the PPNC. G.O. Rollefson and Ilse Köhler-Rollefson, 'PPNC Adaptations in the First Half of the 6th Millennium B.C.', *Paléorient*, 19(1) (1993), pp. 33-42.

[114] Anna Belfer-Cohen and A. Nigel Goring-Morris, 'Becoming Farmers: The Inside Story', *Current Anthropology*, 52 Supplement 4, (2011), pp. S209-220, (p. S210; Tab. 1; Note 2). Melinda Zeder, 'The Origins of Agriculture in the Near East' *Current Anthropology*, 52 Supplement 4 (2011), S221-S235, (p. S223; Fig. 2). cf. Leore Grosman, 'The Natufian Chronological Scheme – New Insights and their Implications' in *Natufian Foragers in the Levant: Terminal Pleistocene Social Changes in Western Asia* ed. by Ofer Bar-Yosef and François Valla, Archaeological Series International Monographs in Prehistory 19, (Ann Arbor: International Monographs in Prehistory, 2013), pp. 622-637. Phillip Edwards, 'The Chronology and Dispersal of the Pre-Pottery Neolithic B Cultural Complex in the Levant', *Paléorient*, 42(2) (2016), pp. 53-72.

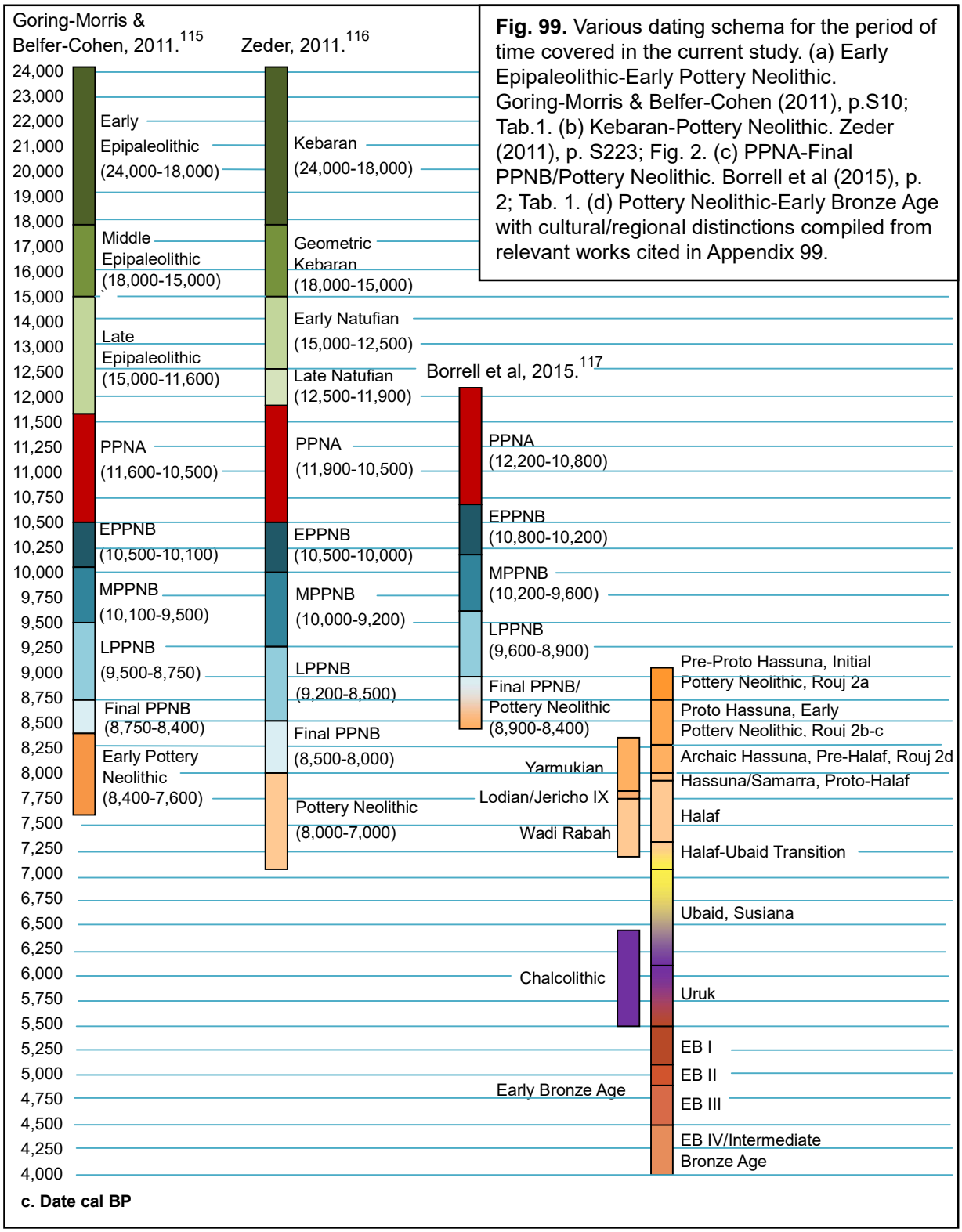


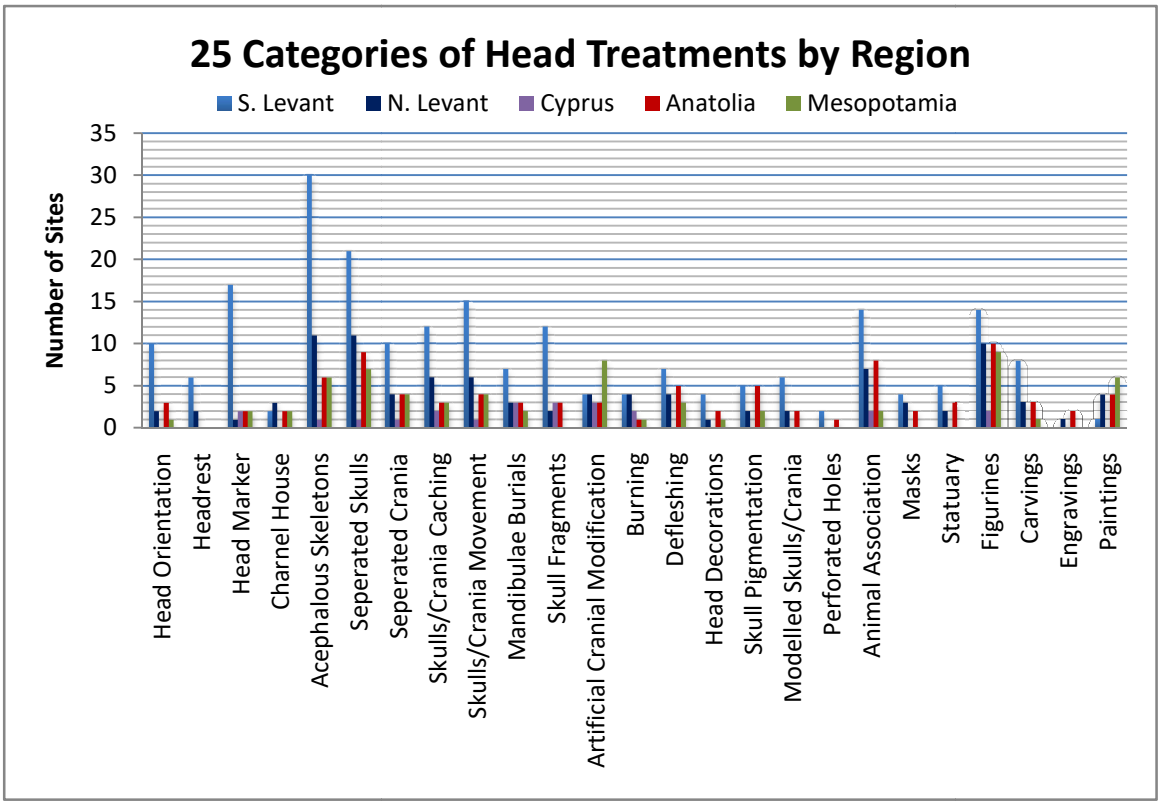
Fig. 99. Various dating schema for the period of time covered in the current study. (a) Early Epipaleolithic-Early Pottery Neolithic. Goring-Morris & Belfer-Cohen (2011), p.S10; Tab.1. (b) Kebaran-Pottery Neolithic. Zeder (2011), p. S223; Fig. 2. (c) PPNA-Final PPNB/Pottery Neolithic. Borrell et al (2015), p. 2; Tab. 1. (d) Pottery Neolithic-Early Bronze Age with cultural/regional distinctions compiled from relevant works cited in Appendix 99.

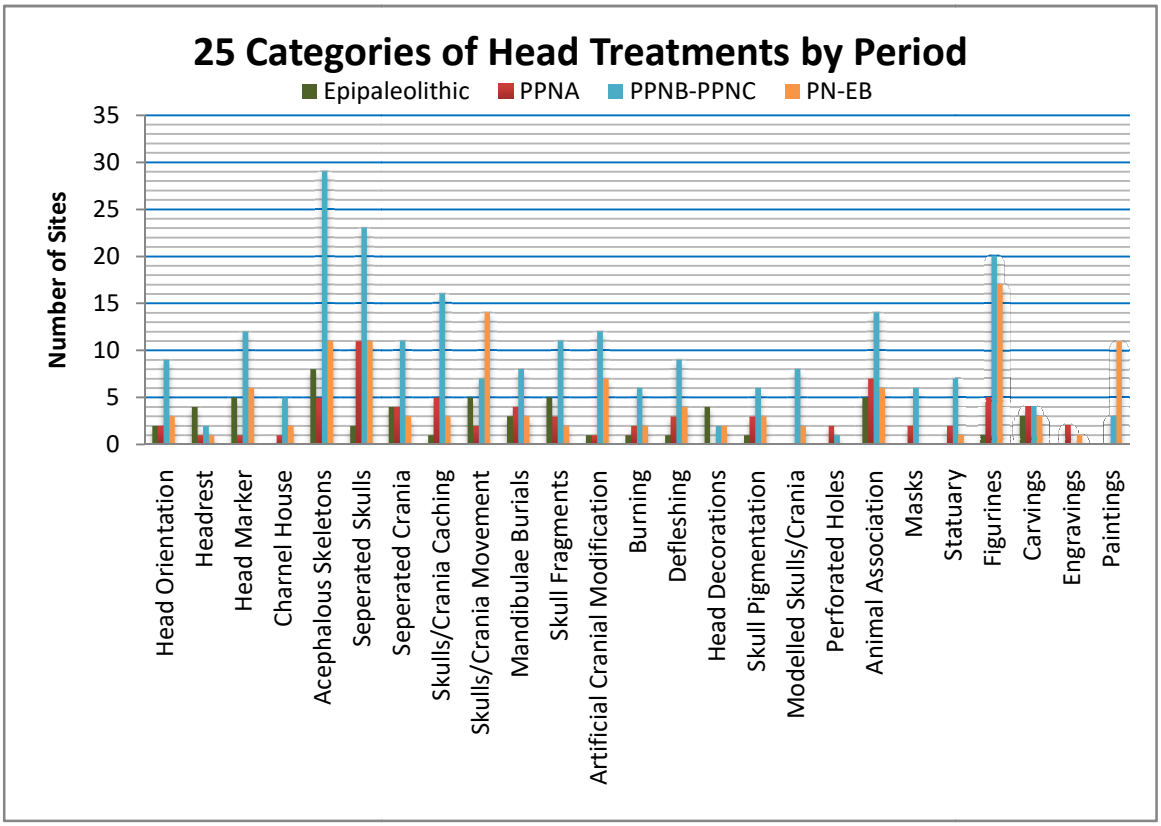
[115] Belfer-Cohen and Goring-Morris also state that the 'Round House Horizon' located in the Upper Tigris region is estimated in two phases (c. 12,750-11,750-10,750 cal BP). Belfer-Cohen and Goring-Morris, 'Becoming Farmers', p. S210; Tab. 1; Note 2.

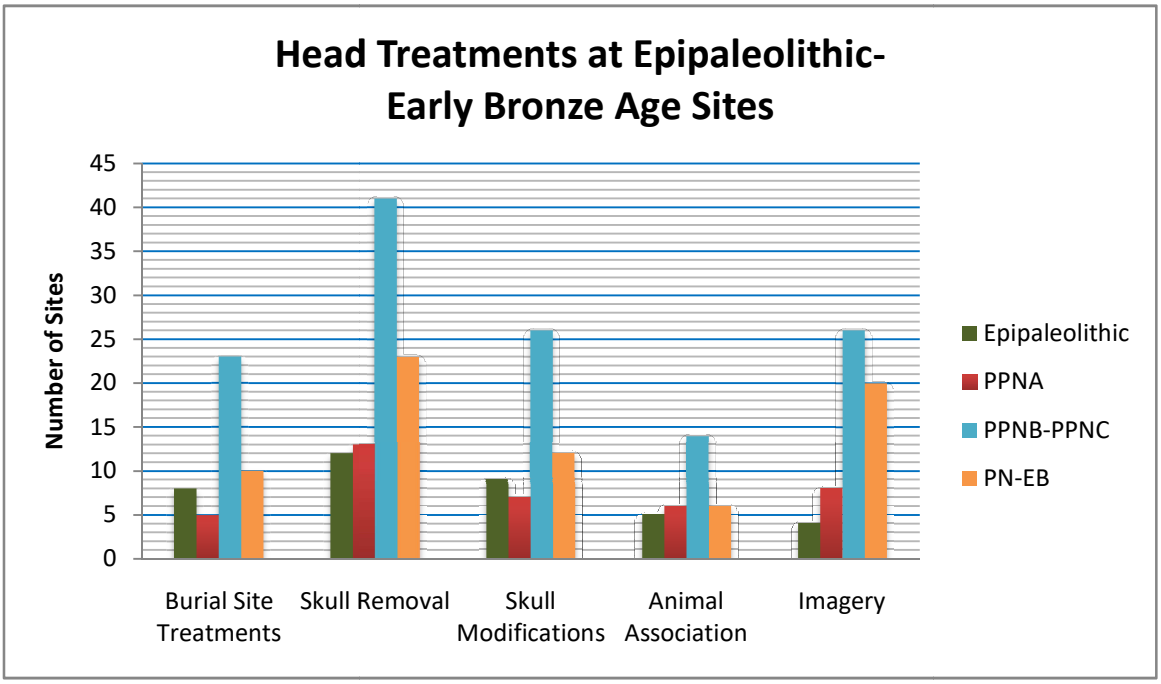
[116] Zeder, 'The Origins of Agriculture', p.S223; Fig. 2.

[117] The dates shown are for what Borrell et al. term the 'North Levant' because the chronology for what they term the 'South Levant' is identical to Belfer-Cohen and Goring-Morris, 2011. Ferran Borrell, Aripekka Junno and Joan Antón Barceló, 'Synchronous Environmental and Cultural Change in the Emergence of Agricultural Economies 10,000 Years Ago in the Levant', *PLoSONE*, 10(8) (2015), pp. 1-19, (pp. 1-7; Fig. 1-5; Tab. 1). The 'North Levant' in Borrell et al. would correspond to the North Levant, Southeastern Anatolia, and Mesopotamia in the current study (Fig.).

Presentation of Findings Evidence from each site was analyzed via 25 categories of head treatments according to region **(FIG.99)** and time period **(FIG.99)**. These 25 categories were organized into five major classifications of head treatments according to time (Fig.99) and region (see below and Appendix 99).







Period	S. Levant	N. Levant	Cyprus	Anatolia	Mesopotamia	*Subtotals*
Epipaleolithic	17	—	—	1	1	*19*
PPNA	6	4	—	2	3	*15*
PPNB-PPNC	22	8	4	5	4	*43*
PN-EB	8	5	—	9	9	*31*
Subtotals	*53*	*17*	*4*	*17*	*17*	**108**

total no. of sites by period & region

Period	S. Levant	N. Levant	Cyprus	Anatolia	Mesopotamia	*Subtotals*	*Total %*
Epipaleolithic	8/17	—	—	—	—	*8/19*	*7%*
PPNA	3/6	1/4	—	2/2	—	*5/15*	*5%*
PPNB-PPNC	11/22	5/8	2/4	3/5	—	*21/43*	*19%*
PN-EB	4/8	2/5	—	2/9	4/9	*11/31*	*10%*
Subtotals	*26/53*	*8/17*	*2/4*	*6/17*	*4/17*	**46/108**	**43%**

total no. of burial site treatments sites by period and region

Period	S. Levant	N. Levant	Cyprus	Anatolia	Mesopotamia	*Subtotals*	*Total %*
Epipaleolithic	12/17	—	—	1/1	—	*13/19*	*12%*
PPNA	6/6	3/4	—	1/2	2/3	*12/15*	*11%*
PPNB-PPNC	22/22	8/8	2/4	5/5	2/4	*39/43*	*36%*
PN-EB	6/8	4/5	—	6/9	8/9	*24/31*	*22%*
Subtotals	*46/53*	*15/17*	*2/4*	*13/17*	*12/17*	**88/108**	**81%**

total no. of skull removal sites by period and region

Period	S. Levant	N. Levant	Cyprus	Anatolia	Mesopotamia	*Subtotals*	*Total %*
Burial Site Treatments							
Head Orientation							
Epipaleolithic	7/17	—	—	—	1/1	*8/19*	*7%*
PPNA	1/6	2/4	—	2/2	1/3	*6/15*	*5%*
PPNB-PPNC	9/22	6/8	4/4	2/5	4/4	*25/43*	*23%*
PN-EB	2/8	3/5	—	7/9	4/9	*16/31*	*15%*
Subtotals	*19/53*	*11/17*	*4/4*	*11/17*	*10/17*	**55/108**	**51%**

total no. of skull modification sites by period and region

Period	S. Levant	N. Levant	Cyprus	Anatolia	Mesopotamia	*Subtotals*	*Total %*
Epipaleolithic	5/17	—	—	—	—	*5/19*	*5%*
PPNA	2/6	3/4	—	1/2	1/3	*7/15*	*6%*
PPNB-PPNC	7/22	2/8	2/4	3/5	—	*14/43*	*13%*
PN-EB	—	2/5	—	3/9	1/9	*6/31*	*6%*
Subtotals	*14/53*	*7/17*	*2/4*	*7/17*	*2/17*	**32/108**	**30%**

total no. of animal association sites by period and region

Period	S. Levant	N. Levant	Cyprus	Anatolia	Mesopotamia	*Subtotals*	*Total %*
Epipaleolithic	4/17	—	—	—	—	*4/19*	*4%*
PPNA	2/6	4/4	—	1/2	1/3	*8/15*	*7%*
PPNB-PPNC	13/22	5/8	2/4	2/5	2/4	*24/43*	*22%*
PN-EB	3/8	4/5	—	7/9	6/9	*20/31*	*19%*
Subtotals	*14/53*	*7/17*	*2/4*	*7/17*	*2/17*	**56/108**	**52%**

total no. of imagery sites by period and region

Burial Site Treatments (BST)								
Head Orientations								
Epipaleolithic	—	—	—	—	—	*2/19*	*5%*	*2%*
PPNA	1/6	1/4	—	—	—	*2/15*	*5%*	*2%*
PPNB-PPNC	6/22	1/8	—	3/5	—	*9/43*	*20%*	*8%*
PN-EB	—	1/5	—	2/9	1/9	*4/31*	*9%*	*4%*
Subtotals	*9/53*	*3/17*	—	*5/17*	*1/17*	**18/108**	**41%**	**17%**
Headrests								
Period	**S. Lev.**	**N. Lev.**	**Cyprus**	**Anatolia**	**Mesopotamia**	*Subtotals*	*% BST*	*Total %*
Epipaleolithic	3/17	—	—	—	—	*4/19*	*9%*	*4%*
PPNA	1/6	—	—	—	—	*1/15*	*2%*	*1%*
PPNB-PPNC	—	2/8	—	—	—	*2/43*	*5%*	*2%*
PN-EB	1/8	—	—	—	—	*1/31*	*2%*	*1%*
Subtotals	*6/53*	*2/17*	—	—	—	**8/108**	**18%**	**7%**

Head Markers								
Period	**S. Lev.**	**N. Lev.**	**Cyprus**	**Anatolia**	**Mesopotamia**	*Subtotals*	*% BST*	*Total %*
Epipaleolithic	5/17	—	—	—	—	*5/19*	*11%*	*5%*
PPNA	1/6	—	—	—	—	*1/15*	*2%*	*1%*
PPNB-PPNC	8/22	2/8	2/4	1/5	—	*13/43*	*30%*	*12%*
PN-EB	3/8	1/5	—	—	2/9	*6/31*	*14%*	*6%*
Subtotals	*17/53*	*3/17*	*2/4*	*1/17*	*2/17*	**25/108**	**57%**	**23%**
Charnel Houses								
Period	**S. Lev.**	**N. Lev.**	**Cyprus**	**Anatolia**	**Mesopotamia**	*Subtotals*	*% BST*	*Total %*
Epipaleolithic	—	—	—	—	—	—	—	—
PPNA	—	—	—	1/2	—	*1/15*	*2%*	*1%*
PPNB-PPNC	1/22	3/8	—	1/5	—	*5/43*	*11%*	*5%*
PN-EB	1/8	—	—	—	1/9	*2/31*	*14%*	*6%*
Subtotals	*2/53*	*3/17*	—	*2/17*	*1/17*	**8/108**	**18%**	**7%**

fig. 99

Skull Removal (SR)								
Acephalous Skeletons								
Period	**S. Lev.**	**N. Lev.**	**Cyprus**	**Anatolia**	**Mesopotamia**	*Subtotals*	*% SR*	*Total %*
Epipaleolithic	7/17	—	—	1/1	—	*8/19*	*9%*	*7%*
PPNA	3/6	2/4	—	—	—	*5/15*	*6%*	*5%*
PPNB-PPNC	18/22	5/8	1/4	3/5	2/4	*29/43*	*33%*	*27%*
PN-EB	2/8	3/5	—	2/9	4/9	*11/31*	*12%*	*10%*
Subtotals	*30/53*	*10/17*	*1/4*	*6/17*	*6/17*	**53/108**	**60%**	**49%**
Separated Skulls								
Period	**S. Lev.**	**N. Lev.**	**Cyprus**	**Anatolia**	**Mesopotamia**	*Subtotals*	*% SR*	*Total %*
Epipaleolithic	2/17	—	—	—	—	*2/19*	*2%*	*2%*
PPNA	6/6	3/4	—	1/2	1/3	*11/15*	*12%*	*10%*
PPNB-PPNC	12/22	6/8	1/4	3/5	—	*23/43*	*26%*	*21%*
PN-EB	1/8	1/5	—	5/9	4/9	*11/31*	*12%*	*10%*
Subtotals	*6/53*	*2/17*	*1/4*	*9/17*	*6/17*	**47/108**	**53%**	**43%**
Separated Crania								
Period	**S. Lev.**	**N. Lev.**	**Cyprus**	**Anatolia**	**Mesopotamia**	*Subtotals*	*% SR*	*Total %*
Epipaleolithic	4/17	—	—	—	—	*4/19*	*5%*	*4%*
PPNA	2/6	1/4	—	—	1/3	*4/15*	*5%*	*4%*
PPNB-PPNC	4/22	3/8	1/4	2/5	1/4	*11/43*	*12%*	*10%*
PN-EB	—	—	—	2/9	1/9	*3/31*	*3%*	*2%*
Subtotals	*9/53*	*4/17*	*2/4*	*4/17*	*3/17*	**22/108**	**25%**	**20%**
Skulls/Crania Caching								
Period	**S. Lev.**	**N. Lev.**	**Cyprus**	**Anatolia**	**Mesopotamia**	*Subtotals*	*% SR*	*Total %*
Epipaleolithic	3/17	—	—	—	—	*4/19*	*5%*	*4%*

PPNA	3/6	2/4	—	—	1/3	*6/15*	*7%*	*5%*
PPNB-PPNC	11/22	3/8	2/4	3/5	1/4	*20/43*	*23%*	*18%*
PN-EB	2/8	—	—	2/9	3/9	*7/31*	*8%*	*6%*
Subtotals	*20/53*	*5/17*	*2/4*	*5/17*	*5/17*	**37/108**	**42%**	**34%**
Skulls/Crania Movement								
Period	**S. Lev.**	**N. Lev.**	**Cyprus**	**Anatolia**	**Mesopotamia**	*Subtotals*	*% SR*	*Total %*
Epipaleolithic	5/17	—	—	—	—	*5/19*	*6%*	*5%*
PPNA	—	1/4	—	—	—	*1/15*	*2%*	*2%*
PPNB-PPNC	5/22	—	?	2/5	1/3	*7/43*	*8%*	*6%*
PN-EB	4/8	3/5	—	2/9	4/9	*13/31*	*15%*	*12%*
Subtotals	*15/53*	*4/17*	—	*4/17*	*4/17*	**27/108**	**31%**	**25%**
Mandibulae Burials								
Period	**S. Lev.**	**N. Lev.**	**Cyprus**	**Anatolia**	**Mesopotamia**	*Subtotals*	*% SR*	*Total %*
Epipaleolithic	3/17	—	—	—	—	*3/19*	*3%*	*2%*
PPNA	1/6	2/4	—	—	1/3	*4/15*	*5%*	*4%*
PPNB-PPNC	3/22	1/8	3/4	—	1/4	*8/43*	*9%*	*7%*
PN-EB	—	—	—	3/9	—	*3/31*	*3%*	*2%*
Subtotals	*7/53*	*3/17*	*3/4*	*3/17*	*2/17*	**18/108**	**20%**	**17%**
Skull Fragments								
Period	**S. Lev.**	**N. Lev.**	**Cyprus**	**Anatolia**	**Mesopotamia**	*Subtotals*	*% SR*	*Total %*
Epipaleolithic	5/17	—	—	—	—	*5/19*	*6%*	*5%*
PPNA	2/6	—	—	1/2	—	*3/15*	*3%*	*2%*
PPNB-PPNC	5/22	2/8	3/4	1/5	—	*11/43*	*12%*	*10%*
PN-EB	1/8	—	—	1/9	—	*2/31*	*2%*	*2%*
Subtotals	*13/53*	*2/17*	*3/4*	*3/17*	*1/17*	**22/108**	**25%**	**20%**

Fig. 99

Skull Modification (SM)								
Artificial Cranial Modification								
Period	**S. Lev.**	**N. Lev.**	**Cyprus**	**Anatolia**	**Mesopotamia**	*Subtotals*	*% SM*	*Total %*
Epipaleolithic	—	—	—	—	1/1	*1/19*	*2%*	*1%*
PPNA	—	1/4	—	—	—	*1/15*	*2%*	*1%*
PPNB-PPNC	3/22	1/8	3/4	1/5	4/4	*17/43*	*31%*	*16%*
PN-EB	1/8	1/5	—	3/9	2/9	*7/31*	*13%*	*6%*
Subtotals	*7/53*	*3/17*	*3/4*	*6/17*	*6/17*	**25/108**	**45%**	**23%**
Burning								
Period	**S. Lev.**	**N. Lev.**	**Cyprus**	**Anatolia**	**Mesopotamia**	*Subtotals*	*% SM*	*Total %*
Epipaleolithic	2/17	—	—	—	—	*1/19*	*2%*	*1%*
PPNA	—	2/4	—	—	—	*2/15*	*4%*	*2%*
PPNB-PPNC	2/22	1/8	2/4	1/5	—	*6/43*	*11%*	*6%*
PN-EB	1/8	1/5	—	—	—	*2/31*	*4%*	*2%*
Subtotals	*4/53*	*4/17*	*2/4*	*1/17*	—	**11/108**	**20%**	**10%**

Defleshing								
Period	**S. Lev.**	**N. Lev.**	**Cyprus**	**Anatolia**	**Mesopotamia**	*Subtotals*	*% SM*	*Total %*
Epipaleolithic	1/17	—	—	—	—	*1/19*	*2%*	*1%*
PPNA	—	1/4	—	1/2	1/3	*3/15*	*5%*	*3%*
PPNB-PPNC	5/22	3/8	—	1/5	1/4	*10/43*	*18%*	*9%*
PN-EB	1/8	—	—	2/9	1/9	*5/31*	*9%*	*5%*
Subtotals	*7/53*	*4/17*	—	*4/17*	*3/17*	**18/108**	**33%**	**17%**
Head Decorations								
Period	**S. Lev.**	**N. Lev.**	**Cyprus**	**Anatolia**	**Mesopotamia**	*Subtotals*	*% SM*	*Total %*
Epipaleolithic	4/17	—	—	—	—	*4/19*	*7%*	*4%*
PPNA	—	—	—	—	—	*0/15*	*0%*	*0%*
PPNB-PPNC	—	2/8	—	1/5	—	*2/43*	*4%*	*2%*
PN-EB	—	—	—	1/9	1/9	*2/31*	*4%*	*2%*
Subtotals	*4/53*	*1/17*	—	*2/17*	*1/17*	**8/108**	**14%**	**7%**
Skull Pigmentation								
Period	**S. Lev.**	**N. Lev.**	**Cyprus**	**Anatolia**	**Mesopotamia**	*Subtotals*	*% SM*	*Total %*
Epipaleolithic	1/17	—	—	—	—	1/19	*2%*	*1%*
PPNA	1/6	—	—	1/2	1/3	*3/15*	*5%*	*3%*
PPNB-PPNC	3/22	2/8	—	1/5	—	*6/43*	*11%*	*5%*
PN-EB	—	—	—	2/9	2/9	*3/31*	*24%*	*12%*
Subtotals	*5/53*	*2/17*	—	*4/17*	*2/17*	**13/108**	**31%**	**25%**
Modeled Skulls								
Period	**S. Lev.**	**N. Lev.**	**Cyprus**	**Anatolia**	**Mesopotamia**	*Subtotals*	*% SM*	*Total %*
Epipaleolithic	—	—	—	—	—	—	—	—
PPNA	—	—	—	—	—	—	—	—
PPNB-PPNC	6/22	2/8	—	—	—	*8/43*	*14%*	*7%*
PN-EB	—	—	—	2/9	—	*2/31*	*4%*	*2%*
Subtotals	*6/53*	*2/17*	—	*2/17*	—	**10/108**	**18%**	**9%**
Perforated Holes								
Period	**S. Lev.**	**N. Lev.**	**Cyprus**	**Anatolia**	**Mesopotamia**	*Subtotals*	*% SM*	*Total %*
Epipaleolithic	—	—	—	—	—	—	—	—
PPNA	1/6	—	—	1/2	—	*2/15*	*4%*	*2%*
PPNB-PPNC	1/22	—	—	—	—	*1/43*	*2%*	*1%*
PN-EB	—	—	—	—	—	—	—	—
Subtotals	*2/53*	—	—	*1/17*	—	**3/108**	**5%**	**3%**

Fig. 99.

Animal Association (AA)								
Period	**S. Lev.**	**N. Lev.**	**Cyprus**	**Anatolia**	**Mesopotamia**	*Subtotals*	*% AA*	*Total %*
Epipaleolithic	5/17	—	—	—	—	*5/19*	*16%*	*5%*
PPNA	2/6	3/4	—	1/2	1/3	*7/15*	*22%*	*6%*

PPNB-PPNC	7/22	2/8	2/4	3/5	—	*14/43*	*44%*	*13%*
PN-EB	—	2/5	—	3/9	1/9	*6/31*	*19%*	*5%*
Subtotals	*14/53*	*7/17*	*2/4*	*7/17*	*2/17*	**32/108**	**100%**	**30%**

Fig. 99.

Imagery (IMG)								
Masks								
Period	**S. Lev.**	**N. Lev.**	**Cyprus**	**Anatolia**	**Mesopotamia**	*Subtotals*	*% IMG*	*Total %*
Epipaleolithic	—	—	—	—	—	—	—	—
PPNA	—	1/4	—	1/2	—	*2/15*	*3%*	*2%*
PPNB-PPNC	4/22	1/8	—	1/5	—	*6/43*	*11%*	*5%*
PN-EB	—	—	—	—	—	—	—	—
Subtotals	*4/53*	*2/17*	—	*2/17*	—	**8/108**	**14%**	**7%**
Statuary								
Period	**S. Lev.**	**N. Lev.**	**Cyprus**	**Anatolia**	**Mesopotamia**	*Subtotals*	*% IMG*	*Total %*
Epipaleolithic	—	—	—	—	—	—	—	—
PPNA	—	1/4	—	1/2	—	*2/15*	*3%*	*2%*
PPNB-PPNC	5/22	1/8	—	1/5	—	*7/43*	*12%*	*6%*
PN-EB	—	—	—	1/9	—	*1/31*	*2%*	*1%*
Subtotals	*5/53*	*2/17*	—	*3/17*	—	**10/108**	**18%**	**9%**
Figurines								
Period	**S. Lev.**	**N. Lev.**	**Cyprus**	**Anatolia**	**Mesopotamia**	*Subtotals*	*% IMG*	*Total %*
Epipaleolithic	1/17	—	—	—	—	*1/19*	*2%*	*1%*
PPNA	1/6	2/4	—	1/2	1/3	*5/15*	*9%*	*5%*
PPNB-PPNC	9/22	5/8	2/4	2/5	2/4	*20/43*	*36%*	*18%*
PN-EB	3/8	2/5	—	7/9	5/9	*17/31*	*30%*	*16%*
Subtotals	*14/53*	*9/17*	*2/4*	*10/17*	*8/17*	**43/108**	**71%**	**40%**
Carvings								
Period	**S. Lev.**	**N. Lev.**	**Cyprus**	**Anatolia**	**Mesopotamia**	*Subtotals*	*% IMG*	*Total %*
Epipaleolithic	3/17	—	—	—	—	*3/19*	*5%*	*3%*
PPNA	1/6	1/4	—	1/2	1/3	*4/15*	*7%*	*4%*
PPNB-PPNC	3/22	—	—	1/5	—	*4/43*	*7%*	*4%*
PN-EB	1/8	1/5	—	1/9	—	*3/31*	*5%*	*3%*
Subtotals	*8/53*	*2/17*	—	*3/17*	*1/17*	**14/108**	**25%**	**13%**
Engravings								
Period	**S. Lev.**	**N. Lev.**	**Cyprus**	**Anatolia**	**Mesopotamia**	*Subtotals*	*% IMG*	*Total %*
Epipaleolithic	—	—	—	—	—	—	—	—
PPNA	—	1/4	—	1/2	—	*2/15*	*3%*	*2%*
PPNB-PPNC	—	—	—	—	—	—	—	—
PN-EB	—	—	—	1/9	—	*1/31*	*2%*	*1%*
Subtotals	—	*1/17*	—	*2/17*	—	**3/108**	**5%**	**3%**

Paintings								
Period	**S. Lev.**	**N. Lev.**	**Cyprus**	**Anatolia**	**Mesopotamia**	*Subtotals*	*% IMG*	*Total %*
Epipaleolithic	—	—	—	—	—	—	—	—
PPNA	—	—	—	—	—	—	—	—
PPNB-PPNC	1/22	2/8	—	—	—	*3/43*	*5%*	*3%*
PN-EB	—	2/5	—	4/9	5/9	*11/31*	*4%*	*10%*
Subtotals	*1/53*	*4/17*	—	*4/17*	*5/9*	**14/108**	**25%**	**13%**

Fig. 99.

Discussion of Findings

Though certainly not a straight line, the importance of the head reaches back into our evolutionary past. Evidence for manual defleshing of a hominin cranium dates to the Middle Pleistocene.[118] The deliberate modification of human skulls was employed for a variety of reasons. A fragment of a Neanderthal skull is the oldest known human bone tool.[119] An Upper Palaeolithic cranial fragment with cutmarks and a find of perforated teeth may indicate the first known manipulation of human skeletal remains for symbolic purposes.[120] Groups in the latter part of the Upper Palaeolithic practiced postmortem skull removal for modification into skull cups (Fig. 99).[121]



Fig. 99. Skull cup from Gough's Cave. Bello, Parfitt & Stringer (2011), p. 5; Fig. 4A-B.



Fig. 99. Skeleton from Paglicci Cave with ochre and head decoration. Ronchitelli et al (2015), p. 427; Fig. 4B.

Described as 'the colour of life,' the use of red ochre in symbolic mortuary customs is far more ancient than other practices (e.g. skull removal) and much more widespread.[122] Ochre and shell ornamentation were found in association with Middle and Upper Paleolithic burials at Qafzeh.[123] The skull of an Upper Paleolithic skeleton at Paglicci Cave was adorned with red ochre (perhaps to symbolize hair) and also contained the remains of a head ornament made from perforated red deer teeth, found *in situ* on the skull (Fig. 99).[124] Some mortuary customs (e.g.

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[118] Fragments of the 'Bodo Cranium' were found (Layer B) in Ethiopia near Acheulian materials and dates to the Chibanian period of the Middle Pleistocene (c. 600,000 bp). Tim White, 'Cut Marks on the Bodo Cranium: A Case of Prehistoric Defleshing', *American Journal of Physical Anthropology*, 69(4) (1986), pp. 503-509.

[119] The cranial fragment (LQ23b) was one of three found (Trench L; Layer 2) in France and likely dates to the Upper Mousterian of the Middle Palaleolithc (MIS 4; c. 70,000 bp). Christine Verna and Francesco d'Errico, 'The Earliest Evidence for the Use of Human Bone as a Tool', *Journal of Human Evolution*, 60(2) (2011), pp. 145-157.

[120] The cranial fragment (No. 316) was found (*Grotte des Hyènes*; Layer 2E; Square BY) in a cave complex in France. Four teeth (No. 16, 93, 542, 3040), which displayed evidence of human manipulation were found (*Grotte des Hyènes*; Layer 2A, 2C; Square BE4, BZ10, BF5, BB7) in the same cave. ^{14}C dates the human remains (c. 34,000-30,000 bp) to the Aurignacian of the Upper Palaeolithic. Dominique Henry-Gambier, Bruno Maureille and Randall White, 'Vestiges Humains des Niveaux de l'Aurignacien Ancien du Site de Brassempouy (Landes)', *Bulletins et Mémoires de la Société d'Anthropologie de Paris*, 16(1-2) (2004), pp. 49-87.

[121] Evidence for postmortem skull removal and modification for skull cups from the Magdalenian of the Upper Neolithic in was discovered at two sites in France (Le Placard Cave and Isturitz) and one in England (Gough's Cave). Only the skull cups from Gough's cave were ^{14}C dated (c. 14,700 cal BP). Silvia Bello, Simon Parfitt and Chris Stringer, 'Earliest Directly-Dated Human Skull-Cups', *PlosOne* 6(2) (2011), pp. 1-12, (pp.1-3; Fig. 1; Tab. 1).

[122] Eugen Strouhal, 'Five Plastered Skulls from Pre-Pottery Neolithic B Jericho: Anthropological Study', *Paléorient*, 1(2) (1973), pp. 231-247, (p. 235). Erella Hovers et al, 'An Early Case of Color Symbolism: Ochre Use by Modern Humans in Qafzeh Cave', *Current Anthropology*, 44(4) (2003), pp. 491-522.

[123] Bernard Vandermeersch, 'Découverte d'un Objet en Ocre avec Traces d'Utilisation dans le Moustérien de Qafzeh (Israël)', *Bulletin de la Société Préhistorique Française, Comptes Rendus des Séances Mensuelles*, 66(5) (1969), pp. 157-158. Daniella Bar-Yosef Mayer, Bernard Vandermeersch and Ofer Bar-Yosef, 'Shells and Ochre in Middle Paleolithic Qafzeh Cave, Israel: Indications for Modern Behavior', *Journal of Human Evolution*, 56(3) (2009), pp. 307-314.

[124] The adorned skeleton (Paglicci II) was found (Level 21D) at the *Grotta Paglicci* and was ^{14}C dated (c. 28,000 cal BP) to the Gravettian of the Upper Paleolithic in Italy. Annamaria Ronchitelli et al., 'When Technology Joins Symbolic Behaviour: The Gravettian Burials at Grotta Paglicci (Rignano Garganico – Foggia – Southern Italy)', *Quaternary International*,



Fig. 99. Map of Early-Middle Epipaleolithic sites in the database.

ochre, animal bone) continued from the Paleolithic to the Neolithic and beyond before becoming far less practiced, while other broader concepts (e.g. formal burial, grave goods) continued until the present.

Epipaleolithic Head Treatments

Turning our attention exclusively to Southwest Asia, the Epipaleolithic period in the Southern Levant provides much evidence in the way of specific treatment of the head. All but two sites included in the database from the long duration of the Epipaleolithic (c. 24,000-15,000 cal BP) are Southern Levantine. Early-Middle Epipaleolithic sites included in the database (Fig. 99) exhibit themes glimpsed during the Paleolithic. Head treatments from Early-Middle Epipaleolithic sites (Tab. 99) were expounded upon and innovation was employed during the Late Epipaleolithic, which has become virtually synonymous with the Natufian (Fig. 99).

Sites from the duration of the complex hunter-gatherer and semi-sedentary Natufian culture (Tab. 99) occurred during the end of the Epipaleolithic in the Levant and closely overlapped in time with both the Bølling-Allerød and Younger Dryas climactic shifts. The duration of the Early Natufian (c. 15,000-13,600 cal BP) occurred during the warmer Bølling-Allerød period and the Late Natufian (c. 13,600-11,500 cal BP) generally coincides with the return to colder temperatures during the Younger Dryas.[125]

c. Date cal BP	Site	Head Treatments	Selected References
23,500-22,500 *or* 19,500	**Ohalo II**	*headrest, possible head decorations, possible carving*	Nadel 1994; Nadel et al, 2006
19,900-18,600	**Kharaneh IV**	*head marker, animal association*	Muheisen, 1983; Maher et al, 2012
17,700-14,750	**'Uyun al-Hammam**	*acephalous burial, separated skull, separated cranium, skull/cranium movement, animal association*	Maher, 2005; Maher et al, 2011
16,150-15,050	**Pınarbaşı**	*acephalous burial, animal association*	Douglas Baird et al, 2013; Ronen & Kaufman, 1987
16,000-15,000	**Neve David**	*head marker*	Bocquentin et al, 2011

Tab. 99. Summary of head treatment categories for Early-Middle Epipaleolithic sites in the database.

359-360(1) (2015), pp. 423-441, (pp. 424, 427; Fig. 1, 4; Tab. 1).

[125] The relationship between the Early (c. 15-13.6 ka cal BP) and Late (c. 13.6-11.5 ka cal BP) Natufian with the Younger Dryas is more complex. The transition from the Early to Late Natufian for the 'core area' was more gradual and may have occurred about 600 years prior to the Younger Dryas, whereas a 400-500 year gap between the Early and Late Natufian was observed in the 'peripheral areas,' many of which only existed in the Late Natufian during the onset of the Younger Dryas. Grosman, 'Natufian Chronological Scheme', pp. 629-631; Fig. 5; Tab.1.

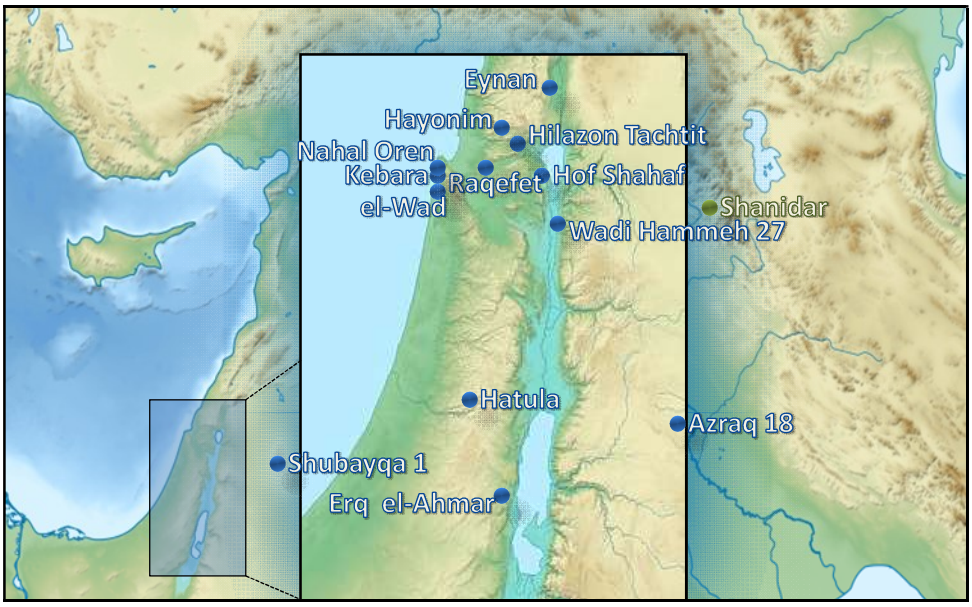


Fig. 99. Map of Late Epipaleolithic (Natufian) sites in the database.

c. Date cal BP	Site	Head Treatments	Selected References
15,000-11,500	**el-Wad Cave & Terrace**	*acephalous burials, possible skull movement, head decorations, carving*	Garrod, 1936-37; Weinstein-Evron; 2007
15,000-13,500*	**Erq el-Ahmar**	*separated crania (cached)*	Neuville, 1951
15,000-13,500*	**Hof Shahaf**	*acephalous burial*	Marder et al, 2013
15,000-14,200	**Kebara Cave**	*possible skulls/crania movement, cranial fragments, burning*	Bar-Yosef & Sillen, 1993
14,600-14,200	**Shubayqa 1**	*cranial fragments, skull pigmentation*	Richter, 2019
14,400-11,000	**Hayonim Cave & Terrace**	*headrests, possible head markers, acephalous burials, separated skull, separated cranium, mandibulae burials (cached), possible head decorations, animal association*	Bar-Yosef & Goren, 1973; Belfer-Cohen, 1988
14,000-13,000	**Azraq 18**	*head marker, possible cranium movement, cranial fragments, defleshing, skull pigmentation, animal association*	Garrard et al, 1987; Garrard, 1991; Bocquentin & Garrard, 2016
14,000-11,900	**Eynan**	*separated skulls (isolated & cached), mandibulae deposits, skull decoration, cranial fragments, animal association*	Perrot et al, 1988; Bocquentin, 2003
14,000-11,700	**Raqefet Cave**	*headrests, head marker, acephalous burial*	Bachrach & Bocquentin, 2012; Lengyel et al, 2013; Nadela, 2013; Power et al, 2014
13,000-11,600	**Nahal Oren**	*head markers, acephalous burials, possible skulls movement, figurines*	Stekelis, 1958; Noy, 1989; Leore et al, 2005

13,000-12,000	**Hatula**	*mandibulae fragments*	Ronen & Lechevallier, 1985
12,400-12,000	**Hilazon Tachtit**	*acephalous burials, animal association*	Grosman et al, 2008; Grosman & Munro, 2017
12,350-12,000	**Wadi Hammeh 27**	*cranium removal, cranial fragments, burning*	Webb & Edwards, 2002; Edwards, 2013
12,000-10,600	**Shanidar Cave**	*artificial cranial modification*	Trinkaus, 1982; Meiklejohn et al, 1992

Tab. 99. Summary of head treatment categories for Late Epipaleolithic (Natufian) sites in the database.

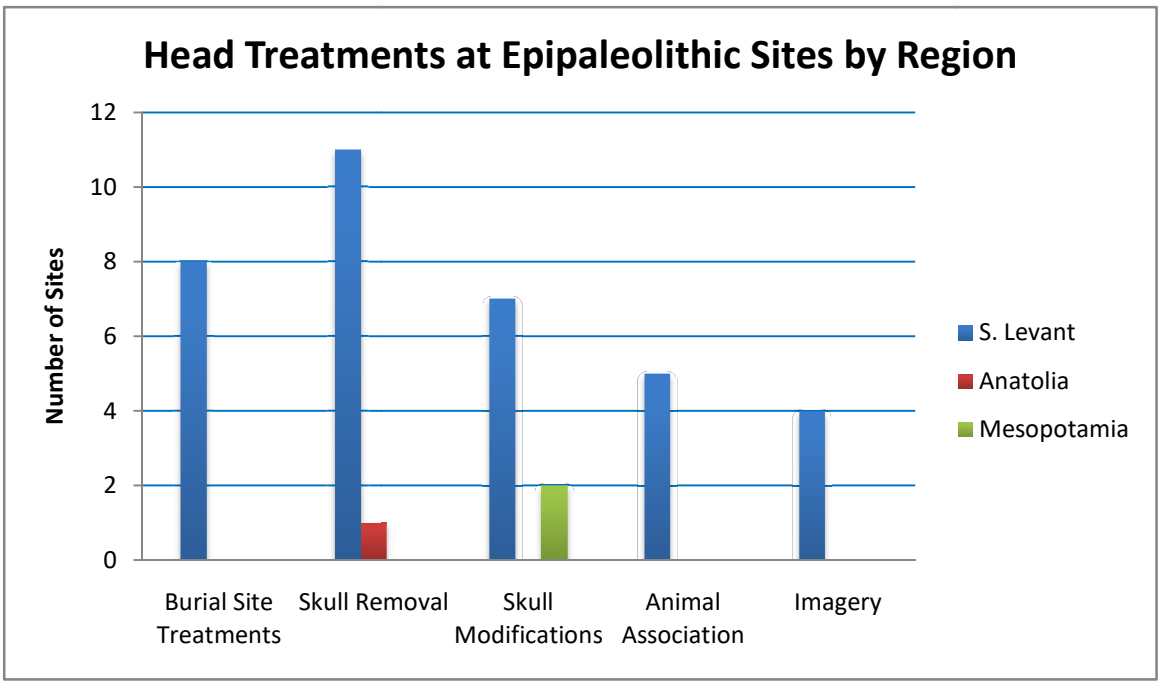


Fig. 99. Chart illustrating the number of Epipaleolithic sites by region which demonstrate evidence for the five major classifications of head treatments in the current study.

Epipaleolithic Burial Site Treatments BST

Though some reports provide head orientations for Epipaleolithic burials, none appear to demonstrate a consensus regarding possible intentionality and/or meaning. Evidence for head rests was found in the oldest site in the database. An articulated skeleton was found at Early Epipaleolithic Ohalo II with the head resting upon three stones and a bone fragment with numerous incised lines found near the skull, which may have been a part of a headdress.[126] The line pattern of the bone object closely matches that of a wooden object found in one of

[126] The skeleton (H2) was found (Loc. 5; Sq. AD87-88) with an incised bone fragment. Dani Nadel, 'Levantine Upper Palaeolithic - Early Epipalaeolithic Burial Customs: Ohalo II as a Case Study', *Paléorient*, 20(1) (1994), pp. 113-121, (pp. 115-117; Fig. 2; Pl. I, II2-3). Dani Nadel et al, 'Wooden Objects from Ohalo II (23,000 cal BP), Jordan Valley, Israel', *Journal of Human Evolution*, 50(6) (2006), pp. 644-662, (p. 660).



Fig. 99. Incised bone (top) found behind a skull and a wooden object (bottom) found in a hut from Ohalo II. Nadel et al (2006), p. 655; Fig. 18.

the huts (Fig. 99).[127]

Occupied from the Early to Late Natufian, the graveyard at Hayonim Cave demonstrated an array of mortuary practices, including headrests.[128] In the Late Natufian, an acephalous skeleton was found as part of a double burial in Raqefet Cave and it was suggested that the skull rested upon an elevated surface before removal (Fig. 99).[129]

This dual interment provided the earliest known evidence for flowers in a burial and headrests of stone or 'perishable material is very likely.'[130] Phytolith remains at Raqefet Cave may indicate ritualistic usage, such as 'the use of shrouds.'[131]



Fig. 99. (a) Photo of Raqefet Cave dual burial with headrest for the individual intered on the left (H25) and an acephealous individual on the right (H28). (b) Artistic reconstruction of the burial. Nadel et al (2013), p. 11755; Fig. 2.

'Wooden Objects from Ohalo II', pp. 645, 653-655; Fig. 1, 14-18.

[128] The 'graveyard' contained burials from the Early and Late Natufian, but the heads that 'were placed on piles of stones' (H.1, H.4) were found (Square E-H/22-26) in graves (Grave I, III) assigned to the Early Natufian. Anna Belfer-Cohen, 'The Natufian Graveyard in Hayonim Cave', *Paléorient*, 14(2) (1988), pp. 297-308, (pp. 298-300; Fig. 1; Tab. 1).

[129] A double burial (D-E/14) was discovered with the skeletons (H25, H28) lying parallel towards one another each other. H25 was partially disturbed and H28 had the cranium removed. Noga Bachrach and Fanny Bocquentin 'The Burials of the 2011 Season, The 2010 and 2011 Seasons of Excavation at Raqefet Cave', *Journal of the Israel Prehistoric Society* 42 (2012), pp. 35-73, (p. 53).

[130] Dani Nadel et al, 'Earliest Floral Grave Lining from 13,700–11,700-y-Old Natufian Burials at Raqefet Cave, Mt. Carmel, Israel', *Proceedings of the National Academy of Sciences of the United States of America*, 110(29) (2013), pp. 11774–11778. Headrests are suspected for some burials (H2, H13, H17, possibly H9-H10) at Raqefet Cave. György Lengyel, Dani Nadel and Fanny Bocquentin, 'The Natufian at Raqefet Cave' in *Natufian Foragers in the Levant*, ed. by Bar-Yosef and Valla, pp. 478-504, (p. 495).

[131] Robert Power, Arlene Rosen and Dani Nadel, 'The Economic and Ritual Use of Plants at the Raqefet Cave Natufian Site: The Evidence from Phytoliths', *Journal of Anthropological Archaeology* 33 (2014), pp. 49-65, (p. 63).

At the Early-Middle Epipaleolithic Kharaneh IV, a skeleton was buried under the floor of a burnt hut with a large stone and horn core near the skull.[132] This hut also contained another burial and three caches of pierced shells with red ochre prior to the burning and burial of the structure.[133] A pierced stone mortar was found covering the skull of an articulated skeleton, like a type of helmet at Neve David.[134] Several acephalous burials were found in a Late Natufian cemetery with stone mortars that may have served as 'tombstones' on a terrace at Nahal Oren.[135] A small pierced mortar found in a grave may suggest a, 'Natufian inclination to provide the dead with prepared food (either symbolically or in reality).'[136]

Epipaleolithic Skull Removal

The largest number of sites outside the PPNB-PPNC to provide evidence for SR via acephalous skeletons is found in the Epipaleolithic. A burial with a removed cranium was found at the Middle-Late Epipaleolithic site of Pınarbaşı in Anatolia (Fig. 99).[137] Another burial at Pınarbaşı contained an articulated skeleton with a cache of grave goods covered in red ochre located near the skull and evidence of burnt sediment near the head, which led excavators to propose that 'This second burial also suggests that the head may have been a particular focus of ritual practices relating to the dead.'[138] Primary graves from the Early Natufian at Hayonim retained their skulls,

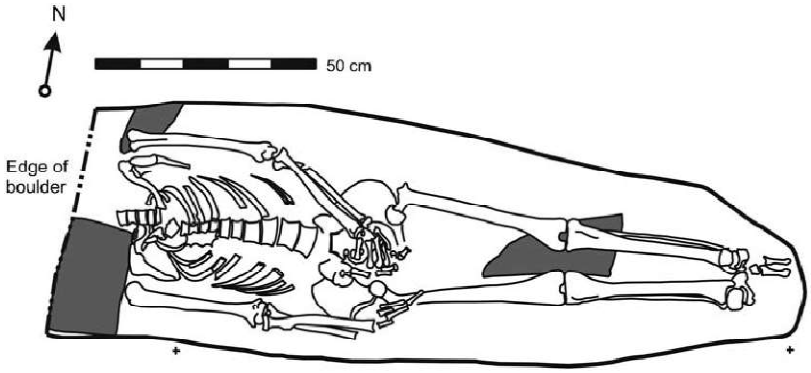


Fig. 99. Plan of Grave 13 with Pre-Natufian acephalous skeleton from Pınarbaşı. Baird et al (2013), p. 182 ; Fig. 6.

[132] Lisa Maher et al, 'Twenty Thousand-Year-Old Huts at a Hunter-Gatherer Settlement in Eastern Jordan', *PLoSONE*, 7(2) (2012), pp.1-10, (p. 3). The burials were found (Structure 1; Area R/S2/60; Layer V) under the floor of a hut, but the exact stratigraphic relationship between the skeletal remains and the hut is unclear. Mujahed Muheisen, 'La Préhistoire en Jordanie: Recherches sur l'Epipaléolithique, L'Example du Gisement de Kharaneh IV' (unpublished doctoral thesis, l'Université de Bordeaux 1, 1983).

[133] Maher et al, 'Twenty Thousand-Year-Old Huts', pp. 3-6; Fig. 3, 5B.

[134] Two burials (ND1-2) were discovered at Neve David. ND1 contained the mortar '*comme une sorte de casque en pierre*' and ND2 was acephalous, but highly incomplete and the skull loss was likely due to erosion. Avraham Ronen and Daniel Kaufman, 'La Sépulture Kébarienne Géométrique de Neve David, Haïfa, Israël', *L'Anthropologie*, 91(1987), pp. 335-342, (p. 337).

[135] Some burials (H7t, H14t, H21t) at Nahal Oren were discovered acephalous, but others were complete. Tamar Noy, 'Some Aspects of Natufian Mortuary Behavior at Nahal Oren' in *People and Culture in Change: Proceedings of the Second Symposium on Upper Paleolithic, Mesolithic, and Neolithic Populations of Europe and the Mediterranean Basin* ed. by Israel Hershkovitz, BAR International Series 508, (Oxford: British Archaeological Reports, 1989), pp. 53-57.

[136] The mortar was uncovered in the cemetery (Grave H25). David Eitam and James Schoenwetter, 'Feeding the Living, Feeding the Dead: Natufian Food Production Societies in the Southern Levant (13,000–9,500 cal. BC)', *Journal of the Israel Prehistoric Society*, Preprint (2019), pp. 1-40, (p. 18).

[137] Acephalous skeletal remains (Grave 13) which may be the, 'earliest instance of clear-cut, post-burial cranium retrieval in South-west Asia' were found (Area B) and radiocarbon dated (16.15-15.07 ka cal BP) 'likely to just predate the beginning of the Early Natufian.' Douglas Baird et al, 'Juniper Smoke, Skulls and Wolves' Tails: The Epipalaeolithic of the Anatolian Plateau in its South-west Asian Context; Insights from Pınarbaşı', *Levant* 45(2) (2013), pp. 175-209, (pp. 180, 183-184; Fig. 5-7; Tab. 1).

[138] Skeletal remains (Grave 14) were found (Area B) and C^{14} dated (15.18-14.24 ka cal BP) to likely 'coincide with the Early Natufian and possibly the GI-1.' Baird et al, 'Juniper Smoke, Skulls and Wolves' Tails', pp. 181-185; Fig. 5, 8-9; Tab. 1.

but crania for many Late Natufian skeletons were missing.[139] A similar situation seemed to occur in the Late Natufian Layers of el-Wad Terrace, which included the skeletal remains of children and adults that lacked skulls.[140] Also, the Late Natufian burial ground at Hilazon Tachtit contained several acephalous skeletons.[141]

While 50% of Epipaleolithic sites demonstrated evidence for acephalous skeletons, only 11% evidenced separated skulls and 21% exhibited separated crania. At the Geometric Kebaran site of 'Uyun al-Hammam, a secondary burial was found with long bones placed upon a flat rock and a human cranium underneath and thus, 'skull removal and reburial at 'Uyun al-Hammam demonstrates that this burial practice originated prior to the Natufian.'[142] A fragmented child skull was found in the Early Natufian Layers at Hayonim Cave and was likely a secondary burial.[143] A somewhat brachycephalic almost 'heart-shaped' cranium was found in a collective burial at Late Natufian Wadi Hammeh 27 and its appearance may indicate multiple interments or other postmortem treatments.[144]

Although the evidence is questionable, there does appear to be some form of caching or grouping together of cephalic extremities during the Epipaleolithic, with six crania discovered together in a rock shelter at Erq el-Ahmar.[145] The small amount of evidence from Pre-Natufian sites such as 'Uyun al-Hammam to exhibit skulls/crania movement became a 'well-established pattern' at collective Natufian burials, which were 'usually pushed to the periphery of the burial pit suggesting a need for more burial space.'[146] At Azraq 18, a cranium was discovered displaced between the lower limbs of an individual in a collective burial, but its identity is uncertain.[147] Natufian evidence for sites with mandibulae burials was found with caches of mandibulae unearthed at Hayonim Cave.[148] Deposits of

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[139] Early Natufian primary burials (Grave I, III, VI-VIII, IX) at Hayonim retained the skulls, but the Late Natufian primary burials (Graves X-XI, XV) did not, with two exceptions (H.34, Grave XII; H.39, Grave XVI). Belfer-Cohen, 'Natufian Graveyard in Hayonim', p. 300.

[140] H106 (Sq. M/N 7; Grave 8), H107 (Sq. M/N 7; Grave 6), H108-H109 (Sq. L/M 7; Grave 5), H110 (Sq. L 8; Grave 7), H115 (Sq. K/L 6; Grave 4), H122 (Sq. L/M 6; Grave 10), H125 (Sq. M/N 5-6; Grave 11), and H127 (Sq. M 8; Grave 9) are described as missing their skulls or crania, whereas H121 (Sq. L 6; Grave 10) was only represented by a mandible. Mina Weinstein-Evron et al, 'After 70 Years: New Excavations at the el-Wad Terrace, Mount Carmel', *Journal of the Israel Prehistoric Society*, 37 (2007), pp.37-134, (pp. 88-90).

[141] Leore Grosman and Natalie D. Munro, 'Hilazon Tachtit Cave, a Late Natufian Burial Site in the Western Lower Galilee, Israel', in *Quaternary of the Levant: Environments, Climate Change and Humans* ed. by Yehouda Enzel and Ofer Bar-Yosef, (Cambridge: Cambridge University Press, 2017), pp.303-306.

[142] The secondary burial (Grave II) was found (Area G16) in sediment from the Geometric Kebaran. Maher, 'Excavations at the Geometric Kebaran Site of 'Uyūn al-Ḥammām', p. 269.

[143] A skull of a child (H.14) was found (Stratum B; Phase 2; Sq. G/21; Grave VIII) at Hayonim Cave, evidently as a secondary burial. Ofer Bar-Yosef Ofer and Naama Goren, 'Natufian Remains in Hayonim Cave', *Paléorient*, 1(1) (1973), pp. 49-68, (pp. 51-53, 55; Fig. 2-3). Belfer-Cohen, 'Natufian Graveyard in Hayonim', p. 299; Tab. 1.

[144] The collective burial (Homo 2-6) was found (Plot XX J) near a cliff and one cranium (Homo 2) displayed unique appearance characteristics. Webb and Edwards, 'Natufian Human Skeletal Remains', pp. 108-109, 113-114; Fig. 15.

[145] Six crania (H1-6) were found (Layer A2) together at Erq el-Ahmar under a rock slab with lumps of ochre, but the documentation of the site is inadequate. René Neuville, *Le Paléolithique et le Mésolithique du Désert de Judée*, (Paris: Archive de L'Institute de Paléontologie Humaine, 1951), pp. 86-120; Fig. 40; Pl. X. Four skulls were discovered buried together with a complete skeleton at Nahal Oren and eight skulls were unearthed together at Eynan, but it is uncertain if these were primary or secondary burials. The documentation is unclear as to whether the deposits were cached or successive. Moshe Stekelis, 'Oren Valley (Wadi Fallah)', *Israel Exploration Journal*, 8(2) (1958), p. 131. Perrot, Ladiray and Soliveres-Massei, 'Les Hommes de Mallaha', pp. 56-57; Fig. 31.

[146] Fanny Bocquentin and Andrew Garrard, 'Natufian Collective Burial Practice and Cranial Pigmentation: A Reconstruction from Azraq 18 (Jordan)', *Journal of Archaeological Science: Reports*, 10 (2016), pp. 693-702, (p. 698).

[147] The cranium (#108) was found (Sq. 3) in a collective burial. Bocquentin and Garrard, 'Natufian Collective Burial Practice and Cranial Pigmentation', pp.695, 698-699; Fig. 2.

[148] The mandibulae of three individuals (H6-7a) were found (Grave V; Sq. I-J/23-24) together at Hayonim and three more individuals (H36-36b) represented solely by mandibulae were also found (Grave XIV; Sq. N-O/26-27) cached together. Belfer-Cohen, 'Natufian Graveyard in Hayonim', pp. 298-299; Fig. 1; Tab. 1.

mandibulae were also found at Eynan and Hatula.[149] Epipaleolithic evidence for skull fragments was demonstrated in the above discussion of finds from Eynan and will be described below in the context of modification.

Epipaleolithic Skull Modification

Almost half of Epipaleolithic sites provided evidence for some form of skull modification. In Upper Mesopotamia, an eventually widespread custom involving the head may be observed prior to the Neolithic. The first evidence for ACM was observed on the two skulls discussed above from Shanidar Cave.[150] Early Natufian innovation regarding treatment of the head may be demonstrated by burning. It is uncertain if cremation existed in the Natufian, but differences between individuals with 'heavily blackened' cranial remains and those without, at Kebara Cave may demonstrate an organized use of fire with the deceased.[151] Most of the cranial fragments found at Wadi Hammeh 27 appeared burned and some appeared 'thoroughly burnt,' which suggests that, 'odds favour some kind of deliberate treatment of the skulls.'[152] While cremation is a possibility, one can only say with certainty that, 'they appear to represent an unusual mortuary treatment of the skull.'[153] Only one Epipaleolithic site in the database provided evidence for both defleshing and skull pigmentation. A 'robust male' from Azraq 18, 'had ochre pigment on his skull, demonstrating that it was defleshed at the time of burial.'[154]

The highest number of sites in the database which gave evidence for head decorations was during the Epipaleolithic. Beautiful ornamentation of the head was discovered at Mugharet el-Wad, where the skulls of three complete skeletons were found adorned with *Dentalium* shell headdresses, some of which were found still attached to the skull by a calcareous layer (Fig. 99-99).[155]

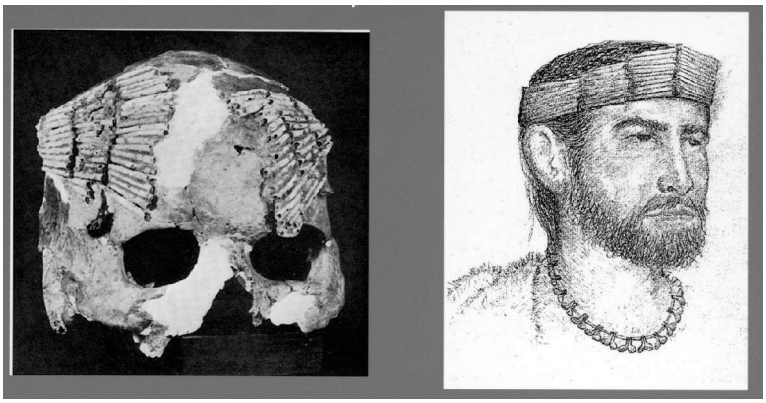


Fig. 99. (a) Photo of partial cranium and headress of an individual (H 23) from el-Wad. (b) Artist reconstruction. Wylie & Hole (2012), p. 715 ; Fig. 2.

[149] Perrot, Ladiray and Soliveres-Massei, 'Les Hommes de Mallaha', p. 51; Fig. 29. Avraham Ronen and Monique Lechevallier, 'The Natufian-Early Neolithic Site Hatula, Near Latrun, Israel', *Qartär*, 35/36 (1985), pp. 141-164, (p. 147).
[150] Although artificial cranial deformation is doubtful for the Neanderthal skulls at Shanidar Cave, two skulls (SA295-A, SA337-A) found (Layer B1) in the Proto-Neolithic cemetery displayed evidence for *in vivo* cranial deformation. Trinkaus, 'Artificial Cranial Deformation in the Shanidar 1 and 5 Neandertals,' pp. 198-199. Meiklejohn et al, 'Artificial Cranial Deformation in the Proto-Neolithic and Neolithic', pp. 89-91; Fig. 2; Tab. 4.
[151] Ofer Bar-Yosef and Andrew Sillen, 'Implications of the New Accelerator Date of the Charred Skeletons from Kebara Cave (Mt Carmel)', *Paléorient*, 19(1) (1993), pp. 205-208, (p. 207).
[152] Webb and Edwards, 'The Natufian Human Skeletal Remains', pp. 117-118.
[153] Ibid., p. 119.
[154] Andrew Garrard, 'Natufian Settlement in the Azraq Basin, Eastern Jordan' in *The Natufian Culture in the Levant: Terminal Pleistocene Social Changes in Western Asia*, ed. by Ofer Bar-Yosef and François Valla, Archaeological Series 1, (Ann Arbor: International Monographs in Prehistory, 1991), pp. 235-244, (p. 240).
[155] Three skeletons (H23, H25, H Group 57) were recovered with headdresses and an 'isolated skull' evidently from a disturbed burial was discovered touching one of the adorned skulls (H25). Dorothy Garrod, 'Notes on Some Decorated Skeletons from the Mesolithic of Palestine', *The Annual of the British School at Athens*, 37 (1936/1937), pp. 123-127.

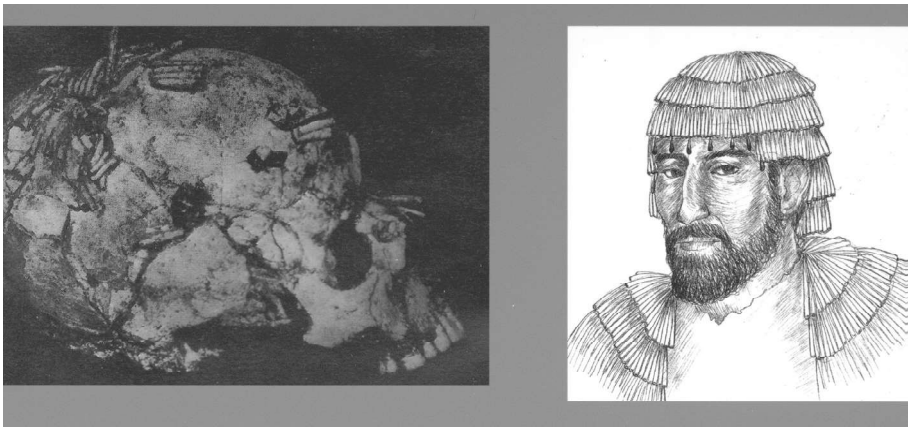


Fig. 99. (a) Photo of cranium and headdress of an individual (H 41) from el-Wad. (b) Artist reconstruction. Wylie & Hole (2012), p. 716 ; Fig. 4.

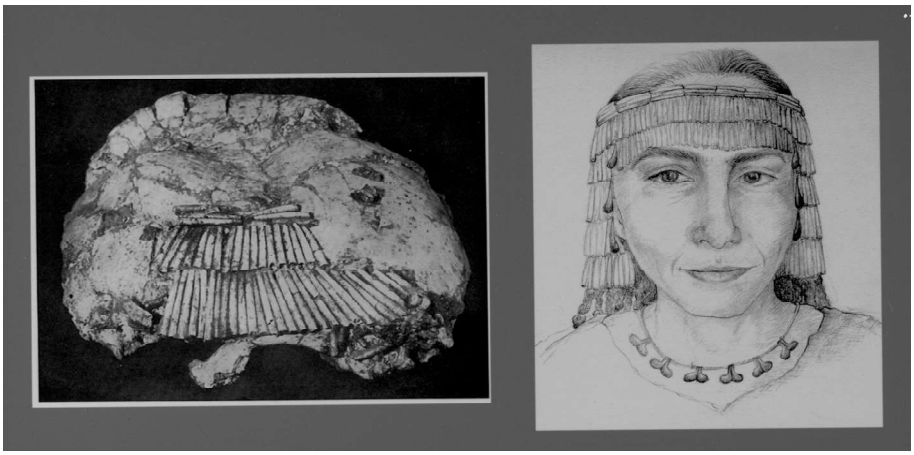


Fig. 99. (a) Photo of partial cranium and headdress of an individual (H 57) from el-Wad. (b) Artist reconstruction. Wylie & Hole (2012), p. 717 ; Fig. 5.

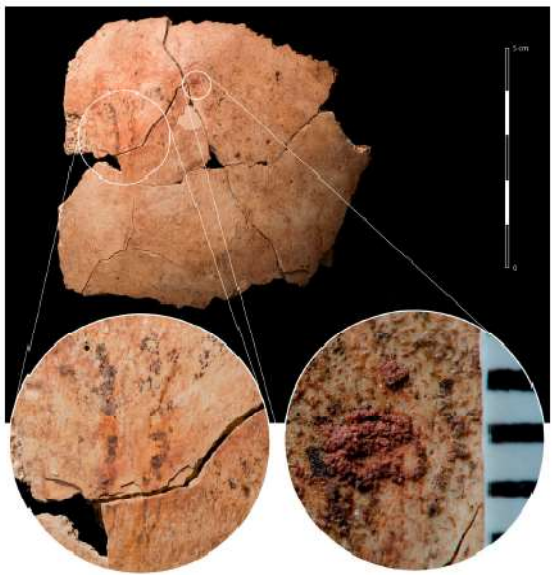


Fig. 99. Cranial fragment from Shubayqa 1 with inset close-ups of (a) striations and (b) red pigmentation. Richter et al, (2019), p. 440; Fig. 9.

Also at el-Wad, a twin bone pendant that still adhered to a skull and calcite carving of a human head were found.[156] Ochre continued its symbolic hold on prehistoric mortuary practice and skull pigementation was observed on Natufian crania at Shubayqa 1 (Fig. 99.[157] Further study of the above referenced defleshed and pigmented cranial fragment from Azraq 18 observed a calcareous crust between the layers of ochre, which may indicate a 'reburial between applications of pigments' and the stain pattern on the cranial fragment of another individual 'might indicate that a modelled eye was placed in the orbit before staining' (Fig. 99).[158]

[156] Boyd and Monahan, 'Death, Ritual, and Natufian Social Structure', p. 270; Tab. 4. Estelle Orrelle, *Material images of Humans from the Natufian to Pottery Neolithic Periods in the Levant*, (Oxford: Archaeopress, 2014), p. 172; Fig. 20:3.

[157] Four individuals at Shubayqa 1 contained pigmentation and two of which (Phase 5; Context 169, 175), were Early Natufian and pigment was observed only on cranial bones. Tobias Richter et al, 'Ochre, Ground Stone, and Wrapping the Dead in the Late Epipalaeolithic (Natufian) Levant: Revealing the Funerary Practices at Shubayqa 1, Jordan,' *Journal of Field Archaeology*, 44(7) (2019), pp. 440-457, (pp. 444-449; Fig. 2, 6j, 9).

[158] The cranium of a 'robust' individual (# 170-174) and a cranium (# 108) that may have been moved and had a modeled orbit both contained pigment. Bocquentin and Garrard, 'Natufian Collective Burial Practice and Cranial Pigmentation', pp.

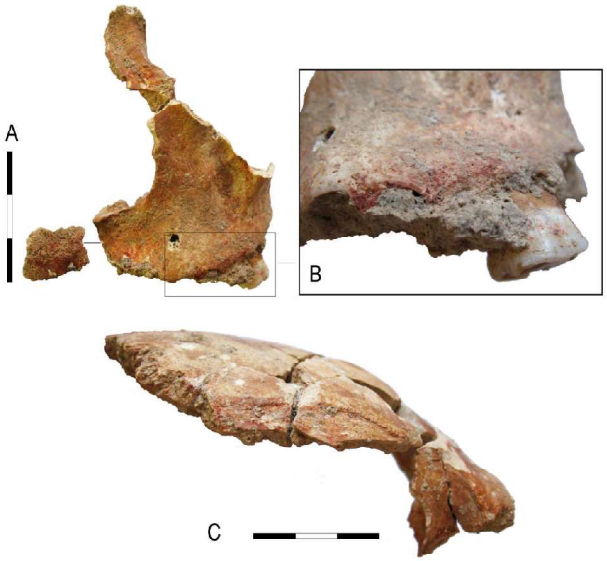


Fig. 99. (A) Anterior view of left maxilla for Cranium # 108 from Natufian Azraq 18 with red pigmentation. (B) Close up of pigmentation on the alveolar process. (C) Right lateral view of frontal bone with pigmentation. Bocquentin & Garrard (2016), p. 699; Fig. 6.



Fig. 99. Auroch horn core with perforated holes from Azraq 18. Bocquentin & Garrard (2016), p. 694; Fig. 1.

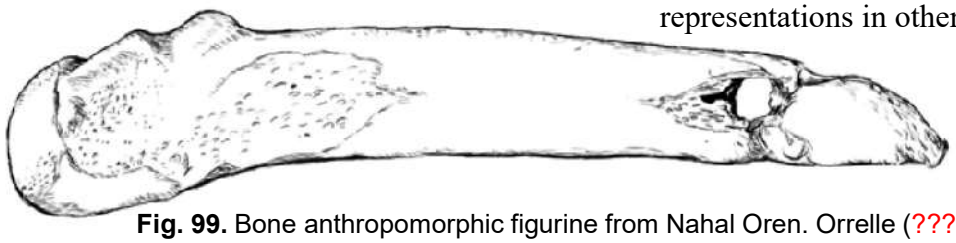


Fig. 99. Bone anthropomorphic figurine from Nahal Oren. Orrelle (????), p. 176; Fig. 24:1.

Epipaleolithic Animal Association

Evidence for direct animal association was provided by about a quarter of Epipaleolithic sites. Similar to the above referenced inclusion of horn cores at Kharaneh IV in the Azraq Basin, the importance of animal association was demonstrated by an auroch horn core with two perforated holes arched in the ground found *in situ* over a burial pit at Early Natufian Azraq 18 (Fig. 99).[159]

Human-animal relationships continued to have symbolic sway in the Late Natufian. A double burial at Hayonim contained stones placed on skulls, two tortoise carapaces, and skeletal remains of two dogs.[160] Also, 'it cannot be by chance' that the skull of one of the dogs was found near the human skull of one the interred, while a foot rested upon the skull of the other.[161]

Epipaleolithic Anthropomorphic Imagery

A small number of Epipaleolithic sites in the database demonstrated evidence for anthropomorphic imagery. The single site with figurine evidence consisted of a bone figurine (Fig. 99) found at Nahal Oren, along with human representations in other media.[162]

698-701; Fig. 5-7.

[159] Andrew Garrard et al, 'Prehistoric Environment and Settlement in the Azraq Basin: An Interim Report on the 1985 Excavation Season', *Levant*, 19(1) (1987), pp. 5-24, (p. 21). The artifact was found (Sq. 4) over a collective burial. Bocquentin and Garrard, 'Natufian Collective Burial Practice and Cranial Pigmentation', p. 694; Fig. 1.

[160] The burial (Grave 7-8, 10) was discovered in an oval pit. Eitan Tchernov and François Valla, 'Two New Dogs, and other Natufian Dogs from the Southern Levant', *Journal of Archaeological Science*, 24(1) (1997), pp. 65-95, (p. 68; Fig. 2).

[161] The dog skull touched the human skull (Homo 8) and the foot touched another human skull (Homo 10). Tchernov and Valla, 'Two New Dogs', p. 72.

[162] Orrelle, *Material Images of Humans*, p. 176; Fig. 24:1.

Sites with evidence for carvings may be found in the Epipaleolithic. In the same hut where the above mentioned wooden object from Ohalo II was found, another wooden object was discovered that could be a schematic representation a human head in profile (Fig. 99).[163] Anthropomorphic imagery and shell ornamentation were not restricted to the above examples from el-Wad. Two carved limestone heads were uncovered at Eynan and a burial with a possible *Dentalium* headdress along with other adornments was found.[164]

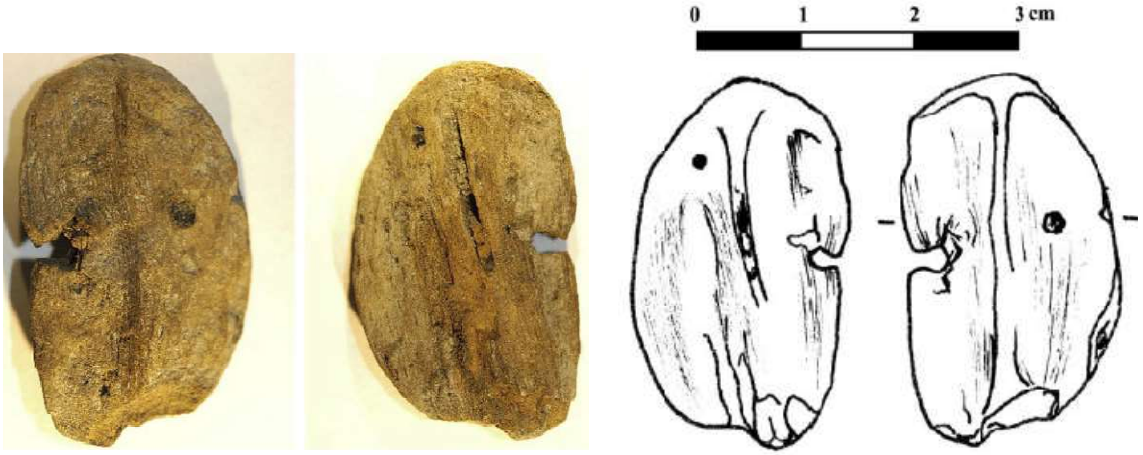


Fig. 99. Possible wooden head in profile from Ohalo II with (a) photo and (b) drawing of the two faces of the object. Nadel et al (2006), p. 658; Fig. 23.

PPNA Head Treatments

The number of sites with evidence of head treatments included in the database from the PPNA was lower than the Epipaleolithic, but more geographically diverse and from millennia shorter in duration (Fig. 99). Thematic expressions from the Natufian regarding treatment of



Fig. 99. Map of PPNA sites included in the database.

[163] The small oval shaped piece of wood (Object IV) was found (Hut 15; Square N79) in the middle of a hut floor. Nadel et al, 'Wooden Objects from Ohalo II', pp. 645, 657-658; Fig. 1, 22-23.

[164] The burial (H91) with the possible headdress and the carved stone heads were discovered separately. Brian Boyd, 'Houses and Hearths, Pits and Burials: Natufian Mortuary Practices at Mallaha (Eynan), Upper Jordan Valley', in *Archaeology of Death*, ed. by Campbell and Green, pp. 17-23, (p. 21). Orrelle, *Material Images of Humans*, p.172; Fig. 20:1-2.

the head continued for Southern Levantine sites during the PPNA, though fewer in number than during the Epipaleolithic (Fig. 99). The first evidence for these related themes from Northern Levantine sites (Fig. 99) dates to the PPNA and the number of Anatolian (Fig. 99) and Mesopotamian sites (Fig. 99) slightly increased.

c. Date cal BP	Site	Head Treatments	Selected References
12,000-11,500	**Hatula**	*headrests, possible skull removal, animal association*	Le Mort, 1994; Lechevallier & Ronen, 1994
11,300-10,800	**Netiv Hagdud**	*acephalous burials, skulls & crania removal (isolated & cached), cranial fragments, figurines*	Bar-Yosef et al, 1991; Kuijt, 1996; Belfer-Cohen & Arensburg, 1997
11,200-10,500	**Jericho**	*skulls orientation, acephalous burials, , skull removal (cached)*	Kenyon 1981; Kurth & Röhrer-Eertl, 1981; Benz, 2010; Nigro, 2017
11,000-10,500	**ZAD 2**	*head marker, skull removal, mandibulae burial*	Edwards et al, 2002, 2004; Edwards, 2016
11,000-10,250	**WF16**	*acephalous burials, skull removal, cranial fragments, skull pigmentation, animal association, carving*	Finlayson, 2009; Makarewicz & Rose, 2011; Mithen et al, 2015, 2018
10,800-10,500	**el-Hemmeh**	*skull removal (isolated & modified)*	Makarewicz & Rose, 2011

Tab. 99. Summary of head treatments for Southern Levantine PPNA sites included in the database.

c. Date cal BP	Site	Head Treatments	Selected References
11,750-10,650	**Tell Qaramel**	*mandibulae orientation, acephalous burials, skulls and crania removal (isolated & cached), burning, defleshing, animal association, figurines*	Kanjou, 2009, 2016; Mazurowski et al, 2009; Kanjou et al, 2013
11,300-10,500	**Jerf el-Ahmar**	*acephalous skeleton, skull removal (isolated & cached), burning, animal association, figurine heads or possible masks, carving, engravings*	Stordeur & Abbès, 2002; Stordeur et al, 2000
11,300-10,500	**Tell Mureybet**	*cranium movement, animal association, figurines*	Stordeur et al, 2000; Akkermans & Schwartz, 2003
11,000-10,500	**Tell Sheikh Hassan**	*skull removal (cached), mandibulae cache, statuary*	Cauvin, 1978; Clère et al, 1985; Müller-Neuhof, 2006

Tab. 99. Summary of head treatments for Northern Levantine PPNA sites included in the database.

c. Date cal BP	Site	Head Treatments	Selected References
11,500-10,000	**Göbekli Tepe**	*skull fragments, skull pigmentation, perforated holes, animal association, masks, statuary, figurines, carvings, engravings*	Schmidt, 2006, 2010; Notroff, 2015; Gresky et al, 2017; Dietrich, 2011; Dietrich et al, 2018
10,500-10,150	**Çayönü**	*charnel house, skull removal, defleshing, animal association*	Schirmer, 1990; Özdoğan, 1999; Le Mort, 2000; Croucher, 2006

Tab. 99. Summary of head treatments for Anatolian PPNA sites included in the database.

c. Date cal BP	Site	Head Treatments	Selected References
11,600-11,350	**Körtik Tepe**	*defleshing, pigmentation, animal association*	Özkaya & Coşkun, 2011; Erdal, 2015
11,200-10,700	**Qermez Dere**	*crania removal (cached)*	Watkins et al, 1989; Molleson, 1991; Watkins, 1990
11,000-10,500	**Nemrik 9**	*skull removal, mandible burial, animal association, figurines*	Kozlowski, 1989, 1990; Soltysiak et al, 2015

Tab. 99. Summary of head treatments for Anatolian PPNA sites included in the database.

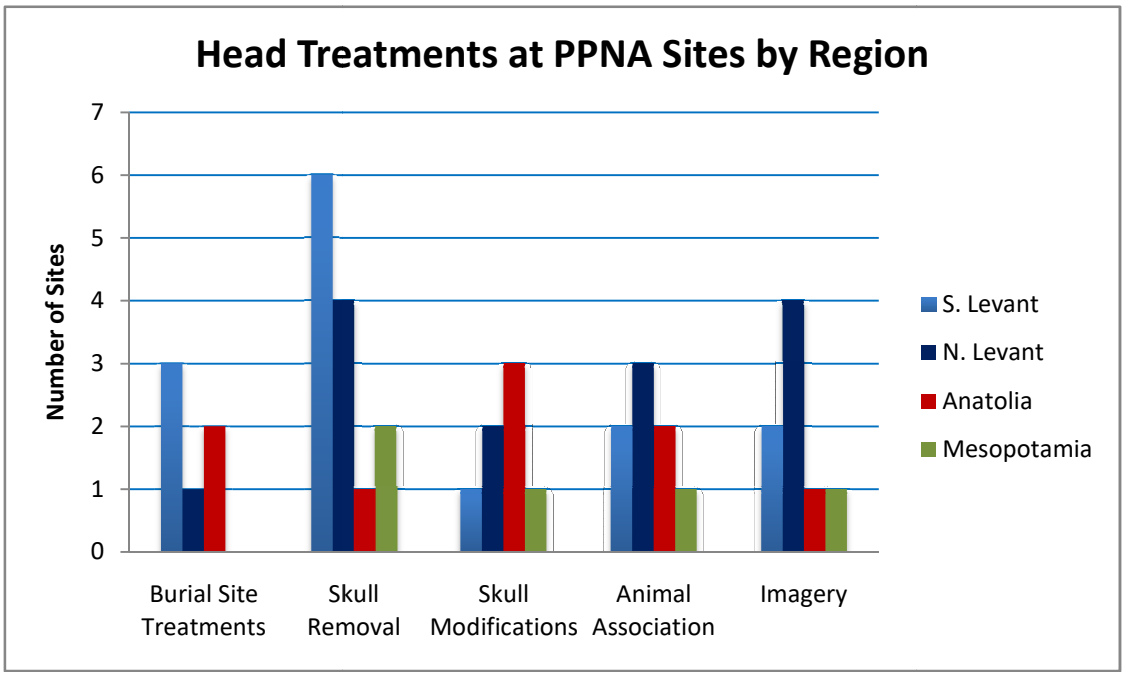


Fig. 99. Chart illustrating the number of PPNA sites by region which demonstrate evidence for the five major classifications of head treatments in the current study.

PPNA Burial Site Treatments

The total percentage of BST evidence during the PPNA was slightly lower than during the Epipaleolithic, but included evidence from Northern Levantine and Anatolian sites. The first sites with evidence for head orientations occurred in the PPNA and in addition to the above discussed finds from Jericho. In the North Levant, a skull with cervical vertebrae was found at Tell Qaramel cached with two mandibulae facing opposite directions.[165] The overall number of sites with evidence for headrests and head markers decreased significantly in the PPNA, dropping to a single site for each and remaining only in the South Levant. Following the Late Natufian occupation of Hatula, the use of stone headrests for the deceased may be observed during the PPNA.[166] At Zahrat adh-Dhra' 2 (ZAD 2), a cairn of stones marked the position of a collective burial which included a complete skull and two mandibulae.[167]

The first site included in the dataset with evidence for a charnel house dates to the PPNA. The 'Skull Building' at Çayönü contained the skeletal remains of about 450 individuals and was a type of charnel house used for over a millennium with at least five distinct burial and rebuilding sub-phases, the first two of which date to the PPNA.[168] The 'Skull Building' earned its moniker due to the many skulls recovered therein, some of which had likely fallen from shelves and were found on the main room floor.[169] Two sealed pits were found, the largest of which contained primary and secondary human burials combined with auroch skulls and horns.[170] The smaller pit contained secondary burials of 15 (MNI) individuals represented by skulls and postcranial bones with cutmarks from defleshing, which runs contrary to burials commonly found elsewhere during this period at Çayönü.[171]

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[165] Skeletal remains of a cranium (Grave G5-07; Individual T5-07-12) and two mandibulae (Grave G5-0; Individuals T5-07-13, T5-07-14) were discovered together. Youssef Kanjou, 'Study of Neolithic Human Graves from Tell Qaramel in North Syria', *International Journal of Modern Anthropology*, 2 (2009), pp. 25-37, (pp.31-32; Photo 4).

[166] Françoise Le Mort, Israel Hershkovitz, and M. Spiers, '*Les Restes Humains*', in *Le Gisement de Hatoula en Judée Occidentale, Israel*, ed. by Monique Lechevallier, Avraham Ronen and Patricia Anderson, Memoires et Travaux du Centre de Recherche Franqais de Jerusalem (Paris: Association Paleorient, 1994), pp. 59-72.

[167] The multiple burial (F.5) was found (Sq. J24) near a structure (Structure 2) with secondarily deposited long bones and included a phallic figurine (RN 010036). Phillip Edwards et al, 'From the PPNA to the PPNB: New Views from the Southern Levant After Excavations at Zahrat adh-Dhra' 2 in Jordan', *Paléorient*, 30(2) (2004), pp. 21-60, (pp. 26, 38; Fig. 16).

[168] The PPNA sub-phases of the 'Skull Building' begin with the earliest Round Building (BM1c) sub-phase to the early part of the Grill Plan (BM1a-b) sub-phase. There are 30 radiocarbon dates available for Çayönü, two of which are charcoal samples from later layers of the Round Building sub-phase (Level r3 Sample GrN 10358 9,180 ± 80 bp) and the transitional Round Building Grill dates (Level r3 Sample GrN 10359 9,050 ± 40 bp). *PPND-The Platform for Neolithic Radiocarbon Dates*, <http://www.exoriente.org/associated_projects/ppnd_site.php?s=14> [Accessed 21st February 2020]. The two dates were calibrated with current software (GrN 10358 10,557-10,222 cal BP; GrN 10359 10,254-10176 cal BP; OxCal 4.3; Intcal13; 95.4%).

[169] The skulls recovered from the floor likely date to the PPNA, but most of the skulls recovered from the 'Skull Building' date to the later PPNB sub-phases, which may be considered to be the origin of the 'Skull Building.' Wulf Schirmer, 'Some Aspects of Building at the 'Aceramic-Neolithic' Settlement of Çayönü Tepesi', *World Archaeology*, 21(3) (1990), pp. 363-387, (pp. 379-381). A. Özdoğan, 'Çayönü', in *The Neolithic in Turkey: The Cradle of Civilization/New Discoveries*, ed. by Mehmet Özdoğan and Nezhi Başgelen, (Istanbul: Arkeoloji Ve Sanat Yayınları, 1991), pp. 35-63, (p. 51).

[170] Özdoğan, 'Çayönü', Fig. 22.

[171] This evidence for defleshing runs contrary to burials commonly found elsewhere during this period at Çayönü.Le Mort et al, 'Feu et Archéoanthropologie au Proche-Orient', pp. 40-41; Fig. 2. Karina Croucher, 'Death, Display and Performance: A Discussion of the Mortuary Remains at Çayönü Tepesi', in *The Archaeology of Cult and Death: Proceedings of the Session 'The Archaeology of Cult and Death' Organized for the 9th Annual Meeting of the European Association of Archaeologists, 11th September 2003, St. Petersburg, Russia*, ed. by Mercourios Georgiadis and Chrysanthi Gallou, (Budapest: Archaeolingua Publications, 2006), pp. 11-43, (p. 15).

PPNA Skull Removal

About the same number of total sites from the Epipaleolithic and PPNA demonstrate evidence for skull removal, but half of the PPNA sites were found outside of the South Levant. Still, the practice seems more common in the PPNA Levant where all the Southern Levantine and 75% of Northern Levantine sites provided SR evidence. A slight decrease may be observed in sites which demonstrated evidence for acephalous skeletons, but may be viewed as comparable, due to fewer total PPNA sites and half of Levantine sites evidenced the practice.

PPNA Acephalous Skeletons

Some PPNA acephalous skeletons may provide evidence for an increased symbolic complexity. Powerful usage of symbolism related to the head via manipulation of skeletal elements may be observed at WF16. A deposit of large cranial fragments was carefully stacked above an acephalous burial and two leg bones were placed cross-shaped in the place where the skull would have been.[172] Unlike the Epipaleolithic, acephalous skeletons were recovered at Northern Levantine sites and one find in particular has become synonymous with relationships between Neolithic architecture, headless death, and ritual. At Jerf el-Ahmar, a decapitated skeleton was found splayed on the floor of a burnt building and it was suggested that the person's death likely occurred in connection with the act of burning the building which also contained a skull between two low walls (Fig. 99).[173]



Fig. 99. Acephalous skeleton from Jerf el-Ahmar. Gebel (2017), p. 60; Fig. 2.

[172] Long bones from the left leg and a tibia of the right leg formed the cross or X shape for the burial (B32). Bill Finlayson et al, 'New Excavations at WF16, a Pre-Pottery Neolithic A Site in Southern Jordan', *Antiquity Project Gallery*, 83(319) (2009), Fig. 5A, <http://www.antiquity.ac.uk/projgall/finlayson319/ > [Accessed 7th January 2020].

[173] The headless skeleton was found (Building EA 30; Phase II West) and the skull is said to belong to a separate individual. Danielle Stordeur et al, 'Les Bâtiments Communautaires de Jerf el Ahmar et Mureybet Horizon PPNA (Syrie)', *Paléorient*, 26(1) (2000), pp. 29-44, (p. 37). Verhoeven, 'Death, Fire and Abandonment', p. 62.

PPNA Separated Skulls

While the number of sites with acephalous skeletons may have decreased, the number of PPNA sites which contained evidence for separated skulls greatly increased and was more geographically diverse. All Southern Levantine sites demonstrated evidence of separated skulls. In addition to the many skulls recovered at Jericho, an isolated skull which, 'displayed several pathologies and/or modifications' was found in one of the mortuary installations at el-Hemmeh and the remains of an infant skull were found buried in a small round hut at ZAD 2.[174] 75% of sites from the North Levant provided evidence for skull separation, including Jerf el-Ahmar where two skulls were found buried together in what has been interpreted as a foundation deposit.[175] 'Skull burials were common' for early burials at Nemrik 9 in Mesopotamia and a collapsed structure contained a skull burial with accompanying grave goods.[176]

PPNA Separated Crania and Caching

The number of PPNA sites with evidence of separated crania equals those from the Epipaleolithic, but also included regions beyond the South Levant. However, all separated crania from the PPNA were discovered cached, which underwent a slight increase from the Epipaleolithic. Only groups of skulls or crania were uncovered in the early occupation of Neolithic Jericho, none of which received any form of decoration.[177] In addition to the groups of skulls and crania referenced above, a 'nest' of four human crania were found together under a house floor at Jericho (Fig. 99).[178] Also, a group of five decapitated infant skulls were found in a plastered circular basin, interpreted as an altar for a foundation sacrifice.[179]



Fig. 99. A 'nest' of four crania from Jericho (M 11.4Ba 1-4). Kenyon (1981), Pl. 279a.

[174] The young juvenile skull from el-Hemmeh was found (Structure 6; F13) in a pit sunk into a platform feature. Cheryl Makarewicz and Katherine Rose, 'Early Pre-Pottery Neolithic Settlement at el-Hemmeh: A Survey of the Architecture', *Neo-Lithics*, 1 (2011), pp.23-29, (pp. 26-27; Fig. 5). The infant skull from ZAD 2 was found (Structure 1; Sq. E28; Loc. 25.1) in a small pit. Edwards et al, 'From the PPNA to the PPNB', pp. 25-26; Fig. 3-4.

[175] The site was flooded in the late 1990's with the construction of the Syrian Tishrin Dam. The skulls were found (Building EA 7; Stage I East) at the bottom of a post hole. Stordeur et al, 'Les Bâtiments Communautaires', pp. 36-37.

[176] Arkadiusz Sołtysiak et al, 'Human Remains from Nemrik, Iraq: An Insight into Living Conditions and Burial Customs in a Pre-Pottery Neolithic Village', *Paléorient*, 41(2) (2015). pp. 101-114, (p. 112). The skull burial was found (House 2) in the fill of a collapsed house. Stefan Karol Kozlowski, 'Nemrik 9: A PPN Neolithic Site in Northern Iraq', *Paléorient*, 15(1) (1989), pp. 25-31, (p. 27).

[177] However, it should be noted that Nigro designated an isolated skull (Munich: F 38; Jericho F 201.13 c) to the PPNA. Nigro, 'Beheaded Ancestors', p. 13; Tab. 1.

[178] The four PPNA (Stage VIII) female crania (Munich: M31-34; Jericho: M 11.4Ba 1-4) were found (Square M1) in a nest (perhaps circular) under a house (House MO). Kenyon, *Excavations at Jericho*, Vol. III, ed. by Holland, p. 233; Pl.134a, 279a.

[179] The five LPPNA (Stage VIIB) skulls (Munich: F43-47; Jericho: F 201.23 2, 7) were found (Trench I; Square FI) in a round basin (AT) near a child burial (F42). Ibid., pp. 49-50, Pl. 31b, 32a, 33b, 213, 238. Benz assigned the infant skulls to

A cache of at least three fragmentary crania was found by a cobble stone installation inside the only partitioned oval-shaped structure found at Netiv Hagdud.[180] Evidence for skulls/crania caching was also found at Northern Levantine and Mesopotamian sites. A cache of three skulls were found in an ashen deposit at Tell Sheikh Hassan.[181] A cache of six crania were found deposited at the final abandonment of the last of three successively built structures at Qermez Dere.[182]

PPNA Skulls/Crania Movement, Mandibulae Burials, and Skull Fragments

Evidence for skulls/crania Movement largely decreased during the PPNA and was singly represented by a cranium and fragmented long bones found under an oven at Tell Mureybet.[183] A slight increase occurred concerning sites that demonstrated mandibulae burials, over half of which were discovered outside of the South Levant. Nemrik 9 was the only site which gave evidence of a single human mandible, found incorporated a stone pavement structure with the horn of a gazelle.[184] The mandibulae recovered from the remaining PPNA sites were discovered in groups, including six from Tell Sheikh Hassan.[185] The number of sites with evidence for skull fragments decreased, but included an important Anatolian site in addition to Southern Levantine evidence. Although burials have not been discovered, the enclosures at Göbekli Tepe were intentionally buried and human bones were found within the fill, the majority of which are skull fragments.[186] Even without the discovery of burials, some of the chief excavators at Göbekli Tepe concluded that, 'death and burial ritual must be part of the interpretation of the functional and ideological role of the enclosures at Göbekli Tepe.'[187]

PPNA Skull Modifications

Artificial Cranial Modification, Burning, Defleshing

The total number of sites which provided evidence for skull modification decreased

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the MPPNB. Benz, 'Beyond Death', pp. 256-257; Tab. 2.

[180] The three fragmentary skulls were found (Locus 8) with 70 other seemingly symbolic items. Ofer Bar-Yosef et al, 'Netiv Hagdud: An Early Neolithic Village Site in the Jordan Valley', *Journal of Field Archaeology*, 18(4) (1991), pp. 405-424, (p. 411). Kuijt called this find a 'cache of three crania.' Kuijt, 'Negotiating Equality through Ritual', p. 322.

[181] The skull cache from Tell Sheikh Hassan was discovered in a possible hearth without any other bones. Cauvin, *Les Premiers Villages*, p. 128; Note 48.

[182] The crania were found (Building RAA) in the northwest area of the building. Theya Molleson 'The Human Remains' in *Qermez Dere, Tel Afar: Project Paper 13, Interim Report 2*, ed. by Trevor Watkins, (Edinburgh: Department of Archaeology, University of Edinburgh: 1991), pp. 17-22. Trevor Watkins, Douglas Baird and Alison Betts, 'Qermez Dere and the Early Aceramic Neolithic of N. Iraq', *Paléorient*, 15(1) (1989), pp. 19-24, (pp. 20-21; Fig. 2).

[183] The cranium and long bones were discovered in a building with wall paintings. Peter M.M.G. Akkermans and Glenn M. Schwartz, *The Archaeology of Syria from Complex Hunter-Gatherers to Early Urban Societies (c. 16,000-300 BC)*, Cambridge World Archaeology, (Cambridge: Cambridge University Press, 2003), pp. 52, 84-85; Fig. 3.17.

[184] Kozlowski, 'Nemrik 9: A PPN Neolithic Site', p. 27; 'Nemrik 9', *Polish Archaeology in the Mediterranean: Reports 1989-1990*, 2 (1990), pp. 102-111, (p. 108).

[185] Jacques Clère, P. Adeleine and Denise Ferembach, 'Étude Anthropologique des Mandibules de Cheikh Hassan', *Cahiers de l'Euphrate*, 4 (Paris: Éditions du CNRS, 1985), pp. 265-273.

[186] Among the 691 human bones recovered, 408 are skull fragments including 7 fragments of 3 specially modified human skulls. Julia Gresky, Julianne Haelm, and Lee Clare, 'Modified Human Crania from Göbekli Tepe Provide Evidence for a New Form of Neolithic Skull Cult', *Science Advances*, 3(6) (2017), pp. 1-10, (p. 1).

[187] Notroff, Dietrich and Schmidt, 'Gathering of the Dead?' in *Death Rituals, Social Order and the Archaeology of Immortality*, ed. by Renfrew, Boyd and Morley, pp.78-79.

during the PPNA, but demonstrated more geographical diversity. Like the Epipaleolithic, only one PPNA site in the database provided possible evidence for ACM, but unlike the Epipaleolithic, it was found outside of Mesopotamia. A collective burial cache of two skulls and two crania which featured an, 'enlargement in skull bones' were found in the eastern wall of Tower 1 at Tell Qaramel.[188] The single Epipaleolithic example which evidenced burning in relation to the head doubled during the PPNA, but they were only found in the North Levant, including the bases of three skulls with traces of charring found together in what may have been a stone oven at Jerf el-Ahmar.[189] Sites with evidence for defleshing increased and were also found outside the South Levant. One of the mandibulae from the Tell Qaramel Tower 1 grave and the axis of an acephalous burial found near the shrine/communal building displayed cutmarks, illustrating the technical complexities of postmortem skull removal using stone tools.[190]

PPNA Skull Pigmentation and Perforated Holes

Evidence for sites with head decoration was at its highest point during the Epipaleolithic, but evidence from PPNA sites was lacking. However, sites which gave evidence of skull pigmentation increased and were found in more regions during the PPNA. At WF16, a secondary burial of an infant cranium seems to have been interred directly above an adult skeleton that had white gypsum paste and linear black markings on the back of the skull.[191] Cranial fragments from three individuals were modified in such a way as to suggest evidence for 'a variation of skull cult' because of special modifications including deep carvings and a perforated hole on one fragment with traces of red ochre, which are the only modifications of their kind in the PPN and may be specific to Göbekli Tepe (Fig. 99).[192]

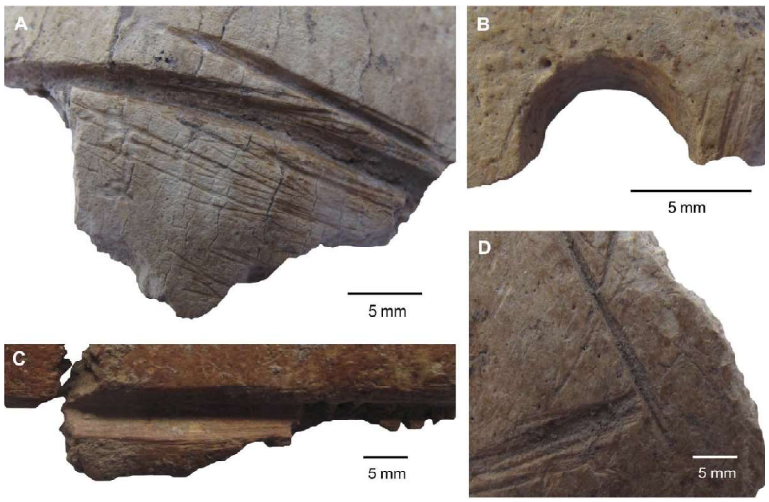


Fig. 99. Selection of skull fragments from Göbekli Tepe. (A) Frontal bone with deep carvings. (B) Left parietal bone with perforated hole. (C) Right parietal bone with deep groves. (D) Frontal bone with carvings. Gresky, Haelm & Clare (2017), p. 4; Fig. 3.

[188] Remains of four individuals (Individuals TO-04-01/02/03/04) were found (Grave Tower 1; Square K-7). Kanjou, 'Study of Neolithic Human Graves from Tell Qaramel', p. 27.
[189] Bassam Jammous and Danielle Stordeur, 'Jerf al-Ahmar', in *Syrian-European Archaeology Exhibition: Working Together*, (Damascus: l'Institut Français d'Etudes Arabes de Damas, 1996), pp. 27-29, (p. 28).
[190] An axis of an acephalous individual (Grave G2-07; Individual T5-07-9) and a mandible (Grave G Tower I; Individual TO-04-03) demonstrated cutmarks consistent with manual defleshing. Kanjou et al, 'Early Human Decapitation', pp. 4-9; Fig. 2-4.
[191] The burial (O38) was found (Structure O83) to include a fragmented infant cranium and a truncated primary burial. Steven Mithen et al, 'Death and Architecture: The Pre-Pottery Neolithic A Burials at WF16, Wadi Faynan, Southern Jordan', in *Death Rituals, Social Order and the Archaeology of Immortality*, ed. by Renfrew, Boyd and Morley, (New York: Cambridge University Press, 2015), pp. 82-110, (pp. 95, 104, 107; Fig. 6.10).
[192] Gresky, Haelm and Clare, 'Modified Human Crania from Göbekli Tepe', p. 1.

The first and highest number of sites in the database with evidence for perforated holes dates to the PPNA. The location of the Göbekli Tepe fragment with the perforated hole atop the skull would have allowed a string to be placed through it and strung along the deep carved grooves to perhaps be hung in suspension.[193] A polished and pierced fragment of a cranium that is believed to date to the Neolithic (Fig. 99) and two other similarly pierced bone fragments were found in burial fill at WF16, perhaps serving as pendants or otherwise hung for display (Fig. 99).[194]

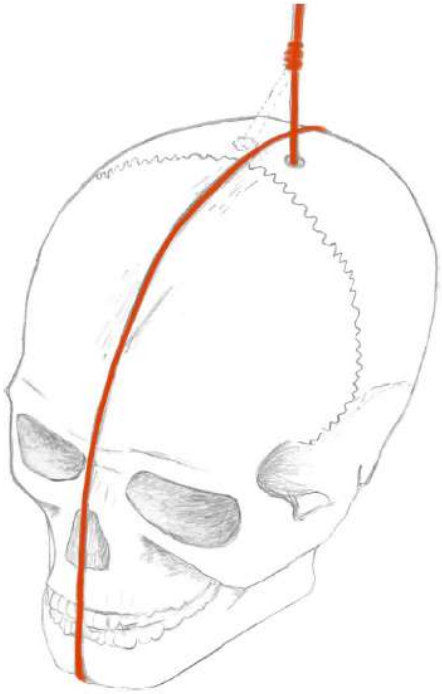


Fig. 99. Artistic reconstruction of possible suspension for a Göbekli Tepe skull. Gresky, Haelm & Clare, (2017), p. 6; Fig. 5.

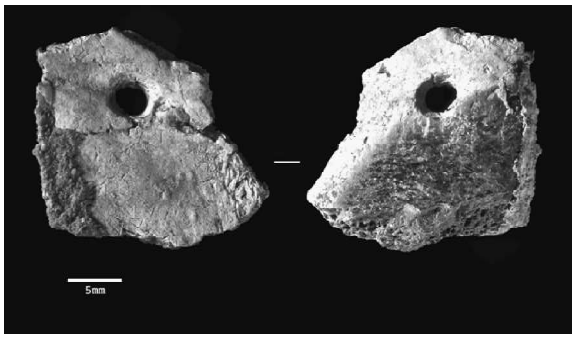


Fig. 99. A polished skull fragment (SF588) with a perforated hole from WF16. Flohr (2018), p. 101; Fig. 6.16.

PPNA Animal Association

The overall number of PPNA sites which exhibited animal association increased following the Epipaleolithic and more regionally diverse. In addition to the many PPNA finds which included elements of animal association mentioned above, a skull that 'protruded above the plaster floor' was a visible part of possible dedicatory architecture at WF16 and a fox skull, caprine horns, and possibly human skull fragments were incorporated unseen inside *pisé* walls.[195] Interestingly, Körtik Tepe contains the most burials from the PPN, but it does not exhibit skull removal.[196] However, burials were found with tortoise carapaces near skulls with some graves were encircled by animal skulls and horns.[197]

[193] Ibid., p. 6.
[194] The cranial fragment (SF558) was found along with two other possible cranial fragments (SF566, SF572) were found (Fill 376) in the fill from an 'antique burial' (O71). Pascal Flohr, 'The Architecture of WF16' in *WF16 Excavations at an Early Neolithic Settlement in Wadi Faynan, Southern Jordan: Stratigraphy, Chronology, Architecture and Burial*s, ed. by Steven Mithen et al, (Oxford: Council for British Research in the Levant, 2018), pp. 653-672, (pp 62-65, 671; Fig. 6.12).
[195] The protruding skull (F8) was found (Context 298; Evaluation Trench 2). Charlotte Roberts , 'The Human Remains' in *The Early Prehistory of Wadi Faynan, Southern Jordan: Archaeological Survey of Wadis Faynan, Ghuwayr and al Bustan and Evaluation of the Pre-Pottery Neolithic Site of WF16*, ed. by Bill Finlayson and Steven Mithen, (Oxford: Council for British Archaeology in the Levant & Oxbow Books, 2007), pp. 401-407. Unseen skeletal elements were referenced for three structures (Structures O12, O33, O45) at WF16. Mithen et al, 'Death and Architecture', in *Death Rituals, Social Order and the Archaeology of Immortality*, ed. by Renfrew, Boyd and Morley, p. 106.
[196] Ten possible skull internments are believed to be the remainders of other disturbed burials and not evidence for secondary skull removal and/or decapitation. Yilmaz Selim Erdal, 'Bone or Flesh: Defleshing and Post-Depositional Treatments at Körtik Tepe (Southeastern Anatolia, PPNA Period)', *European Journal of Archaeology*, 18(1) (2015), pp. 4-32, (p. 17). Two acephalous burials were also found, but excavators believe that since the vast majority of the burials have articulated skulls, these two skulls 'were destroyed over time.' Vecihi Özkaya and Aytaç Coşkun, 'Körtik Tepe', in *The Neolithic in Turkey, New Excavations & New Research, The Tigris Basin*, ed. by Mehmet Özdoğan, Nezhi Başgelen and Peter Kuniholm (2011), pp. 89-127, (pp. 93-94).
[197] Erdal, 'Bone or Flesh', p. 6. Tortoise shells were discovered by the skulls of 16 individuals at Körtik Tepe, 11 of which contained plaster and/or ochre. Aytaç Coşkun et al, 'Living by the Water – Boon and Bane for the People of Körtik Tepe',

PPNA Anthropomorphic Imagery

PPNA Masks and Statuary

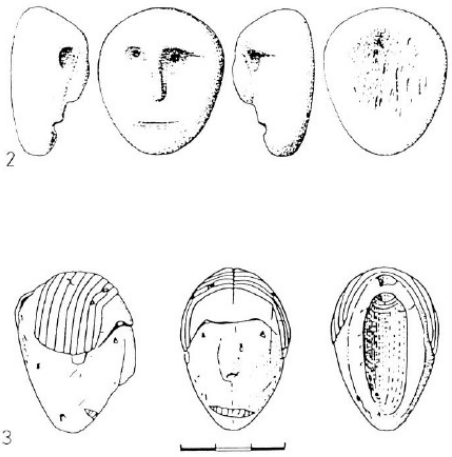


Fig. 99. Possible masks from Jerf el-Ahmar. Stordeur & ???? (2002), p. 587; Fig. 15.2-3.

The total number of sites which provided evidence for anthropomorphic imagery doubled from the Epipaleolithic to the PPNA and was also found in regions beyond the Southern Levant. The first sites with evidence of masks and statuary date to the PPNA and were from the North Levant and Anatolia. Two small stone carvings of human heads were found at Jerf el-Ahmar which may be figurine heads or possibly representations of masks (Fig. 99).[198] Masks of a range of sizes made from stone or clay were found at Göbekli Tepe.[199] Two of the largest central anthropomorphic T-shaped pillars from Göbekli Tepe described above depict stylized bodies adorned with fox loincloths and wearing necklaces (Fig. 99).[200] A stone 'totem



Fig. 99. Enclosure D at Göbekli Tepe with (a) Pillar 31 wearing necklaces which depict a bucranium and (b) Pillar 18 depicts unknown H-shaped symbol, disc, and crescent. Note the elongated rectangular 'heads' of the T-shaped pillars. Dietrich et al (2012), pp. 662-683; Fig. 7-8.

Neo-Lithics, 2 (2010), pp. 60-71, (pp. 64-69; Tab. 1).

[198] Danielle Stordeur and Frédéric Abbès, 'Du PPNA au PPNB: Mise en Lumière d'une Phase de Transition à Jerf el Ahmar (Syrie)', *Bulletin de la Société Préhistorique Française*, 99(3) (2002), pp 563-595, (pp. 586-587; Fig. 15.2-3). Oliver Dietrich, Jens Notroff and Laura Dietrich, 'Behind the Mask: Early Neolithic Miniature Masks (and One Larger-Than-Life Example) from Göbekli Tepe (and Beyond)', *Friends of ASOR*, 6(9) (2018), <http://www.asor.org/anetoday/2018 /09/ Behind-the-Mask> [Accessed 15th October 2019].

[199] Oliver Dietrich, Laura Dietrich, and Jens Notroff, 'A Clay Mask Depiction from Göbekli Tepe', *Neo-Lithics*, 1 (2018), pp. 8-11, (Fig. 2-4). Dietrich, Notroff and Dietrich, 'Behind the Mask' <http://www.asor.org/anetoday/2018/09/Behind-the-Mask> [Accessed 15th October 2019].

[200] The above description is of 5.5m tall Pillars 18 and 31 in Enclosure D. Klaus Schmidt, 'Göbekli Tepe – The Stone Age Sanctuaries: New Results of Ongoing Excavations with a Special Focus on Sculptures and High Reliefs', *Documenta Praehistorica*, 37 (2010), pp. 239-256.



Fig. 99. Stone 'totem pole' from Göbekli Tepe depicting what may be a leopard holding a human head above another smaller person holding an unidentified object and flanked by serpents. Gebel (????), p. 60; Fig. 1.

pole' depicted what may be a leopard holding a human head above another smaller person holding an unidentified object and flanked by serpents (Fig. 99).

PPNA Anthropomorphic Figurines

A significant increase in sites with evidence for figurines was observed during the PPNA and was more regionally diversified. At Netiv Hagdud, clay anthropomorphic figurines and figurine heads were found, one of which 'has a series of incisions on top of the flat head, possibly indicating the presence of net-like headgear.'[201] Figurine heads, headless figurines, and figurines with stylized heads were found at Tell Mureybet and a cache of small anthropomorphic figurines found together with auroch bones was interpreted in a spiritual context.[202]

Figurine finds at Nemrik 9 include raptor heads and two broken anthropomorphic figurines, one of which is a stone sculpture of a male head.[203] The male sculpture is phallic in shape and has an engraved head with a zig-zag line across the face that may represent face paint or a tattoo (Fig. 99).[204]



Fig. 99. Nemrik 9 phallic sculpture with engraved head https://pcma.uw.edu.pl/en/2019/02/14/nemrik-2/

PPNA Carvings and Engravings

A slight increase of sites in the database which exhibited evidence for carvings occurred during the PPNA

[201] Bar-Yosef et al, 'Netiv Hagdud: An Early Neolithic Village', p. 417; Fig. 13.

[202] Akkermans and Schwartz, *The Archaeology of Syria*, pp. 84-85; Fig. 3.17. The cache was found (Building EA 47; Phase III East) in a building that may have served ritual purposes. '*Il est possible, si l'on considère leur position stratigraphique, que les statuettes féminines et les chevilles osseuses aient été incluses dans l'architecture; leur présence indiquerait alors la volonté de marquer l'édifice du symbole, mis en lumière par J. Cauvin, de la « femme et du taureau».*' Stordeur et al, 'Les Bâtiments Communautaires', p. 37.

[203] Kozlowski, 'Nemrik 9', p. 108.

[204] Polish Centre of Mediterranean Archaeology, *University of Warsaw, Nemrik*, <https://pcma.uw.edu.pl/en/2019/02/14/nemrik-2/> [Accessed 10th January 2020].

and was found in more regions. Human expression regarding the importance of the head during the PPNA was not limited to skulls and bones. In a burial at WF16, a unique small limestone head with a carved face was discovered, and on the reverse is another carved face in an upside down position.[205]



Fig. 99. Limestone head (SF238) from WF16. Finlayson et al (2009), Fig. 6F.

Sites in the database with evidence for engraving first occurred during the PPNA. In addition to the numerous engravings upon the architecture at Göbekli Tepe mentioned above, concepts related to headlessness and certain animals were manifested in the décor of a burnt circular building from the LPPNA-EPPNB transitional phase at Jerf el-Ahmar. A section of a hexagonal bench was found carved with triangular zig-zag lines that may depict feathers and was flanked by raptor stelae, in addition to containing two schematic anthropomorphic engravings that may 'represent headless human bodies' (Fig. 99).[206]

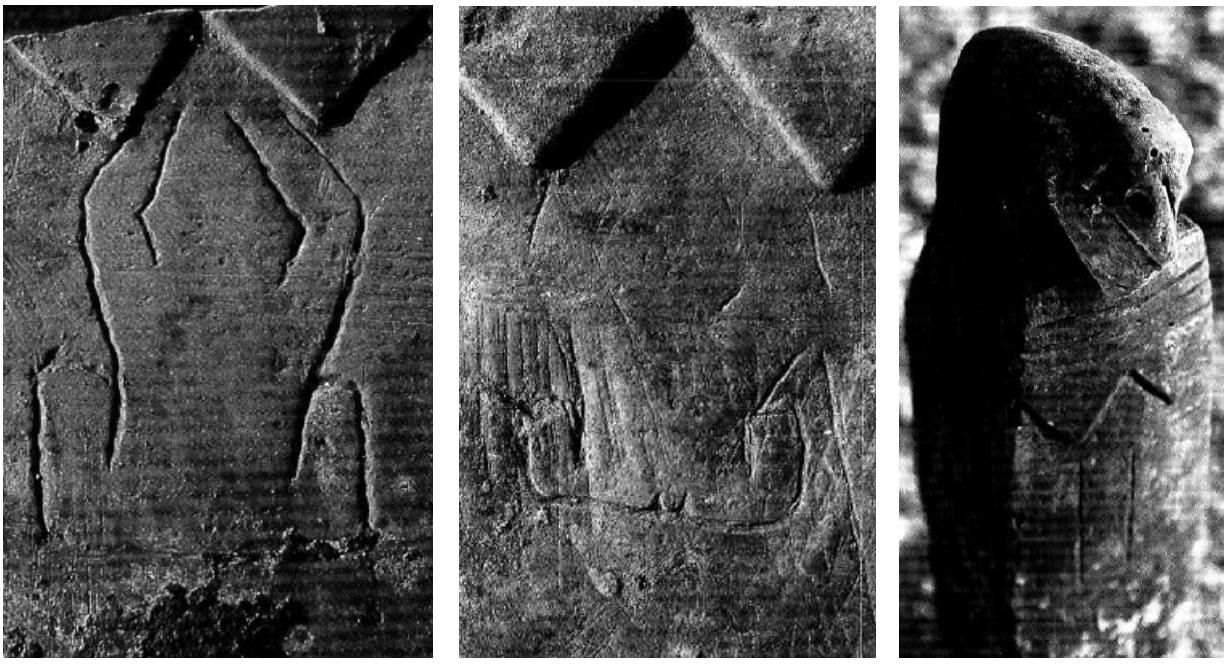


Fig. 99. (a-b) Schematic engravings of a headless humans and (c) raptor stelae from House 100 at Jerf el-Ahmar. Stordeur & ???? (2002), p. 587; Fig. 15.5.

[205] The dual faced limestone head (SF238) was found in a burial (B32). Finlayson et al, 'New Excavations at WF16', Fig. 6F.

[206] The bench section was found (Building EA 100; Level I/0 West) with engravings. '*Ceux-ci sont gravés sur une dalle très massive et pourraient représenter des corps humains sans tête (on pense d'emblée au squelette sans crâne de EA 30)*.' Stordeur et al, 'Les Bâtiments Communautaires', p. 40; Fig. 11; Parenthesis original. Stordeur and Abbès, 'Du PPNA au PPNB', pp. 575, 586-587; Fig. 7.4; 15.4-5.

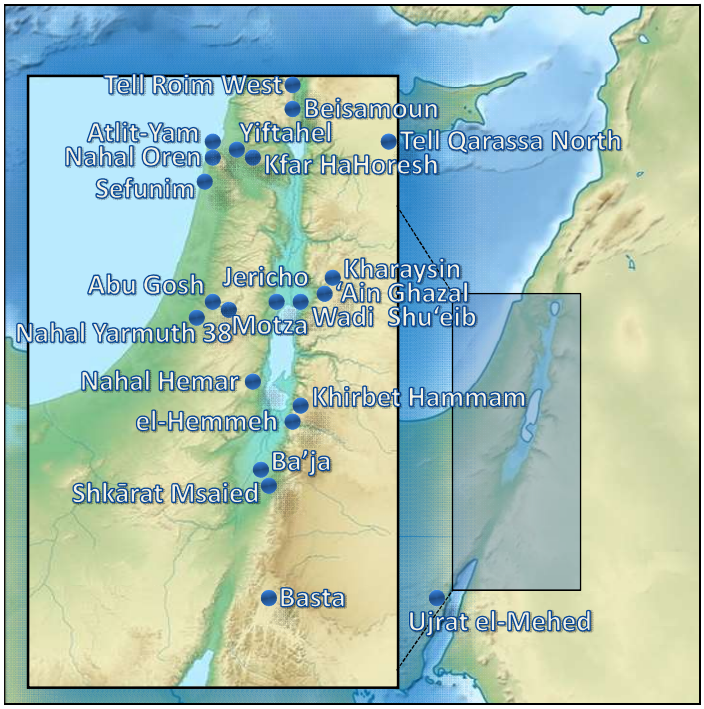


Fig. 99. Map of Southern Levantine PPNB-PPNC sites included in the database.

PPNB-PPNC Head Treatments

Treatment of the head in the PPNB-PPNC continued to expand upon customs practiced in the Epipaleolithic and the PPNA. Many sites demonstrated a shared ideology of skull removal. The number of PPNB-PPNC sites included in the database was well over those of the Epipaleolithic and the PPNA combined, the majority of which were from a large increase in South Levantine sites (Fig. 99-99). The total number of Northern Levantine sites doubled from the PPNA to the PPNB-PPNC. (Fig. 99-99). The first and only inclusion of sites in the current study from the region of Cyprus date to the PPNB-PPNC (Fig. 99-99).

c. Date cal BP	Site	Head Treatments	Selected References
10,700-10,400	**Nahal Oren**	*head marker, acephalous burials*	Noy et al, 1973
10,500-10,200	**Sefunim**	*acephalous burial*	Ronen, 1968
10,500-8,500	**Jericho**	*head orientation, acephalous burials, separated skulls/crania (isolated & cached), skull pigmentation, modeled skulls, artificial cranial modification, statuary, mask*	Kenyon, 1981; Benz, 2010; Nigro, 2017
10,500-8,750	**Kfar HaHoresh**	*head markers, acephalous burials, separated skulls (isolated & cached), mandibulae burials, defleshing, modeled skulls, perforated hole, animal association, possible statuary*	Goring-Morris et al, 1998; Goring-Morris, 2005; Simmons et al, 2007; Goring-Morris et al, 2008
10,500-8,750	**Motza**	*acephalous burials, skulls/crania movement, mandible burial, animal association, figurine, carving*	Khalaily et al, 2007; Reshef et al, 2019
10,400-10,100	**Tell Qarassa North**	*skull orientation, head markers, acephalous burials, separated skulls & crania (cached), skull fragments, figurines, carving*	Ibáñez et al, 2010, 2014; Santana et al, 2012, 2015;
10,300-9,700	**Shkārat**	*skull orientation, head markers, charnel*	Jensen et al, 2005; Hermansen

	Msaied	*house, acephalous burials, separated skulls (cached), skull/crania movement, mandible burial, animal association*	et al, 2006; Kinzel et al, 2011, 2015, 2017; Kinzel, 2019
10,200-10,000	**Kharaysin**	*acephalous burials*	Ibáñez et al, 2015
10,000-9,500	**Nahal Yarmuth 38**	*acephalous burials, animal association, figurine*	Gopher et al, 2019
10,000-8,400	**Beisamoun**	*skulls orientation, acephalous burials, separated skulls (cached), separated cranium, defleshing, modeled skulls*	Ferembach & Lechevallier, 1973; Lechevallier, 1978; Bocquentin et al, 2011;
10,000-8,500	**'Ain Ghazal**	*crania orientation, acephalous burial, separated skull, separated crania (cached), defleshing, skull pigmentation, modeled skulls, statuary, figurines, masks*	Rollefson, 1983, 1986, 2014; Rollefson et al, 1985, 1988; Griffin et al, 1998; Schmandt-Besserat, 2013
10,000-9,200	**Nahal Hemar**	*skull fragments, artificial cranial modification, possible headdresses, modeled crania, burning, statuary, figurines, masks*	Schick, 1988; Bar-Yosef & Alon, 1988; Arensburg & Hershkovitz, 1988, 1989; Goren et al, 1993 Bar-Yosef, 2003
10,000-9,400	**Abu Gosh**	*acephalous burials, separated skull*	Dollfus & Lechevallier, 1969; Lechevallier, 1978
9,700-8,750	**Yiftahel**	*skulls orientation, head marker, acephalous burials, modeled skulls, figurines*	Arensburg et al, 1986; Khalaily et al, 2000; Milevski et al, 2008; Gubenko et al, 2014
9,500-8,500	**Wadi Shu'eib**	*acephalous burials, figurine*	Simmons et al, 1989, 2001
9,500-8,750	**el-Hemmeh**	*separated skull, animal association, figurine*	Makarewicz & Austin, 2006
9,500-8,750	**Tell Roim West**	*acephalous burials*	Eshed & Nadel, 2015
9,500-9,000	**Basta**	*acephalous burials, separated skulls (isolated & cached), skulls/crania movement, figurine, carving, mask*	Nissen et al, 1987, 1991
9,500-9,250	**Khirbet Hammam**	*head marker, separated skull*	Peterson, 2007
9,400-9,000	**Ujrat el-Mehed**	*skulls/crania movement*	Hershkovitz et al, 1994
9,200-8,900	**Ba'ja**	*skull orientation, acephalous burial, skulls/crania movement, skull pigmentation, animal association, painting*	Gebel & Hermansen, 2000, 2001; Gebel et al, 2005
9,000-8,000	**Atlit-Yam**	*acephalous burials, separated skulls (cached), skull fragments, defleshing, animal association, statuary*	Hershkovitz & Galili, 1990; Galili et al, 2005, 2013

Tab. 99. Summary of head treatments for Southern Levantine PPNB-PPNC sites included in the database.



Fig. 99. Map of Northernn Levantine and Mesopotamian PPNB-PPNC sites included in the database.

c. Date cal BP	Site	Head Treatments	Selected References
10,700-10,200	**Dja'de el-Mughara**	*charnel house, acephalous burial, separated skulls, figurines*	Coqueugniot, 1998; 2014 Christidou et al, 2009
10,500-10,200	**Tell Mureybet**	*possible headrests, decorated skulls*	Cauvin, 1978
10,500-9,500	**Tell Aswad**	*skull orientation, headrests, acephalous burial, separated skulls and crania (isolated & cached), mandibulae burials, modeled skulls, figurines*	Stordeur et al, 2002, 2006; Stordeur & Khawam, 2007
10,400-7,800	**Abu Hureyra**	*charnel room, acephalous burials, separated skulls and crania (isolated & cached), skull pigmentation, animal association*	Moore et al, 2000; Molleson & Arnold-Forster, 2015
9,700-9,500	**Moghr el-Ahwal**	*acephalous burials*	Garrard & Yazbeck, 2008; Garrard, 2017
9,700-9,250	**Tell Halula**	*possible headdress, figurines, painting*	Guerrero et al, 2009; Kuijt et al, 2011
9,200-8,650	**Tell Ramad**	*separated skulls (cached), cranial fragments, modeled skulls, statuary, animal association, figurines*	de Contenson, 1966, 2000; Anfruns & Oms, 2006
9,100-8,500	**Bouqras**	*charnel house, separated skulls and crania, artificial cranial modification, figurines, carvings*	Akkermans et al, 1983; Meiklejohn et al, 1992; Merrett & Meiklejohn, 2007

Tab. 99. Summary of head treatments for Northern Levantine PPNB-PPNC sites included in the database.



Fig. 99. Map of Cypriot and Anatolian PPNB-PPNC sites included in the database.

c. Date cal BP	Site	Head Treatments	Selected References
10,400-9,000	**Shillourokambos**	*head markers, acephalous skeletons, separated skulls (isolated & cached), skull fragments, mandible burial, skulls/crania movement, animal association, figurine*	Peltenburg , 2003; Guilaine & Le Brun, 2003; Koutrafouri, 2008
9,500-9,000	**Mylouthkia**	*separated crania, skulls/crania movement, mandible burial, cranial fragments, artificial cranial modification, burning, animal association,*	Croft, 2003; Fox, 2003; Koutrafouri, 2008
9,000-8,000	**Khirokitia**	*head markers, artificial cranial modification, figurines*	Angel, 1953; Dikaios, 1953; Koutrafouri, 2008
8,300-8,000	**Cape Andreas-Kastros**	*mandibulae burials, cranial fragments, artificial cranial modification*	Le Brun, 1981; Massei-Soliveres, 1981; Koutrafouri, 2008

Tab. 99. Summary of head treatments for Cypriot PPNB-PPNC sites included in the database.

c. Date cal BP	Site	Head Treatments	Selected References
10,500-9,900; 9,300-9,000	**Çayönü**	*skulls orientation, charnel house, acephalous skeletons, separated skulls and crania (isolated & cached),burning, defleshing, animal association, figurines*	Schirmer, 1990; Özbek, 1988, 1992; Özdoğan, 1999; Croucher, 2006, 2010; Kodas, 2015
10,400-9,700	**Nevalı Çori**	*crania orientation, head marker, acephalous burials, separated crania (isolated & cached), mask, statuary, figurines*	Hauptmann, 1988, 1991/1992, 1993, 1999, 2011; Hauptmann & Schmidt,

			2007
10,300-9,400	**Boncuklu**	*separated skulls, skulls/crania movement, decorated skulls, skull pigmentation, animal association*	Baird & Fairbairn, 2014, 2015; Baird et al, 2017
10,000-9,500	**Hacılar**	*skulls orientation, separated skulls and cranium, possible artificial cranial modification,*	Mellaart, 1970
10,100-9,300	**Cafer Höyük**	*possible head marker, acephalous burials*	Molist & Cauvin, 1991; Cauvin et al, 1999

Tab. 99. Summary of head treatments for Anatolian PPNB-PPNC sites included in the database.

c. Date cal BP	Site	Head Treatments	Selected References
10,200-9,900	**Ganj Dareh**	*artificial cranial modification, figurines*	Smith, 1968, 1974; Meiklejohn et al, 1992, 2017
10,150-9,700	**Tepe Abdul Hosein**	*possible acephalous skeleton, artificial cranial modification*	Lorentz, 2010, 2017; Broushaki et al, 2016
9,500-8,500	**Ali Kosh**	*possible skulls/crania movement, artificial cranial modification, possible skull modification*	Hole, 2000; Sołtysiak & Darabi, 2017
9,000-8,000	**Choga Sefid**	*artificial cranial modification, figurines*	Hole, 1977; Daems & Croucher, 2007

Tab. 99. Summary of head treatments for Mesopotamian PPNB-PPNC sites included in the database.

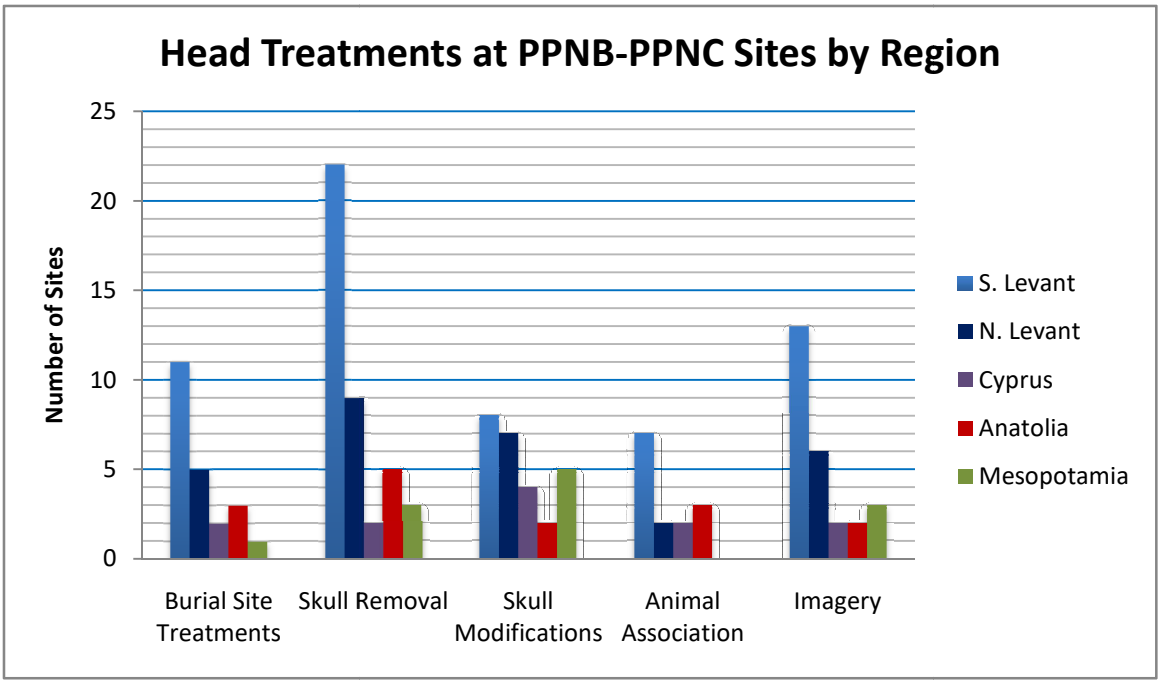


Fig. 99. Chart illustrating the number of PPNB-PPNC sites by region which demonstrate evidence for the five major classifications of head treatments in the current study.

PPNB-PPNC Burial Site Treatments

As in all five major classifications, the number of PPNB-PPNC sites which provided evidence for BST increased from both the Epipaleolithic and the PPNA. The overall increase in sites however, did not change the approximate 50% average of Southern Levantine sites with BST.

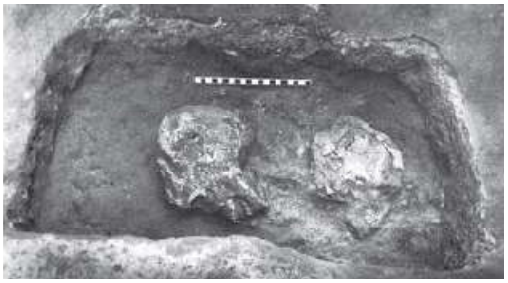


Fig. 99. Juxtaposed skull burial from Jericho (B4.45 2-3). Kenyon (1981), Pl. 8b, 221.

PPNB-PPNC Head Orientations

Evidence for the continued relevance of orientation at Jericho may be shown with two skulls from the MPPNB layers buried in juxtaposition to one another (Fig. 99).[207] Also, a cranium was imbedded within a wall and another was placed under the floor of a small MPPNB building at Jericho, facing east in a corner near the entrance (Fig. 99).[208] A collective burial at Ba'ja contained animal bones with human skulls and unarticulated postcranial remains of six individuals, one of whose skull was intentionally placed, 'directly in the NE corner and looking towards the east.'[209] The first Anatolian sites (Fig. 99) to be included in the database for head orientations date to the PPNB. Deliberate directional placement may be observed in a large special purpose structure at Nevalı Çori that contained buried crania from nine individuals, six of which were buried in pairs and faced one another.[210] A channel within the PPNB phases of the 'Skull Building' at Çayönü contained over 90 human skulls lined in a straight north-south row with the skulls facing east or west and long bones consecutively stacked.[211]



Fig. 99. Architecturally related skulls at Jericho. (a) Imbedded cranium and (b) skull buried under a floor near an entrance. Kenyon (1981), Pl. 171, 306b.

[207] The two MPPNB (Stage XVIA) skulls (Munich: B1 A-B; Jericho: B4.45 2-3) were found (Trench I; Wall 64) on their sides within a rectangular pit. Kenyon, *Excavations at Jericho*, Vol. III, ed. by Holland, p. 74; Pl. 48b, 221.
[208] The imbedded cranium was found (Sq. EI; Stage XIII) imbedded in a wall (Wall E169) and the other was found (Sq. EI; Stage XIV) near an entrance. Ibid., pp. 298, 305; Pl. 163b, 169b, 171, 172a, 306b, 308b-c.
[209] The collective burial was found (Area C; Square C10; Burial Loc. 170) near a wall and buttress. Hans Gebel, Bo Dahl Hermansen and Moritz Kinzel, 'Ba'ja 2005: A Two-Storied Building and Collective Burials, Results of the 6th Season of Excavation', *Neo-Lithics*, 1 (2006), pp. 12-19, (pp. 16-18; Fig. 7).
[210] The crania were found (Level III; House 2) under the structure and three burial pits contained a dual interment. Harald Hauptmann, 'The Urfa Region', in Neolithic in Turkey: The Cradle of Civilization, ed. by Mehmet Özdoğan and Nezhi Başgelen, (Istanbul: Ege Yayınları, 1999), pp. 65-86, (p. 72); 'Nevali Çori: Architektur', *Anatolica*, 15 (1988), pp. 99-110, (p. 102).
[211] The 90 (MNI) skulls and long bones were found in the western cellar-channel of the Channeled Building (BM2c) sub-phase of the 'Skull Building.' Metin Özbek, 'The 93rd Annual Meeting of the Archaeological Institute of America: The

PPNB-PPNC Head Rests and Head Markers

The first and only evidence for Northern Levantine headrests dates to the PPNB and is also the only time that evidence for headrests was not included from the South Levant. Red clay may have provided a headrest for an articulated skeleton at Tell Mureybet.[212] A grave at Tell Aswad provided plant phytolith evidence of a perishable 'funeral pillow' under the skull.[213] Also, an often used hearth was found near the skull of a skeleton, whose head rested upon a perishable headrest.[214] Both the clay headrests and hearth may also be considered as evidence for head markers. The number of PPNB Southern Levantine sites with evidence for head markers significantly increased. The first inclusion of Cypriot and Anatolian sites with evidence of head markers dates to the PPNB. A complete skeleton with stones covering the head and thorax were discovered in the lower levels of the well pit at Shillourokambos.[215] Also, two skulls covered by small stones were found in the western part of the cavity.[216] An acephalous burial was found inside a pit within the aforementioned special purpose structure at Nevalı Çori and the former head location was replaced by a large stone.[217]

PPNB-PPNC Charnel Houses

There was a significant increase in the number of PPNB sites which demonstrated evidence for charnel houses and were also found beyond Anatolia. The first Southern Levantine site with evidence for a charnel house included in the dataset combined orientation, head marking, and animal elements with stone cists cut into the plaster floor of a circular building at Shkārat Msaied.[218] This MPPNB structure served as a mortuary house for the small village.[219] A collective burial contained the carefully sorted bones of at least eight individuals with cranial fragments and seven north-facing skulls.[220]

Human Remains at Çayönü', *American Journal of Archaeology*, 96(2) (1992), pp. 327-376, (p. 374). Özdoğan, 'Çayönü', in *Neolithic in Turkey: The Cradle of Civilization*, ed. by Özdoğan and Başgelen, Fig. 26.

[212] Cauvin, '*Les Premiers Villages*', p. 128; Note 49.

[213] Primary burial (Level B0, Sq. ZV/ZW, 125-126, St.662) of an individual with an *oreiller funéraire*. Danielle Stordeur, et al, 'L'aire Funéraire de Tell Aswad (PPNB)', *Syria*, 83 (2006), pp.39-62, (pp. 50, 54, 57, 60; Fig. 1, 4.2.

[214] The collective burial (Level B0, Sq. ZX/ZY-124, St.569) included a primary burial of an individual (569-1) with a head cushion made from *fibres végétales très fines*. Stordeur et al, 'L'aire Funéraire de Tell Aswad', p. 50-51, 57; Fig. 1, 5.1.

[215] The complete skeleton was found (Sector 1; Pit 23; Level H) above where charred skeletal remains were found (Sector 1; Pit 23; Level I). Vasiliki Koutrafouri, 'Ritual in Prehistory; Definition and Identification: Religious Insights in Early Prehistoric Cyprus', Vol. 2, (unpublished doctoral dissertation, University of Edinburgh, 2008), p. 108; Tab. 33.

[216] In volume one, Koutrafouri stated that the separated skulls covered by stones were found in a western part of the cavity and the same is stated under the 'Human Depositions' heading for Table 33 in volume two. However, under the 'Stone' heading within the same Table 33 it states that the small stones covering the two skulls were located at the 'eastern edge of the cavity.' Vasiliki Koutrafouri, 'Ritual in Prehistory; Definition and Identification: Religious Insights in Early Prehistoric Cyprus', Vol. 1, (unpublished doctoral dissertation, University of Edinburgh, 2008), p. 193. cf. Koutrafouri, 'Ritual in Prehistory', Vol. 2, p. 107; Tab. 33.

[217] The acephalous burial was found (Level III; House 2) in a large (c. 16 x17m) rectangular building. Hauptmann, 'Urfa Region', in *Neolithic in Turkey: The Cradle of Civilization*, ed. by Ozdoğan and Başgelen, p. 72.

[218] Moritz Kinzel et al, 'Shkārat Msaied 2016: New Results from Unit F', *Neo-Lithics*, 1 (2017), pp. 13-17.

[219] Numerous burials were uncovered in this circular structure (Unit F; Areas III-IV, VI; Squares E100, E105 E105/E110, E105/F105, D100, D105). In addition to the burials discussed above, a mass grave (Unit F, Burial 6, Loc. 90120) of 37 individuals was discovered. Moritz Kinzel et al, 'Insights into PPNB Architectural Transformation, Human Burials, and Initial Conservation Works: Summary on the 2010 Excavation Season at Shkārat Msaied', *Neo-Lithics*, 1 (2011), pp. 44-49, (pp. 46-48; Fig. 5). Architectural aspects and numerous varied burials have led to the classification of the special building Unit F as a 'mortuary house – a house of the dead.' Moritz Kinzel, Special Buildings at PPNB Shkārat Msaied in *Decades in Deserts: Essays on Near Eastern Archaeology in Honour of Sumio Fujii*, ed. by Shin-ichi Nakamura, Takuro Adachi and Masashi Abe, (Tokyo: Rokuichi Syobou, 2019), pp. 79-94, (p. 88).

[220] The skulls were found (Unit F) in the southern part of a cist. Bo Dahl Hermansen et al, 'Shkârat Msaied: The 2005

The largest number of PPNB sites which evidenced charnel houses was from the North Levant. In addition to Abu Hureyra and Bouqras discussed above, Dja'de el-Mughara provided evidence of a charnel house. Skull deposits were found under dwellings at Dja'de el-Mughara, however it is possible that the *Maison de Morts* was a not a place of permanent habitation, but rather a place where those who died away from a village were wrapped in mats and transported for burial.[221] An adult skeleton was found holding the skeletal remains of a child in one arm and resting the other hand on an isolated skull.[222]



Fig. 99. Disarticulated acephalous skeletal remains and skulls arranged in the BM2c subphase of the 'Skull Building' charnel house at Çayönü. Erim-Özdoğan (2011), p. 250; Fig. 26.

In addition to the finds mentioned above from the 'Skull Building' charnel house at Çayönü, the PPNB layers also included auroch horns found in a floor depression and an acephalous woman holding an infant within a channel under the building.[223] What may be the disarticulated acephalous skeletal remains of the abovementioned find of 90+ skulls were found in another channel (Fig. 99).[224] The 'Skull Building' also contained secondary headless burials with grave goods and a decapitated primary burial.[225] 49 more human skulls were found within chamber rooms, nearly half of which were interred with animal bones.[226]

PPNB-PPNC Skull Removal

The majority of PPNB-PPNC sites (90%) provided evidence for some form of SR and was the first category in which evidence from all regions was included. All of the PPNB-PPNC Levantine and Anatolian sites demonstrated evidence for the practice, as well as half the Cypriot and Mesopotamian sites (Fig. 99-99)

Season of Excavations, A Short Preliminary Report', *Neo-Lithics*, 1 (2006), pp. 3-7, (p. 4; Fig.1-2).

[221] Eric Coqueugniot, 'Dja'de el Mughara (Moyen-Euphrate), un Village Néolithique dans son Environnement Naturel à la Veille de la Domestication', in *Espace Naturel, Espace Habité en Syrie du Nord (10e - 2e Millénaires av. J.-C.)*: *Actes du Colloque Tenu à l'Université Laval (Québec) du 5 au 7 Mai 1997*, Travaux de la Maison de l'Orient Méditerranéen 28, (Lyon: Maison de l'Orient et de la Méditerranée Jean Pouilloux, 1998), pp. 109-114, (Fig. 1).

[222] Coqueugniot, 'Dja'de el Mughara (Moyen-Euphrate)', in *Espace Naturel, Espace Habité*, pp. 111-112.

[223] The cattle horns were found in the Channeled Building (BM2c) sub-phase. Schirmer, 'Some Aspects of Building', pp. 381-382. The acephalous woman was found in the central cellar-channel of the Channeled Building (BM2c) sub-phase. Croucher, 'Archaeology of Cult and Death', p. 15.

[224] The disarticulated remains were found in the eastern cellar-channel of the Channeled Building (BM2c) sub-phase. Özbek, 'Human Remains at Çayönü', p. 374.

[225] The acephalous burials are from the Cobble-Paved (BM2b) sub-phase of the 'Skull Building' and included grave goods (e.g. beads and/or boar tusks), but the decapitated skeleton was not interred with grave goods. Özdoğan, 'Çayönü' in *Neolithic in Turkey: The Cradle of Civilization*, ed. by Özdoğan and Başgelen, p. 51. A unique LPPNB burial in a communal building (Building DE) was buried in a type of stone cist or '*coffrage*' with the skull placed at the NW corner. Ergul Kodas, 'Le Bâtiment DE de Çayönü: Un Bâtiment au Coffrage?', *Neo-Lithics*, 2 (2015), pp. 40-52, (p. 46; Fig. 5).

[226] The 49 skulls were from the Cobble-Paved (BM2a) sub-phase of the 'Skull Building' and those found with animal bones were found in the eastern chamber room above the channels. Özdoğan, 'Çayönü' in *Neolithic in Turkey: The Cradle of Civilization*, ed. by Özdoğan and Başgelen, p. 51; Fig. 25.

PPNB-PPNC Acephalous Skeletons

Skull cult ideology produced numerous acephalous skeletons during the PPNB-PPNC. Evidence from Southern Levantine sites concerning acephalous skeletons greatly increased from the PPNA and more than doubled those from the Epipaleolithic. The cult of skulls continued at Jericho from the PPNA and reached its apex in the PPNB. In the EPPNB layers above were the five sacrificial LPPNA infant skulls were discovered, a cranium and three acephalous burials were found and may have also been part of a human sacrifice.[227] The aforementioned MPPNB building at Jericho with the architecturally incorporated crania may have served a cultic function, due to the discovery of 30 acephalous skeletons in the surrounding area.[228] The majority of burials uncovered at the large (14-16 ha) site of Wadi Shu'eib were found lacking crania.[229] An acephalous individual lacked a cranium and was placed in 'hyper-contraction' in the northern portion of a well shaft at Shillourokambos and another individual lacking a cranium was found in the southern part.[230]

PPNB-PPNC Separated Skulls

Sites which exhibited evidence concerning separated skulls increased everywhere, except for Mesopotamia which demonstrated little evidence for skull removal. Southern Levantine evidence for separated skulls may be found throughout the duration of the PPNB-PPNC. At Basta, two double skull burials were found.[231] Underwater taphonomic processes may have led to the disarticulation of some skeletal remains, but 'the practice of post-mortem skull detachment may have still been practiced in Atlit-Yam.'[232] Two burials each contained two child skulls, one with postcranial bones framing the pair in a rectangular shape and the other pair was found isolated (Fig. 99).[233] The theme of diversity within the framework of skull

[227] The EPPNB (Stage VIIIC.xix) child cranium (Munich: F38; Jericho: F 201.13 c) was found (Trench I; FI) on a floor and the acephalous skeletons were found in the above fill. Kenyon, *Excavations at Jericho*, Vol. III, ed. by Holland, p. 50; Pl. 237, 34a.

[228] The acephalous skeletons were found (Sq. D, EI) in the area near the skull finds. Ibid., p. 78.

[229] Only three out of 13 adult (Burials 2, 8, 12) and two out of six child (Burials 5, 11) skeletons retained cranial elements. Alan Simmons et al, 'Test Excavations at Wadi Shu'eib: A Major Neolithic Settlement in Central Jordan', *Annual of the Department of Antiquities of Jordan*, 33 (1989), pp. 27-42, (pp. 36-40). Alan Simmons, et al, 'Wadi Shu'eib, A Large Neolithic Community in Central Jordan: Final Report of Test Investigations', *Bulletin of the American Schools of Oriental Research*, 321 (2001), pp. 1-39, (pp. 29, 30, 33-34; Tab. 12-13.

[230] In addition to the hyper-contracted acephalous individual from the northern part, in volume one Koutrafouri stated that a 'mandible was placed where the skull would have been if it had not been removed' from the acephalous individual recovered from the southern part of the pit, but in volume two, it states that 'the teeth were placed where the skull would have been.' Koutrafouri, 'Ritual in Prehistory', Vol. 1, p 193. cf. Koutrafouri, 'Ritual in Prehistory', Vol. 2, p. 107; Tab. 33.

[231] Site excavators state that a portion of the acephalous burials may be due to intensive use of the burial area where the two dual skull caches were found (Area A. Burial B6, B8. Room 30-31). Hans Nissen et al, 'Report on the First Two Seasons of Excavations at Basṭa (1986-1987)', *Annual of the Department of Antiquities of Jordan*, 31 (1987), pp. 79-119, (p. 96).

[232] There are examples of skeletons (H25, H28, H48, H86) without skulls and/or crania found (Area D, K-L) at Atlit-Yam and in 2005, Galili et al gave four possible cephalic remains (H3, H6, H13, H41b) that indicated the, 'detachment of the skull from the rest of the skeleton and its separate burial.' Ehud Galili et al, 'Burial Practices at the Submerged Pre-Pottery Neolithic C Site of Atlit-Yam, Northern Coast of Israel', *Bulletin of the American Schools of Oriental Research*, 339 (2005), pp. 1-19, (pp. 12-13; Fig.9a, 12). However in 2013, Galili et al stated that, 'there are occurrences of skeletons with no skull and a single separated skull burial.' Ehud Galili et al, 'Submerged Prehistoric Settlements off the Mediterranean Coast of Israel', *Skyllis*, 2 (2013), pp. 181-204, (p. 187).

[233] The skull burials (H37-38) were found (Area F) framed by postcranial bones, but the separated skull burials (H80-81) were found (Area L) in isolation. Galili et al. 'Burial Practices at Submerged Pre-Pottery Neolithic C Site', pp. 9, 11, 13-14; Fig. 9b-11; Tab. 2.

removal was again evidenced by sites from the Northern Levant. A collective burial at Tell Aswad contained two acephalous skeletons with two separated skulls deposited to the right of each skeleton (Fig. 99).[234]

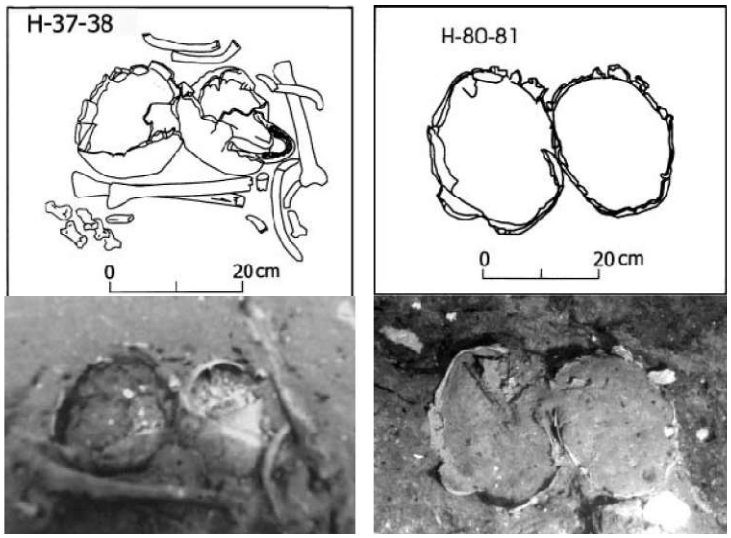


Fig. 99. Two pairs of child skull burials (H37-38, 80-81) from Atlit-Yam. Galili et al (????), 14; Fig. 10-11.



Fig. 99. Collective burial with separated skulls to the right of two acephalous individuals (544-1,2) from Tell Aswad. Stordeur et al (2006), p. 59; Fig. 3.5.

In the layer above where the aforementioned two skulls covered with small stones were discovered at Shillourokambos, three other separated skulls were found.[235] Two, of which were found together and another was found associated with long bones.[236] The positions of the skeletal remains was interpreted as indicative of secondary burial following intentional dismemberment and while it was suggested that some of the long bones may have belonged to the separated skulls, the long bones outnumber the skulls and so 'skull removal must be considered.'[237]

Anatolian evidence from Boncuklu provides a wide range of intrasite diversity. Primary burials were found under the floors of houses, but skulls and fragments were found in midden or deposited in open areas. An isolated skull was found upside down and displayed significant wear, indicating a long history of use.[238]

PPNB-PPNC Separated Crania

Evidence for separated crania during the PPNB-PPNC may be found in all regions. Levantine sites demonstrated evidence for both isolated and cached crania. In addition to the

[234] Collective burial of at least seven individuals (Level B0, Sq. ZU/ZV, 129-131, St.544). Individuals 544-1 and 544-2 were both found with a separated skull and 544-1 was found with the two mandibulae stacked near the skull. Stordeur et al, 'L'aire Funéraire de Tell Aswad', p. 45; Fig. 3.3, 5-6.
[235] The three skulls were found (Sector 1; Pit 23; Level D), along with an infant hyper-contracted skeleton above where the collapse was found (Sector 1; Pit 23; Level E). Koutrafouri, 'Ritual in Prehistory', Vol. 1, p 193.
[236] Koutrafouri, 'Ritual in Prehistory', Vol. 2, p. 106; Tab. 33.
[237] Koutrafouri, 'Ritual in Prehistory', Vol. 1, p 193.
[238] The skull was found (Area K; Gr.13) inverted within a small pit. Douglas Baird, Andrew Fairbairn and Louise Martin, 'The Animate House: The Institutionalisation of the Household in Neolithic Central Anatolia' , *World Archaeology*, 49(5) (2017), pp. 753-776.

finds discussed above and below, over 30 other isolated and cached skulls and/or crania were discovered at PPNB Jericho.[239] A collective burial at Tell Aswad contained three crania set in a thin layer of clay upon the thorax of the primary burial which was near the acephalous skeletal remains of five children.[240] Following a deposit of animal remains and stone artifacts with minimal human bones at Mylouthkia, four (MNI) individuals represented by deposits of a mandible, two separated crania, and cranial fragments were found (Fig. 99).[241]

PPNB-PPNC Skull Caching

Half of Southern Levantine sites demonstrated evidence for Skulls/Crania Caching, but not all motivations may have been equal. At Tell Qarassa North, 11 crania with dislocated mandibles were found deposited on stone stabs within an oval building and the crania showed evidence of hostility and/or mutilation (Fig. 99).[242]



Fig. 99. Caches of five skulls (Group A) in the north and six (Group B) in the south area of an oval room at Tell Qarassa North. Santana et al, (2012), p. 209; Fig. 3.

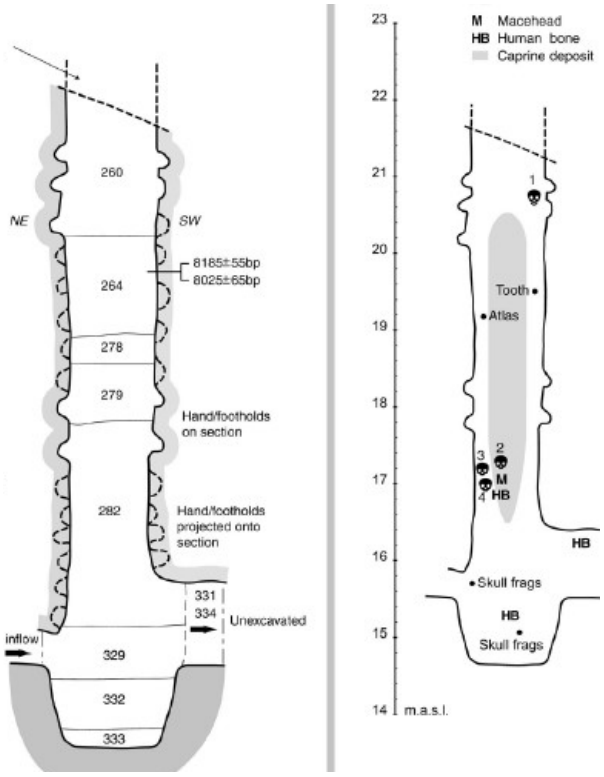


Fig. 99. Section of Well 33 at Mylouthkia with (a) locations of dated samples and (b) locations of human and caprine remains. Peltenburg (2003), p. 88; Fig. 11.3A.

The crania were discovered in two circular caches of five and six, respectively.[243] The cache of five crania was oriented towards the center of the circle, but two faced one another.[244] The cache of six

[239] Benz, 'Beyond Death', pp. 254, 257-258; Tab. 1-3.
[240] The collective burial included a primary individual (569-1), upon which three crania were placed in association with five acephalous burials (Level B0, Sq. ZX/ZY, 124-126) of immature individuals (586, 594, 599, 569b, 570), only one of which may be anthropic skull removal certain, due to the location of the pit. Stordeur et al, 'L'aire Funéraire de Tell Aswad', pp. 50-51, 57; Fig. 1, 5.1-3, 8.
[241] The fragmented skulls were found (Fill 282) deposited along the sides of the well shaft. Sherry Fox, 'Human Remains: The Skeletal Remains' in *The Colonisation and Settlement of Cyprus: Investigations at Kissonerga-Mylouthkia, 1976-1996*, Lemba Archaeological Project Cyprus, Vol. III, Studies in Mediterranean Archaeology 70(4), ed. by Edgar Peltenburg, (Sävedalen: P. Åströms, 2003), pp. 43-45, (pp. 44-45).
[242] Jonathan Santana et al, 'Crania with Mutilated Facial Skeletons: A New Ritual Treatment in an Early Pre-Pottery Neolithic B Cranial Cache at Tell Qarassa North (South Syria)', *American Journal of Physical Anthropology*, 149(2) (2012), pp. 205-216.
[243] Five crania were found (Zone 2, Square J-41/42) in the north (Group A) and six in the south (Group B), with fractured Cranium 11 at its center. Santana et al, 'Crania with Mutilated Facial Skeletons', p. 207; Fig. 2, 4-5.
[244] Within Group A, Cranium 8-9 faced one another. Ibid., p. 213.

crania included and encircled a central



Fig. 99. Nevalı Çori cranium with flint blade *in situ*. Lichter (2007), p. 249.

PPNB-PPNC Skulls/Crania Movement

Only the North Levant provided evidence for skulls/crania movement during the PPNA, but was the only region not to provide evidence during the PPNB-PPNC and Southern Levantine sites equaled those of the Epipaleolithic. All of the burials found at Urjat el-Mehed were secondary burials and besides skulls, very few postcranial bones were brought to stone paved pits inside unused huts (Fig. 99).[247] At LPPNB Ba'ja, at least seven skulls were found together in a small collective burial chamber with other postcranial bones that were moved in order to allow for multiple internments.[248]

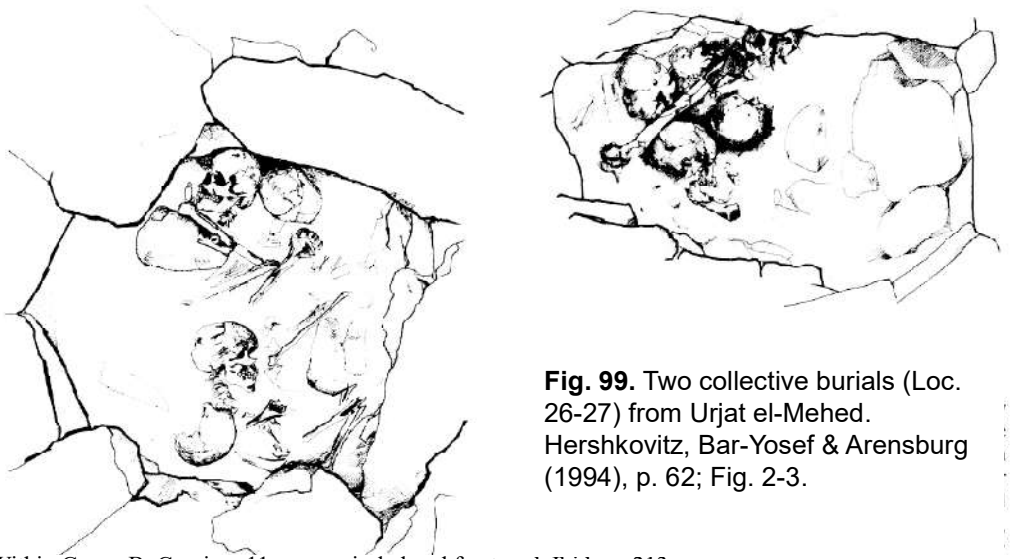


Fig. 99. Two collective burials (Loc. 26-27) from Urjat el-Mehed. Hershkovitz, Bar-Yosef & Arensburg (1994), p. 62; Fig. 2-3.

[245] Within Group B, Cranium 11 was encircled and fractured. Ibid., p. 213.
[246] The skulls were found (Level I; House 25A) in the lowest level and may be part of a foundation deposit. Hauptmann, 'Urfa Region', in *Neolithic in Turkey: The Cradle of Civilization*, ed. by Ozdoğan and Başgelen, p. 70.
[247] Five collective secondary burial pits were found (Loc. 26-31). Two contained four and five skulls, respectively (Loc. 26-27). One pit contained two skulls (Loc. 28). Two pits contained a single skull (Loc. 29, 31). Israel Hershkovitz, Ofer Bar-Yosef and Baruch Arensburg, 'The Pre-Pottery Neolithic Populations of South Sinai and their Relations to other Circum-Mediterranean Groups: An Anthropological Study', *Paléorient*, 20(2) (1994), pp. 59-84, (pp. 62-64; Fig. 2-5).
[248] The small (c. 0.6m^2) burial chamber was found (Area D 11-12, 21-22) to contain the remains of (MNI) 12 people, some of whom provided evidence of 'partial or fully mummified body parts.' Hans Georg Gebel and Bo Dhal Hermansen, 'The 2000 Season at Late PPNB Ba'ja', *Neo-Lithics*, 2 (2000), pp. 20-22, (p. 22). Hans Georg Gebel and Bo Dhal Hermansen, LPPNB Ba'ja 2001: A Short Note', *Neo-Lithics*, 2 (2001), pp. 15-20, (pp. 16-18; Fig. 6).

PPNB-PPNC Mandibulae Burials and Skull Fragments

PPNB-PPNC evidence for mandibulae burials was found in every region, but Anatolia. An ashen pit was found at Kfar HaHoresh beneath a plastered surface lined with large human and animal bones.[249] The pit contained 13 human mandibulae that displayed cutmarks and were arranged in an oval shape around the periphery of the pit.[250] It also included the acephalous skeletons of two adults, one of whom appeared to be holding an infant who also lacked a skull.[251] Evidence from PPNB-PPNC sites containing skull fragments were found in every region, but Mesopotamia. At Tell Ramad, cranial fragments were found in many layers and an unknown number of human skulls were found in a pit.[252]

PPNB-PPNC Skull Modification

PPNB-PPNC sites that demonstrated evidence for skull modification increased 18% from the PPNA and included evidence from every region, including all Cypriot and Mesopotamian sites.

PPNB-PPNC Artificial Cranial Modification

A large increase from Epipaleolithic-PPNA to PPNB-PPNC sites evidenced ACM with all regions represented, including the first Southern Levantine evidence with some of the plastered skulls found at Jericho exhibiting evidence of ACM.[253] Three quarters of Cypriot sites exhibited evidence for ACM. The final skull deposit at the Mylouthkia well shaft displayed evidence of charring and artificial cranial modification 'probably by a cradle-board.'[254] ACM, likely via cradle-boarding, was observed on the majority of adult Khirokitian skulls and on at least one of the crania found at Cape Andreas-Kastros.[255] All Mesopotamian sites in the current study performed the practice. Cases were verified for four

[249] The pit was found (Sq. J/K51-53; L1003) under a plastered surface (L1001) near Trench I. Nigel Goring-Morris et al, 'The 1997 Season of Excavations at the Mortuary Site of Kfar HaHoresh, Galilee, Israel', *Neo-Lithics*, 3 (1998), pp.1-4, (pp. 1, 3; Fig. 2).

[250] Tal Simmons, Nigel Goring-Morris and Liora Kolska Horwitz, ' "What Ceremony Else?" Taphonomy and the Ritual Treatment of the Dead in the Pre-Pottery Neolithic B Mortuary Complex at Kfar HaHoresh, Israel', in *Faces from the Past*, ed. by Faerman et al, pp. 1-27, (p. 22).

[251] A. Nigel Goring-Morris, 'Life, Death and the Emergence of Differential Status in the Near Eastern Neolithic: Evidence from Kfar HaHoresh, Lower Galilee, Israel', in *Archaeological Perspectives on the Transmission and Transformation of Culture in the Eastern Mediterranean*, ed. by Joanne Clarke, Levant Supplementary Series 2, (Oxford: Council for British Research in the Levant & Oxbow Books, 2005), pp. 89-105, (p. 95; Fig. 12.3).

[252] The skulls were found (Level II) with animal bones. Henry de Contenson, 'Seconde Campagne a Tell Ramad, 1965: Rapport Preliminaire', *Annales Archeologiques Arabes Syriennes*, 16 (1966), pp. 167-174, (pp. 170-171).

[253] Strouhal, 'Five Plastered Skulls', pp. 244-245; Tab. 1. Cara Hirst, 'British Museum Exhibition Review: The Jericho Skull, Creating an Ancestor', *Papers from the Institute of Archaeology*, 27(1) (2017), pp. 1-4, (p. 3).

[254] Fox, 'Human Remains: Skeletal Remains', in *Colonisation and Settlement of Cyprus*', ed. by Peltenburg, p. 44.

[255] ACM was observed on 50% of female and 39% of male adult crania at Khirokitia. John Lawrence Angel, 'The Human Remains from Khirokitia', in *Khirokitia: Final Report on the Excavation of a Neolithic Settlement in Cyprus on Behalf of the Department of Antiquities 1936-1946*, ed. by Porphyrios Dikaios, (Oxford: Oxford University Press, 1953), pp. 416-428; Appendix II. Françoise Le Mort, 'Le Peuplement de Chypre: Apport des Données Anthropologiques', *Paléorient*, 21(2) (1995), pp. 111-121, (pp.118-119; Note 78). O. Massei-Soliveres 'Etude des Crânes du Cap Andreas-Kastros' in *Cap Andreas-Kastros: Une Site Néolithique Précéramique en Chipre*, ed. by Alain Le Brun, Researche sure les Grandes Civilisations 5, (Paris: Association pour la Diffusion de la Pensée Française, 1981), pp. 83-87. Koutrafouri, 'Ritual in Prehistory', Vol. 2, pp. 236-237; Tab. 86.

adult male crania at Tepe Abdul Hosein.[256] Seven crania were analyzed from Ali Kosh, all of which exhibited evidence for ACM and some were very elongated (Fig. 99).[257] At least six crania from Choga Sefid demonstrated evidence for 'extreme cranial deformation (Fig. 99).'[258]



Fig. 99. Artificially modified skull from Ali Kosh. Sołtysiak & Darabi (2017), p. 80; Fig. 5.



Fig. 99. Choga Sefid cranium (Burial 3) with evidence of ACM. Deams & Croucher (2007), p. 6; Fig. 3.

PPNB-PPNC Burning

As with most other categories, evidence for Burning in association with head treatment rose to its highest level during the PPNB-PPNC, but still remained a small percentage (11%) of total skull modifications. Burning played a role in a Cypriot mortuary context. One of the cranial fragments found along with the abovementioned separated skulls from Mylouthkia was charred.[259] The lowest levels of the well at Mylouthkia contained cranial fragments, two of which were also charred.[260]

PPNB-PPNC Defleshing

The overall number of sites that demonstrated evidence for defleshing increased for Levantine PPNB-PPNC sites, but remained unchanged in other regions. Cutmarks on an

[256] Three definite (Individual AH10035, 13029, 19001 Sk.2) and one likely (Individual AH11001) examples of artificial cranial modification were observed from Tepe Abdul Hosein. Kirsi Lorentz, 'Ubaid Headshaping: Negotiations of Identity Through Physical Appearance?', in *Beyond the Ubaid: Transformation and Integration in the Late Prehistoric Societies of the Middle East*, ed. by Robert Carter and Graham Philip, (Chicago: University of Chicago, 2010), pp. 125-148, (pp. 134-136; Fig. 9.5; Tab. 9.2; '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(6) (2017), pp. 973-983, (p. 977; Tab. 2).

[257] At least seven crania (H1-6, H13) displayed evidence for circumferential modification of the cranium via band wrapping. Arkadiusz Sołtysiak and Hojjat Darabi, 'Human Remains from Ali Kosh, Iran, 2017: Short Fieldwork Report', *Bioarchaeology of the Near East*, 11 (2017), pp. 76-83, (pp.79-80; Tab. 1; Fig. 5).

[258] Some burials found (Zone A4) at Choga Sefid showed traces of ochre and 'The skulls show extreme cranial deformation.' Frank Hole, *Studies in the Archaeological History of the Deh Luran Plain: The Excavation of Chaga Sefid*, Memoirs of the Museum of Anthropology 9, (Ann Arbor: University of Michagan, 1977), pp. 91, 344-345; Pl. 28, 30-31.

[259] This deposit was also accompanied with numerous animal bones and stone items, including a pink mace head associated with one of the separated skulls. Paul Croft, 'The Animal Bones', in *Colonisation and Settlement of Cyprus*, ed. by Peltenburg, p. 54.

[260] The cranial fragments were found (Fill 329, 331-333) at the bottom of the well shaft. Fox, 'Human Remains: Skeletal Remains', in *Colonisation and Settlement of Cyprus*, ed. by Peltenburg, p. 45. cf. Croft, 'Animal Bones', in *Colonisation and Settlement of Cyprus*, ed. by Peltenburg, p. 55.

isolated hemi-skull from Atlit-Yam may indicate treatment, 'with a special stone implement either for defleshing or as a preparatory procedure for skull decoration' (Fig. 99).[261]

At the 'Skull Building' at Çayönü, defleshing via stone tools is indicated by cutmarks, attached mandibles, and cervical vertebrae exhibited on some skulls.[262] Human and animal blood residue was found on a stone slab interpreted as an 'altar,' as well as auroch and sheep blood from a long black flint blade that suggests that some type of corpse processing occurred.[263]

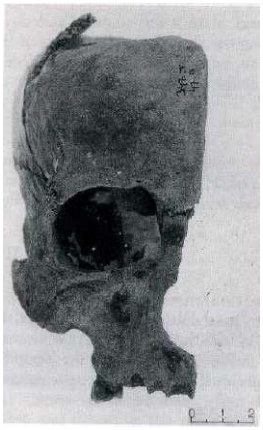


Fig. 99. Hemi-skull (H6) from Atlit-Yam. Hershkovitz & Galili (1990), p. 324; Fig. 5.

PPNB-PPNC Head Decorations

Sites with evidence for head decorations were lacking in the PPNA, but PPNB sites demonstrated evidence for the practice and were often associated with skull Pigmentation. The first Northern Levantine and Anatolian evidence for Head Decorations dates to the PPNB. At Tell Halula, cowrie shells were found around some skulls, which may have been part of headdresses.[264] A unique skull burial at Boncuklu began with fragmented human bones placed upon an ashen layer, upon which was placed a polishing stone and an isolated red painted skull associated with yellow ochre and shell beads.[265]

PPNB-PPNC Skull Pigmentation

In the PPNB-PPNC, the number of sites which evidenced skull pigmentation doubled from the PPNA, not including pigmentation found on modeled skulls. A fragmented child cranium was found at 'Ain Ghazal with black bitumen at the back, interpreted to indicate hair.[266] A line of cinnabar was smeared on the skull of a skeleton at Abu Hureyra and a similar pigment was detected on a mandible.[267] Also, an isolated skull was found colored red by an apparent vegetable dye.[268]

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[261] The type of cutmarks described to polish the hemi-skull (H6) found near a wall adjacent to a structure (Structure no. 8c) at Atlit-Yam were described with reference to a fragmented cranium (AG 84 3083 107) found (Sq. 3083; Loc. 107) at 'Ain Ghazal, which were later interpreted as likely indicative of a sanding procedure. Israel Hershkovitz and Ehud Galili, '8000-Year-Old Human Remains on the Sea Floor near Atlit, Israel', *Human Evolution*, 5(4) (1990), pp. 319-358, (pp. 324, 328-329; Fig. 5, 7-8). Michelle Bonogofsky, 'Cranial Modeling and Neolithic Bone Modification at 'Ain Ghazal: New Interpretations', *Paléorient*, 27(2) (2001), pp. 141-146.

[262] Özbek, 'Culte des Crânes', p. 129. Thomas Loy and Andrée Wood, 'Blood Residue Analysis at Çayönü Tepesi, Turkey', *Journal of Field Archaeology*, 16(4) (1989), pp. 451-460, (p. 452).

[263] Andrée Wood, 1998, 'Revisited: Blood Residue Investigations at Çayönü, Turkey', in *Light on Top of the Black Hill: Studies Presented to Halet Çambel*, ed. by Güven Arsebük and Wulf Schirmer, (Istanbul: Ege Yayinlari), pp. 763-764, (p. 764). Özdoğan, 'Çayönü', in *Neolithic in Turkey: The Cradle of Civilization*, ed. by Özdoğan and Başgelen, p. 52.

[264] Ian Kuijt et al, 'The Changing Neolithic Household: Household Autonomy and Social Segmentation, Tell Halula, Syria', *Journal of Anthropological Archaeology*, 30(4) (2011), pp. 502-522, (p. 512).

[265] The isolated skull was found (Area M; Gr.43) buried in an open area pit. Douglas Baird and Andrew Fairbairn, 'The Boncuklu Project: The Spread of Farming and the Antecedents of Çatalhöyük', *Heritage Turkey*, 5 (2015), pp.18-21, (p. 19).

[266] Gary Rollefson and Alan Simmons, 'Excavations at 'Ain Ghazal 1984: Preliminary Report', *Annual of the Department of Antiquities of Jordan*, 29 (1985), pp. 11-30, (pp. 17-18).

[267] The skeleton (73.2772) was found buried between two walls (Trench A, Levels 211-212, Walls 127, 198) and the mandible (Trench C, 73.846) contained traces of the pigment on the maxilla area. Theya Molleson, Gillian Comerford and Andrew Moore, 'A Neolithic Painted Skull from Tell Abu Hureyra, Northern Syria', *Cambridge Archaeological Journal*, 2(2) (1992), pp. 230-235.

[268] The isolated skull (73.3273) was found (Trench E, Phase 4 Building, Wall 383) colored red, but the color has since faded.

PPNB-PPNC Modeled Skulls

Evidence for Modeled Skulls using plaster or other materials first dates to the PPNB-PPNC and included only Levantine sites (Fig. 99). At Jericho, nine EPPNB-LPPNB plastered skulls were found in fill between two walls, perhaps either discarded or to serve a function akin to that of undecorated skull deposits (Fig. 99).[269]



Fig. 99. One of a group of nine plastered skulls from Jericho (D112). Schmandt-Besserat (2013), p. 244; Pl. 6.2.2.a.

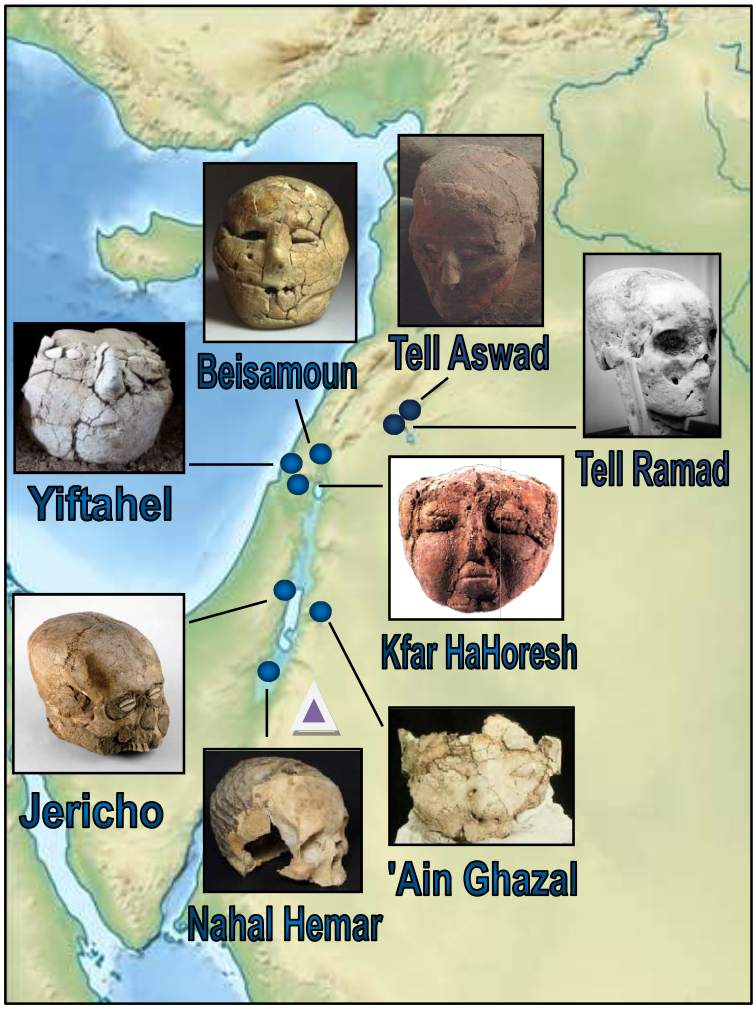


Fig. 99. Map of PPNB-PPNC modeled skulls with examples inset.

Also, three LPPNB plastered skulls and two painted skulls were found together in a rectangular pit.[270] Two plastered skulls at Beisamoun were found facing east under an antechamber of an abandoned rectangular MPPNB building with a red coated floor, similar to

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Moore, Hillman and Legge, *Village on the Euphrates*, pp. 231, 285; Fig. 8.49.

[269] In 1953, seven EPPNB-MPPNB (Stage XIV-XVIIA) plastered skulls (Munich: D110-116; Jericho: D.612 Reg. 530-535) were found (Trench I; Sq. DI) in the space between two walls (Wall 56, 72). Kathleen Kenyon, 'Excavations at Jericho', *The Journal of the Royal Anthropological Institute of Great Britain and Ireland*, 84(1/2) (1954), pp. 103-110, (pp. 107-108). In 1957, two additional EPPNB-MPPNB plastered skulls (Munich D117-118; Jericho D 10.6k Reg. 2000-2001) were found in the same location. Kenyon, *Digging up Jericho*, pp. 74-75; Pl. XII. Kurth and Röhrer-Ertl, 'Anthropology of the Mesolithic to Chalcolithic', in *Excavations at Jericho*, Vol. III, ed. by Holland, pp. 436-437. Kenyon suggested that the nine plastered skulls were from the EPPNB (Stage XVI) and intentionally discarded into the MPPNB (Stage XVIIA) fill. Kenyon, *Excavations at Jericho*, Vol. III, ed. by Holland, p. 77; Pl. 50a-b, 59a, 220-223, 239. However, Nigro suggests that the MPPNB wall (Wall 72) was constructed in order keep them in a delimited area, although 'they were thrown into it in a somewhat disrespectful way.' Nigro, 'Beheaded Ancestors', pp. 18-19; Fig. 13-a.

[270] The three LPPNB (Stage NNi) plastered skulls were found (Sq. EIII-IV) together, but not in the same condition. One skull (Munich E22; Jericho: E 121.32B Reg. 3657) was both plastered and painted, while two (Munich E20-21; Jericho E 121.31-32) were only plastered and fragmentary. It was suggested that the two painted skulls (Munich E25-26; Jericho E 121.32 D1-2) may belong to the PPNA. Kenyon, *Excavations at Jericho*, Vol. III, ed. by Holland, p. 310; Pl. 57a-b, 322b. Kurth and Röhrer-Ertl, 'Anthropology of the Mesolithic to Chalcolithic', in *Excavations at Jericho*, Vol. III, ed. by Holland, pp. 436-437.



Fig. 99. Two plastered skulls *in situ* at Beisamoun. Garfinkel (2014), p. 147; Fig. 4.

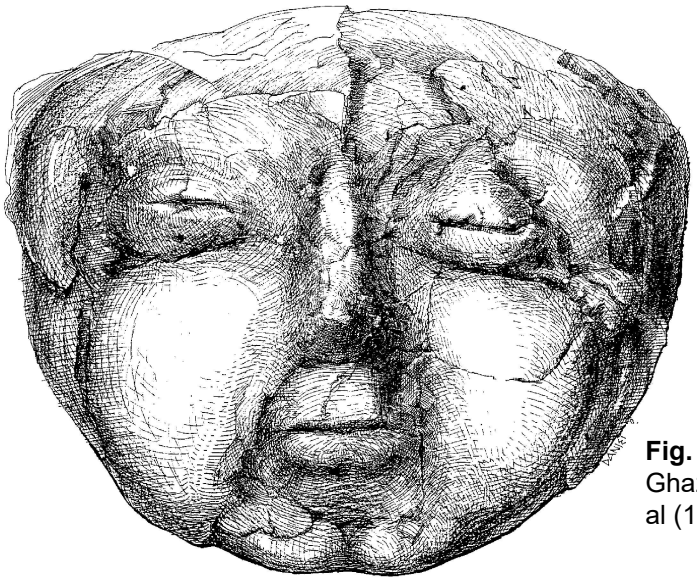


Fig. 99. Plastered skull from 'Ain Ghazal (Homo 1). Goring-Morris et al (1994-5), p. 87; Fig. 7.

a building designated as a sanctuary at Jericho.[271] The pair was displayed, perhaps as a part of a mortuary installation (Fig. 99).[272] At Kfar HaHoresh, certain skulls were plastered and later buried following a 'second death.'[273] A red-washed plastered skull was found buried facing east in association with a headless gazelle skeleton (Fig. 99).[274] A fragmentary plastered skull painted with imported Anatolian cinnabar was found near a posthole.[275] 'Several other fragments of plastered skulls' have been found at Kfar HaHoresh.[276]

At 'Ain Ghazal, a cache of four crania were found oriented SW, two of which contained traces of white plaster in the eye sockets and one used a strip of bitumen to depict an eye (Fig. 99).[277] Three crania with traces of plaster were also found in a

[271] The two plastered skulls (Crânes 1-2) were found (Area C; Sq. Y14; Level 1; L180) near the threshold of the building's antechamber, a building (Structure 150) which the early excavators claimed was '*identique*' to a building at Jericho designated as a '*sanctuaire*.' Denise Ferembach and Monique Lechevallier, 'Découverte de Deux Crânes Surmodelés dans une Habitation du VIIe Millénaire à Beisamoun, Israël', *Paléorient*, 1(2) (1973), pp. 223-230, (pp. 224-226, 229-230; Fig. 3; Pl. I-II). cf. John Garstang and John B. E. Garstang, *The Story of Jericho*, (London: Hodder and Stoughton, 1940), pp. 47-51.

[272] Monique Lechevallier, *Abu Gosh et Beisamoun, Deux Gisements du VIIième Millénaire Avant l'Ère Chrétienne en Israël*, Mémoires et Travaux du Centre de Recherches Préhistoriques Français de Jérusalem 2, (Paris: Association Paléorient, 1978), pp. 147-151; Fig. 47; Pl. XXXI.1.

[273] Simmons, Goring-Morris and Horwitz, 'What Ceremony Else?', in *Faces from the Past*, ed. by Faerman et al, p. 23.

[274] The plastered skull (KHH Homo 1) was found (Trench I; Sq. H36; L1004) under a plastered surface. Nigel Goring-Morris et al, '1992 Season of Excavations', pp. 83-88, 105; Fig. 5-8. Hershkovitz et al, 'Remedy for an 8500 Year-old Plastered Human Skull', pp. 779-785.

[275] The fragmented skull (KHH Homo 8) was found (Sq. R/S54; L1036) near the animal depiction discussed below. Goring-Morris, '1997 Season of Excavations', pp. 1, 3; Fig. 2. Yuval Goren, A. Nigel 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 Interpretations', *Journal of Archaeological Science*, 28(7) (2001), pp. 671-690, (pp. 674-677; Tab. 1-3).

[276] Goring-Morris, 'Life, Death and Emergence', in *Archaeological Perspectives on Transmission*, ed. by Clarke, p. 96.

[277] The four crania (Skulls A-D) were found (Sq. 3074) in a shallow outdoor pit associated with two infant burials (Burial 3074/040a-b). Gary Rollefson, 'Neolithic 'Ain Ghazal (Jordan): Interim Report on the First Two Seasons, 1982-1983', *Journal of Field Archaeology*, 11(4) (1984), pp. 387-395, (p. 390). Gary Rollefson et al, 'Excavation at the Pre-Pottery Neolithic B Village of 'Ain Ghazal (Jordan), 1983', *Mitteilungen der Deutschen Orient Gesellschaft*, 117 (1985), pp. 69-116, (p. 110). GaryRollefson and Zeidan Kafafi, 'The Town of 'Ain Gghazal' in *'Ain Ghazal Excavation Reports: Symbols at 'Ain Ghazal*, Vol. 3, ed. by Denise Schmandt-Besserat, (Berlin: ex oriente, 2013), pp. 3-29, (pp. 16-17; Fig. 1.1.16).

row facing east under a floor (Fig. 99).[278] Two fragmentary modeled and modified crania were found at different buildings at ‘Ain Ghazal, both of which were painted red with traces of plaster, black bitumen, and were likely sanded.[279] Three pink-washed plastered faces with inlaid bitumen eyes were also found deposited face down in a row, but without the corresponding skulls (Fig. 99).[280]



Fig. 99. Cache of four modified and unmodified crania *in situ* from ‘Ain Ghazal. Rollefson & Simmons (1984), p. 390.



Fig. 99. Row of three skulls with traces of plaster from ‘Ain Ghazal. Rollefson & Simmons (1986), Fig. 12.



Fig. 99. Three plaster face masks from ‘Ain Ghazal. Schmandt-Besserat (2013), p. 222; Fig. 6.2.8.

In open area at Yiftahel near a large rectangular structure, three plastered skulls were found *in situ* lined in a row (Fig. 99).[281] At Nahal Hemar, ACM in order to obtain a brachycranic appearance may have been a factor in selection for modeling, which only took place on the backs of the crania and,

[278] The three crania were found (Sq. 3083/3283; Locus 116) cached in a straight line and belong to males 40+ years in age. Gary Rollefson and Alan Simmons, ‘The Neolithic Village of ‘Ain Ghazal, Jordan: Preliminary Report of the 1984 Season’, *Bulletin of the American Schools of Oriental Research*, Supplement 24 (1986), pp. 145-164, (pp. 153, 155; Fig. 12). Rollefson and Kafafi, ‘Town of ‘Ain Ghazal’ in *‘Ain Ghazal Excavation Reports*, Vol. 3, ed. by Schmandt-Besserat, pp. 16-17; Fig. 1.1.15. Although Rollefson and Kafafi reported that the crania received no postmortem treatment other than skull removal, Bonogofsky stated that the crania contain traces of coarse plaster. Michelle Bonogofsky, ‘Complexity in Context: Plain, Painted and Modeled Skulls from the Neolithic Middle East’, in *Skull Collection, Modification, and Decoration*, ed. by Michelle Bonogofsky, British Archaeological Reports 1539, (Oxford: Archeopress, 2006), pp. 15-28, (p. 20). Gary Rollefson, ‘Recalibrating ‘Ain Ghazal’, in *A Pioneer of Arabia: Studies in the Archaeology and Epigraphy of the Levant and the Arabian Peninsula in Honor of Moawiyah Ibrahim*, ed. by Zeidan Kafafi and Mohammed Maraqten, (Rome: Universita di Roma «la Sapienza», 2014), pp. 305-318, (p. 312).

[279] The fragmented cranium (AG 83 3078 062) was found (Sq. 3078; Loci 062-063) on a floor of a house. Rollefson, ‘Neolithic ‘Ain Ghazal’, p. 390. The other fragmented cranium (AG 84 3083 107) was also found (Sq. 3083; Locus 107) under a floor of a house. Gary Rollefson, Denise Schmandt-Besserat and Jerome Rose, ‘A Decorated Skull from MPPNB ‘Ain Ghazal’, *Paléorient*, 24(2) (1998), pp. 99-104, (p. 100). Bonogofsky, ‘Cranial Modeling and Neolithic Bone’, pp. 141-146.

[280] The three faces (Faces 1-3) were found (Sq. 3081/2; Locus 139) face down *in situ* with an estimated 40% of the original plaster missing. Patricia Griffin, Carol Grissom and Gary Rollefson, ‘Three Late Eighth Millennium Plastered Faces from ‘Ain Ghazal, Jordan’, *Paléorient*, 24(1) (1998), pp. 59-70, (pp. 59-63; Fig. 1-3).

[281] The three remodeled skulls (H1-3) were found (Area I; Stratum 3 d; Open Area 402; N. of Building 501) in a pit (L4187). Hamoudi Khalaily et al, ‘Recent Excavations at the Neolithic Site of Yiftahel (Khalet Khalladyiah), Lower Galilee’, *Neo-Lithics*, 2 (2008), pp. 3-11, (pp. 7-9; Figs. 10-11).

'increased transverse dimensions.'[282] Six crania were found at Nahal Hemar modeled not with plaster, but with a type of animal collagen adhesive in a net pattern on the backs of the crania (Fig. 99).[283] Two of the crania show signs of burning, but it is unknown if this was intentional.[284]



Fig. 99. Three western orientated plastered skulls (Homo 1-3) from Yiftahel with enlargement showing detail. Slon et al, (2014), p. 3; Fig. 4.



Fig. 99. Net pattern on the back of a cranium from Nahal Hemar. Garfinkel (2014), p. 151; Fig. 18.

Four plastered skulls with bases found decorated with red and black pigment were placed against a wall as a possible foundational deposit in a carefully prepared burial area at MPPNB Tell Aswad and the complete skeletal remains of a baby were found on top of two of the plastered skulls, separated by a thin layer of earth.[285] In addition to the over-modeled skulls, this collective burial included an acephalous burial, isolated cranium, and an articulated skeleton whose head once rested on a 'funeral cushion'(Fig. 99).[286] Another cache of four naturalistic plastered skulls with elongated cranial areas were found at LPPNB Tell Aswad, tightly encircled around the undecorated skull of a child (Fig.99-99).[287]

[282] Baruch Arensburg and Israel Hershkovitz, 'Artificial Skull "Treatment" in the PPNB Period: Nahal Hemar', in *People and Culture in Change*, ed. by Hershkovitz, pp. 115-131, (pp. 128-129).

[283] Nahal Hemar was first excavated by amateurs and so the stratigraphical locations for the decorated crania and other finds are uncertain. Six crania (Homo 2-4, 7-9) exhibited evidence of collagen decoration. Arie Nissembaum, 'Eight-Thousand-Year-Old Collagen from an Israeli Cave', *Archaeologia Umada'ei Hateva Bulletin*, 5 (1997), pp. 5-10. B. Bower, 'Ancient Adhesive Surfaces in Israeli Cave', *Science News* 152, 1 November 1997, p. 279.

[284] Homo 1 and 4 exhibited evidence of burning. Baruch Arensburg and Israel Hershkovitz, 'Neolithic Human Remains' in *Naḥal Ḥemar Cave*, ed. by Ofer Bar-Yosef and David Alon, 'Atiqot English Series 18, (Jerusalem: Department of Antiquities and Museums Ministry of Education and Culture, 1988), pp. 50-58, (pp. 50-51, 53; Pl XXII.1-2).

[285] Found in the *dortoir des morts* (Level B0, St.671, Individuals 671 CS1-CS4). Skulls 671-CS1 and 671-CS2 were found stuck together, as were 671-CS3 and 671-CS4. Individual (671-5) was placed atop skulls 671-CS3 and 671-CS4. Stordeur et al, 'L'aire Funéraire de Tell Aswad', p. 41; Fig. 2.1-6.

[286] The acephalous individual (671-1), isolated cranium (671-3) found between two remodeled skulls (671-CS2, 671- CS3), and the burial with a *coussin funéraire* headrest (671-6) were found as parts of a collective burial (Level B0, Sq. ZV/ZW, 129-131, St.671). Ibid., pp. 43-44, 54, 57; Fig. 1.

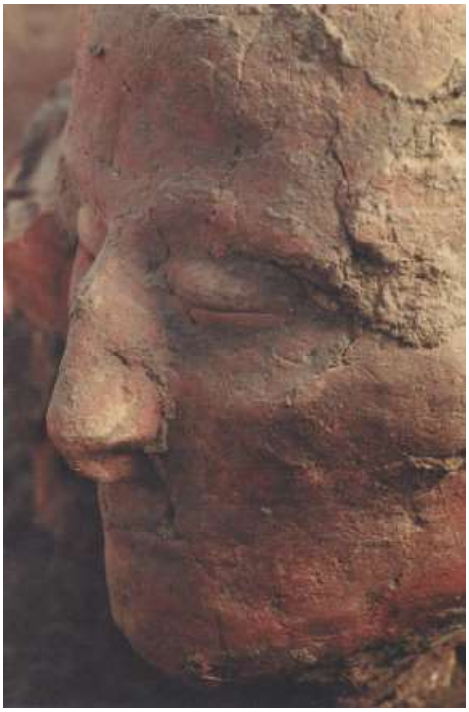
[287] Four over-modeled skulls (741 CS1-3, CS5) were found in a burial cache (Level B5, Sq. ZM/ZN-122, St.741) encircled



Fig. 99. Plastered crania (641 CS1-4) with primary inhumations at Tell Aswad. Stordeur & Khawam (2007), p. 25; Fig. 2-2.



Fig. 99. Plastered crania (741 CS1-3) with infant skeleton at Tell Aswad. Stordeur & Khawam (2007), p. 26; Fig. 3-1.



Also, the plastered remains of a modeled face without a skull were found near the cache.[288] The *culte des crânes* at LPPNB Tell Ramad has yielded the largest collection of plastered skulls (Fig. 99), recovered in three caches of eight, three, and at least 12, respectively.[289] A fragmented anthropomorphic statuette was found as part of a possible foundation rite along with the cache of eight skulls, which were reconstructed with plaster in both the face and neck areas, prior to the application of red pigment on the forehead.[290] The cache of three plastered skulls was found along with clavicles and was also coated red, which may be symbolic of blood and life.[291]

Fig. 99. Plastered crania (741 CS1) in profile. Stordeur & Khawam (2007), p. 28; Fig. 5-3.

around the skull of a child. Danielle Stordeur and Rima Khawam, 'Les Crânes Surmodelés de Tell Aswad (PPNB, Syrie): Premier Regard sur l'Ensemble, Premières Réflexions', *Syria*, 84 (2007), pp. 5-32, (pp. 27-29; Fig. 3-8).

[288] No skull was found that corresponds to the plastered facemask (741-S7), but a mandible was found which may correspond to 741-S7. Stordeur and Khawam, 'Les Crânes Surmodelés de Tell Aswad', Fig. 4.1; 6.1; 8.4-7.

[289] de Contenson stated that about 23 skulls were found in Levels I-II. Henri de Contenson, *Ramad, Site Néolithique en Damascène (Syrie) aux VIIIe et VIIe Millénaires avant L'ère Chrétienne*, (Beruit: Institut Français d' Archéologie du proche Orient, 2000), p. 56. A later study by Anfruns and Oms stated a total of 27 handled skulls and they distinguish 16 totally or partially plastered, six with plaster remains and red pigment, four with red staining only, and one skull fragment with black pigment. 48.2 % of 56 individuals discovered at Tell Ramad underwent skull removal and treatment. Josep Anfruns and Josep Oms, 'Un Nouveau Regard sur les Restes Anthropologiques du Site Néolithique de Tell Ramad (Syrie)', *Syria*, 83 (2006), pp. 115-124, (p. 123).

[290] Found (Level 1, M 4 SO) inside a niche. The clay and plaster statuette (R.67.3) is a fragment of a lower torso with leg holes. de Contenson, 'Ramad, Site Néolithique', pp. 56, 325-326; Pl. XXIII, XXIV-l; 'Les Coutumes Funéraires dans le Néolithique Syrien', *Bulletin de la Société Préhistorique Française*', 98(6) (1992), pp. 184-191, (pp. 187-188; Fig. 5-7).

[291] Both the skulls and clavicles were found (Level II; M 4 NE, H 10) coated red, which was interpreted as symbolic of blood and life. de Contenson, 'Ramad, Site Néolithique', p. 56. '*Quant aux morceaux d'ocre rouge, ils évoquent un rite funéraire largement attesté dans le monde entier depuis le Paléolithique moyen ; la couleur rouge est communément considérée comme le symbole du sang et donc de la vie*.' de Contenson, 'Les Coutumes Funéraires', p. 185.



Fig. 99. Plastered skull from Tell Ramad. Anfruns & Oms (2006), p. 122; Fig. 4.

PPNB-PPNC Animal Association

The overall number of sites which demonstrated evidence for direct Animal Association regarding treatment of the head doubled from the PPNA to the PPNB-PPNC with all regions represented, except Mesopotamia. The intertwining of human and animal remains in a variety of mortuary contexts demonstrates the importance of animals regarding ritual practice and belief at Kfar HaHoresh. Under a plastered floor, an ashen pit was discovered to contain the remnants of a unique human-animal-shell-stone funerary installation.[292] Human bones from at least four individuals and gazelle bones were arranged in such a manner as to depict the head, front leg, back, and tail of an animal in profile (Fig. 99).[293]

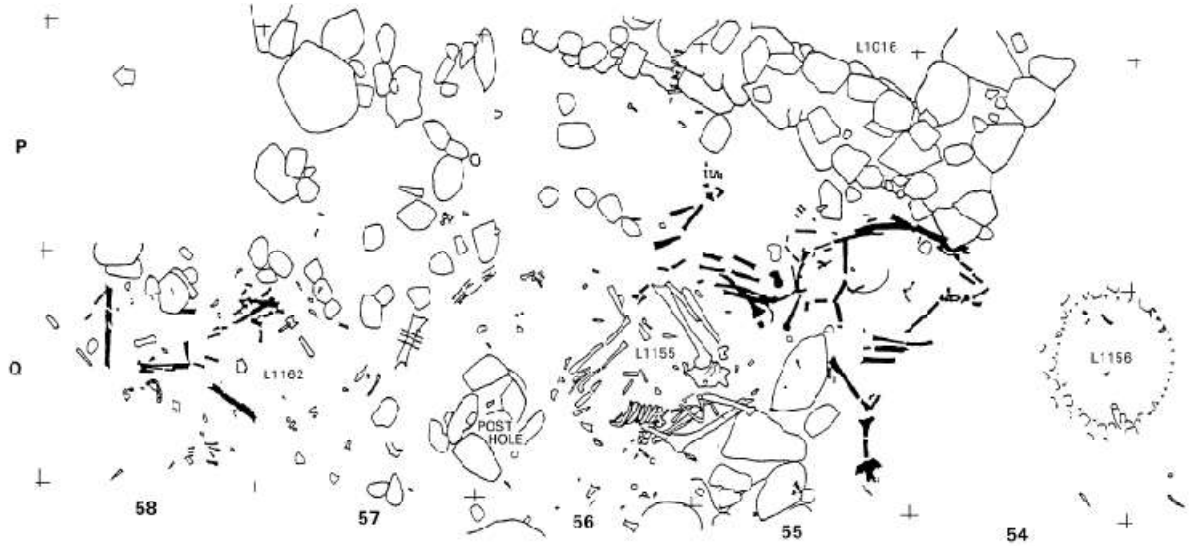


Fig. 99. Animal depiction from Kfar HaHoresh. Goring Morris (2005), p. 95; Fig. 12.4.

Although it is uncertain exactly which animal was depicted, the mouth of the animal was shown by using a human mandible and upturned cranium with a perforated hole (Fig. 99), the eye was illustrated by a stone, a human leg and foot formed the tail, and gazelle bones were used for the nostrils and front hoof.[294] A large human mandible fragment was found in the

[292] The animal depiction was found (Sq. P/Q 54-56; L1155) separated by a posthole (Sq. Q 56-57) that excavators suggest did not have an integral architectural purpose, but rather a type of integral 'marker or totem' and on the other side, the poorly preserved remains of what was likely another animal depiction were found (Sq. Q 57-58; L1162). Goring-Morris et al, '1997 Season of Excavations', pp. 1-3; Fig. 2-4.

[293] Ibid., p. 2.

[294] Kfar HaHoresh was only PPNB site and the last site in the dataset to demonstrate evidence for Perforated Holes. Excavators suggested that the animal depicted may have been an auroch, boar, or lion. Ibid., pp. 2-3. Simmons, Goring-Morris and Horwitz, 'What Ceremony Else?', in *Faces from the Past*, ed. by Faerman et al, p. 21; Fig. 13b.

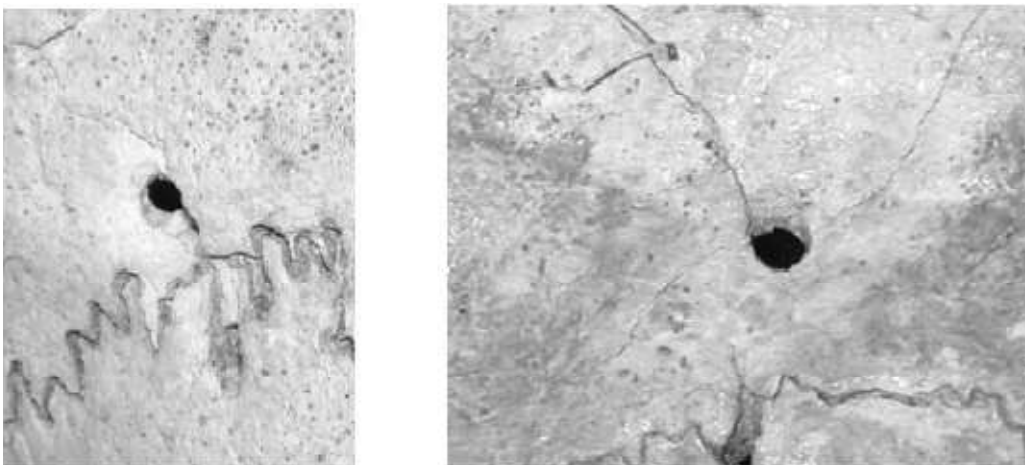


Fig. 99. (A) Outside and (B) inside close up of a perforated hole in a cranium used to illustrate a portion of the mouth in the animal depiction at Kfar HaHoresh. Goring-Morris et al, (????) p. 21; Fig. 13b.

middle of a small circular patch of plaster, which overlaid the depiction.[295] A plastered skull fragment with a line of shells demarked one side of the animal profile and both a burial and a skull cache disrupted a portion of the depiction.[296] The skull cache was found near a posthole and included three skulls, at least one of which was plastered.[297]

PPNB-PPNC Anthropomorphic Imagery

PPNB-PPNC Masks and Statuary

A large increase in sites with masks and statuary occurred during the PPNB-PPNC before lacking evidence in the PN-EB. The first and only Southern Levantine evidence for masks and statuary dates to the PPNB-PPNC. Leaving the face undecorated, the modeling on the backs of the above mentioned crania at Nahal Hemar is in a net pattern, on which some type of headdress (e.g. hair, feathers, fabrics, etc.) may have been placed and would have highly accentuated the shape of the head.[298] Two stone masks were found with red pigment, traces of collagen, and hair.[299] It was perhaps because of these masks, that the fronts of the crania were not decorated (Fig. 99).[300]



Fig. 99. Stone mask from Nahal Hemar. Bar-Yosef & Alon (1988), p. ???.

[295] Half of a human mandible was found (L1027) in the patch over the animal depiction. Goring-Morris et al, '1997 Season of Excavations', p. 3.
[296] Ibid., pp. 2-3; Fig. 3-4.
[297] The skull cache was found (Sq. Q56-57) at the northern end of the pit (L1155). Goring-Morris, 'Life, Death and Emergence', in *Archaeological Perspectives on Transmission*', ed. by Clarke, pp. 93, 96; Fig. 12.3.
[298] Tamar Schick, 'A Neolithic Cult Headdress from the Nahal Hemar Cave', *The Israel Museum Journal*, 7 (1988), pp. 25-33.
[299] Ofer Bar-Yosef and David Alon, 'Excavations at Naḥal Ḥemar Cave', in *Naḥal Ḥemar*, ed. by Bar-Yosef and David Alon, p. 24.
[300] Ofer Bar-Yosef, 'Early Neolithic Stone Masks', in *From Village to Cities: Studies Presented to Ufuk Esin*, ed. by Mehmet Özdoğan, Harald Hauptman and Nezhi Başgelen, (Istanbul: Arkeoloji Ve Sanat Yayınları, 2003), pp. 73-86, (p. 79).

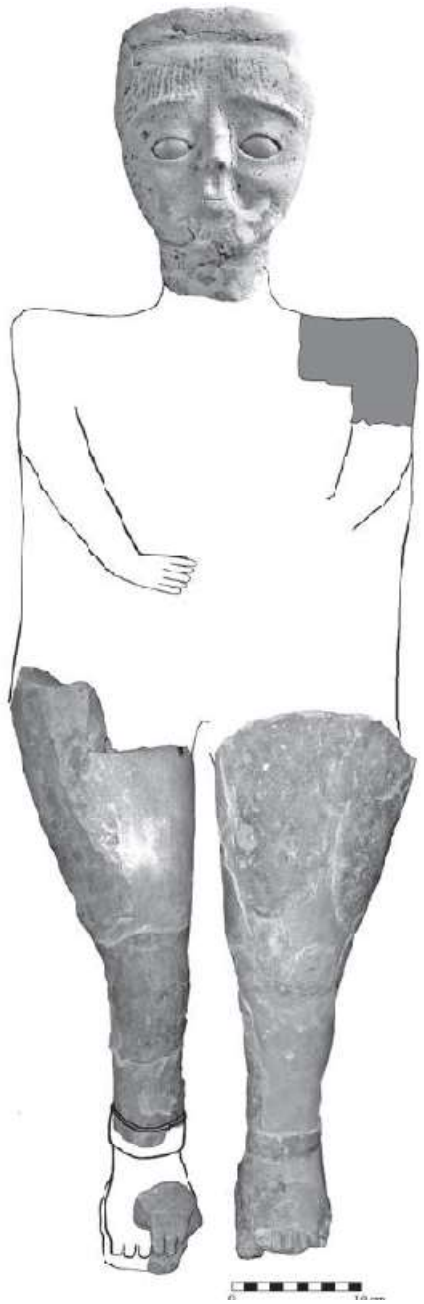


Fig. 99. Reconstruction of Statue A from cache 195 at Jericho. Nigro (2017), p. 25; Fig. 20.

The small room at Jericho which contained crania incorporated into the architecture was discovered to be a side room of a MPPNB cultic building with associated finds of a bone mask and two caches of large fragmented plastered statues, including a head modeled similarly to the plastered skulls with inlaid shell eyes and well decorated facial features (Fig. 99).[301] Also, a LPPNB plaster bust of a stylized human with a rectangular head was found near where the six LPPNA-EPPNB skulls were found cached in a tight circle.[302]

Large fragments of plaster anthropomorphic statues and busts were found in two separate caches at 'Ain Ghazal.[303] Some of these fragments were parts of likely seven standing statues and perhaps five two-headed busts (Fig. 99).[304] One bust displayed three stripes of red pigment on the face (Fig. 99).[305]



Fig. 99. Two plastered statues from 'Ain Ghazal. Becker & Clare (2014), p. 10; Fig. 15.

[301] The mask and two plaster statue caches (Cache 190, 195) were found (NE Trench; Sq. EI-II) near a building which Garstang designated as a shrine or '*megaron*.' The left foot of one of the fragments has six toes like the fragment from 'Ain Ghazal. John Garstang, 'City and Necropolis (Fifth Report)', *Liverpool Annals of Archaeology and Anthropology*, 22 (1935a), pp. 143-184, (pp. 166-167); 'L'art Néolithique a Jéricho', *Syria*, 16 (1935b), pp. 353-357, (pp. 355-356). Gary Rollefson, 'Ritual and Ceremony at Neolithic Ain Ghazal (Jordan)', *Paléorient*, 9(2) (1983), pp. 29-38, (p. 36; Pl. IV.3).

[302] The LPPNB (Stage IX) bust was found (Sq. EII) on a floor near a plastered circular bin about 2 m from where the LPPNA-EPPNB (Stage VIII) skull cache (Munich: E11-16; Jericho: E 12.3 A-F) was found. Kenyon, *Excavations at Jericho*, Vol. III, ed. by Holland. pp. 290; Pl. 57, 303a-b, 311.

[303] Like the discovery at Jericho, a large plaster fragment of a six-toed foot was found within the first cache. Rollefson, 'Ritual and Ceremony', pp. 30-36; Fig. 1; Pl. I-II.2, IV.3. Garstang, 'L'art Néolithique a Jéricho', pp. 355-356. The second cache actually consists of two small pits, the head was found (Sq. 3081) separate from the other statuary (Square 3282). Gary Rollefson, 'Neolithic 'Ain Ghazal (Jordan): Ritual and Ceremony, II', *Paléorient*, 12(1) (1986), pp. 45-52, (p. 45-48; Pl. I).

[304] Some statues would have stood almost one meter high. Carol Grissom, 'Neolithic Statues from 'Ain Ghazal: Construction and Form', *American journal Of Archaeology*, 104(1) (2000); pp. 24-45.

[305] Denise Schmandt-Besserat, 'Ain Ghazal Monumental Figures', *Bulletin of the American Schools of Oriental Reserch*, 310 (1998a), pp. 1-17; Fig. 5.



Fig. 99. Plaster bust *in situ* at ‘Ain Ghazal with originally red stripes on the face. Rollefson (2017), p. 109; Fig 2.

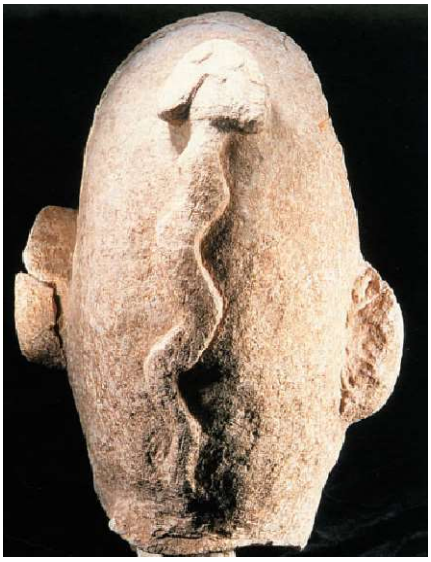


Fig. 99. Life-sized stone head with snake from Nevalı Çori. Schmidt (2010), p. 247; Fig. 15.

At, Nevalı Çori, a life sized stone sculpture of an elongated human head was found defaced and with a snake carved on the back.[306] Other objects found at Nevalı Çori included a raptor-human-head composite stone ‘totem pole’ (Fig. 99) and a small mask (Fig. 99).[307]

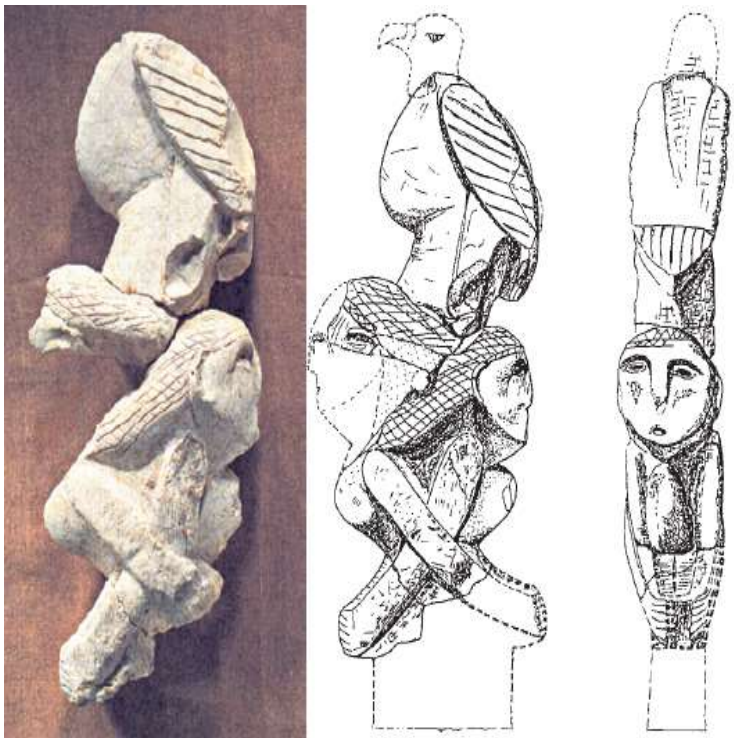


Fig. 99. Human head and raptor ‘totem’ from Nevalı Çori. Hauptmann (2011), Fig. 24a-b.



Fig. 99. Small limestone mask from Nevalı Çori. Hauptman (????), p. ???; Fig. ??.

[306] Harald Hauptmann, ‘Nevali Cori: Eine Siedlung des akeramischen Neolithikums am mittleren Euphrat’, *Nürnberger Blätter zur Archäologie*, 8 (1991/1992), pp. 15-33; Fig. 23.

[307] The ‘totem pole’ survived in two large fragments found (Level III; Building 13C) in the same possible cult building as the large anthropomorphic pillar. Ibid., pp. 67-68. The small mask was designated as a miniature. Harald Hauptmann, ‘The Urfa Region’, in *The Neolithic in Turkey: The Euphrates Basin*, Mehmet Özdoğan, Nezhi Başgelen and Peter Kuniholm, (Istanbul: Archaeology and Art Publications, 2011), pp. 85-138; Fig. 17.

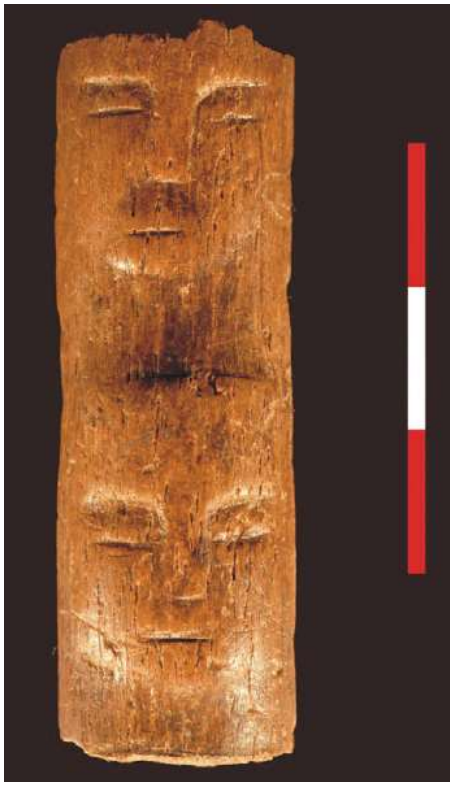
PPNB-PPNC Anthropomorphic Figurines

Almost half of PPNB-PPNC sites demonstrated evidence for anthropomorphic figurines, which was a large increase from the Epipaleolithic-PPNA and included all regions. Two figurines were found at Yiftahel, one was found headless and the head of the other has 'an elongated form.'[308] At Wadi Shu'eib, a collective burial of four acephalous individuals was found in a pit under a red plastered floor with a plaster figurine.[309] Anthropomorphic figurines made from phalanges of equids were also found at Dja'de el-Mughara.[310] In another likely well at Shillourokambos, a feline figurine head with possible anthropomorphic facial features was discovered (Fig. 99).[311]



Fig. 99. Possible human-feline figurine head from Shillourokambos. Jones (2009), p. 88; Fig. 4.

PPNB-PPNC Carvings and Paintings



While sites which demonstrated engravings were lacking in the PPNB-PPNC, evidence for carvings matched the PPNA. At Tell Qarassa North, a bone wand with two carved human faces was found (Fig. 99).[312] A white plaster wall relief of a stylized human was found at Bouqras covered with red ochre and the one eye that was preserved was inlaid with obsidian.[313] The first sites with evidence for paintings date to the PPNB-PPNC and were only found in the Levant. A painting of stylized women around a red square was found on a plastered floor at Tell Halula.[314]

Fig. 99. Bone wand with human faces from Tell Qarassa North. Ibáñez, Gonález-Urquijo & Braemer (2014), p. 85; Fig. 3.

[308] Natalia Gubenko and Ronen Abraham, 'More from Yiftahel (PPNB), Israel', *Paléorient*, 40(1) (2014), pp. 149-158, (pp. 150-151; Fig. 1.1-2, 2.1-2).
[309] The four individuals (I 1-4) were found (Area I; Burial 1) by a road cut that disrupted a portion of the collective burial. Simmons et al, 'Wadi Shu'eib: A Large Neolithic Community', pp. 27-30; Fig.14-15; Tab. 12.
[310] Rozalia Christidou, Eric Coqueugniot and Lionel Gourichon , 'Neolithic Figurines Manufactured from Phalanges of Equids from Dja'de el Mughara, Syria', *Journal of Field Archaeology*, 34(3) (2009), pp. 319-335.
[311] The feline figurine head dates to the Early Phase A (Period 1A; C-EPPNB) and was discovered in Structure 66, which was likely a well. Koutrafouri, 'Ritual in Prehistory', Vol. 1, p. 148
[312] The wand was found (Sq. V-67) via sieving material. Juan José Ibáñez, Jesús E. Gonález-Urquijo and Frank Braemer, 'The Human Face and the Origins of the Neolithic: The Carved Bone Wand from Tell Qarassa North, Syria', *Antiquity* 88(339) (2014), pp. 81-94, (pp. 82, 85 Fig. 3).
[313] The relief was found (Area A, Level III; House 16) on a wall across from a hearth. Merrett and Meiklejohn, 'House 12 at Bouqras', in *Faces from the Past*, ed. by Faerman et al, p. 130. Akkermans and Schwartz, *Archaeology of Syria*, p. 121.
[314] Miquel Molist, 'Des Représentations Humaines Peintes au IXe Millénaire BP sur le Site de Tell Halula (Vallée de l'Euphrate, Syrie)', *Paléorient*, 24(1) (1998), pp. 81-87 (p. 84; Fig. 4).

Pottery Neolithic-Early Bronze Age Head Treatments

The total number of PN-EB sites included in the dataset were less than the PPNB-PPNC, but almost equaled the Epipaleolithic-PPNA. The only time in which the total number of Southern (Fig .99-99) and Northern (Fig. 99-99) Levantine sites were outnumbered by Anatolian (Fig .99-99) and Mesopotamian (Fig. 99-99) sites in the database was during the PN-EB.



Fig. 99. Map of Southern and Northern Levantine PN-EB sites included in the database.

c. Date cal BP	Site	Head Treatments	Selected References
8,500-7,900	**Sha'ar Hagolan**	*crania burials, figurines*	Garfinkel et al, 2011
8,400-7,600	**Tell Roim West**	*head markers, artificial cranial modification*	Eshed & Nadel, 2015
8,300-8,100	**Nahal Betzet I**	*acephalous burial*	Gopher, 1989; Gopher & Orrelle, 1995
7,900-7,600	**Teluliot Batashi**	*head marker, isolated skull*	Kaplan, 1958
7,500-7,200	**Neve-Yam**	*cranial fragments, burning*	Galili et al, 2009
7,500-6,300	**Eilat**	*headrests, head markers, separated skulls (cached), skulls/crania movement*	Avner & Horwitz, 2017; Avner, 2018; Eshed & Avner, 2018
6,400-6,200	**Peqi'in Cave**	*separated skulls (isolated & cached), figurines, carvings, paintings*	Gal et al, 2007, 2011; Shalem, 2017
5,500-4,200	**Bab edh-Dhra'**	*charnel houses, skulls/crania movement, figurines*	Shaub & Rast, 1989; Chesson, 1999, 2007; Gregoricka et al, 2019

Tab. 99. Summary of head treatments for Southern Levantine PN-EB sites included in the database.

c. Date cal BP	Site	Head Treatments	Selected References
9,000-8,300	**Shir**	*acephalous burials, paintings*	Bartl et al, 2006; Bartl & Nieuwenhuyse, 2008; Bartl, 2010
8,500-8,000	**Tell el-Kerkh**	*acephalous skeletons, separated skulls, burning*	Tsuneki, 2013; Jammo, 2014
8,200-7,900	**Tell Sabi Abyad**	*acephalous skeleton, skull movement, animal association, figurines, paintings*	Verhoeven, 2000; Nieuwenhuyse, 2007; Akkermans, 2008; Belcher, 2014
6,100-4,000	**Byblos**	*head orientation, artificial cranial modification, figurines*	Dunand, 1950; Negbi & Moskowitz, 1966; Albright, 1966; Özbek, 1974; Nigro, 2007; Artin, 2010
4,800-4,200	**Umm el-Marra**	*skull movement, animal association*	Schwartz et al, 2006; Schwartz, 2007

Tab. 99. Summary of head treatments for Northern Levantine PN-EB sites included in the database.



Fig. 99. Map of Anatolian PN-EB sites included in the database.

c. Date cal BP	Site	Head Treatments	Selected References
9,100-8,000	**Çatalhöyük**	*acephalous burials, separated skulls and crania, mandibulae burials, defleshing, skull decoration, skull pigmentation, modeled skull, animal association, figurines, paintings*	Mellaart, 1962-1964; Boz & Hager, 2004, 2013; Meskell, 2007; Hodder & Pels, 2010; Haddow & Knüsel, 2017
8,200-8,000	**Hacılar**	*statuary, figurines, carvings, engravings*	Mellaart, 1970
8,100-8,000	**Hakemi Use**	*head orientation, separated skulls (isolated), artificial cranial modification, skull pigmentation, figurines*	Tekin, 2006, 2008, 2013; Erdal, 2013
8,000-7,000	**Köşk Höyük**	*acephalous burials, separated skulls and crania (isolated & cached), modeled skulls,*	Bonogofsky, 2005, 2006; Özbek, 2009

		figurine	
7,900-7,500	**Kerküşti Höyük**	*separated skull, figurines, paintings*	Sarıaltun & Erim-Özdoğan, 2010; Sarıaltun, 2013
7,600-7,500	**Şeyh Höyük**	*artificial cranial modification*	Şenyürek & Tunakan, 1951; Özbek, 1974
7,600-7,500	**Domuztepe**	*separated skulls, skull fragments, defleshing, animal association, figurines, paintings*	Carter et al, 2003; Campbell, 2007-2008; Kansa et al, 2009; Carter, 2012
6,500-6,400	**Değirmentepe**	*mandible, artificial cranial modification*	Özbek, 2001; Helwig, 2003
4,400-4,100	**Titriş Höyük**	*skulls orientation, skulls/crania movement, figurines*	Laneri, 2004, 2007; Erdal, 2012

Tab. 99. Summary of head treatments for Anatolian PN-EB sites included in the database.



Fig. 99. Map of Mesopotamian PN-EB sites included in the database.

c. Date cal BP	Site	Head Treatments	Selected References
8,400-8,000	**Türbe Höyük**	*skulls orientation, skulls movement, skull pigmentation*	Kodaş et al, 2018
8,000-7,900	**Tell Hassuna**	*separated skull, acephalous skeletons, painting*	Lloyd et al, 1945
7,900-7,300	**Tell 'Azzo I**	*acephalous burials*	Killick & Roaf, 1983

7,600-7,100	**Arpachiyah**	*acephalous burial, separated skulls and crania, artificial cranial modification, figurines, paintings*	Mallowan & Rose, 1935; Hijara, 1978; Molleson & Campbell, 1995
7,600-7,250	**Yarim Tepe II**	*skull orientation, skulls/crania movement, figurines, paintings*	Merpert & Munchaev, 1987
7,500-7,000	**Choga Mish**	*artificial cranial modification, figurines, paintings*	Ortner, 1996; Daems & Croucher, 2007
7,100-5,800	**Jebel al-Buhais 18**	*head orientation, separated skulls, skulls/crania movement, head decoration*	de Beauclair et al, 2006; de Beauclair, 2008; Kutterer, 2010
6,600-6,400	**Ur**	*acephalous burial, separated skulls, skulls/crania movement, figurines*	Woolley, 1955; Croucher, 2016
6,200-5,800	**Susa**	*possible charnel house, separated skulls, skull pigmentation, figurines, paintings*	de Mecquenem, 1934; Hole, 1983, 2010

Tab. 99. Summary of head treatments for Mesopotamian PN-EB sites included in the database.

PN-EB Burial Site Treatments

In the PN-EB, the total number of sites which gave evidence for BST fell by nearly half from the PPNB-PPNC, but was the first period to provide Mesopotamian evidence.



Fig. 99. Plaster basin burial and bone arrangement at Titriş Höyük. Erdal (2012), p. 3; Fig. 2.

PN-EB Head Orientations

Sites which evidenced head orientations remained about the same from the PPNB-PPNC to the PN-EB. At Titriş Höyük, a plaster basin used in connection with wine production contained a dismembered collection of human bones encircled by 17 human skulls, most of which displayed evidence of cranial trauma (Fig. 99).[315] A passage was opened in order for the mortuary installation to be publicly displayed and it has been interpreted as a type of ritualistic massacre, likely related to interpersonal conflict brought about by the collapse of the Akkadian Empire.[316]

[315] Laneri interprets the mortuary installation (B98.87) in the light of Ancient Near Eastern wine mythology and ritual. Nicola Laneri, 'Burial Practices at Titriş Höyük, Turkey: An Interpretation', *Journal of Near Eastern Studies*, 66 (4) (2007), pp. 241-266, (pp. 255-259; Fig. 3. Over 80% of skulls exhibited evidence of cranial trauma. Ö.D. Erdal, 'A Possible Massacre at Early Bronze Age Titriş Höyük, Anatolia', *International Journal of Osteoarchaeology*, 22(1) (2012), pp. 1-21, (pp. 6-7; Tab. 2).

[316] The 'gruesome and unusual public display' of the mortuary installation (B98.87) was found (Building 2; Room 13) with a passage opened so it could have been viewed near the intersection of two streets (Street A, C). Erdal, 'A Possible Massacre', pp. 3-4, 16-17; Fig. 2-3.

PN-EB Headrests, Head Markers, and Charnel Houses

Evidence for headrests was only found at one PN-EB site in the database and returned to the South Levant. *Tumulus* tombs at Eilat contained one to four burial chambers with skulls separated on the western side, often near a stone 'pillow.'[317] A large stone stab was placed by the heads of some articulated primary burials in the PN layers at Tell Roim West.[318] An isolated skull was found in a burial marked by a few stones in the Lodian pottery culture layers at Teluliot Batashi.[319] The number of PN-EB sites which demonstrated evidence for charnel houses decreased from the PPNB-PPNC, but the overall number of charnel houses increased significantly. In the later levels at EB Bab edh-Dhra', the arrangement and processing of human remains in a secondary burial context would take place in over ten charnel houses.[320]

PN-EB Skull Removal

The total number of sites which demonstrated evidence for SR deceased from the PPNB-PPNC to the PN-EB, but nearly equaled those from the Epipaleolithic-PPNA.

PN-EB Acephalous Skeletons

In the PN-EB, the number of sites that evidenced acephalous skeletons decreased, everywhere except Mesopotamia. Two acephalous primary burials were found at Late Neolithic Shir, one of which had a large flint blade found in place of the skull and obsidian was found near the head area of the other acephalous skeleton.[321] 'Several headless human burials' were found in a *tholos* with several concentric rings of *pisé* walls in the Halaf levels of Tell 'Azzo I.[322]

PN-EB Separated Skulls and Separated Crania

The total number sites which provided evidence for separated skulls decreased, equaling

[317] Note the stone 'pillow' in a collective burial excavated in *Tumulus* XV. Vered Eshed and Uzi Avner, 'A Late Neolithic–Early Chalcolithic Burial Site in Eilat, by the Red Sea, Israel', *Israel Exploration Journal*, 68(1) (2018), pp. 5-29, (pp. 7-9; Fig. 5; Note 2).

[318] Three burials (L.1057, L.2067, L.3016) were found (Section A-B; Layer II-III) with a large stone slab near the skull. Vered Eshed and Dani Nadel, 'Changes in Burial Customs from the Pre-Pottery to the Pottery Neolithic Periods in the Levant: The Case-Study of Tel Roim West, Northern Israel', *Paléorient*, 41(2) (2015), pp. 115-131, (pp. 121-123; Fig. 7-11; Tab. 2).

[319] Another burial was found (Layer IVa) at Teluliot Batashi in the same layer as the skull burial, but the skeleton retained the skull. Kaplan J. 1958b. 'בטאשי בתלוליות החפירות, שורק-נחל (Excavations at Teluliot Batashi in the Vale of Sorek)' *Eretz-Israel* 5:9-24 p. 10 (Fig. 3; English summary)

[320] Both local and nonlocal individuals were found in the charnel houses which may suggest that extended kin groups would return to Bab edh-Dhra' with their dead for burial. Lesley Gregoricka, Jaime Ullinger and Susan Sheridan, 'Status, Kinship, and Place of Burial at Early Bronze Age Bab adh-Dhra': A Biogeochemical Comparison of Charnel House Human Remains', *American Journal of Physical Anthropology*, 171(2) (2019), pp. 1-17.

[321] The two acephalous burials were found (Level 4-9; Area L/M 7; Unit 11, 117) along with the secondary burial of five individuals and four incomplete infant skeletons. The burial in Unit 117 contained the 'very large dagger-like flint blade' and the two pieces of obsidian were from the burial in Unit 11. Karin Bartl, Majd Hijazi and Ammar Haidar, 'The Late Neolithic Site of Shir: Preliminary Report of the German-Syrian Cooperation Project 2006', *Neo-Lithics*, 2 (2006), pp. 15-18, (p.15).

[322] Tell 'Azzo is not well documented, thus the stratigraphic relationship between the acephalous skeletons and the ringed building is not well understood. Robert Killick and Michael Roaf (eds.), 'Excavations in Iraq, 1981-82', *Iraq*, 45(2) (1983), pp. 199-224, (p. 206).

those from the PPNA. The number of sites which demonstrated separated crania fell to the lowest point during the PN-EB. All of the burials found at Late Chalcolithic Peqi'in Cave were secondary burials. One of the niches within the cave contained 19 disassociated skulls orderly placed therein.[323] Skull cult ideology continued to manifest itself at the large (13 ha) site of Çatalhöyük, as is evidenced by the discoveries of acephalous skeletons and isolated skulls.[324] Skulls and crania were deposited with both acephalous and articulated primary burials, either singularly or in groups (Fig. 99).[325]



Fig. 99. Çatalhöyük primary burial (F.3684) with secondarily deposited crania. Knüsel et al (2012), p. 138; Fig. 8.3.

However, the majority of skulls and were found in non-burial contexts.[326] The amount of wear on skulls and crania found in non-burial contexts compared with those found in primary burials may suggest that they were displayed for a period prior to deposition.[327] Secondary burials of skulls in bowls and long bones in tall beakers were found in a cemetery at the Ubaid-related site of Late Chalcolithic Susa.[328]

PN-EB Skull Caching

The total number of sites which demonstrated evidence for skull caching decreased from the PPNB-PPNC to the PN-EB, but was slightly higher than during the PPNA. The burial ground at Eilat 'shows some continuity with the PPN, i.e., separation of skulls.'[329] A tomb

[323] Zvi Gal, Howard Smithline and Dina Shalem, 'Gender Features and Social Hierarchy in the Chalcolithic Period in the Light of the Peqi'in Cave, Israel', in *The Archaeology of Difference: Gender, Ethnicity, Class and the "Other" in Antiquity, Studies in Honor of Eric M. Meyers*, ed. by Douglas Edwards and Thomas McCollough, Annual of the American Schools of Oriental Research 60/61, (Boston: American Schools of Oriental Research, 2007), pp. 41-48, (p. 44).

[324] In fact, the number of acephalous burials is far outweighed by the number of skulls, crania, and mandibulae yet recovered. Conservatively, 15 acephalous primary burials, 16 skulls and crania from burials, and 43 individuals represented by crania and/or mandibles from non-burial contexts were excavated at Çatalhöyük. Haddow and Knüsel, 'Skull Retrieval and Secondary Burial', pp. 56, 59-60; Fig. 9; Tab. 1.

[325] The larger groups of skulls recovered likely represent the remains of disturbed primary burials, due to multiple interments, rather than skull caches. The multiple skulls recovered in earlier controversial excavations, including the 'piles of human bones, skulls and mandibles' found (Levels IV, VI) under the sleeping platforms of houses may serve as an example. James Mellaart, 'Excavations at Çatal Hüyük: First Preliminary Report, 1961', *Anatolian Studies*, 12 (1962), pp. 41-65, (p. 51). Haddow and Knüsel, 'Skull Retrieval and Secondary Burial', p. 62; Tab. 2.

[326] Ibid. pp. 62-63; Tab. 3.

[327] Ibid. p. 56.

[328] Roland de Mecquenem, 'Notes sur les Modalités Funéraires Susiennes et leur Chronologie', *Vivre et Penser* 3(1) (1943-1944), pp. 133-142, (pp. 134-136, 139). A lack of adequate documentation of the burials is discussed by Hole. Frank Hole, 'Symbols of Religion and Social Organization at Susa', in *The Hilly Flanks and Beyond: Essays on the Prehistory of Southwest Asia, Presented to Robert J. Braidwood, November 15, 1982*, Studies in Ancient Oriental Civilization 36, (Chicago: University of Chicago, 1983), pp. 315-329, (p. 316); 'A Monumental Failure: The Collapse of Susa', in *Beyond the Ubaid*, ed. by Carter and Graham, pp. 229-233; Fig. 15.2, 4-6.

[329] Excavators of Eilat prefer to describe the site as Late Neolithic, rather than Pottery Neolithic, due to the lack of pottery in the desert region. Eshed and Avner, 'Late Neolithic–Early Chalcolithic Burial Site', p. 23.

found at Eilat contained a 'nest' of six skulls in a semi-circle at the base of an anthropomorphic standing stone (Fig. 99).[330]



Fig. 99. A 'nest' of six skulls around a *maṣṣebah* at Eilat. Eshed and Avner (????), p. 8; Fig. 4.

PN-EB Skulls/Crania Movement

The total number of sites which evidenced skulls/crania movement rose to the highest point during the PN-EB, more than during the Epipaleolithic-PPNC combined. The intramural tombs during the latter part of the Early Bronze Age at Titriş Höyük often contained the secondary deposition of skulls arranged on one side or in small pits, due to individuals removing postcranial bones in order to make space for a corpse.[331] Skulls were found placed to the eastern side of three collective cist burials of the Pre-Halaf Hassuna pottery culture at Türbe Höyük (Fig. 99).[332]

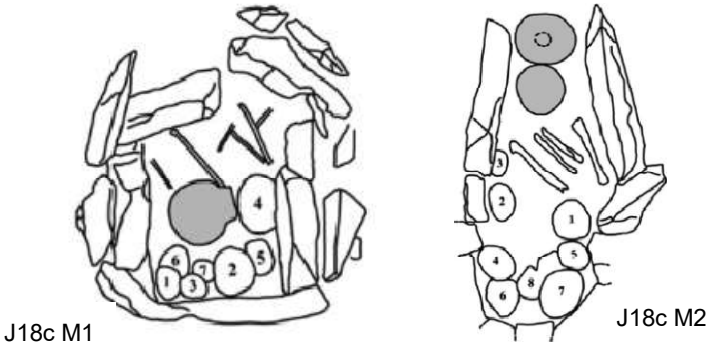


Fig. 99. Plans of two (J18c M1-2) of three cist burials found at Türbe Höyük with numbered skull arrangements. Kodaş, Sağlamtimur & Erdal (2018), p. 17; Fig. 5.

[330] The 'nest' was discovered in *Tumulus* V at the foot of an anthropomorphic unshapen *maṣṣebah*. Ibid., pp. 7-8; Fig. 4.
[331] Laneri, 'Burial Practices at Titriş Höyük', p. 252.
[332] The three burials (M1-3) were found (Sq. I/J17-19) to contain the skeletal remains of 16 (MNI) individuals. Ergül Kodaş, Haluk Sağlamtimur and Yılmaz Selim Erdal, 'Three Human Graves of the Hassuna Culture in Türbe Höyük', *Anatolia 'Antiqua*, 14 (2018), pp. 13-21, (p.15; Fig. 2).

PN-EB Mandibulae Burials and Skull Fragments

The total number of sites which demonstrated evidence for mandibulae Burials decreased significantly during the PN-EB and were only found in Anatolia. At Değirmentepe, a mandible was found inside an oven in the central hall of a tripartite building.[333] The lowest number of sites which provide evidence for skull fragments dates to the PN-EB. The 'Death Pit' at Late Halaf Domuztepe began with pits dug into the 'Red Terrace' and filled primarily with animal bones that may suggest feasting, as well as small pot that contained a human skull fragment.[334]

PN-EB Skull Modification

The total number of sites which demonstrated evidence for skull modifications decreased from the PPNB-PPNC to the PN-EB, but was slightly higher than the Epipaleolithic-PPNA.

PN-EB Artificial Cranial Modification

During the PN-EB, there was a substantial decrease from the PPNB-PPNC regarding evidence for ACM. However, PN-EB evidence was much more prevalent than during the Epipaleolithic-PPNA and displayed greater geographical diversity. A number of examined skulls from Byblos demonstrate evidence for ACM (Fig. 99).[335] At least two forms of head-binding were employed to accomplish the desired shape on individuals at Byblos, all of whom were likely female.[336]

Five articulated skeletons were recovered from a rubbish pit at Şeyh Höyük, which led to the interpretation that they were thrown into the pit after being killed.[337] All five crania displayed

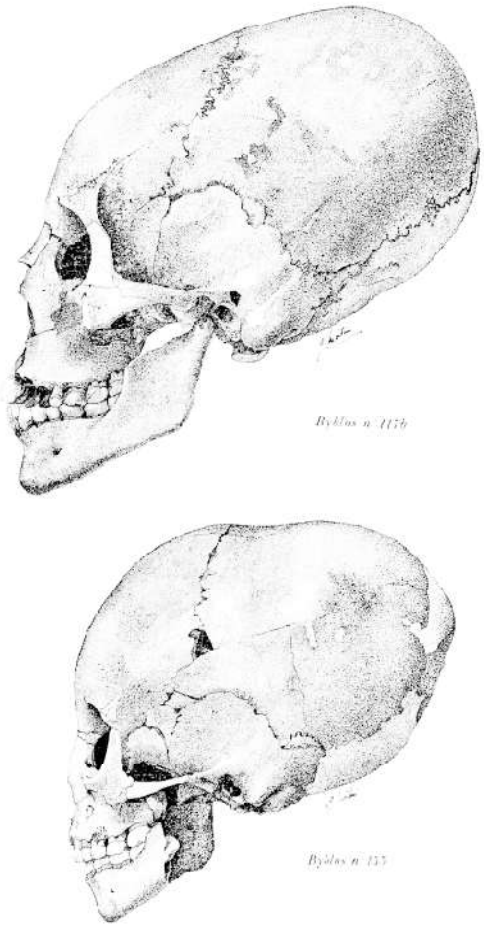


Fig. 99. Rendering of two skulls (117b, 155) from Byblos which display ACM. Özbek (1974), p. ??, Fig. 1.

[333] The mandible was found (Room DU) in an oven wall of a room with white plastered walls painted with sun and tree motifs. Barbara Helwing, 'Feasts as a Social Dynamic in Prehistoric Western Asia: Three Case Studies from Syria and Anatolia', *Paléorient*, 29(2) (2003), pp. 63-85, (pp. 71-72; Fig. 2).

[334] Stuart Campbell, 'The Dead and the Living in late Neolithic Mesopotamia' in *Sepolti Tra I Vivi, Buried Among the Living: Evidenza ed Interpretazione di Contesti Funerari in Abitato Roma, 26-29 Aprile 2006*, ed. by Gilda Bartoloni and Gilda Benedettini, Scienze dell'Antichità Storia Archeologia Antropologia 14/1, (Rome: Università Degli Studi di Roma «La Sapienza», 2007-2008), pp.125-140, (p. 129).

[335] Nearly half of the skulls of the examined skulls (21 out of 53) showed evidence of artificial cranial deformation. Metin Özbek, 'Étude de la Déformation Crânienne Artificielle chez les Chalcolithiques de Byblos (Liban): Modifications Consécutives sur le Crâne', *Bulletins et Mémoires de la Société d'Anthropologie de Paris*, 1(4) (1974), pp. 455-481, p. 478.

[336] Özbek, 'Étude de la Déformation Crânienne', pp. 456, 476; Fig. 5.

[337] Muzaffer Süleyman Şenyürek and Seniha Tunakan, 'The Skeletons from Şeyh Höyük', *Belleten*, 15(60) (1951), pp. 439-445, (p. 439).

evidence for artificial cranial deformation (Fig. 99).[338]



Fig. 99. Two Şeyh Höyük crania with evidence for ACM.
Lorentz (2010), p. 131; Fig. 9.3.

PN-EB Burning

Site evidence for Burning decreased from the PPNB-PPNC during the PN-EB, but matched that of the Epipaleolithic and the PPNA and was also only present at Levatine sites. Two skull calvaria were found at the now-submerged Wadi Rabah culture site of Neve-Yam, one of which was found charred and was included with the complete skeleton of a child.[339]

PN-EB Defleshing

Including evidence from charnel houses, there was a substantial decrease in the number of sites which provided evidence for defleshing, but equaled those from the Epipaleolithic-PPNA. After the 'Death Pit' at Domuztepe was flooded and quickly dried, 'large quantities of disarticulated and heavily processed human bones' were combined with earthen material in order to form a raised *pisé* structure in which even more processed human remains were placed, including skulls with evidence of blunt force trauma on one side, often atop the other bones (Fig. 99).[340] Some skulls were



Fig. 99. (a) Skull burial (F1143) on the periphery of the Domuztepe 'Death Pit' with an (b) artistic reconstruction based on the skull, which exhibited blunt force trauma on one side. Campbell (2007-2008), p. 131; Fig. 5.

[338] Şenyürek and Tunakan, 'Skeletons from Şeyh Höyük', pp. 439-445; Tab. 1; Pl. 36-40. Özbek, 'Étude de la Déformation Crânienne', pp. 472-475; Tab. 9-10.
Lorentz, 'Ubaid Headshaping', in *Beyond the Ubaid*, ed. by Carter and Philip, pp. 130-131; Fig. 9.3.
[339] Both calvaria (H2, H6a) were found (Area A) during underwater excavations with taphonomic processes similar to those at Atlilt-Yam. Galili Ehud et al, 'Evidence for a Separate Burial Ground at the Submerged Pottery Neolithic Site of Neve-Yam, Israel', *Paléorient*, 35(1) (2009), pp. 31-46, (pp. 35, 40; Tab. 3).
[340] Campbell, 'The Dead and the Living', in *Sepolti Tra I Vivi*, ed. by Bartoloni and Benedettini, p. 129. Carter, 'On Human and Animal Sacrifice', in *Sacred Killing*, ed. by Porter and Schwartz, pp. 104-105, 107; Fig. 6.

seemingly arranged in a roughly circular manner.[341] Other skulls near the top were filled with ashen material and one skull was found with a lump of plaster in the mouth.[342]

PN-EB Head Decorations



Fig. 99. Ancilla shell and disc bead headband found *in situ* around a cranium from Jebel al-Buhais 18. de Beauclair (2008), p. 6; Fig. 2.

Sites that demonstrated evidence for head decorations slightly decreased and did not include any Levantine sites. A number of burials were covered with red ochre at Çatalhöyük, including the skull of an articulated burial with a cowrie shell in each eye socket.[343] At Jebel al-Buhais 18, burials adorned with beaded headdresses, headbands, facial jewelry, earrings, and other ornaments were unearthed (Fig. 99).[344]

PN-EB Skull Pigmentation

Half the number of PN-EB sites demonstrated evidence of skull pigmentation in comparison to those from the PPNB-PPNC, equaling those from the Epipaleolithic-PPNA. Most went undecorated, but certain skulls and crania at Çatalhöyük were painted with red ochre or cinnabar, sometimes covering the back and top of the skull and stopping in a straight line on the brow (Fig. 99).[345]



Fig. 99. Painted dolichocephalic cranium from Çatalhöyük. Mellaart (1963), p. 50; Pl. XXVa.

[341] Excavations in 1997 uncovered 5 human skulls, 5 cranial fragments, and postcranial remains. In 1998, about 88 skull specimens were found (13 were partial crania placed at different locations in the 'Death Pit' fill). Ibid., p. 106; Fig. 7a. C Elizabeth Carter, Stuart Campbell and Suellen Gauld, 'Elusive Complexity: New Data from late Halaf Domuztepe in South Central Turkey', Paléorient, 29(2) (2003), pp. 117-133, (p. 126; Fig. 11).

[342] Skulls (1938/23, 1939/1) filled with ash often were placed in an ashy cut and there was a single occurrence of plaster found in a skull (2631/2). Carter, 'On Human and Animal Sacrifice', in *Sacred Killing*, ed. by Porter and Schwartz, pp. 104-105, 108; Fig. 6.

[343] James Mellaart, 'Excavations at Catal Hüyük, 1965: Fourth Preliminary Report', *Anatolian Studies*, 16 (1966), pp. 165-191, (p. 183; Pl. Lb).

[344] Roland de Beauclair, Sabah Jasim and Hans-Peter Uerpmann, 'New Results on the Neolithic Jewelry from al-Buhais 18, UAE', *Proceedings of the Seminar for Arabian Studies*, 36 (2006), pp. 175-187, (pp. 178-180; Fig. 2-4.

[345] The painted cranium was found (A III; Level III) under a platform in the 'First Shrine' house. James Mellaart, 'Excavations at Çatal Hüyük, 1962: Second Preliminary Report', *Anatolian Studies*, 13 (1963), pp. 43-103, (p. 50; Pl. XXVa).

PN Modeled Skulls

The total number of sites which demonstrated evidence for modeled skulls decreased and were not found in the Levant, but were from Anatolia (Fig. 99). At Çatalhöyük, a red colored plastered skull was found in the arms of an articulated female primary burial and associated with an infant cranium (Fig. 99).[346] Several layers of re-plastering and repainting indicate that it was in use for a long time.[347] Also, a human mandible with traces of red pigment and plaster was found in a possible post-retrieval pit and may have belonged to a, 'similarly decorated/plastered cranium' (Fig. 99).[348]



Fig. 99. Map of PN modeled skulls with examples inset.



Fig. 99. (a) Artistic reconstruction of burial with modeled skull from Çatalhöyük and (b) photo with skeletal overlay. Haddow & Knüsel (2017), p. 55; Fig. 2.

Fig. 99. Mandible with red pigment and plaster from Çatalhöyük. Haddow & Knüsel (2017), p. 55; Fig. 3.





[346] The only plastered skull (Sk. 11330) recovered at Çatalhöyük was found (South Area; Building 42; F.1517) held by an older (age 50+) woman (Sk. 11306) and may be associated with an infant burial (F.1516). Başak Boz and Lori Hager, '2004 Human Remains', in *Çatalhöyük 2004 Archive Report*.

[347] Başak Boz and Lori Hager, 'Living Above the Dead: Intramural Burial Practices at Çatalhöyük', in *Humans and Landscapes of Çatalhöyük: Reports from the 2000–2008 Seasons*, ed. Ian Hodder, (London: British Institute at Ankara and Cotsen Institute of Archaeology Press, 2013), pp. 413-440, (pp. 423-424, 435; Fig. 19.17).

[348] The mandible (19829.x2) was found (South Area; Space: 379; Building 89) near a platform. Christopher Knüsel et al, 'Çatalhöyük Human Remains Team', *Çatalhöyük 2012 Archive Report*, pp. 132-154, (p. 146). Haddow and Knüsel, 'Skull Retrieval and Secondary Burial', p. 55; Fig. 3.

Three undecorated skulls were found in a row facing east between two plastered skulls at Köşk Höyük (Fig. 99), along with a headless anthropomorphic figurine.[349] A total of 13 plastered skulls have been found at Köşk Höyük under floors and upon plastered benches.[350] One plastered skull was decorated with red ochre and had two black stones for eyes.[351]

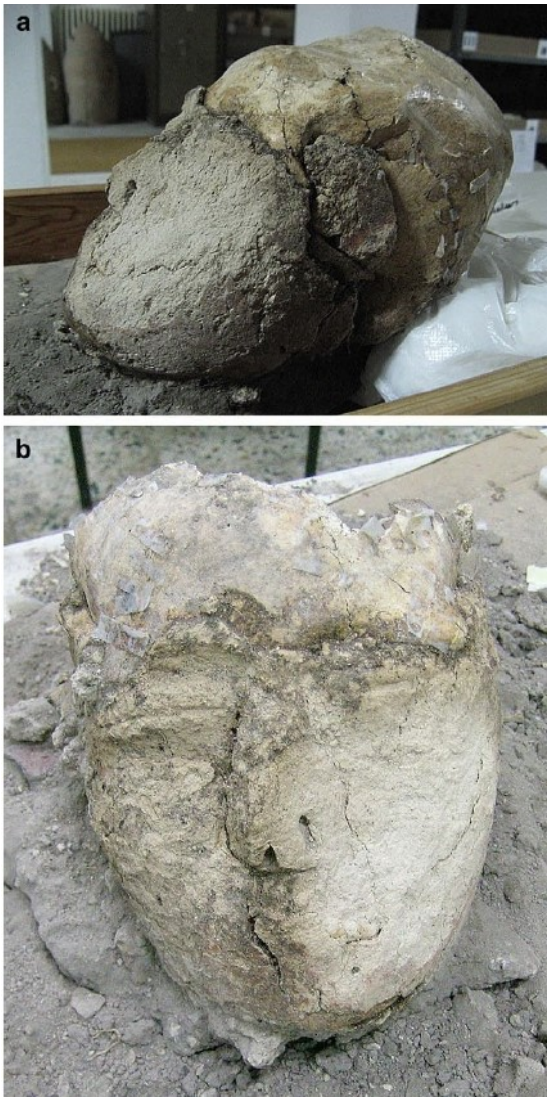


Fig. 99. (a) Profile and (b) frontal view of a plastered skull from Köşk Höyük (Kşk. 2006.1). Özbek (2009), p. 382; Fig. 4.

PN-EB Animal Association

The total number of sites with evidence for animal association fell by slightly over 50% from the PPNB-PPNC, but was about the same number as during the Epipaleolithic and the PPNA. The 'Death Pit' at Domuztepe itself was not burned, but a large amount of ash covered disarticulated human and animal skeletal remains. Cutmarks and other evidence demonstrate that both the animal and human bones were processed 'very likely for purposes of consumption.'[352] A later deposit included a child cranium, pig skull, horn core, human skull fragment, and a pot (Fig. 99).[353]



Fig. 99. Domuztepe 'Death Pit' deposit (F1361). Carter (2012), p. 107; Fig. 7e.

[349] The three unplastered skulls (Kşk. 2006.2-4) may have been wrapped in mats and were found (Level II; Area I/10) in a line between two plastered skulls (Kşk. 2006.1, 5) on a floor with a headless 'goddess' figurine inside a building where five plastered skulls (Kşk. 2000.1-5) were found (Level II; Area H/11) in 2000. Metin Özbek, 'Remodeled Human Skulls in Koşk Höyük (Neolithic Age, Anatolia): A New Appraisal in View of Recent Discoveries', *Journal of Archaeological Science*, 36(2) (2009), 379-386, (pp. 380-383; Fig. 2-8; Tab. 1).

[350] A plastered skull (Kşk. 1985) of a child was found (Level III) under a floor in 1985. In 1987, a plastered skull (Kşk. 1987) was found (Level III) on a plastered bench inside a building. Bonogofsky, 'Complexity in Context', in *Skull Collection, Modification, and Decoration*, ed. by Bonogofsky, pp. 20-21; Fig. 10. Two pink-painted plastered skulls (Kşk. 1990.1-2) were discovered in 1990, but excavation details are unknown, due the death of the excavator in 1991. Five plastered skulls (Kşk. 2000.1-5) were found (Level II; Area H/11) on a mud-brick pedestal in a disturbed context, but they likely all faced the same direction. Michelle Bonogofsky, 'A Bioarchaeological Study of Plastered Skulls from Anatolia: New Discoveries and Interpretations', *International Journal of Osteoarchaeology*, 15(2) (2005), pp. 124-135, (pp. 127-132; Fig. 3-9).

[351] This find consisted of the fragments of two plastered skulls (Kşk. 1989.1-2) found (Level I-II; Area G/8-9) with an assortment of possible grave goods, including horn cores. Bonogofsky, 'Bioarchaeological Study of Plastered Skulls', p. 127.

[352] Other that cutmarks, evidence for cannibalism included scorching and pot polish on bones. Carter, 'On Human and Animal Sacrifice', in *Sacred Killing*, ed. by Porter and Schwartz, pp. 101-102. Sarah Whitcher Kansa et al, 'Whose Bones are Those? Preliminary Comparative Analysis of Fragmented Human and Animal Bones in the 'Death Pit' at Domuztepe, A Late Neolithic Settlement in Southeastern Turkey', *Anthropozoologica*, 44(1) (2009), pp. 159-172.

[353] This symbolic human-animal deposit (F1361) likely occurred later than the abovementioned main ritual, ancillary pits, and burials. Carter, 'On Human and Animal Sacrifice', in *Sacred Killing*, ed. by Porter and Schwartz, pp. 107-108; Fig. 7e.

PN-EB Anthropomorphic Imagery

PN-EB **Statuary, Anthropomorphic Figurines, and Engravings**

PN-EB sites included in the database with evidence for masks are lacking and evidence for statuary, carvings, and engravings dropped to their lowest levels, but sites with evidence for anthropomorphic figurines nearly equaled those from the PPNB-PPNC. An anthropomorphic figurine head carved from the tooth of a hippopotamus was found (Fig. 99), as well as anthropomorphic figurines with stylized bodies and heads at Peqi'in Cave.[354] Clay figurines were found in tombs and charnel houses at Bab edh-Dhra'.[355] Many stylized anthropomorphic statuettes, figurine heads, figurines, and incised slabs (Fig. 99) were found in various locations at Hacılar.[356]



Fig. 99. Figurine head from hippoptamus tooth at Peqi'in Cave. Gal, Shalem & Smithline (2011), p. 204; Fig. 19.

Numerous anthropomorphic figurines were found at Çatalhöyük, many of which lacked heads.[357] This would include the well known figurine of a woman seated upon two leopards because the often depicted head is a restoration (Fig. 99).[358]

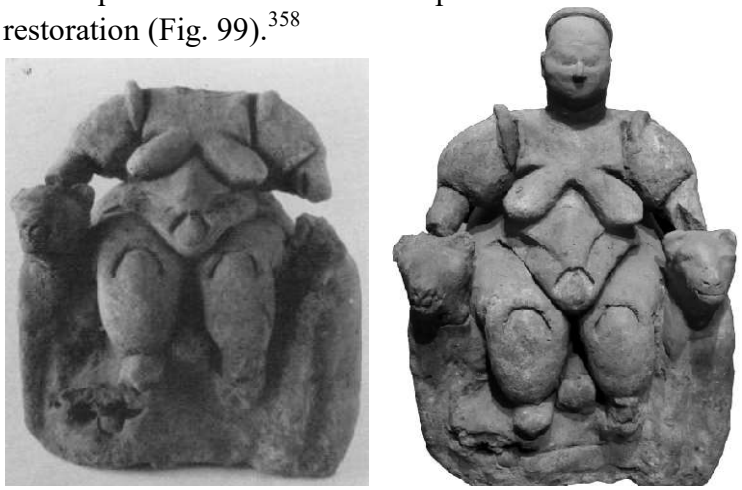


Fig. 99. (a) Seated figurine. Mellaart (1963), Pl. XXIVb. (b) Restored figurine. Belcher & Croucher (2016), p. 47; Fig. 2.



Fig. 99. Incised anthropomorphic slab from Hacılar. Mellaart (1961), p. 96.

[354] A pierced hole on the figurine head was interpreted for attaching hair. The stylized anthropomorphic figurines were described as 'violin shaped' and the heads of these figurines were proportionally small (or possibly lacking). Zvi Gal, Dina Shalem, and Howard Smithline, 'The Peqi'in Cave: A Chalcolithic Cemetery in Upper Galilee, Israel', *Near Eastern Archaeology*, 74(4) (2011), pp. 196-206, (pp. 202-205; Fig. 19-20).

[355] Meredith Chesson, 'Libraries of the Dead: Early Bronze Age Charnel Houses and Social Identity at Urban Bab edh-Drah', Jordan', *Journal of Anthropological Archaeology*, 18(2) (1999), pp. 137-164, (pp. 145, 152, 155; Tab. 1, 5-6).

[356] Most of the anthropomorphic statuettes, figurines, and incised slabs were found in Level VI. James Mellaart, *Excavations at Hacilar*, Vol. 1, British Institute of Archaeology Ankara, (Edinburgh Edinburgh University Press, 1970), pp.166-176; *Excavations at Hacilar: Plates and Figures*, Vol. 2, British Institute of Archaeology Ankara, (Edinburg: Edinburgh University Press, 1970), pp. 180-233, 472-522; Fig. 190-246; Pl. CXXV-CLXXXIV.

[357] Mellaart, 'Excavations at Çatal Hüyük: First Preliminary Report', pp. 41-65; Pl. VIII; 'Excavations at Çatal Hüyük, 1962', pp. 86-88, 92; Fig. 22-24, 28; Pl. XXc-XXIa-b; XXIIIa-b; 'Excavations at Çatal Hüyük, 1963', p. 80; Fig. 32; Pl. XVIIc-d. Meskell, 'Refiguring the Corpus', in *Material Beginnings*, ed. by Renfrew and Morley, pp. 150, 153; Fig. 11.6, 11.10.

[358] Mellaart, 'Excavations at Çatal Hüyük, 1962', pp. 93-97; Fig. 96-97; Pl. XXIV.

Figurine heads were also found at Çatalhöyük, some of which had probable a dowel hole on the bottom (Fig. 99).[359] Over 100 clay anthropomorphic figurines with highly elongated heads were found at Hakemi Use (Fig. 99).[360]



Fig. 99. Clay figurine head (23704x.7) from Çatalhöyük with probable dowel hole. Meskell & Nakamura (2017), p. 186; Fig. 1.



Fig. 99. Figurine with elongated head from Hakemi Use. Tekin (2019), p. 20.

PN-EB Carvings

A possibly human or animal plaster head was found at Çatalhöyük and may have been intentionally ambiguous (Fig. 99).[361] At least three human skulls were found inside the bowls of high-footed fenestrated ceramic chalices within Peqi'in Cave, some of which were sculpted and painted to represent facial features of human heads (Fig. 99).[362]



Fig. 99. Plastered and painted head with obsidian eyes from Çatalhöyük. Lingle et al (2015), p. 275; Fig. 28.1.

[359] Mellaart, 'Excavations at Çatal Hüyük: First Preliminary Report', pp. 41-65; Pl. IXd; 'Excavations at Çatal Hüyük, 1963', p. 79; Fig. 31b; Pl. XVIc. Meskell, 'Refiguring the Corpus', in *Material Beginnings*, ed. by Renfrew and Morley, p. 150; Fig. 11.7; 'The Nature of the Beast', pp. 378-379; Pl. 3. Lynn Meskell and Carolyn Nakamura, 'Figurines and Clay Stamps: Building 150 Figurines' in *Çatalhöyük Archive Report 2017*, pp. 185-186, (p. 186 Fig. 1).

[360] The elongated heads of these figurines have been interpreted as 'high crowns.' Halil Tekin, Hakemi Use: A Newly Established Site dating to the Hassuna/Samarra Period in Southeastern Anatolia', in *Universidad Autónoma de Madrid: Proceedings*, ed. by Córdoba et al, pp. 271-283, (pp. 274-275). Halil Tekin, 'Hakemi Use Kazısında Ele Geçen Kilden Bir Hassuna Figürini', in *Studies in Honor of Hayat Erkanal: Cultural Reflections*, ed. by Betül Avunç, (Istanbul: Homer Kitabevi ve Yayıncılık Ltd. Şti, 2006), pp. 717-722, (pp. 720-721; Fig. 2-3).

[361] The plastered and painted head (21666.x1) with obsidian eyes was found (North Area; B.132; Sp.511) at a wall junction and was likely a wall installation. Ashley Lingle et al, 'Painted Plaster Head', in *Çatalhöyük Research Project: Çatalhöyük 2015 Archive Report*, ed. by Scott Haddow, (2015), pp. 275-289, (pp. 275-276; Fig. 28.1).

[362] Gal, Shalem, and Smithline, 'The Peqi'in Cave', pp. 198, 203; Fig. 6, 15-16.



Fig. 99. A skull inside a chalice *in situ* at Peqi'in Cave. Gal, Shalem & Smithline (2011), p. 198; Fig. 6.

In addition to the abovementioned chalices, many of the jars and ossuaries were also painted and/or sculpted with anthropomorphic imagery, including head and facial features (Fig. 99).[363] Some of the ossuary lids contain three-dimensional sculpted heads, one of which has a net-patterned 'head-dress motif.'[364]

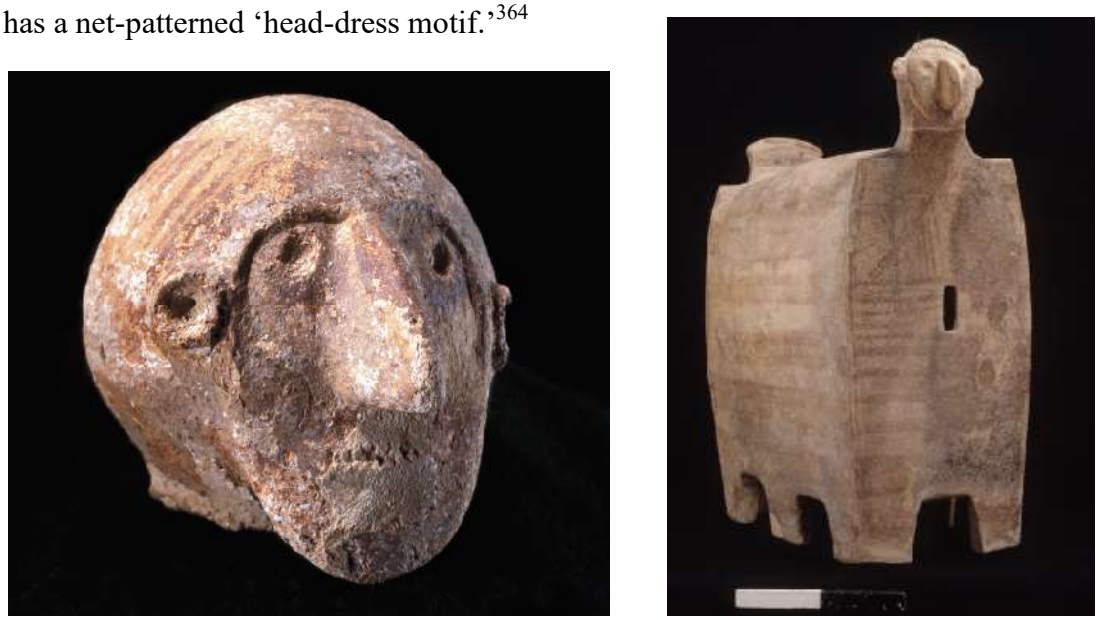


Fig. 99. Examples anthropomorphic imagery from Peqi'in Cave. (a) Sculpted head from an ossuary lid and (b) ossuary with anthropomorphic head. Gal, Shalem & Smithline (2011), pp. 201-202; Fig. 11-12.

[363] Ibid., pp. 200-202; Fig. 9-10, 12-14.

[364] Shalem interpreted this net-patterned 'headdress motif" in connection with the net pattern seen on the PPNB Nahal Hemar skulls and the imagery from sculptures from Nevali Çori, as well as suggesting connections with anthropomorphic imagery found on other objects from Peqi'in Cave with imagery from other PPNB sites pp. 153-158 (Fig. 2-6) **???** Dina Shalem, 'Cultural Continuity and Changes in South Levantine Late Chalcolithic Burial Customs and Iconographic Imagery: An Interpretation of the Finds from Peqi'in Cave', *Journal of the Israel Prehistoric Society*, 47 (2017), pp. 148-170.

PN-EB Paintings

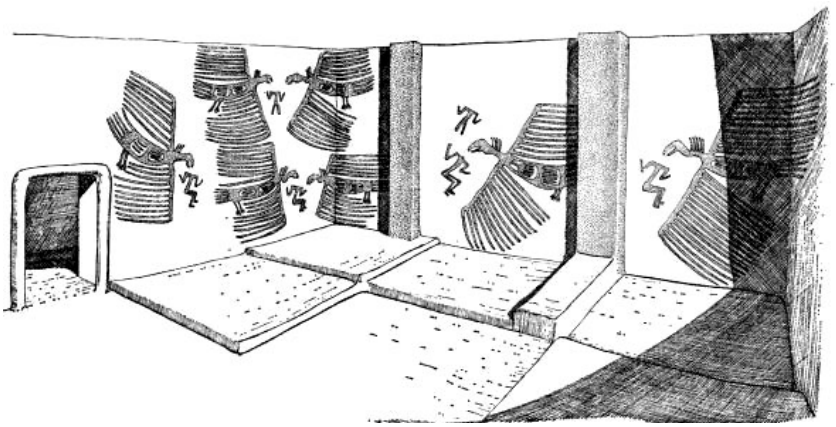


Fig. 99. Motif of vultures with headless individuals from Çatalhöyük. Mellaart (1964), p. 65; Fig. 20.

The number of sites with evidence for paintings rose to the highest level during the PN-EB and were also found outside the Levant. Paintings of skulls were found at Çatalhöyük.[365] Wall paintings of vultures with long wings and headless people were found within some of the more elaborately adorned houses (Fig. 99).[366]

Some Domuztepe sherds may depict headless humans, humans with elongated heads, wearing headdresses, and/or masks (Fig. 99).[367] One of the skulls found at Arpachiyah may have been found in a vessel painted with symbolic imagery, including two anthropomorphic figures on either side of the rim of a large vessel.[368]

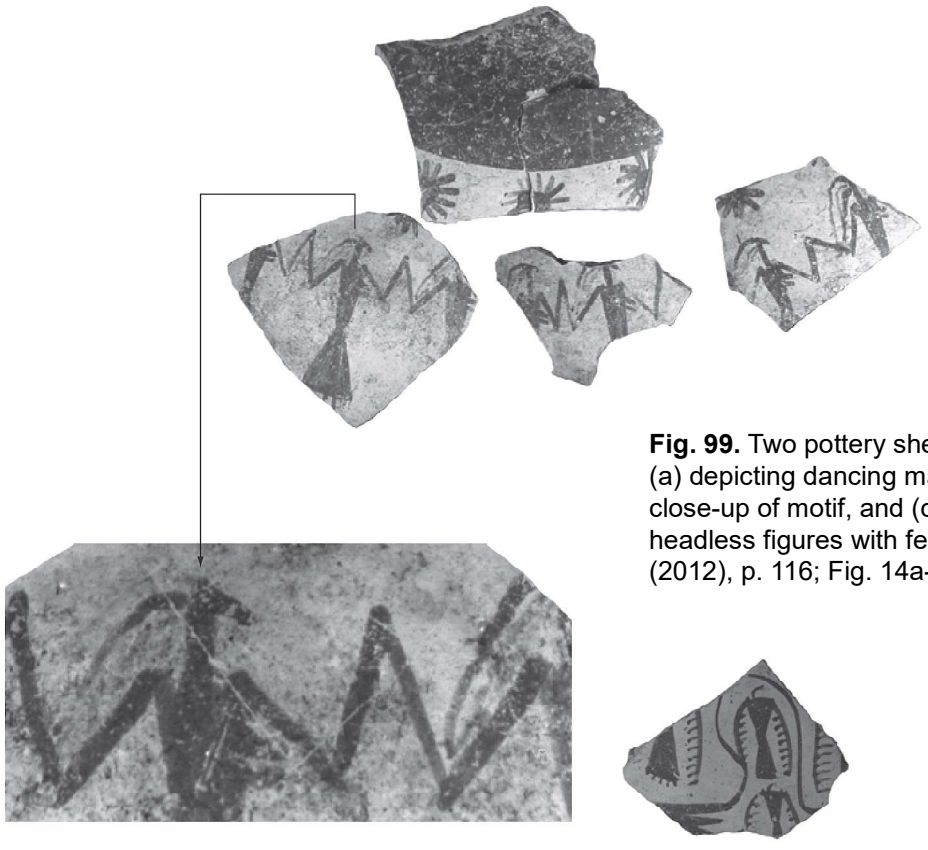


Fig. 99. Two pottery sherds from Domuztepe (a) depicting dancing masked women, (b) close-up of motif, and (c) masked or possibly headless figures with feathered arms. Carter (2012), p. 116; Fig. 14a-b.

[365] Mellaart, 'Excavations at Çatal Hüyük, 1962', p. 98; Pl. XXVIa.
[366] Mellaart, 'Excavations at Çatal Hüyük, 1963', pp. 65, 67-68; Fig. 20-22; Pl. VIIb-IX, XII, XIVa.
[367] Carter, 'On Human and Animal Sacrifice', in *Sacred Killing*, ed. by Porter and Schwartz, pp. 116, 119; Fig. 14a-b.
[368] Fiorella Ippolitoni-Strika, 'Halafian Art, Religion, Society: The Funeral Bowl from Arpachiyah — The Fringed Square as a Sacred Rug', *Mesopotamia: Rivista Di Archeologia Epigrafia E Storia Orientale Antica*, 31 (1996), pp. 5-31, (p. 7; Note 8; Fig. 5-6). The figures were described as wearing a 'cap' and perhaps a 'horned headdress.' Carter, 'Human and Animal Sacrifice', in *Sacred Killing*, ed. by Porter and Schwartz, pp. 117-118; Fig. 15.

Conclusion

blah-blah-blah…the end

Appendix 1

Period	S. Levant	N. Levant	Cyprus	Anatolia	Mesopotamia	Period Subtotals
Epipaleolithic	114	0	0	2	2	118
PPNA	80	35	0	23	32	170
PPNB-PPNC	302	128	51	273	26	780
PN-Chalcolithic	44	414	0	186	352	996
EB I-IV	300	1	0	58	0	359
Region Subtotals	**840**	**578**	**51**	**542**	**412**	**Total MNI: 2,423**

Fig. 99

No.	Site Name	Period	Region	MNI	Selected References
1.	Ohalo II	Early Epipaleolithic	S. Levant	1	Nadel et al, 2006
2.	Kharaneh IV	Early-Mid Epipaleolithic	S. Levant	1	Maher et al, 2012
3.	'Uyun al-Hammam	Late Epipaleolithic	S. Levant	3	Maher et al, 2011
4.	Pınarbaşı	Late Epipaleolithic	Anatolia	2	Baird et al, 2013
5.	Neve David	Late Epipaleolithic	S. Levant	1	Bocquentin et al, 2011
6.	Erq el-Ahmar	Early Natufian	S. Levant	6	Neuville, 1951
7.	Hof Shahaf	Early Natufian	S. Levant	1	Marder et al, 2013
8.	Kebara Cave	Early Natufian	S. Levant	23	Bar-Yosef & Sillen, 1993
9.	Shubayqa 1	Early Natufian	S. Levant	2	Richter, 2019
10.	Azraq 18	Early Natufian	S. Levant	2	Garrard, 2016
11.	el-Wad Cave & Terr.	Early-Late Natufian	S. Levant	15	Garrod, 1936-37
12.	Hayonim Cave & Terr.	Early-Late Natufian	S. Levant	22	Valla, 2012
13.	Raqefet Cave	Early-Late Natufian	S. Levant	7	Nadel et al, 2013
14.	'Ain Mallaha (Eynan)	Early-Late Natufian	S. Levant	14	Perrot & Ladiray 1988
15.	Hatula	Late Natufian-EPPNA	S. Levant	2/3	Ronen & Lechevallier, 1985
16.	Nahal Oren	Late Nat., PPNA-EPPNB	S. Levant	7/5	Nadel & Rosenberg, 2011
17.	Hilazon Tachtit	Late Natufian	S. Levant	4*	Grosman et al, 2008
18.	Wadi Hammeh 27	Early Natufian	S. Levant	3	Edwards, 2013
19.	Shanidar Cave	Late Natufian	Mesopotamia	2	Meiklejohn et al, 1992
20.	Körtik Tepe	EPPNA	Mesopotamia	20*	Özkaya & Coşkun, 2011
21.	Göbekli Tepe	EPPNA-MPPNB	Anatolia	3	Gresky et al, 2017
22.	Tell Qaramel	EPPNA-LPPNA	N. Levant	15	Kanjou et al, 2013
23.	Nemrik 9	EPPNA-LPPNA	Mesopotamia	6*	Kozlowski, 1989
24.	Netiv Hagdud	EPPNA-LPPNA	S. Levant	23	Bar-Yosef et al, 1991
25.	Jerf el-Ahmar	EPPNA-LPPNA	N. Levant	7	Stordeur & Abbès, 2002
26.	Tell Mureybet	EPPNA-EPPNB	N. Levant	1/5	Cauvin, 1974, 1978
27.	Qermez Dere	EPPNA-LPPNA	Mesopotamia	6	Watkins et al, 1991
28.	Jericho 44/78	EPPNA-LPPNB	S. Levant	122	Kenyon 1956, 1957, 1981
29.	Zahrat adh-Dhra' 2	LPPNA	S. Levant	4	Edwards et al, 2002
30.	WF16	LPPNA-EPPNB	S. Levant	11	Mithen et al, 2015
31.	Tell Sheikh Hassan	LPPNA-EPPNB	N. Levant	9	Clère et al, 1985

32.	el-Hemmeh	LPPNA-EPPNB, LPPNB	S. Levant	3/1	Makarewicz & Rose, 2011
33.	Çayönü 20/245	LPPNA-LPPNB	Anatolia	265	Croucher, 2006
34.	Dja'de el-Mughara	LPPNA-EPPNB	N. Levant	3	Coqueugniot, 1998, 2014
35.	Sefunim	LPPNA-EPPNB	S. Levant	1	Ronen, 1968
36.	Kfar HaHoresh	EPPNB-LPPNB	S. Levant	33	Simmons et al, 2007
37.	Motza	EPPNB-LPPNB	S. Levant	14	Khalaily et al, 2007
38.	Tell Aswad	EPPNB-LPPNB	N. Levant	45	Stordeur et al, 2006
39.	Abu Hureyra	LPPNB-PN	N. Levant	38	Moore et al, 2000
40.	Shillourokambos	C-EPPNB – C-LPPNB	Cyprus	8	Koutrafouri, 2008
41.	Nevalı Çori	EPPNB-MPPNB	Anatolia	16	Hauptmann, 1999
42.	Tell Qarassa North	EPPNB-MPPNB	S. Levant	27	Santana et al, 2012
43.	Boncuklu	EPPNB-MPPNB	Anatolia	6	Baird et al, 2016
44.	Shkārat Msaied	EPPNB-MPPNB	S. Levant	15	Kinzel et al, 2015
45.	Ganj Dareh	EPPNB-MPPNB	Mesopotamia	14	Smith, 1974
46.	Kharaysin	EPPNB-MPPNB	S. Levant	2	Ibáñez et al, 2015
47.	Tepe Abdul Hosein	EPPNB-MPPNB	Mesopotamia	5	Lorentz, 2010, 2017
48.	Nahal Yarmuth 38	MPPNB	S. Levant	4*	Gopher et al, 2019
49.	Hacılar	MPPNB, Pre-Halaf	Anatolia	4	Mellaart, 1970
50.	Moghr el-Ahwal	MPPNB	N. Levant	8	Garrard, 2017
51.	Beisamoun	MPPNB-PPNC	S. Levant	21	Lechevallier, 1978
52.	Cafer Höyük	MPPNB-LPPNB	Anatolia	2	Cauvin et al, 1999
53.	'Ain Ghazal	MPPNB-LPPNB	S. Levant	23	Rollefson et al, 1998, 1999
54.	Nahal Hemar	MPPNB-LPPNB	S. Levant	6	Bar-Yosef & Alon, 1988
55.	Abu Gosh	MPPNB-LPPNB	S. Levant	3	Khalaily & Marder, 2003
56.	Yiftahel	MPPNB-LPPNB	S. Levant	9	Hershkovitz et al, 1986
57.	Tell Halula	MPPNB-LPPNB	N. Levant	1	Guerrero et al, 2009
58.	Tell Roim West	MPPNB-LPPNB	S. Levant	2/4	Eshed & Nadel, 2015
59.	Basta	MPPNB-LPPNB	S. Levant	10	Nissen et al,1991
60.	Khirbet Hammam	MPPNB-LPPNB	S. Levant	1	Peterson, 2007
61.	Ali Kosh	MPPNB-LPPNB	Mesopotamia	7	Sołtysiak & Darabi, 2017
62.	Mylouthkia	C-LPPNB (Period 1B)	Cyprus	7	Peltenburg et al, 2003
63.	Wadi Shu'eib	MPPNB-LPPNB	S. Levant	14	Simmons et al, 2001
64.	Ujrat el-Mehed	LPPNB	S. Levant	12	Hershkovitz et al, 1994
65.	Ba'ja	LPPNB	S. Levant	9	Gebell & Hermansen, 2001
66.	Tell Ramad	LPPNB-PPNC	N. Levant	27	de Contenson, 1992, 2000
67.	Bouqras	LPPNB-EPN	N. Levant	6	Merrett & Meiklejohn, 2007
68.	Atlit-Yam	PPNC	S. Levant	6	Galili et al, 2005
69.	Choga Sefid	Sefid Phase (Period 5)	Mesopotamia	6	Hole, 1977
70.	Khirokitia	Khirokitian	Cyprus	29	Dikaios, 1953
71.	Cape Andreas-Kastros	Khirokitian	Cyprus	7	Le Brun, 1981b
72.	Çatalhöyük	LPPNB-PN	Anatolia	74	Haddow & Knüsel, 2017
73.	Shir	EPN	N. Levant	2	Bartl et al, 2006
74.	Sha'ar Hagolan	Yarmukian	S. Levant	2	Garfinkel et al, 2012

75.	Tell el-Kerkh	Rouj 2c	N. Levant	40	Tsuneki et al, 2011
76.	Türbe Höyük	Proto -Archaic Hassuna	Mesopotamia	16	Kodaş et al, 2018
77.	Tell Sabi Abyad	Hassuna/Samarra	N. Levant	2	Akkermans, 2008
78.	Hakemi Use	Hassuna/Samarra	Anatolia	45	Erdal, 2013
79.	Tell Hassuna	Hassuna/Samarra	Mesopotamia	3	Lloyd et al, 1945
80.	Köşk Höyük	PN	Anatolia	21	Bonogofsky, 2005, 2006
81.	Teluliot Batashi	Lodian (Jericho IX)	S. Levant	1	Kaplan, 1958
82.	Tell ‘Azzo I	Halaf	Mesopotamia	4*	Killick & Roaf, 1983
83.	Kerküşti Höyük	Early-Middle Halaf	Anatolia	2	Sarıaltun, 2013
84.	Şeyh Höyük	Middle Halaf	Anatolia	5	Şenyürek & Tunakan, 1951
85.	Domuztepe	Middle-Late Halaf	Anatolia	25	Carter, 2012
86.	Arpachiyah	Halaf-Ubaid Transitional	Mesopotamia	16	Hijara, 1978
87.	Yarim Tepe II	Halaf-Ubaid Transitional	Mesopotamia	7	Campbell, 1992
88.	Nahal Betzet I	Wadi Rabah	S. Levant	1	Gopher & Orrelle, 1995
89.	Neve-Yam	Wadi Rabah	S. Levant	2	Galili et al, 2009
90.	Choga Mish	Early-Late Mid. Susiana	Mesopotamia	1	Ortner, 1996
91.	Eilat	LN-Early Chalcolithic	S. Levant	20	Eshed & Avner, 2018
92.	Jebel al-Buhais 18	LN-Chalcolithic	Mesopotamia	275	de Beauclair, 2008
93.	Ur	Terminal-Trans. Ubaid	Mesopotamia	14	Wooley, 1955
94.	Değirmentepe	Terminal-Trans. Ubaid	Anatolia	14	Özbek, 2001
95.	Peqi‘in Cave	Ghassulian	S. Levant	22	Gal et al, 2008
96.	Susa	Susiana	Mesopotamia	10*	Hole, 1977, 1983, 2010
97.	Byblos	Chalcolithic-EB IV	N. Levant	370	Artin, 2010
98.	Umm el-Marra	EB III-IV	N. Levant	1	Schwartz et al, 2006
99.	Bab edh-Dhra'	EB IV/IBA	S. Levant	300	Chesson, 2001
100.	Titriş Höyük	Late Early Bronze Age	Anatolia	58	Laneri, 2007
Total (MNI) Minimum Number of Individuals				**2,423**	

Appendix 2

No.	c. Date cal BP	Site	Cultural Period	Selected Date References
1.	23,500-22,500	Ohalo II	Early Epipaleolithic	Nadel et al, 2006.[369]
2.	19,200-18,800	Kharaneh IV	Early-Middle Epipaleolithic	Maher et al, 2012.[370]
3.	17,200-16,300	'Uyun al-Hammam	Middle Epipaleolithic	Maher et al, 2011.[371]
4.	16,150-15,100	Pınarbaşı	Middle-Late Epipaleolithic	Baird et al, 2013.[372]
5.	16,000-15,000	Neve David	Middle-Late Epipaleolithic	Kaufman, 1988; Bocquentin et al, 2011.[373]
6.	15,000-11,500	el-Wad Cave & Terrace	Natufian	Weinstein-Evron et al, 2007, 2015; Kaufman et al, 2015; Barzilai et al, 2017.[374]
7.	15,000-13,500*	Erq el-Ahmar	Early Natufian	Neuville, 1951; Henry, 2013.[375]
8.	15,000-13,500*	Hof Shahaf	Early Natufian	Marder et al, 2013; Belfer-Cohen & Goring-Morris, 2013.[376]

[369] Six brush huts were discovered at Ohalo II, which was radiocarbon dated (c. 19,500 and/or 23,500-22,500 cal BP) to near the end of the LGM in the Kebaran of the Early Epipaleolithic Levantine sequence. Nadel et al, 'Wooden Objects from Ohalo II', p. 644.

[370] The finds under discussion are from a hut at Kharaneh IV, which dates (19.2-18.8 ka cal BP; IntCal 09, 68%) to the Kebaran of Early-Middle Epipaleolithic in the Levant. Maher et al, 'Twenty Thousand-Year-Old Huts', p. 3.

[371] 'Uyun al-Hammam was ^{14}C dated to the Geometric Kebaran of the Middle Epipalaeolithic in the Levant (17.2–16.3 ka cal BP and 15-14.2 ka cal BP; BCal, 95%). Maher et al, 'A Unique Human-Fox Burial', p. 3; Tab. 1.

[372] Acephalous skeletal remains (Grave 13) which may be the, 'earliest instance of clear-cut, post-burial cranium retrieval in South-west Asia' were found (Area B) and radiocarbon dated (16.15-15.07 ka cal BP) 'likely to just predate the beginning of the Early Natufian.' Baird et al, 'Juniper Smoke, Skulls and Wolves' Tails', pp. 180, 183-184; Fig. 5-7; Tab. 1.

[373] Material assemblage dates Neve David (c. 16,000-15,000 cal BP) to the Levantine Geometric Kebaran industry and two ^{14}C dates published in 1988 were calibrated via current software (Sample OxA-892 12,610 ± 130 bp = 15,212-14,668 cal BP; Sample OxA-859 13,400 ± 180 bp = 16,389-15,849 cal BP; OxCal 4.3; IntCal13; 68.2%). Daniel Kaufman, 'New Radiocarbon Dates for the Geometric Kebaran', *Paléorient*, 14(1) (1988), pp. 107-109. In 2011, Bocquentin et al calibrated samples OxA-892 and OxA-859 to 13,150-13,450 cal BC and 14,820-14,090 cal BC, respectively without referencing the calibration software employed. Fanny Bocquentin et al, 'Les Hommes du Kébarien Géométrique de Neve David, Mont Carmel, Israël', 23 (2011), *Bulletins et Mémoires de la Société d'Anthropologie de Paris*, pp. 38-71.

[374] ^{14}C dates for el-Wad encompass the entire Natufian sequence. Weinstein-Evron et al, 'After 70 Years', p. 42. Mina Weinstein-Evron et al, 'New ^{14}C Dates for the Early Natufian of el-Wad Terrace, Mount Carmel, Israel', *Radiocarbon*, 54(1-2) (2012), pp. 1-10. Daniel Kaufman, Reuven Yeshurun and Mina Weinstein-Evron, 'The Natufian Sequence of el-Wad Terrace: Seriating the Lunates', *Journal of the Israel Prehistoric Society*, 45 (2015), pp. 143-157. Omry Barzilai et al, 'Radiocarbon Dating of Human Burials from Raqefet Cave and Contemporaneous Natufian Traditions at Mount Carmel', *Antiquity*, 91(359) (2017), pp.1137-1154.

[375] Neuville, *Le Paléolithique et le Mésolithique*, pp. 86-120; Fig. 40; Pl. X. Donald Henry, 'The Natufian and the Younger Dryas' in *Natufian Foragers in the Levant*, ed. by Bar-Yosef and Valla, pp. 584-610, (p. 597; Fig. 3; Tab. 2).

[376] The exact chronology of Hof Shahaf is uncertain, but most of the material assemblage points toward an Early Natufian date. Marder et al, 'Hof Shahaf: A New Natufian Site', in *Natufian Foragers in the Levant*, ed. by Bar-Yosef and Valla, pp. 505-526, (pp. 511, 521). Anna Belfer-Cohen and A. Nigel Goring-Morris, 'Breaking the Mold: Phases and Facies in the Natufian of the Mediterranean Zone', in *Natufian Foragers in the Levant,* ed. by Bar-Yosef and Valla, pp.544-561, (p. 545; Fig. 1).

9.	15,000-14,200	Kebara Cave	Early Natufian	Bar-Yosef & Sillen, 1993.[377]
10.	14,600-14,200	Shubayqa 1	Early Natufian	Richter et al, 2017.[378]
11.	14,400-11,000	Hayonim Cave & Terrace	Early-Late Natufian	Byrd, 1994; Henry, 2013.[379]
12.	14,000-13,000	Azraq 18	Early-Late Natufian	Garrard & B. Byrd, 2013.[380]
13.	14,000-11,900	'Ain Mallaha (Eynan)	Early-Late Natufian	Zeder, 2011; Valla et al, 2017.[381]
14.	14,000-11,700*	Raqefet Cave	Early-Late Natufian	Nadela et al, 2013; Barzilai et al, 2017.[382]
15.	13,000-11,400	Hatula	Late Natufian-EPPNA	Vallas & Arnold, 1994; Zeder, 2011; Henry, 2013.[383]
16.	13,000-11,600*; 10,700-10,400	Nahal Oren	Late Natufian & LPPNA-EPPNB	Noy et al, 1973; Hedges et al, 1996; Grosman et al, 2005.[384]

[377] Bar-Yosef and Sillen, 'Implications of the New Accelerator Date', p. 207.

[378] Shubayqa 1 was occupied during the Early, Late, and Final Natufian periods. The burial (Context 169, 175) was found in the Early Natufian (Phase 5) layers at Shubayqa 1 which date to 14,600-14,200 cal BP. Tobias Richter et al, 'High Resolution AMS Dates from Shubayqa 1, Northeast Jordan Reveal Complex Origins of Late Epipalaeolithic Natufian in the Levant', S*cientific Reports*, 7(17025), pp. 1-10.

[379] Henry, 'Natufian and the Younger Dryas', in *Natufian Foragers in the Levant*, ed. by Bar-Yosef and Valla, pp. 591-592; Tab. 1. Brian Byrd, 'Late Quaternary Hunter-Gatherer Complexes in the Levant Between 20,000 to 10,000 BP', in *Late Quaternary Chronology and Paleoclimates of the Eastern Mediterranean*, ed. by Ofer Bar-Yosef and Renee Kra, (Tucson: Radiocarbon, 1994), pp. 205-226, (p. 218; Tab. 1).

[380] No radiocarbon dates are available for Azraq 18, but the site was dated (c. 14,000-13,000) via lithic assemblage. Andrew Garrard and Brian Byrd, 'Beyond the Fertile Crescent: Late Palaeolithic and Neolithic Communities of the Jordanian Steppe', in *The Azraq Basin Project Vol. 1: Project Background and the Late Palaeolithic (Geological Context and Technology)*, Oxford Levant Supplementary Series 13, (Oxford: Oxbow Books, 2013), pp. 287-293, 388.

[381] Zeder, 'Origins of Agriculture', p. S223; Fig. 2. François Valla et al, 'Eynan ('Ain Mallaha)', in *Quaternary of the Levant*, ed. by Enzel and Bar-Yosef, pp. 295-301, (p. 295).

[382] ^{14}C dates Raqefet Cave and its characteristically Late Natufian lithics to c. 14,000-13,000 cal BP, which places it on the Early side of the Early/Late divide of 13,500 cal BP. The new set of dates from Raqefet Cave clusters between 14,000 and 13,000 cal BP. Barzilai et al, 'Radiocarbon Dating of Human Burials from Raqefet Cave', pp.1137-1154. Radiocarbon dates were obtained from flowering plant remains in four Natufian burials (c. 13,700-11,700). Nadel et al, 'Earliest Floral Grave Lining', p. 11774.

[383] Hatula was occupied (c. 13,200-11,400 cal BP) from the Late Natufian into the EPPNA, but the burials under discussion date to the Khiamian and Sultanian cultures of the EPPNA at Hatula. Radiocarbon dates for the Khiamian and Sultanian at Hatula from bone samples were published with high deviations (Khiamian Sample Gif A91139 10,170 ± 120 bp; Sultanian Sample Gif A91360 10,030 ± 140 bp). Hélène Valladas and Maurice Arnold, 'Datation 14C par Accélérateur de Site de Hatoula', in *Le Gisement de Hatoula en Jude'e Occidentale, Israel*, ed. by Monique Lechevallier and Avraham Ronen, Memoires et Travaux du Centre de Recherche Franqais de Jerusalem, (Paris: Association Paleorient, 1994), pp. 35-36. Both the Khiamian and the Sultanian layers date (c. 12,000-11,500 cal BP) to the EPPNA (Gif A91139 12,082-11,604 cal BP, 65.7%; Gif A91360 11,766-11,227 cal BP; OxCal 4.3; IntCal13; 68.2%). Zeder, Origins of Agriculture', p. S223; Fig. 2. Henry, 'Natufian and the Younger Dryas', in *Natufian Foragers in the Levant*, ed. by Bar-Yosef and Valla, pp. 591-592; Tab. 1.

[384] Lithic evidence supports a Late Natufian date for Nahal Oren (c. 13,000-11,600 cal BP). Leore Grosman, Hila Ashkenazy and Anna Belfer-Cohen, 'The Natufian Occupation of Nahal Oren, Mt. Carmel, Israel The Lithic Evidence', *Paléorient*, 31(2) (2005), pp. 5-26, (p. 20). The PPNB phase of Nahal Oren was dated via 'a considerable thickness' of PPNB material assemblage that was found (R300, R600) approximately 1.5m deep. Tamar Noy, A. J. Legge, and E. S. Higgs, 'Excavations at Nahal Oren, Israel', *Proceedings of the Prehistoric Society*, 39 (1973), pp. 75-99, (p. 78). The lithic assemblage included Helwan points, which were used to indicate the beginning of the PPNB in the Levant. Avi Gopher, 'Neolithic Arrowheads of the Levant: Results and Implications of a Seriation Analysis', *Paléorient*, 15(1) (1989), pp. 43-56. It was later argued that the point was 'time-transgressive' and 'there is no basis to conclude a chronological equivalence of the introduction of the

17.	12,400-12,000	Hilazon Tachtit	Late Natufian	Grosman & Munro, 2007; Grosman, 2013.[385]
18.	14,450-14,100	Wadi Hammeh 27	Early Natufian	Edwards, 2013; Edwards et al, 2013.[386]
19.	12,000-10,600	Shanidar Cave	Late Epipaleolithic-EPPNA	Rubin & Suess, 1955; Solecki & Rubin, 1958; Solecki et al, 2004.[387]
20.	11,750-10,650	Tell Qaramel	PPNA	Mazurowski et al, 2009; Kanjou et al, 2013.[388]
21.	11,600-11,350	Körtik Tepe	EPPNA	Benz et al, 2012.[389]

EPPNB in the Northern and Southern Levant on the basis of the Helwan point.' Edwards, 'Chronology and Dispersal', pp. 65-66, Fig. 4. However, the description of the material assemblage designated to the PPNB by the excavators at Nahal Oren goes beyond that of just Helwan points. Noy, Legge, and Higgs, 'Excavations at Nahal Oren', pp. 86-87; Fig. 7. A radiocarbon date from charcoal was published with a high deviation. (Sample OxA-5010; 9,480 ± 100 bp). Robert E. M. Hedges et al, 'Radiocarbon Dates from the Oxford AMS System: Archaeometry Datelist 21', *Archaeometry*, 38(1) (1996), pp. 181-207, (pp.196-197). The date was calibrated with current software (OxA-5010; 9,480 ± 100 bp = 10,808-10,585 cal BP; OxCal 4.3; IntCal13; 44.9 %). Most of the burials under discussion were found (Layer III; R600) in a 'Pre-Pottery B house,' but one was found (Layer III; R500) in a structure from 'an earlier phase of the pre-Pottery Neolithic.' Noy, Legge, and Higgs, 'Excavations at Nahal Oren', p. 78. Therefore, an LPPNA-EPPNB date was assigned to Nahal Oren for the burials under discussion via a ^{14}C date and the description of the stratigraphy and material assemblage by the excavators.

[385] Three charcoal samples (Sample RTT 3760 10,750 ± 50 bp; RTT4592 10,530 ± 60 bp; RTT 4593 10,770 ± 65 bp; IntCal 2005) were calibrated (c. 12,400-12,000 cal BP) by Grosman and Munro in 2007 which supported, 'the lithic observations that Layer B is of Late Natufian age.' Leore Grosman and Natalie Munro, 'The Sacred and the Mundane: Domestic Activities at a Late Natufian Burial Site in the Levant', *Before Farming*, 4 (2007), pp.1-14, (p. 4). However in 2013, Grosman listed the same three radiocarbon dates (except for Sample RTT 3760 which was listed as 10,700 instead of 10,750), but placed Hilazon Tachtit Cave under the Early Natufian heading in the appendix, even though the (c.12,400-12,000 cal BP; CalPal) date falls within the Late Natufian under their proposed new Natufian chronological scheme. Leore Grosman, 'Natufian Chronological Scheme', in *Natufian Foragers in the Levant*, ed. by Bar-Yosef and Valla, pp. 622-637, (pp. 623, 629, 637; Tab. 1; Appendix). The same range is observed when the dates are calibrated via CalPal (quickcal2007 ver.1.5; CalCurve: CalPal_2007_HULU; 68%) and OxCal (OxCal 4.3; IntCal13; 68.2% and 95.4%) and so Hilazon Tachtit Cave is designated to the Late Natufian in this work.

[386] Lithics, bone tools, stone *art mobilier*, architecture, and mortuary customs aid in dating Wadi Hammeh 27 to the Early Natufian. Eight radiocarbon dates were published for Wadi Hammeh 27, most of which had high deviations and three of which are considered aberrant. Phillip Edwards, 'Stratigraphy, Chronology and Taphonomy', in *Wadi Hammeh 27: An Early Natufian Settlement,* ed. by Edwards, pp. 33-63, (pp. 62-63; Tab. 3.3). Phillip Edwards et al, 'Wadi Hammeh 27: An Open-Air 'Base-Camp' on the Fringe of the Natufian 'Homeland', in *Natufian Foragers in the Levant*, ed. by Bar-Yosef and Valla, pp. 319-348, (pp. 320-321; Tab. 1). A sample from charred plant fragments (XX F; Loc. 2.7; Sample Wk-22244 12,349 ± 44 bp) has the lowest deviation of the accepted dates and was calibrated via current software (Sample Wk-22244 14,470-14,166 cal BP; OxCal 4.3; IntCal13; 68.2%).

[387] Two uncalibrated radiocarbon dates were published for Shanidar Cave. A sample was published in 1955 (Layer B1 Sample W179 12,400 ± 400 bp). Meyer Rubin and Hans Suess, 'U.S. Geological Survey Radiocarbon Dates II: Asia—Shanidar Cave, Zagros Mountains, Kurdistan, Iraq', *Science, New Series*, 121(3145) (1955), pp. 481-488, (p. 488). Another sample was published in connection with Zawi Chemi (Layer B2 Sample W667 10,600 ± 300 bp). Ralph Solecki and Meyer Rubin, 'Dating of Zawi Chemi, an Early Village Site at Shanidar, Northern Iraq' *Science, New Series*, 127(3312) (1958), p. 1446. Solecki, Solecki and Agelarakis et al date the site (c. 10,600 bp) to approximately the Late Natufian in the Levant. Ralph Solecki, Rose Solecki and Anagnostis Agelarakis, *The Proto-Neolithic Cemetery in Shanidar Cave*, Texas A&M University Anthropology Series 7, (College Station: Texas A&M University Press, 2004), pp. 3-5.

[388] Kanjou et al, 'Early Human Decapitation', p. 2. Ryszard Mazurowski et al, 'Chronology of the Early Pre-Pottery Neolithic Settlement Tell Qaramel, Northern Syria, in the Light of Radiocarbon Dating', *Radiocarbon*, 51(2) (2009), pp. 771-781.

[389] Körtik Tepe was likely occupied during the Younger Dryas, but the finds under discussion date to the EPPNA.

22.	11,500-10,500	Nemrik 9	PPNA	Watkins et al, 1989; Kozlowski, 1994; Sołtysiak et al, 2015.[390]
23.	11,500-10,000	Göbekli Tepe	PPNA-MPPNB	Dietrich, 2011.[391]
24.	11,300-10,800	Netiv Hagdud	PPNA	Bar-Yosef et al, 1991, Bar-Yosef & Gopher, 1997.[392]
25	11,300-10,200	Tell Mureybet	PPNA-EPPNB	Ibáñez, 2008; Bar-Yosef, 2009.[393]
26.	11,300-10,500	Jerf el-Ahmar	PPNA	Stordeur & Abbès, 2002.[394]
27.	11,200-8,500	Jericho	PPNA-PPNC	Burleigh, 1981; Benz, 2010; Nigro, 2017.[395]

Marion Benz et al, 'Methodological Implications of New Radiocarbon Dates from the Early Holocene Site of Körtik Tepe, Southeast Anatolia', *Radiocarbon*, 54(3-4) (2012), pp. 291-304, (pp. 301-302; Fig. 7).

[390] 60 ^{14}C dates from charcoal were submitted for Nemrik 9, almost half of which were rejected by the excavator and over 50% of the accepted dates have rather large deviations over ± 150. Stefan Karol Kozlowski, 'Radiocarbon Dates from Aceramic Iraq', in *Late Quaternary Chronology and Palaeoclimates*, ed. by Bar-Yosef and Kra, pp. 255-264. cf. Watkins, Baird and Betts, 'Qermez Dere and the Early Aceramic', p. 261. The finds under discussion date to approximately a millennium of occupation (Phase II-IVa) at Nemrik 9 prior to a change in burial customs near the final occupation of the site (Phase IVb-V). Arkadiusz Sołtysiak, Alina Wiercinska and Stefan Karol Kozlowski, 'Human Remains from Nemrik, Iraq: An Insight into Living Conditions and Burial Customs in a Pre-Pottery Neolithic Village', *Paléorient*, 41(2) (2015), pp. 101-114. Two accepted dates with the lowest deviations from the phases with the most burials and finds under discussion (Phase II Sample Gd 2970 10,070 ± 120 bp; Phase III Sample Gd 5421 9,250 ± 70 bp) were calibrated with current software (Gd 2970 12,053-11,246 cal BP; Gd 5421 10,587-10,245 cal BP; OxCal 4.3; IntCal13; 95.4%).

[391] The occupation of Göbekli Tepe may be identified archeologically from the PPNA (Layer III) to EPPNB-MPPNB (Layer II), but absolute dating of the different stratigraphical layers corresponding to archaeological finds has posed challenges despite attempts from various dating methods. However, some dates were published with low deviations that date (Bone Sample KIA-44149 9,984 ± 42 bp) Enclosure D to the PPNA and the abandonment of the site. Oliver Dietrich, 'Radiocarbon Dating the First Temples of Mankind: Comments on ^{14}C-Dates from Göbekli Tepe', *Zeitschrift für Orient-Archäologie*, 4 (2011), pp. 12-25, (p. 18; Fig. 2). The bone sample for Enclosure D was calibrated with current software (11,751-11,246 cal BP; OxCal 4.3; IntCal13; 99.7%). Most of the finds under discussion date to the PPNA-EPPNB unless otherwise noted.

[392] Almost 500 years of human activity occurred at Netiv Hagdud (c. 11.3-10.9 ka cal BP). Ofer Bar-Yosef and Avi Gopher (eds.) *An Early Neolithic Village in the Jordan Valley. Part I: The Archaeology of Netiv Hagdud*, American School of Prehistoric Research Bulletin 43, (Cambridge: Peabody Museum of Archaeology and Ethnology, 1997), p. 67. Bar-Yosef et al, 'Netiv Hagdud: An Early Neolithic Village Site', pp. 408, 420-421; Fig. 3, 14; Tab. 6. However, only one date with a deviation under 140 (Sample Pta 4457 9,780 ± 90 bp = 11,311-11,096 cal BP; OxCal 4.3; IntCal13; 68.2%) may be related to a burial.

[393] Tell Mureybet was occupied from the Late Natufian until the beginning of the MPPNB and over 40 radiocarbon dates have been submitted, leading to much discussion. For example, see Ofer Bar-Yosef, Review of Juan José Ibáñez (ed.) *Le Site Néolithique de Tell Mureybet (Syrie du Nord): En Hommage à Jacques Cauvin, Vol. I et II* (2008), *Paléorient*, 35(2) (2009), pp. 125-135. The finds under discussion are from Phase III A-IVB, which spanned approximately 800 years. Some finds (e.g. cranium) are particularly related to Building 47 (Phase IIIA; Level 14a), which is supported by a ^{14}C date from charcoal with a low deviation (Sample Ly 11.626 9,455 ± 45 bp). Other finds (e.g. clay covered crania) date to Phase IVB, a phase of which one sample from seed had the lowest deviation for calibration (Sample Ly OxA 2158 9,190 ± 55 bp). Both dates were calibrated with current software and suggest a PPNA-EPPNB date. (Ly 11.626 10,748-10,650 cal BP; OxCal 4.3; IntCal13; 55.2%; Ly OxA 2158 10,571-10,222 ±OxCal 4.3; IntCal13; 99.7%).

[394] Three ^{14}C dates were published (III East Sample Ly 10648 9,855 ± 70 bp; II West Sample Ly 10649 9,455 ± 75 bp; I East 'transitional' Sample Ly 10647 9,395 ± 55 bp) which correspond to the finds under discussion and date Jerf el-Ahmar to the MPPNA-LPPNA/EPPNB. Stordeur and Abbès, '*Du PPNA au PPNB*', p. 592; Tab. 2. The older and younger samples were calibrated with current software (Ly 10648 11,332-11,200 cal BP; Ly 10647 10,699-10,566 cal BP; OxCal 4.3; IntCal13; 68.2%).

[395] The dating of Jericho via material assemblage, stratigraphy, ^{14}C dates, and archeological documentation is complex. Over 40 radiocarbon dates for Jericho were published. Richard Burleigh, 'Radiocarbon Dates', in *Excavations at Jericho*, Vol. III, ed. by Holland, pp. 503-504. Radiocarbon dates are available for human activity

28.	11,200-10,800	Qermez Dere	EPPNA-LPPNA	Hedges et al, 1996.[396]
29.	11,000-10,500	Zahrat adh-Dhra‘ 2	LPPNA	Edwards et al, 2004; Edwards, 2016.[397]
30.	11,000-10,400*	Tell Sheikh Hassan	LPPNA-EPPNB	Cauvin, 1978; Müller-Neuhof, 2006; Evin & Stordeur, 2008.[398]
31.	11,000-10,250	WF16	LPPNA-EPPNB	Mithen et al, 2018.[399]
32.	10,800-10,500; 9,500-8,750	el-Hemmeh	LPPNA & MPPNB-LPPNB	Makarewicz et al, 2006; Makarewicz & Rose, 2011.[400]

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from the Epipaleolithic at Jericho, but these dates are uncalibrated, due to substantial deviations. One of the earliest samples available for calibration dates to the LPPNA (Sample BM 1327 9,560 ± bp = 11,151-10,697 cal BP; OxCal 4.3; IntCal13; 95.4%). Benz suggested a nuanced chronology of PPN Jericho in light of Kenyon's attribution of round structures to the PPNA and rectangular to the PPNB (now understood not be a clear-cut diagnostic tool) and other issues. Therefore, much of the finds under the discussion for the PPNA would be likely assigned to the LPPNA-EPPNB according to the work of Benz, but they are treated together in her analysis. According to Benz, 'most of the skull burials date to the MPPNB and LPPNB.' Benz, 'Beyond Death', pp. 252-255, 276; Note 7; Appendix 1. However, an analysis from Nigro with 'the Italian-Palestinian Expedition re-examined the stratigraphy in Squares DI-II, FI, M, EI, EIII and sampled for new radiocarbon datings.' Nigro confirmed much of Kenyon's divisions and proposed a 'stratigraphic re-calibrated periodization/chronology' of the PPNA at Jericho to 9,000-8,000 BC and the PPNB to 8,000-6,000 BC. However, neither discussion of the new divisions nor new radiocarbon dating were provided in his analysis. Nigro, 'Beheaded Ancestors', pp. 3-4; Note 10. For the finds under discussion, relevant discrepancies between the works of Benz and Nigro are noted.

[396] Six radiocarbon dates from seeds were published and along with material assemblage, attest to Epipaleolithic and PPNA phases of occupation for Qermez Dere. Three dates have large deviations and correspond to an approximate 500 year PPNA phase of occupation, as well as the finds under discussion. Robert E. M. Hedges et al, 'Radiocarbon Dates from the Oxford AMS System: Archaeometry Datelist 21: Northern Iraq Qermez Dere, Tel Afur', *Archaeometry*, 38(1) (1996), pp. 181-207, (pp. 197-198). The oldest date with the lowest deviation and the least amount of complications was calibrated with current software (Sample OxA 3755 9,710 ± 85 bp = 11,250-10,774 cal BP; OxCal 4.3; IntCal13; 95.4%).

[397] Nine ^{14}C dates (c. 11-10.5 ka cal BP) were published for Zahrat adh-Dhra‘ 2, all of which were close in age and low deviations. Edwards, 'Chronology and Dispersal', p. 56; Tab. 1. A sample (Wk 9445 9,552 ± 59 bp) was taken from (L.22.3) the area of the infant skull burial (Structure 1; Square E 28). Edwards et al, 'From the PPNA to the PPNB', p. 26; Fig. 4. Sample Wk 9445 was calibrated using current software (11,131-10,696 cal BP; OxCal 4.3; IntCal13; 95.4%).

[398] Radiocarbon dates are not available for Tell Sheikh Hassan, but the skeletal finds under discussion are contemporaneous with Mureybet, Phase IIIB (Mureybetian Phase IIIB corresponds with LPPNA). Cauvin, *Les Premiers Villages*, p. 128. A ^{14}C date with a low deviation for Phase IIIB (Level 16b; House 19) from charcoal was published (Sample Ly 11.628 9,320 ± 50 bp). J. Évin and Danielle Stordeur, '*Chronostratigraphie de Mureybet: Apport des Datations Radiocarbone*', in *Le Site Néolithique de Tell Mureybet (Syrie du Nord). En Hommage à Jacques Cauvin*, Vol. I-II, ed. by Juan José Ibáñez, BAR International Series 1843, (Oxford : Archaeopress-Maison de l'Orient et de la Méditerranée Jean Pouilloux, 2008), pp. 24-30, (p. 28). The date was calibrated with current software (Ly 11.628 10,684-10,376 cal BP; OxCal 4.3; IntCal13; 95.4%). The anthropomorphic statuette find was dated to the LPPNA-EPPNB based on material assemblage and the stratigraphy of Tell Sheikh Hassan. Bernd Müller-Neuhof, 'An EPPNB Human Sculpture from Tell Sheikh Hassan', *Neo-Lithics*, 2 (2006), pp.32-37, (p.36).

[399] Almost 1,600 years of human activity at Wadi Faynan 16 (WF16) was dated (c. 11.8-10.2 ka cal BP) to the PPNA with three phases (Phase 1: c. 11.8-11.3 ka cal BP, Phase 2: c. 11.3-10.8 ka cal BP, Phase 3 c. 10.8-10.2 ka cal BP), but the burials under discussion likely date from late Phase 2 to Phase 3. Mithen et al, *WF16 Excavations*, p. 652.

[400] Radiocarbon dates and material assemblage demonstrate PPNA and LPPNB-PPNC occupations of el-Hemmeh, but the finds under discussion are from the PPNA and LPPNB. One PPNA ^{14}C date for el-Hemmeh was published and it did not include a Lab Code (9,450 ± 60 bp). Makarewicz and Rose, 'Early Pre-Pottery Neolithic Settlement', *Neo-Lithics,* 1 (2011), p. 23. The PPNA date was calibrated with current software (10,820-10,519 cal BP; OxCal 4.3; IntCal13; 81.4%). One LPPNB date was published (Sample OS-48490 8,670 ± 45 bp). Cheryl Makarewicz et al, 'El-Hemmeh: A Multi-Period Pre-Pottery Neolithic Site in the Wadi el-Hasa,

33.	10,700-10,200	Dja'de el-Mughara	LPPNA-EPPNB	Coqueugniot, 2014.[401]
34.	11,200-9,900; 9,300-9,000	Çayönü	PPNA-LPPNB	Özdoğan, 1999; Croucher, 2010; Erim-Özdoğan, 2011; Kodaş, 2014; PPND.[402]
35.	10,500-10,200	Sefunim Cave	EPPNB	Ronen, 1968, 1984; Shimelmitz et al, 2018.[403]
36.	10,500-8,750	Kfar HaHoresh	PPNB	Goring-Morris et al, 2001, 2008.[404]

Jordan', *Eurasian Prehistory*, 4(1-2) (2007), pp. 183-220, (pp. 215-216; Tab. 11). The LPPNB date was calibrated with current software (OS-48490 9,635-9,550 cal BP; OxCal 4.3; IntCal13; 56.4%).

[401] Over 45 radiocarbon dates were obtained for Dja'de el-Mughara, which date the occupation (Phase I-III) of the site (c. 10,700-10,200 cal BP) and the finds under discussion to the LPPNA-EPPNB. Eric Coqueugniot, 'Dja'de (Syrie) et les Représentations Symboliques du IXe Millénaire cal BC', in *La Transition Néolithique en Méditerranée* ed. by Claire Manen, Thomas Perrin and Jean Guilaine, (Paris: Errance, 2014), pp. 91-108, (p. 107).

[402] The majority of finds under discussion are from the PPNA-MPPNB sub-phases of the 'Skull Building' at Çayönü, which spanned over 1,500 years of use demonstrated by ^{14}C dates and material assemblage. An approximate millennium of PPNA sub-phases began with the earliest Round Building (BM1c) sub-phase to the early part of the Grill Plan (BM1a) sub-phase. The EPPNB-MPPNB sub-phases for the finds under discussion began with the Grill Plan (BM1b) to the rectangular Channeled (BM2c) sub-phase and ended with the first portion of the Cobble-Paved (BM2a) sub-phase. Özdoğan, 'Çayönü' in, *Neolithic in Turkey: Cradle of Civilization/New Discoveries*, ed. by Özdoğan and Başgelen, pp. 35-63. Karina Croucher, 'Tactile Engagements: The World of the Dead in the Lives of the Living ... or 'Sharing the Dead', in *The Principle of Sharing*, ed. by Benz, 277-300, (p. 282; Fig. 1). There are 30 radiocarbon dates from charcoal published for Çayönü. *PPND-The Platform for Neolithic Radiocarbon Dates*, http://www.exoriente.org/associated_projects/ppnd_site.php?s=14 [accessed 2/21/2020]. However, the beginning of the Round Building (BM1c) sub-phase is challenged by dates with deviations unsuitable for calibration (e.g. Level r1; Square 29/M; Sample GrN 19481 10,020 ± 240 bp; Level r1; Square 30/M; Sample GrN 19482 10,230 ± 200 bp). An EPPNB date from the Grill Plan (BM1b) sub-phase (Level r3; Sample GrN 10359 9,050 ± 40 bp) with a low deviation was calibrated (c. 10,200 cal BP) with current software (GrN 10359 10,254-10,176 cal BP; OxCal 4.3; Intcal13; 95.4%) and retropolated for the approximate 1,000 years of PPNA usage of the building demonstrated by material assemblage, placed the beginning of the Round Building sub-phase and the PPNA finds under discussion to about 11,200 cal BP. A MPPNB ^{14}C date for the first part of the Cobble-Paved (BM2a) sub-phase (Sample GrN 13948 8,910 ± 50 bp) with a low deviation and representing the last of the MPPNB finds under discussion was calibrated with current software (GrN 13948 10,067-9,930 cal BP; OxCal 4.3; IntCal13; 48.%). A unique LPPNB burial was found (Level 2c; Building DE) in a building contemporary with the Terrazzo sub-phase of the 'Skull Building,' which lasted approximately 300 years. Kodaş, 'Le Bâtiment DE de Çayönü',' p. 46; Fig. 5. Erim-Özdoğan,'Çayönü' in, *Neolithic in Turkey: New Excavation and New Research*, ed. by Özdoğan, Başgelen and Kuniholm, p. 204.

[403] Radiocarbon dates for human activity at Sefunim Cave begin in the Mousterian of the Paleolithic and sporadic occupation continued to the Neolithic, but the find under discussion was discovered in Layer VII (Layers V-VII date to the PPNB). Ron Shimelmitz et al, 'The Upper Paleolithic and Epipaleolithic of Sefunim Cave, Israel', *Quaternary International*, 464(A) (2018), pp. 106-125, (pp.111-113; Fig. 5; Tab. 1-2). Ronen marks a sharp break between the Neolithic Layer VII and the Natufian Layer VIIIa. Avraham Ronen, 'Excavations at the Cave of Sefunim (Iraq El-Barud), Mt. Carmel Preliminary Report', *Quartär*, 19 (1968), pp. 275-288, (pp. 277, 279). Three ^{14}C dates were published from Layer V at Sefunim Cave, one of which is likely an outlier (Sample Hv 2597 7,730 ± 115 bp) and another has a higher deviation (Sample Hv 3368 9,395 ± 130) than the other (Sample KN-I 366; 9,120 ± 85 bp). Avraham Ronen, *Sefunim Prehistoric Sites, Mount Carmel, Israel*, BAR International Series 230, (Oxford: British Archaeological Reports, 1984). The sample with the lowest deviation was calibrated (c. 10,300 cal BP) with current software (KN-I 366 10,398-10,209 cal BP; OxCal 4.3; IntCal13; 68.2%) and is two stratigraphic layers younger than the post-Natufian Level VII, in which the burial under discussion was found.

[404] Based on ^{14}C dates and the material assemblage, the excavators date the occupation (and the finds under discussion) of Kfar HaHoresh from the EPPNB-LPPNB. A. Nigel Goring-Morris, Michal Birkenfeld and John Williams, 'Under Control: The Use of 'Virtual' Sections for Stratigraphic Management in Multi-component Archaeological Sites', *Neo-Lithics*, 2 (2008), pp. 17-23, (p. 18). Only one radiocarbon date was published (Sample RTT 3.733.1 8,650 ± 50 bp). Goring-Morris et al., 2001, 'Radiometric Dating of the PPNB Mortuary Site of Kfar HaHoresh, Lower Galilee, Israel: Problems and Preliminary Results', *Journal of the Israel Prehistoric Society*, 31

37.	10,500-8,750	Motza	PPNB	Yizhaq et al, 2005; Khalaily et al, 2007.[405]
38.	10,500-9,500	Tell Aswad	EPPNB-LPPNB*	Stordeur et al, 2010.[406]
39.	10,400-10,100	Tell Qarassa North	EPPNB-MPPNB	Santana et al, 2012; Ibáñez et al, 2014.[407]
40.	8,300-7,300	Abu Hureyra	LPPNB-PN	Moore et al, 2000.[408]
41.	10,400-9,000	Shillourokambos	C-EPPNB-C-LPPNB (Early A-Late Phase)	Guilaine, 2003; Peltenburg, 2003; Koutrafouri, 2008.[409]

(2001), pp. 213-217, (p. 216).

[405] The continual occupation of Motza is demonstrated by successive layers from the EPPNB to the Iron Age, but the finds under discussion are from the duration of the PPNB at Motza. Over 15 radiocarbon dates were obtained for the PPNB layers (Layers V-VI). Meirav Yizhaq et al, 'Quality Controlled Radiocarbon Dating of Bones and Charcoal from the Early Pre-Pottery Neolithic B (PPNB) of Motza (Israel)', *Radiocarbon*, 47(2) (2005), pp. 193-206, (p. 202; Tab. 4). Hamoudi Khalaily et al, 'Excavations at Motza in the Judean Hills and the Early Pre-Pottery Neolithic B in the Southern Levant', *Paléorient*, 2007, 33(2), pp. 5-37, (pp. 8-13; Fig. 3, 7; Tab. 1).

[406] Revisions of the chronology for Tell Aswad via stratigraphy, material assemblage, and ^{14}C dates demonstrate an EPPNB-LPPNB date for the occupation of the site and the finds under discussion. The excavators assign the plastered skulls to the LPPNB, but radiocarbon dates do not confirm a LPPNB date and suggest that '*La phase récente pourrait se situer à la jonction entre PPNB moyen et recent*.' Danielle Stordeur et al, 'Le PPNB de Syrie du Sud à Travers les Découvertes Récentes à Tell Aswad', in *Hauran V, La Syrie du Sud du Néolithique à l'Antiquité Tardive: Recherches Récentes (Actes du Colloque de Damas 2007)*, Vol. 1, Bibliothèque Archéologique et Historique 191, (Beirut: Institut Français d'Archéologie du Proche-Orient, 2010), pp. 41-67, (pp. 43-44, 58; Tab. 1).

[407] 15 radiocarbon dates were obtained for Tell Qarassa North, four of which relate directly to the finds under discussion (Sample Beta-262213 9,100 ± 60 bp; Beta-274098 9,030 ± 60 bp; CNA-1058 9,010 ± 45 bp; CNA-1060 9,145 ± 40 bp) with fairly low deviations and correspond roughly to the EPPNB to early MPPNB (c. 10,400-10,100 cal BP). Ibáñez, Gonález-Urquijo and Braemer, 'Human Face and Origins of the Neolithic', p. 82; Tab. 1. Santana et al, 'Crania with Mutilated Facial Skeletons', p. 206.

[408] Over 50 radiocarbon dates with large deviations were obtained for Abu Hureyra, which demonstrate both a Late Epipaleolithic and a Neolithic occupation. The finds under discussion derive primarily from the 2B-C occupational phases at Abu Hureyra (c. 8,300-7,300 cal BP). Moore, Hillman and Legge, *Village on the Euphrates*, pp. 257-258, 527-529; Fig. 8.75; Tab. A.1; Appendix 1.

[409] The finds under discussion date from Early Phase A-Late Phase at Shillourokambos (Parekklishia), which corresponds to the Cypriot EPPNB (C-EPPNB) to the Cypriot LPPNB (C-LPPNB) and Period 1A-1B at Mylouthkia. Edgar Peltenburg, 'Conclusions: Mylouthkia 1 and the Early Colonists of Cyprus', in *Colonisation and Settlement of Cyprus,* ed. by Peltenburg, pp. 83-103, (p. 87; Tab. 11.3). An Early Phase A date was published for Well 66, where the feline (and possibly anthropomorphic) figurine head was found (Sample Lyon-573 9,110 ± 90 bp). Four radiocarbon dates, also with fairly high deviations, were obtained for the finds under discussion from *Fosse* 23. One of which, dates to Early Phase A (Period 1A; C-EPPNB) and the other three date to the Transitional Early Phase B-Middle Phase (Period 1B; C-MPPNB-C-LPPNB). Jean Guilaine, 'Parreklisha-Shillourokambos: Périodisation et Aménagements Domestiques', in *Le Néolithique de Chypre: Act du Coloque International Organise par le Department des Antiquités de Chypre et l'École Française d'Athènes, Nicosie 17-19 Mai 2001* ed. by Jean Guilaine and Alain Le Brun, Bulletin de Correspondence Hellénique Supplement 43, (Athens: École Française d' Athènes, 2003), pp. 13-14, (pp. 3-14; Annexe). The Early Phase A date from the figurine head find was calibrated with current software (Lyon-573 10,430-10,259 cal BP; OxCal 4.3; IntCal13; 62.2%). Radiocarbon dates for upper layers in *Fosse* 23 are older than some of the lower levels, thus adding to the challenge of dating the finds under discussion from *Fosse* 23. However, Koutrafouri stated that radiocarbon dates for the lower layers of *Fosse* 23 were contemporaneous with dates obtained for Well 133 at Mylouthkia (Period 1B; C-LPPNB). Koutrafouri, 'Ritual in Prehistory', Vol. 1, pp.171, 178-180, 182. While Peltenburg does list Mylouthkia and Shillourokambos as contemporary sites for Period 1A-1B, the comparisons were derived from dates other than those obtained from *Fosse* 23. Peltenburg sites a range of Period 1A dates and a Late Phase date (Sector 4; House 1; Sample Lyon-292, 8,125 ± 70 bp) from Shillourokambos. Peltenburg, 'Conclusions: Mylouthkia 1', in *Colonisation and Settlement of Cyprus*, ed. by Peltenburg, pp. 83-87; Fig. 11.1; Tab. 11.1-3. Despite these issues, the finds from *Fosse* 23 (which make up the majority of finds under discussion) are bracketed by the Early Phase A (Period 1A; C-EPPNB) figurine head find and a Late Phase (Period 1B; C-LPPNB) burial (B. 283) associated

42.	10,400-9,700	Nevalı Çori	EPPNB-MPPNB	PPND.[410]
43.	10,300-9,400	Boncuklu	EPPNB-MPPNB	Baird et al, 2018.[411]
44.	10,300-9,700	Shkārat Msaied	EPPNB-MPPNB	Hermansen et al, 2006.[412]
45.	10,200-9,900	Ganj Dareh	EPPNB-MPPNB	Meiklejohn et al, 2017.[413]
46.	10,200-10,000	Kharaysin	EPPNB-MPPNB	Ibáñez et al, 2015.[414]
47.	10,150-9,700	Tepe Abdul Hosein	EPPNB-MPPNB	Broushaki et al, 2016; Meiklejohn et al, 2017.[415]
48.	10,100-9,300	Cafer Höyük	MPPNB-LPPNB	Molist & Cauvin, 1991.[416]
49.	10,000-9,500*	Nahal Yarmuth 38	MPPNB	Gopher et al, 2019.[417]
50.	10,000-9,500; 8,200-8,000	Hacılar	MPPNB; Final PPNB-PN	Ralph & Stuckenrath, 1962; Barker & Mackey, 1963; Mellaart, 1970.[418]

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with a feline skeleton, which are included in the finds under discussion.

[410] Over 20 radiocarbon dates were obtained for Nevalı Çori. *PPND*, <http://www.exoriente.org/associated_ projects /ppnd_site.php?s=50> [Accessed 25th February 2020]. The finds under discussion begin with the burials from Level I in House 25 and a ^{14}C date was obtained from a bone in that burial (Sample OxA 8235 9,180 ± 60 bp). The finds under discussion continue until Level III in Building 13C and while no ^{14}C dates were obtained from Building 13C, several dates from Level III were obtained, the latest of which with the lowest deviation was a sample from animal bone (Sample KIA 1471 8,778 ± 46 bp). The two dates were calibrated with current software (OxA 8235 10,403-10,250 cal BP; KIA 1471 9,889-9,700 cal BP; OxCal 4.3; IntCal13; 68.2%).

[411] PPNA and PPNB occupations are attested via ^{14}C dates and material assemblage, but the finds under discussion are from the PPNB. Douglas Baird et al, 'Agricultural Origins on the Anatolian Plateau: C14 Dating of Boncuklu and Pınarbaşı', *Proceedings of the National Academy of Sciences for the United States of America*,115(14) (2018), pp. E3077-E3086 (Supplemental Information Appendix 1).

[412] Five radiocarbon dates from charcoal were obtained that date Shkārat Msaied to the MPPNB, the majority of which were obtained from Unit E and the finds under discussion are from Unit F. Hermansen et al, 'Shkârat Msaied: 2005 Season', p. 3. The date with the lowest deviation was calibrated to the EPPNB with current software (Sample Wk-15160 9,144 ± 55 bp =. 10,437-10,218 cal BP; OxCal 4.3; IntCal13; 91.2%).

[413] Christopher Meiklejohn et al, 'Direct Dating of Human Skeletal Material from Ganj Dareh, Early Neolithic of the Iranian Zagros', *Journal of Archaeological Science: Reports*,12 (2017) pp. 165-172, (p. 170; Tab. 6).

[414] PPNA and PPNB occupations of Kharaysin were dated via ^{14}C dates and material assemblage. A MPPNB layer was dated (Sample CNA 3467.1.1 9,092 ± 35 bp) and the burial under discussion 'probably also corresponds to the MPPNB, although its chronological attribution to the PPNA cannot be ruled out.' Juan José Ibáñez et al, 'Kharaysin: A PPNA and PPNB Site by the Zarqa River 2014 and 2015 Field Seasons', *Neo-Lithics*, 2 (2015), pp. 11-19, (pp.13, 18; Note 3). The sample was calibrated to the late EPPNB-MPPNB with current software (CNA 3467.1.1 10,297-10,192; OxCal 4.3; IntCal13; 94.2%).

[415] Farnaz Broushaki et al, 'Early Neolithic Genomes from the Eastern Fertile Crescent', *Science*, 353(6298) (2016), pp. 499-503, (Supplementary Material; p. 43; Tab. S2). Meiklejohn et al, 'Direct Dating of Human Skeletal Material', p. 170; Note 3.

[416] Over 10 radiocarbon dates from charcoal were obtained and attest to an approximate 800-year MPPNB occupation of Cafer Höyük (Layers I-XII) and the finds under discussion, however all but one have large deviations unsuited for calibration. Miguel Molist and Jacques Cauvin, 'Les Niveaux Inférieurs de Cafer Höyük (Malatya, Turquie): Stratigraphie et Architectures (Fouilles 1984-1986)', *Cahiers de l'Euphrate*, 5-6 (1991), pp. 85-114. The sample with the lowest deviation from a lower layer (Layer XI; Sample Ly 4437 8,950 ± 80 bp) was calibrated with current software (Ly 4437 10,068-9,927 cal BP; OxCal 4.3; IntCal13; 39.4%).

[417] Radiocarbon dating is underway, but Nahal Yarmuth 38 is currently assigned to the Southern Levantine MPPNB, based on plaster and lithic evidence. Avi Gopher et al, 'Nahal Yarmuth 38: A New and Unique Pre-Pottery Neolithic B Site in Central Israel', *Antiquity*, 93(371) (2019), pp. 1-8, (p. 7).

[418] Mellart stated that Aceramic Hacılar (Aceramic Level I-VII) was 'flourishing at end of 8th, beginning of 7th millennium.' Mellaart, *Excavations at Hacilar,* Vol. 1, p. 94. A ^{14}C date from charcoal with a large deviation was published for Aceramic Hacılar (Aceramic Level V; Area Q; Sample BM-127 8,700 ±180 bp). Harold Barker and John Mackey, 'British Museum Natural Radiocarbon Measurements IV: Hacilar Series', *Radiocarbon*, 5 (1963), pp. 104-108, (p. 108). The ^{14}C date was calibrated with current software (BM-127 9,930-9,528 cal BP; OxCal 4.3; IntCal13; 62.2%) and the cephalic finds under discussion are from the middle to the end (Aceramic Level III-VII) of

51.	10,000-9,400	Abu Gosh	MPPNB-LPPNB	Segal & Carmi, 2003; Benz, 2012.[419]
52.	10,000-9,200	Nahal Hemar	MPPNB-LPPNB	Bar-Yosef & Alon,1988; Aurenche, et al, 2001; Bar-Yosef, 2003.[420]
53.	10,000-8,500	'Ain Ghazal	MPPNB-LPPNB	Rollefson et al, 1992.[421]
54.	10,000-8,400	Beisamoun	MPPNB-PPNC	Bocquentin et al, 2014.[422]
55.	9,700-9,500	Moghr el-Ahwal	MPPNB	Garrard & Yazbeck, 2008.[423]

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the Aceramic period of Hacılar (c. 10,000-9,500 cal BP). The figurine finds under discussion are from an approximate 150-200 years of the 'Final Late Neolithic' (Level VII-VI) and transitional (Level V) occupations of Hacılar, which followed about a millennium occupational hiatus from the initial 'Aceramic Hacılar' period. Three radiocarbon dates were obtained for Level VI, two of which have large deviations (± 180). A date obtained from the 'ashes from last hearth fire before destruction' of Level VI has the lowest deviation (Level VI; Area E; House I; Sample P.313A 7,350 ± 85 bp). Mellaart, *Excavations at Hacilar*, Vol. 1, pp. 92-95. Elizabeth Ralph and Robert Stuckenrath, 'University of Pennsylvania Radiocarbon Dates V: Hacilar Series, Turkey', *Radiocarbon*, 4 (1962), pp. 144-159, (p. 145). The sample with the lowest deviation was calibrated with current software (P.313A 8,211-8,040 cal BP; OxCal 4.3; IntCal13; 57.2%) and was combined with excavator estimates for the duration of Levels VII-V to date the finds under discussion from Hacılar (c. 8,200-8,000 cal BP) to the Final PPNB-PN.

[419] The finds under discussion date to the MPPNB-LPPNB at Abu Gosh. Only one ^{14}C date was obtained and it was found (Layer III; Square; A7; Basket 1343) in the lowest level of the site (charcoal Sample RT 2453 8,895 ± 60 bp), which corresponds to the MPPNB. Dror Segal and Israel Carmi, 'Radiocarbon Dating', in *The Neolithic site of Abu Ghosh. The 1995 Excavations*', ed. by Hamoudi Khalaily and Ofer Marder, *Israel Antiquities Authority Reports*, 19 (2003) pp. 27, 143 (Appendix 1). The sample was calibrated with current software (10,096-9,919 cal BP; OxCal 4.3; IntCal13; 53.4%) to the MPPNB. However, Benz assigned the burials under discussion to the LPPNB because the ^{14}C was obtained from the earliest phase of the site and the burials may date to a younger phase. Marion Benz, 'Little Poor Babies' – Creation of History Through Death at the Transition from Foraging to Farming', in *Beyond Elites: Alternatives to Hierarchical Systems in Modelling Social Formations, International Conference at the Ruhr-Universität Bochum, Germany, October 22-24, 2009*, ed. by Tobias Keinlin and Andreas Zimmermann, Universitätsforschungen zur prähistorischen Archäologie 215, (Bonn: Dr. Rudolf Habelt, 2012), pp. 169-182, (pp.175-177; Tab. 1; Note 21).

[420] Radiocarbon dates demonstrate approximately a millennium of human activity at Nahal Hemar. Oliver Aurenche et al, 'Proto-Neolithic and Neolithic Cultures in the Middle East—The Birth of Agriculture, Livestock Raising, and Ceramics: A Calibrated ^{14}C Chronology 12,500-5,500 cal BC', *Radiocarbon*, 43(3) (2001), pp. 1191-1202, (pp. 1195-1196; Fig. 4). The stratigraphic context (Stratum 3A-4) for much of the finds under discussion is not clear, but Bar-Yosef assigned the skull burials to the oldest layer (Stratum 4). Bar-Yosef, 'Early Neolithic Stone Masks', in *From Village to Cities*, ed. by Özdoğan, Hauptman and Başgelen, pp.74-76. Nine radiocarbon dates were published with fairly large deviations. A linen sample contained the lowest deviation for the oldest strata (Stratum 4; Sample Pta 365 8,850 ± 90 bp) and a charcoal sample contained the lowest deviation for the youngest strata (Stratum 3A; Sample BM 2298 8,250 ± 70 bp). Ofer Bar-Yosef and David Alon, 'Excavations at Naḥal Ḥemar Cave', in *Naḥal Ḥemar Cave*, ed. by Bar-Yosef and Alon, pp. 1-30. Both these dates were calibrated with current software (Pta 365 10,198-9,629 cal BP; BM 2298 9,442-9,031 cal BP; OxCal 4.3; IntCal13; 95.4%) and used to date the finds under discussion to the MPPNB-LPPNB.

[421] Over 40 radiocarbon dates were published for 'Ain Ghazal, which aided the excavators to date the occupation of the site from the MPPNB to the Yarmukian. Gary Rollefson, Alan Simmons and Zeidan Kafafi, 'Neolithic Cultures at 'Ain Ghazal, Jordan', *Journal of Field Archaeology*, 19(4) (1992), pp. 443-470, (p. 445; Tab. 1). The finds under discussion date to the PPN layers.

[422] Radiocarbon dates and material assemblage have enabled archeologists to recognize MPPNB-PN occupations of Beisamoun. The structure (House 150) in which the plastered skulls were discovered was occupied during the MPPNB, 'while the rest of the assemblage, found on the surface, probably represents mixed remains from the LPPNB' and PPNC. An explanation is provided concerning the former designation of a short PPNB occupation for Beisamoun that is now categorized as the LPPNB and that House 150 was occupied in the MPPNB, but it is not stated when during the MPPNB the house was occupied. Fanny Bocquentin et al, 'Renewed Excavations at Beisamoun: Investigating the 7th Millennium cal. BC of the Southern Levant', *Journal of the Israel Prehistoric Society*, 44 (2014), pp. 5-100; (pp. 6-7). The finds under discussion include the plastered skulls contained within an MPPNB (c. 10,000-9,500 cal BP) structure and burials from the LPPNB-PPNC (c. 9,500-8,400 cal BP).

56.	9,700-9,250	Tell Halula	MPPNB-LPPNB	Molist et al, 2013.[424]
57.	9,700-8,750	Yiftahel	MPPNB-LPPNB	Garfinkel, 1987.[425]
58.	9,500-7,600	Tell Roim West	MPPNB-EPN	Belfer-Cohen & Goring-Morris, 2011; Eshed & Nadel, 2015.[426]
59.	9,500-8,500	Ali Kosh	MPPNB-PPNC	Hole, 2000; Sołtysiak & Darabi, 2017.[427]
60.	9,500-8,500	Wadi Shu'eib	MPPNB-LPPNB	Simmons et al, 2001.[428]
61.	9,500-9,250	Khirbet Hammam	MPPNB-LPPNB	Peterson, 2004, 2006.[429]

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[423] Radiocarbon dates from Moghr el-Ahwal indicate Geometric Kebaran, Natufian, Late Pre-Pottery Neolithic B, and Late Neolithic occupations of Cave 2. Four ^{14}C dates were published from the area where the burials under discussion were found (Sq. S-U), two of which were from charcoal and two from human bone. The two dates from charcoal samples date to the Late Neolithic and Early Bronze Age, respectively. However, this may be the result of later disturbance. The two dates from human bone (Sample OxA 18862 8,517 39 ± bp; OxA 18863 8,710 ± 45 bp) and acephalous burial customs suggest a (c. 9,700-9,500) MPPNB date. pp. 8, 11 (Fig. 7). Andrew Garrard and Corine Yazbeck, 'Qadisha Valley Prehistory Project (Lebanon) The 2004-2008 Excavations at Moghr el-Ahwal', *Bulletin d'Archéologie et d'Architecture Libanaises*, 12 (2008), pp. 5-15, (pp. 8, 11; Fig. 3, 7). The two samples were calibrated with current software (OxA 18862 9,534-9,494 cal BP; OxA 18863 9,702-9,559 cal BP; OxCal 4.3; IntCal13; 68.2%).

[424] Almost 30 radiocarbon dates were obtained for Tell Halula (Level I-XIV), many of which have large deviations and attest to an approximate 450-500 years of occupation for the MPPNB-LPPNB site and the finds under discussion. Miguel Molist et al, 'La Serie de Dataciones Absolutas C14 del Yacimiento de Tell Halula (Valle del Eufrates)', in *Tell Halula: Un Poblado de los Primeros Agricultores en el Valle del Éufrates, Siria*, Vol. 1, ed. by Miguel Molist, (Barcelona: Ministerio de Educatión, Cultura y Deporte, 2013), pp. 87-93, (pp. 90-91). The charcoal samples from Levels I (Sample Beta 80636 8,750 ± 60 bp = 9,825-9,628 cal BP; OxCal 4.3; IntCal13; 56.7%) and XIV (Sample Beta 206824 8,270 ± 40 bp = 9,415-9,127 cal BP; OxCal 4.3; IntCal13; 95.4%) with the lowest deviations were calibrated with current software.

[425] The finds under discussion were dated by the excavators to the MPPNB-LPPNB occupation of Yiftahel. Four radiocarbon dates from seeds were published within *grosso modo* the same uncalibrated range, but a lentil bean sample has the lowest deviation (Layer II; Locus 710; Sample Pta-4245 8,720 ± 70 bp). Yosef Garfinkel, 'Yiftahel: A Neolithic Village from the Seventh Millennium B. C. in Lower Galilee, Israel', *Journal of Field Archaeology*, 14(2) (1987), pp. 199-212, (p. 203; Tab.1). This sample was calibrated with current software (9,779-9,553 cal BP; OxCal 4.3; IntCal13; 68.2%) and was used to date the finds under discussion from the MPPNB until the end of the LPPNB (c. 8,750-8,500 cal BP).

[426] The excavators at Tell Roim West demonstrate a continual occupation from the PPNB to PPNC and the PN. Three samples from human bone were submitted for ^{14}C dating. Sample RTT6003 (5,855 ± 55 bp) from Grave 1041 and Sample RTT6000 (5,875 ± 50 bp) from Grave 3016 were nearly identical. However, another Sample RTT6002 (5,350 ± 50 bp) from Grave 3016 was approximately 500 years younger. After calibration, these dates are too recent for the Neolithic. The graves could be intrusive, but it is more likely due to preservation and contamination issues with the submitted samples. The finds under discussion were dated to the PPNB (Layer V) and PN (Layer I-II), due to sediment color, lithic assemblage, pottery, etc. Eshed and Nadel, 'Changes in Burial Customs', pp. 117-118; Fig. 3; Tab. 1. Owing to continual use from the PPNB to the PN and with a lack of ^{14}C dates, the finds under discussion are estimated from the end of the final MPPNB or start of the LPPNB (c. 9,500-8,750 cal BP) to the Early Pottery Neolithic (EPN c. 8,400-7,600 cal BP). Belfer-Cohen and Goring-Morris, 'Becoming Farmers', p. S210; Tab.1.

[427] Frank Hole, 'New Radiocarbon Dates for Ali Kosh, Iran', *Neo-Lithics*, 1 (2000), p. 13; Tab. 1. Sołtysiak and Darabi, 'Human Remains from Ali Kosh', p. 76.

[428] The burial under discussion (Burial 1) was dated by the excavators to the LPPNB and ten radiocarbon dates were published, all with large deviations. Alan Simmons et al, 'Wadi Shuʿeib, A Large Neolithic Community in Central Jordan: Final Report of Test Investigations', *Bulletin of the American Schools of Oriental Research*, 321 (2001), pp. 1-39, (pp. 28-32; Fig. 14-15; Tab. 10-12). A ^{14}C date (Sample Beta-353081/WS-2 8,600 ± 100 bp) from Area I was assigned to the MPPNB and has the lowest deviation, but was calibrated with current software to approximately the MPPNB-LPPNB (Beta-353081/WS-2 9,690-9,489 cal BP; OxCal 4.3; IntCal13; 68.2%).

[429] Khirbet Hammam has a possible PPNA occupation and four ^{14}C dates from charcoal were obtained, all within the same range with low deviations that indicate an occupation during the MPPNB and LPPNB transition. Jane

62.	9,500-9,000	Basta	MPPNB-LPPNB	Nissen et al, 1987; PPND.[430]
63.	9,500-9,000	Mylouthkia	C-LPPNB (Period 1B)	Peltenburg, 2003.[431]
64.	9,400-9,000	Ujrat el-Mehed	LPPNB	Weinstein, 1984; Tchernov et al, 1986.[432]
65.	9,200-8,900	Ba'ja	LPPNB	PPND.[433]
66.	9,200-8,650	Tell Ramad	LPPNB-PPNC	de Contenson, 2000.[434]
67.	9,100-8,000	Çatalhöyük	LPPNB-PN	Bayliss et al, 2015.[435]
68.	9,100-8,500	Bouqras	LPPNB-EPN	Vogel & Waterbolk, 1967; Akkermans et al, 1981; Hours et al, 1994; Verhoeven, 2000; Merrit & Meiklejohn, 2007.[436]

Peterson, 'Khirbet Hammam 2006: Preliminary Report of Continued Test Excavations', *Neo-Lithics*, 2 (2007), pp. 3-6, (p. 3; Tab. 1); 'Khirbet Hammam (WHS 149): A Late Pre-Pottery Neolithic B Settlement in the Wadi el-Hasa, Jordan', *Bulletin of the American Schools of Oriental Research*, 334 (2004), pp. 1-17, (pp. 5-6; Tab. 2). The finds under discussion were discovered in Test Trench 2, from which two ^{14}C dates were obtained (Layer 3 Sample Beta-221347 8,310 ± 40 bp; Layer 4 Sample Beta-223148 8,440 ± 40 bp). The dates were calibrated with current software (Beta-221347 9,410-9,282 cal BP; Beta-223148 9,500-9,439 cal BP; OxCal 4.3; IntCal13; 68.2%).

[430] ^{14}C dates were obtained for Basta, which date the site (c. 9,500-9,000 cal BP) to the late MPPNB-LPPNB. Two dates were published by Nissen et al, 'Report on the First Two Seasons', p. 81; Note 2. Additional dates were obtained and published in *PPND* <http://www.exoriente.org/associated_projects/ppnd_site.php?s=12> [Accessed 22nd January 2020]. The PPND site text states that there are six radiocarbon dates for Basta, but the chart lists 12 dates (including the two published in 1988 by Nissen et al).

[431] Two radiocarbon dates from shell were obtained for Well 133 at Mylouthkia (Kissonerga) from Fill 264 (Well 133.264; Sample OxA-7461 8,185 ± 55 bp; AA-33130 8,025 ± 65 bp), which support a Period 1B (C-LPPNB) date. Peltenburg lists an approximate 500-year range for the two ^{14}C dates and the C-LPPNB. Peltenburg, 'Conclusions: Mylouthkia 1', in *Colonisation and Settlement of Cyprus*, ed. by Peltenburg, p. 83-84; Fig. 11.1; Tab. 11.1. Fill 264 contained an atlas vertebra and tooth which likely belonged to the final skull deposit above in Fill 260 and the other cephalic finds were found beneath (Fill 282, 329, 332-333). The dates from Fill 264 were calibrated (c. 9,000 cal BP) with current software (OxA-7461 9,142-9,030 cal BP; 46.4%; AA-33130 9,011-8,857 cal BP; OxCal 4.3; IntCal13; 49%). The finds under discussion are dated to the duration of C-LPPNB.

[432] Lithics assemblage dates Ujrat el-Mehed to the second half of the Pre-Pottery Neolithic B period. Tamar Dayan et al, 'Animal Exploitation in Ujrat El-Mehed: A Neolithic Site in Southern Sinai', *Paléorient*, 12(2) (1986), pp. 105-116, (p. 107). A ^{14}C date from charcoal was published (Sample Pta-2703 8,220 ± 80 bp). James Weinstein, 'Radiocarbon Dating in the Southern Levant', *Radiocarbon*, 2F(3) (1984), pp. 297-366, (pp.304-305, 322). The date was calibrated with current software (9,414-9,013 cal BP; OxCal 4.3; IntCal13; 95.4%).

[433] The duration of occupation at Ba'ja lasted for about 600 years and three ^{14}C dates attest to a LPPNB occupation, from which the finds under discussion derive. *PPND* <http://www.exoriente.org/associated_projects/ppnd_site.php?s=8> [Accessed 20th February 2020]. Two dates provide a *terminus ante quem* for the site and the oldest date was calibrated with current software (charcoal Sample Bin 5123 8,100 ± 33 bp = 9,143-8,971 cal BP; OxCal 4.3; IntCal13; 97.4%).

[434] Six radiocarbon dates with low deviations were obtained and attest to a LPPNB-PPNC occupation of Tell Ramad, as well as the finds under discussion. de Contenson, *Ramad, Site Neolithique*, p. 21. The earliest (Level I Sample GrN-4426 8,210 ± 50 bp) and latest (Level II Sample GrN-4822 7,900 ± 50 bp) dates with the lowest deviations were calibrated with current software (GrN-4426 9,263-9,090 cal BP; 68.2%; GrN-4822 8,881-8,593 cal BP; OxCal 4.3; IntCal13; 70%).

[435] The finds under discussion date to the approximate millennium of occupation at Çatalhöyük, which began in the LPPNB until the PN. Alex Bayliss et al, 'Getting to the Bottom of It All: A Bayesian Approach to Dating the Start of Çatalhöyük', *Journal of World Prehistory*, 28(1) (2015), pp. 1-26.

[436] Based on material assemblage and ^{14}C dates, Merrit and Meiklejohn stated that the occupation of Bouqras was 'at the very end of the PPNB,' but Verhoeven suggested an EPN occupation based on 'the regular occurrence of ceramic sherds.' Merrett and Meiklejohn, 'House 12 at Bouqras', in *Faces from the Past*, ed. by Faerman et al, p. 129. cf. Verhoeven, 'Death, Fire and Abandonment', p. 65. Over 25 radiocarbon dates were published, which attest to an LPPNB-PN date range for the occupation of Bouqras. J. C. Vogel and Harn Tjalling Waterbolk,

69.	9,000-8,000	Choga Sefid	LPPNB-PN (Sefid Phase, Period 5)	Hours et al, 1994; Daems & Croucher, 2007.[437]
70.	9,000-8,000	Atlit-Yam	PPNC	Aurenche et al, 2001; Clare, 2010.[438]
71.	9,000-8,000	Khirokitia	Khirokitian (Late Aceramic Neolithic)	Östlund & Engstrand,1966; Burleigh et al, 1977; Le Brun, 1981a; Peltenburg, 2003; Koutrafouri, 2008.[439]
72.	9,000-8,300	Shir	EPN (Late Neolithic)	Bartl, 2013; Borrell et al, 2015.[440]
73.	8,500-7,900	Sha'ar Hagolan	EPN (Yarmukian)	Garfinkel et al, 2011.[441]

'Groningen Radiocarbon Dates VII: Bouqras Series, Syria', *Radiocarbon*, 9 (1967), pp. 107-155, (p. 128). P.A. Akkermans, Harry Fokkens, and Harn Tjalling Waterbolk, 'Stratigraphy, Architecture and Lay-Out of Bouqras', in *Préhistoire du Levant: Chronologie et Organisation de l'Espace Depuis les Origines Jusqu'au VIe Millénaire,* ed. by Jacques Cauvin and P. Sanlaville, Colloques Internationaux du Centre National de la Recherche Scientifique, 598, (Paris: Centre National de la Recherche Scientifique, 1981), pp. 485-501, (p. 490; Note 6). Francis Hours et al, *Atlas des sites du Proche-Orient (14000-5700 BP)*, Vol. I-II, Travaux de la Maison de l'Orient méditerranéen 24, (Lyon: Maison de l'Orient et de la Méditerranée Jean Pouilloux, 1994), pp. 1-26. The finds under discussion are from Level III at Bouqras. The oldest (Level III; Sample GrN-13100 8,380 ± 45 bp) and youngest (Level III; Sample GrN-4820 7,840 ± 60 bp) dates from Level III were calibrated (c. 9,100-8,600 cal BP) with current software (GrN-13100 9,135-8,771 cal BP; 94.9%; GrN-4820 8,791-8,508 cal BP; OxCal 4.3; IntCal13; 83.9%).

[437] Seven radiocarbon dates (many of which contained very large deviations) were obtained for the approximate 1,000 years of the Sefid Phase (Period 5) at Choga Sefid, which contained the finds under discussion. Hours et al, *Atlas des sites du Proche-Orient*, p. 103. Daems and Croucher, 'Cranial Modification in Ancient Iran', p. 6. The sample with the lowest deviation was calibrated with current software (Sample UGa-297 8,040 ± 90 bp = 9,032-8,751 cal BP; OxCal 4.3; IntCal13; 65.7%).

[438] 12 radiocarbon dates were published for Atlit-Yam, which demonstrate an approximate thousand-year duration of occupation. Lee Clare, 'Pastoral Clashes: Conflict Risk and Mitigation at the Pottery Neolithic Transition in the Southern Levant', *Neo-Lithics*, 1 (2010), pp. 13-31, (p. 24; Tab. 1). Oliver Aurenche et al, 'Proto-Neolithic and Neolithic Cultures in the Middle East—The Birth of Agriculture, Livestock Raising, and Ceramics: A Calibrated ^{14}C Chronology 12,500-5,500 cal BC', *Radiocarbon*, 43(3) (2001), pp. 1191-1202, (pp. 1196-1197; Fig. 5). The finds under discussion date to the duration of Atlit-Yam, but the only radiocarbon date from a human burial was calibrated with current software (Sample RT-3038 8,000 ± 45 bp = 9,010-8,703 cal BP; OxCal 4.3; IntCal13; 94.6%).

[439] Nearly 20 radiocarbon dates with large deviations were published for Khirokitia (Vouni), which attest to an approximate 1,500 years of occupation of the site from the Khirokitian Period (Late Aceramic Neolithic) to the Late Neolithic (Ceramic Neolithic), roughly corresponding from the Pottery Neolithic to the Ubaid on the mainland. H. Göte Östlund and Lars Engstrand, 'Stockholm Natural Radiocarbon Measurements III: Khirokitia Series', *American Journal of Science Radiocarbon Supplement*, 2 (1960), pp. 186-196, (pp. 193-194). Richard Burleigh, Andrew Hewson and Nigel Meeks, 'British Museum Natural Radiocarbon Measurements IX: Khirokitia Series, Cyprus', *Radiocarbon*, 19(2) (1977), pp. 143-160, (pp. 146-147). Alain Le Brun, *Fouilles Recents à Khirokitia, Chypre, 1983-1986,* (Paris: Recherches sur les Civilisations, 1981), p. 17; Tab. 3.; *Fouilles Recents à Khirokitia, Chypre, 1988-1991*, (Paris: Recherches sur les Civilisations, 1994), p. 27. Peltenburg, 'Conclusions: Mylouthkia 1', in *Colonisation and Settlement of Cyprus*, ed. by Peltenburg, pp. 86-87, 99-103; Tab. 11.2-3, 6. The majority of finds under discussion are from the earlier Khirokitian Period at Khirokitia (Level G-C; Period I-II). Koutrafouri, 'Ritual in Prehistory', Vol. 1, p. 244; 'Ritual in Prehistory', Vol. 2, pp. 216-235; Tab. 70-85. The oldest (East Sector; Level F; Sq. 34/26-27; Loc. 507; Sample Ly 4307 7,930 ± 130 bp) and the youngest (Tholos XLVI (II); Floor V-VI; Sample BM-854 7,442 ± 61 bp) samples from this time range with the lowest deviations were calibrated with current software (Ly 4307 8,981-8,631 cal BP; BM-854 8,328-8,199 cal BP; OxCal 4.3; IntCal13; 68.2%).

[440] The Late Neolithic chronology of Shir corresponds with the EPN to Pre-Halaf in the Northern Levant and the PPNC to Yarmukian in the Southern Levant. Karin Bartl, 'Shir, West Syria: the Settlement and its Surroundings in the 7th Millennium cal. BCE', in *Interpreting the Late Neolithic of Upper Mesopotamia*, ed. by Olivier Nieuwenhuyse et al, (Turnhout: Brepols Publishers, 2013), pp. 417-428, (pp. 417-419; Tab. 38.1). Borrell, Junno and Barceló, 'Synchronous Environmental and Cultural Change', p. 6; Fig. 3.

[441] Published ^{14}C dates and material assemblage date the occupation of Sha'ar Hagolan and the finds under

74.	8,500-8,000	Tell el-Kerkh	EPN (Rouj 2c)	Tsuneki, 2012; Borrell et al.[442]
75.	8,400-8,000	Türbe Höyük	Proto-Hassuna-Archaic Hassuna (Hassuna I)	Campbell, 2007; Bernbeck & Nieuwenhuyse, 2013; Kodaş et al, 2018.[443]
76.	8,300-8,000	Cape Andreas-Kastros	Khirokitian (Late Aceramic Neolithic)	Le Brun, 1981b.[444]
77.	8,300-8,100	Nahal Betzet I	EPN (Wadi Rabah)	Gopher & Gophna, 1993; Orrelle & Gopher, 2000; Banning, 2007.[445]
78.	8,200-7,900	Tell Sabi Abyad	Pre-Halaf-Transitional Proto-Halaf	Akkermans, 2008; Bernbeck & Nieuwenhuyse; 2013; Plug et al, 2014.[446]

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discussion to the Yarmukian Pottery culture of the Southern Levantine Pottery Neolithic, which lasted about 500-600 years. Yosef Garfinkel, David Ben-Shlomo and Nimrod Marom, 'Sha'ar Hagolan: A Major Pottery Neolithic Settlement and Artistic Center in the Jordan Valley', *Eurasian Prehistory*, 8(1-2) (2011), pp. 97-143, (pp. 103-106; Fig. 6; Tab. 1). The oldest (Sample RTT5486 7,785 ± 50 bp) and youngest (Sample RTT5484 7,165 ± 50 bp) dates with the same deviations were calibrated (c. 8,500-7,900 cal BP) with current software (RTT5486 8,609-8,515 cal BP; 62.1%; RTT5484 8,017-7,946 cal BP; OxCal 4.3; IntCal13; 68.2%).

[442] The occupation of Tell el-Kerkh began in the EPPNB (Rouj 1a), but the cemetery dates to the Rouj 2c period (c. 8,500-8,000 cal BP) in Syria, which roughly corresponds with the Yarmukian in the Southern Levant and the Early Pottery Neolithic and Pre-Halaf in the Northern Levant. Akira Tsuneki, 'Tell el-Kerkh as a Neolithic Mega Site', *Orient*, 47 (2012), pp. 29-66, (pp. 35-36, 50; Tab. 1). Borrell, Junno and Barceló, 'Synchronous Environmental and Cultural Change', pp. 6-7; Fig. 3-5.

[443] ^{14}C dates are pending, but the excavators date the beginning occupation of the site (and the burials under discussion) to the Hassuna culture (which the authors list as 6,400-6,000 BC) based on a 'typo-chronological point of view of the funeral artefacts' and the end of the site at the Iron Age. Kodaş, Sağlamtimur and Erdal, 'Three Human Graves', p. 14. The date range given for the Hassuna culture by the authors would include the end of the Proto-Hassuna, through the Archaic Hassuna, to the Hassuna/Samarra. Also, described as 'Hassuna I-II.' Reinhard Bernbeck and Olivier Nieuwenhuyse, 'Established Paradigms, Current Disputes and Emerging Themes: the State of Research on the Late Neolithic In Upper Mesopotamia', in *Interpreting the Late Neolithic* ed. by Nieuwenhuyse et al, pp. 17-37, (pp. 22, 27; Fig. 1.3; Tab. 1.1). Stuart Campbell, 'Rethinking Halaf Chronologies', *Paléorient*, 33(1) (2007), pp. 103-136, (p. 106; Note 28).

[444] Three radiocarbon dates with high deviations were published for Cape Andreas-Kastros, which attest to an approximate 300 years of occupation for the site and the finds under discussion. Alain Le Brun, *Cap Andreas-Kastros: Une Site Néolithique Précéramique en Chipre*, Researche sure les Grandes Civilisations 5, (Paris: Association pour la Diffusion de la Pensée Française, 1981), p. 71; Tab. 36. The sample with the lowest deviation was calibrated with current software (Level V; Square R/13; Sample MC 807 7,450 ± 120 bp = 8,389-8,168 cal BP; OxCal 4.3; IntCal13; 68.2%)

[445] The stratigraphy of Wadi Rabah falls after the Yarmukian and prior to the Chalcolithic Ghassulian. No ^{14}C dates for 'normative' Wadi Rabah sites have been submitted, but the 'normative' range of sites was dated to about 500 years in the seventh millennium bp and the 'variant' sites occupy much of the seventh millennium bp. Estelle Orrelle and Avi Gopher, 'The Pottery Neolithic Period: Questions about Pottery Decoration, Symbolism, and Meaning', in *Life in Neolithic Farming Communities*, ed. by Kuijt. pp. 295-308, (p. 297). While Nahal Beṣet I may not be a 'normative' site, it shares pottery design characteristics with 'classic' Wadi Rabah sites (e.g. Munhata 2a). Edward Banning, 'Wadi Rabah and Related Assemblages in the Southern Levant: Interpreting the Radiocarbon Evidence', *Paléorient*, 33(1) (2007), pp. 77-101, (pp. 84-85; Fig. 2). A ^{14}C date from charcoal was published for Nahal Beṣet I (Sample RT-1395 7,400 ± 60 bp). Avi Gopher and Ram Gophna, 'Cultures of the Eighth and Seventh Millennia BP in the Southern Levant: A Review for the 1990s', *Journal of World Prehistory*, 7(3) (1993), pp. 297-353, (p. 305; Tab. 1). This date was calibrated (c. 8,300-8,100 cal BP) with current software (RT-1395 8,363-8,151 cal BP; OxCal 4.3; IntCal13; 84.5%). This ^{14}C date (though cited in the analysis) is at a slight variance with the material assemblage and Bayesian ^{14}C dates analyses for the duration of the Wadi Rabah cultural entity, which is thought to have followed the Lodian (Jericho IX). Banning, 'Wadi Rabah and Related Assemblages', pp. 89, 93, 97; Fig. 7; Tab. 4.

[446] Tell Sabi Abyad consists of four mounds (Tell Sabi Abyad I-IV), of which Tell Sabi Abyad I is the largest (5 ha)

79.	8,100-8,000	Hakemi Use	Transitional Proto-Halaf (Hassuna/ Samarra)	Tekin, 2013.[447]
80.	8,000-7,900	Tell Hassuna	Proto-Halaf/ Hassuna/Samarra (Hassuna II-III)	Lloyd et al, 1945; Campbell, 2007; Bernbeck & Nieuwenhuyse, 2013.[448]
81.	8,000-7,000	Köşk Höyük	PN	Bonogofsky, 2006; Özbek, 2009; Schmandt-Besserat, 2013.[449]
82.	7,900-7,300	Tell 'Azzo I	Halaf	Killick & Roaf, 1983[450]
83.	7,900-7,500	Kerküşti Höyük	Early-Middle Halaf	Sarıaltun, 2013; Bernbeck & Nieuwenhuyse, 2013.[451]

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and contains the finds under discussion from Operations I and III. Operation I contained a cemetery for the 'internment of children' whereas adults were buried in cemeteries at Operation III and likely both 'were used roughly simultaneously, yet were spatially clearly divided from each other.' Akkermans, 'Burying the Dead' in *Proceedings of the 5th International Congress,* ed. by Córdoba et al, pp. 625-626. A Bayesian analysis of ^{14}C dates from human bone obtained from graves in the cemeteries (1-7) of Operation III, which attest to approximately 500-600 years of mortuary activity. Jo-Hannah Plug, Hans van der Plicht and Peter Akkermans, 'Tell Sabi Abyad, Syria: Dating of Neolithic Cemeteries', *Radiocarbon*, 56(2) (2014), pp. 543-554, (pp. 550-552; Fig. 5; Tab. 2-3). The finds under discussion (c. 8,200-7,900 cal BP) are from Level 8 to the Burt Village Level in Operation I and Cemeteries 3-7 in Operation III, which correspond with the Pre-Halaf and Transitional Proto-Halaf cultural entities in the North Levant. Bernbeck and Nieuwenhuyse, 'Established Paradigms', in *Interpreting the Late Neolithic*, ed. by Nieuwenhuyse et al, p. 24; Fig. 1.4.

[447] Hakemi Use has five occupation levels in the Hassuna/Samarra Late Neolithic (Period III) followed by a Late Bronze Age Middle Assyrian (Period II) and an Early Iron Age Late Assyrian (Period (I), but the burials under discussion date only to the relatively short duration (50-100 years) of the Late Neolithic (Period III). Three radiocarbon dates and pottery assemblage corresponds well to the 'Proto-Halaf' phase. Halil Tekin, 'The Contribution of Hakemi Use to the Prehistory of Upper Mesopotamia' in *Interpreting the Late* Neolithic, ed. by Nieuwenhuyse et al, pp. 493-502, (pp. 493-494).

[448] Stratigraphically, the finds under discussion are from the 'Standard Hassuna' and 'Samarran' layers (Level III-V) of Tell Hassuna, which followed the 'Hassuna Archaic' layers (Level I-II). Seton Lloyd, Fuad Safar and Robert Braidwood, 'Tell Hassuna Excavations by the Iraq Government Directorate General of Antiquities in 1943 and 1944', *Journal of Near Eastern Studies*, 4(4) (1945), pp. 255-289, (p. 257; Chart 1). This approximate 100-year timeframe is described as 'Hassuna II-III.' Campbell, 'Rethinking Halaf Chronologies', p. 106; Note 28. It is also described as 'Proto-Halaf/Hassuna/Samarra.' Bernbeck and Olivier Nieuwenhuyse, 'Established Paradigms', in *Interpreting the Late Neolithic*, ed. by Nieuwenhuyse et al, pp. 22, 27; Fig. 1.3; Tab. 1.1.

[449] The finds under discussion for Koşk Höyük include not only the plastered skulls, but other finds as well (e.g. acephalous burials, undecorated skulls, and anthropomorphic figurines) that were found in Levels II-III (one find may be attributed to Level I-II). Bonogofsky suggested about a millennium of occupation for Levels II-III, which were 'relatively dated 6,000-5,000 BC.' Bonogofsky, 'Complexity in Context', in *Skull Collection, Modification, and Decoration*, ed. by Bonogofsky, p. 21. Schmandt-Besserat stated that Levels II-III were, 'the earliest Neolithic strata at the site, dated between 6000-5500 bc.' Schmandt-Besserat, 'The Plastered Skulls', in *'Ain Ghazal Excavation Reports*, ed. by Schmandt-Besserat, p. 227. Özbek stated that radiocarbon dating of Koşk Höyük provided 'a calibrated date of 5211 ± 84 B.C., placing it in the Late Neolithic.' Özbek, 'Remodeled Human Skulls in Koşk Höyük', p. 379. Due to finds of plastered skull fragments from Level I-II, and the range of estimates for Levels II-III, a millennium (c. 8,000-7,000 cal BP) of Neolithic occupation for the finds under discussion from Koşk Höyük is followed in this study.

[450] Tell 'Azzo consists of three mounds (Tell 'Azzo I-III), the largest of these (Tell 'Azzo I) demonstrated an occupation ranging from the Hassuna pottery culture to the Uruk period, but the burials under discussion were dated to 'a thicker Halaf occupation' via stratigraphy and material assemblage. Killick and Roaf (eds.), 'Excavations in Iraq', p. 206.

[451] Occupation of Kerküşti Höyük consisted of five phases (Phase I-V), the earliest of which (Phase V) is dated to the Early-Middle Halaf via stratigraphy and material culture and is the phase (Subphase Vb1-3) which contained

84.	7,900-7,600	Teluliot Batashi	EPN (Lodian)	Gopher, 1995; Gopher & Blockman, 2004; Banning, 2007.[452]
85.	7,600-7,250	Yarim Tepe II	Middle Halaf-Ubaid Transitional Period	Campbell, 2007; Pollock, 2013; Bernbeck & Nieuwenhuyse, 2013.[453]
86.	7,600-7,100	Arpachiyah	Middle Halaf-Ubaid Transitional Period	Mallowan & Rose, 1935; Hijara, 1978; Campbell & Fletcher, 2010; Bernbeck & Nieuwenhuyse, 2013.[454]
87.	7,600-7,500	Şeyh Höyük	Middle Halaf (Halaf IIA)	Şenyürek & Tunakan, 1951; Bernbeck & Nieuwenhuyse, 2013.[455]

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the burials under discussion. Savaş Sarıaltun, 'A Halaf Settlement at Kerküşti Höyük', in *Interpreting the Late Neolithic,* ed. by Nieuwenhuyse et al, pp. 503-512, (p. 505). Bernbeck and Nieuwenhuyse, 'Established Paradigms', in *Interpreting the Late Neolithic*, ed. by Nieuwenhuyse et al, p. 25; Fig. 1.5.

[452] The Lodian culture is also referred to as the EPN, Pottery Neolithic A (PNA), or the Jericho IX culture. However, the distinction of the Lodian (PNA, Jericho IX) in the transitional period from the Yarmukian to the Wadi Rabah cultures is complex. Avi Gopher, 'Early Pottery-Bearing Groups in Israel: The Pottery Neolithic Period', in *The Archaeology of Society in the Holy Land*, ed. by Thomas Levy, (London: Leicester University Press, 1995), pp. 205-225, (pp. xv, 208-221; Fig. 1-2, 6; Pl. 3). 'Radiocarbon dating indicates that the Yarmukian and the Lodian cultures were not contemporaneous. The Yarmukian culture falls within the second half of the sixth millennium BCE, while the Lodian culture, despite the small number of radiocarbon dates, can be placed at the very end of the sixth and in the first third of the fifth millennia.' Avi Gopher and Noga Blockman, 'והתרבות בלוד ירק נווה באתר החפירות הקיראמית הניאוליתית התקופה של הלודית (Excavations at Lod (Nevé Yaraq) and the Lodian Culture of the Pottery Neolithic Period)', *'Atiqot,* 47 (2004), pp.1-50, (pp. 46-47; Fig. 25; Tab. 29). However, material assemblage and Bayesian ^{14}C dates analyses date the Lodian with some overlap from the prior Yarmukian and following Wadi Rabah cultural entities. No radiocarbon dates for Teluliot Batashi have been published, two but contemporaneous sites which share Lodian/Jericho IX material culture yielded two ^{14}C dates, one of which is without a lab code and has a large deviation (Hagoshrim Level 5 Sample 6,725 ± 120 bp; Dhra' Sample ISGS-4002 6,980 ± 70 bp). Banning, 'Wadi Rabah and Related Assemblages', pp. 87-88, 92-93; Tab. 3, 4. The two dates were calibrated with current software (Hagoshrim 7,679-7,483 cal BP; 68.2%; ISGS-4002 7,942-7,680 cal BP; OxCal 4.3; IntCal13; 95.4%) and combined with estimates of the Lodian to estimate the period for the finds under discussion from Teluliot Batashi.

[453] Occupation of the site seems to have originated in the Hassuna period (Yarim Tepe I) and ended in the Ubaid (Yarim Tepe III), but the levels in which the burials under discussion were discovered date to the Halaf (Yarim Tepe II). Susan Pollock, 'Defining a Halaf Tradition: The Construction and Use of Space', in *Interpreting the Late Neolithic*, ed. by Nieuwenhuyse et al, pp. 170-181, (p.173; Tab. 14.2). For challenges in dating the site see Campbell, 'Rethinking Halaf Chronologies', pp. 120-122; Fig. 8-9; Tab. 5. Bernbeck and Nieuwenhuyse, 'Established Paradigms', in *Interpreting the Late Neolithic*, ed. by Nieuwenhuyse et al, p. 22; Fig. 1.3.

[454] The finds under discussion at Arpachiyah date from the Middle Halaf to the Halaf-Ubaid Transitional Period. The skull burials (G1-2) found (Hijara Level VI-VII; Mallowan TT8) in Hijara's excavations date to the Middle Halaf (Halaf IIA) and the finds from the layers (Mallowan TT1-5) in the burial area of Mallowan's excavations date to the Halaf-Ubaid Transitional Period. Ismail Hijara, 'Three New Graves at Arpachiyah', *World Archaeology*, 10(2) (1978), pp. 125-128, (p. 125). Max E.L. Mallowan and John Cruikshank Rose, 'Excavations at Tall Arpachiyah, 1933', *Iraq*, 2(1) (1935), pp. 1-178, (pp. 21, 35). Bernbeck and Nieuwenhuyse, 'Established Paradigms', in *Interpreting the Late Neolithic*, ed. by Nieuwenhuyse et al, p. 22; Fig. 1.3. Stuart Campbell and Alexandra Fletcher, 'Questioning the Halaf-Ubaid Transition', in *Beyond the Ubaid*, ed. by Carter and Philip, p. 77; Fig. 5.5.

[455] The finds under discussion were found (Layer 10-12) in a deep rubbish pit apparently dug by individuals from Layer 9 at Şeyh Höyük, which according to information related by excavators corresponds 'to layers 8-9 of Tall Arpachiyah' and was 'contemporary with the Halaf culture of northern Mesopotamia and Syria.' Şenyürek and Tunakan, 'Skeletons from Şeyh Höyük', p. 439. Layers TT9-8 at Arpachiyah date (c. 7,600-7,500 cal BP) to the Middle Halaf (Halaf IIA). Bernbeck and Nieuwenhuyse, 'Established Paradigms', in *Interpreting the Late Neolithic,* ed. by Nieuwenhuyse et al, p. 22; Fig. 1.3.

88.	7,600-7,500	Domuztepe	Middle-Late Halaf (Halaf IIA)	Campbell, 2007; Bernbeck & Nieuwenhuyse, 2013.[456]
89.	7,500-6,300	Eilat	Late Neolithic-Early Chalcolithic	Avner, 2018; Eshed & Avner, 2018.[457]
90.	7,500-7,000	Choga Mish	Early Susiana-Late Middle Susiana	Alizadeh, 2003, 2008.[458]
91.	7,500-7,200	Neve-Yam	PN (Wadi Rabah)	Ehud et al, 2009.[459]
92.	7,100-5,800	Jebel al-Buhais 18 (BHS 18)	Late Neolithic-Chalcolithic	de Beauclair et al, 2006; Kutterer, 2010.[460]
93.	6,600-6,400	Ur	Transitional-Terminal Ubaid	Woolley, 1955; Oates, 1960, 2010; Carter & Philip, 2010.[461]

[456] Over ten radiocarbon dates place the finds under discussion from Operation I and the 'Death Pit' to a span of approximately 100 years (c. 7,600-7,500 cal BP). Campbell, 'Rethinking Halaf Chronologies', pp. 115-117; Fig. 5; Tab. 2. The issue of proper terminology for the 100 years under discussion is complex and may be designated as the Middle-Late Halaf, Halaf IIA, or Developed Halaf B. Bernbeck and Nieuwenhuyse, 'Established Paradigms', in *Interpreting the Late Neolithic,* ed. by Nieuwenhuyse et al, pp 21-23, 26; Fig. 1.3, 1.6; Note 9.

[457] ^{14}C dates from charcoal indicate an approximate 1,250 year usage of the site. Eshed and Avner, 'Late Neolithic–Early Chalcolithic Burial Site', pp. 11-12; Note 4. Uzi Avner, 'Protohistoric Developments of Religion and Cult in the Negev Desert', *Tel Aviv*, 45(1) (2018), pp. 23-62, (pp. 26-27; Tab. 1). The oldest (Level IV/16 Sample RT 989 6,470 ±80 bp) and youngest (Level V/19 Sample RT 1213 5,490 ± 60 bp) dates with deviations most suited for calibration were calibrated via current software (RT 989 7,514-7,253; 93.5%; RT 1213 6,409-6,182 cal BP; OxCal 4.3; IntCal13; 95.4%).

[458] The finds under discussion are from the Early Susiana-Late Middle Susiana Period at Choga Mish, which roughly corresponds with Ubaid 1-2. Abbas Alizadeh, *Chogha Mish: The Development of a Prehistoric Regional Center in Lowland Susiana, Southwestern Iran. Final Report on the Last Six Seasons of Excavations, 1972-1978*, Vol. 2, Oriental Institute Publications 130, (Chicago: Oriental Institute, 2008), p. 31; Tab. 1. ^{14}C dates from charcoal with close dates and equal deviations were published for the Early Susiana (P22:629; Sample Beta-106169 6,660 ± 50 bp) and Middle Susiana (S18:902; Sample Beta-106168 6,610 ± 50 bp) at Choga Mish. Abbas Alizadeh, 'Radiocarbon Dating of the Susiana Sequence from Chogha Mish', in *Excavations at the Prehistoric Mound of Chogha Bonut, Khuzestan, Iran: Seasons 1976/77, 1977/78, and 1996*, Oriental Institute Publications 120, (Chicago: Oriental Institute, 2003) pp. 149-150; Tab. 16; Appendix 1. The two dates were calibrated with current software (Beta-106169 7,609-7,440 cal BP; Beta-106168 7,572-7,432 cal BP; OxCal 4.3; IntCal13; 95.4%).

[459] Three radiocarbon dates were obtained for Neve-Yam and while one has a large deviation (± 395), the other two have the same deviation suitable enough for calibration (Sample RT1723 6,390 ± 70 bp; RT1724 6,535 ± 70 bp). Ehud et al, 'Evidence for a Separate Burial Ground', p. 35; Tab. 1. The ^{14}C dates were calibrated with current software (RT1723 7,430-7,174 cal BP; RT1724 7,570-7,316 cal BP; OxCal 4.3; IntCal13; 95.4%) and combined with estimates of the Wadi Rabah culture to estimate a period for the finds under discussion at Neve-Yam.

[460] Radiocarbon dates and material assemblage indicate an approximate 1,200 years of activity and the finds under discussion at Jebel al-Buhais 18. de Beauclair, Jasim and Uerpmann 'New Results on the Neolithic Jewellery', p. 175. Adelina Kutterer, 'Remarks on Neolithic Burial Customs in South-East Arabia', in *Death and Burial in Arabia and Beyond: Multidisciplinary Perspectives*, ed. by Lloyd Weeks, Society for Arabian Studies Monographs 10, BAR International Series 2107, (Oxford: Archaeopress, 2010), pp. 1-10 (p.2; Fig. 2). A ^{14}C date from human bone (Sample GrA-26140 5,824 ± bp) was calibrated with current software (GrA-26140 6,676-6,562; OxCal 4.3; IntCal13; 68.2%).

[461] The dating of the Ubaid in Mesopotamia is complex, partially due to regional variances. Joan Oates, 'More Thoughts on the Ubaid Period', in *Beyond the Ubaid*, ed. by Carter and Philip, pp. 45-49. Wooley excavated al-Ubaid and based on pottery and material assemblage, assigned most of the graves at the Ur cemetery to what was the latter stages of the Ubaid at the time (Ubaid II-III). Sir Leonard Woolley, *Ur Excavations*, *Vol. IV: The Early Periods*, (London: The British Museum & Philadelphia: The University Museum, 1955), pp. 19-21. Oates employed understanding of stratigraphical sequencing from Eridu to aid in formulating a chronological scheme for the Ubaid period (Ubaid I-IV) and was 'virtually certain' that the Ubaid III graves at Ur dated to the Early Uruk period based on changes in pottery and mortuary practice. Joan Oates, 'Ur and Eridu, the Prehistory', *Iraq*, 22 (1960), pp. 32-50, (p. 41). Both Wooley's Ubaid II-III date and Oates' Early Uruk date were formulated prior to the extension of the

94.	6,500-6,400	Değirmentepe	Transitional Ubaid	Brereton, 2011.[462]
95.	6,400-6,200	Peqi'in Cave	Chalcolithic (Ghassulian)	Segal et al, 1998.[463]
96.	6,200-5,800	Susa	Chalcolithic (Susa Period)	Hole, 1983.[464]
97.	6,100-4,000	Byblos	Chalcolithic-EB IV	Dunand, 1950; Albright, 1966; Nigro, 2007; Artin, 2010.[465]
98.	5,500-4,200	Bab edh-Dhra'	EB I-IV (IBA)	Chesson 1999; Regev et al, 2012 .[466]

Ubaid sequence to include an earlier Ubaid 0 and a later Ubaid 5 (Ubaid Transitional-Terminal) period. Robert Carter and Graham Philip, 'Deconstructing the Ubaid', in *Beyond the Ubaid,* ed. by Carter and Philip, pp. 1-22. Thus, the finds under discussion from Ur likely date to the end of the Ubaid, but prior to the Uruk period, otherwise known as the Transitional-Terminal Ubaid (c. 6,600-6,000 cal BP).

[462] Excavations at Değirmentepe uncovered 11 Chalcolithic layers, four of which (Layer 9-6) are related to the Ubaid and the layer in which the finds under discussion were found (Layer 7), is dated to Ubaid 4 or the Ubaid Transitional Period. Gareth David Brereton, 'The Social Life of Human Remains: Burial Rites and the Accumulation of Capital During the Transition from Neolithic to Urban Societies in the Near East', Vol. 1, (unpublished doctorial dissertation, University College London, 2011), pp. 246-253, 411, 423-424, 491-495; Fig. 6.9; Tab. 6.5-9, 11.5.

[463] 22 radiocarbon dates from charcoal attest to about a millennium of human activity at Peqi'in Cave, but the finds under discussion date to the second phase of use as a burial area following its likely beginning as a seasonal dwelling place. Following six transitional ^{14}C dates, three were assigned to the Late Chalcolithic Ghassulian burial phase by excavators (Sample; RT-2376 5,510 ± 45 bp; RT-2377 5,490 ± 55 bp; RT-2387 5,410 ± 50 bp). Dror Segal et al, 'Dating a Chalcolithic Burial Cave in Peqi'in, Upper Galilee, Israel', *Radiocarbon*, 40(2) (1998), pp. 707-712, (p. 711; Tab. 2). The samples were calibrated via current software (RT-2376 6,403-6,269 cal BP; 87.5%; RT-2377 6,400-6,195 cal BP; 95.4%; RT-2387 6,301-6,172; OxCal 4.3; IntCal13; 75.9%).

[464] The exact chronology of the cemetery is uncertain as to whether it belongs to the latter part of the Susa period (Susa I/A corresponding to Late/Terminal Ubaid period), but it certainly dates to the Susa Period. Frank Hole, 'Symbols of Religion and Social Organization at Susa', in *The Hilly Flanks and Beyond: Essays on the Prehistory of Southwest Asia, Presented to Robert J. Braidwood, November 15, 1982*, Studies in Ancient Oriental Civilization 36, (Chicago: University of Chicago, 1983), pp. 315-329, (p. 317).

[465] Via material assemblage, Dunand dated the burials under discussion from Byblos to the *Énéolithique Ancien* (IIA), *Énéolithique Récent* (IIB), and an approximate 200-year transitional *Proto-Urbain* (III) phase. Maurice Dunand, 'Chronologie des Plus Anciennes Installations de Byblos', *Revue Biblique*, 57(4) (1950), pp. 583-603; *Fouilles de Byblos: l'Architecture, les Tombes, le Matériel Domestique: Des Origines Néolitiques à l'Avènement Urbain*, Tome V, Ouvrage Honoré d'une Subvention du Centre National de la Recherche Scientifique, (Paris: Adrien Maisonneuve, 1973). *Énéolithique Ancien* (Layer 39-38) and *Énéolithique Récent* (Layer 38-32) correspond (c. 6,100-5,000 cal BP) with what is now termed, 'the Chalcolithic.' Gassia Artin, 'The Necropolis and Dwellings of Byblos during the Chalcolithic Period New Interpretations', *Near Eastern Archaeology*, 73(2/3) (2010), pp. 74-84, (p. 75). The *Énéolithique Récent* and *Proto-Urbain* also correspond with the EB I-II. Lorenzo Nigro, 'Byblos and Jericho in the Early Bronze I: Social Dynamics and Cultural Interactions, Proceedings of the International Workshop Held in Rome on March 6th 2007', in *Byblos and Jericho in the Early Bronze I: Social Dynamics and Cultural Interactions; Proceedings of the International Workshop held at Rome on March 6th 2007 by Rome 'La Sapienza' University*, ed. by Lorenzo Nigro, Studies on the Archaeology of Palestine & Transjordan 4, (Rome: La Sapienza Expedition to Palestine & Jordan, 2007), pp. 1-45, (pp. 3, 21; Tab .1). Many of the anthropomorphic figurines were found in the EB IV. W. F. Albright, 'Remarks on the Chronology of Early Bronze IV-Middle Bronze IIA in Phoenicia and Syria-Palestine', *Bulletin of the American Schools of Oriental Research*, 184 (1966), pp. 26-35, (pp. 26-27).

[466] Though material assemblage dates the early shaft tombs at Bab edh-Drha' to the EB IA, ^{14}C dates for this period were considered unreliable. ^{14}C dates were established for the transition from EB IB to EB II, in which charnel houses were constructed. Material assemblage also indicates an EB III and EB IV/Intermediate Bronze Age (IBA) occupation, in which some skulls were 'removed in articulated burials.' Chesson, 'Libraries of the Dead', p. 145; Tab. 1). Thus, the finds under discussion date to EB I-IBA (c. 5,500-4,200 cal BP). Johanna Regev et al, 'Chronology of the Early Bronze Age in the Southern Levant: New Analysis for a High Chronology', *Radiocarbon*,

99.	4,800-4,200	Umm el-Marra	EB III-IVA	Schwartz et al, 2006; Regev et al, al, 2012.[467]
100.	4,400-4,100	Titriş Höyük	Late Early Bronze Age (EB IV/IBA)	Erdal, 2012; Regev et al, 2012.[468]

54(3-4) (2012), pp 525-566 (Tab. 1).

[467] The tombs under discussion at Umm el-Marra date to the Early Bronze Age in Syria (EB III-EB IV) and the tomb with the secondary burial (Tomb 4) likely dates middle to late part of the period (EB IVA). Schwartz et al, 'Third-Millennium B.C. Elite Mortuary Complex', pp. 623, 628. The EB III-IV in the Syrian North Levant corresponds with the EB III-IV/IBA in the Southern Levant. Regev et al, 'Chronology of the Early Bronze Age', p. 528.

[468] ^{14}C dating demonstrated that Titriş Höyük was occupied from the beginning of the Early Bronze Age, but the intramural tombs and the plaster basin mortuary installation date to the final occupation of Titriş Höyük in Late Early Bronze Age in South Eastern Anatolia (c. 4,400-4,100 cal BP), which corresponds to the EB IV in Syria and the EB IV/IBA in the Southern Levant (c. 4,400-4,000 cal BP). Erdal, 'A Possible Massacre', p. 2. Regev et al, 'Chronology of the Early Bronze Age', pp. 528, 557; Fig. 11.

Appendix 3

Epipaleolithic: South Levant

Ohalo II

Early Epipaleolithic **c. 23,500-22,500 (and/or 19,500) cal BP** **MNI: 1**

A skeleton was found at Early Epipaleolithic Ohalo II, which was a brush hut fish camp and is now an often submerged site offshore the Sea of Galilee.[469] The head rested upon three stones and a bone fragment with numerous incised lines was found near the skull, which may have been a part of a headdress.[470] The shape and line pattern of the bone object closely matches that of a wooden object found in one of the huts.[471] In the same hut, a small wooden object was found, which could be a schematic representation a human head in profile.[472]

Kharaneh IV

Early-Middle Epipaleolithic **c. 19,200-18,800 cal BP** **MNI: 1**

At the Early-Middle Epipaleolithic site of Kharaneh IV in the Azraq Basin, a skeleton was buried under the floor of a burnt hut with a large stone and horn core near the skull.[473] This hut also contained another burial and three caches of pierced shells with red ochre prior to the burning (possibly intentional) and burial of the structure.[474]

'Uyun al-Hammam

Middle Epipaleolithic **c. 17,200-16,300 cal BP** **MNI: 2**

The Middle Epipaleolithic site of 'Uyun al-Hammam is a pre-Natufian burial ground dating to the Geometric Kebaran lithic industry and the oldest known cemetery in the Southern Levant (Wadi Ziqlab 148). Grave I contained two burials (A, B) which both lacked skulls, but erosion likely caused the missing skull and upper body for Burial A. However, the missing skull in Burial B was moved postmortem, perhaps during the digging of Burial A. Burial B contained a plethora of grave goods including a fox skull, worked bone dagger, and stone tools upon a layer of red ochre. Nearby Grave VIII contained at least two individuals and contained a fragmented human skull covered by a smooth wadi rock, stone spoon, and an articulated fox skeleton missing its skull. Excavators at 'Uyun al-Hammam demonstrated that the fox skull from Burial B in Grave I likely belonged to the fox skeleton *sans* skull in Grave VIII and suggest that the cranium and cervical vertebrae found in Grave VIII may be from the missing skull in Burial B in Grave I.[475] Also, Grave II contained a secondary burial of a

[469] Nadel et al, 'Wooden Objects from Ohalo II', p. 644.
[470] The skeleton (H2) was found (Loc. 5; Sq. AD87-88) with an incised bone fragment. Nadel, 'Levantine Upper Palaeolithic - Early Epipalaeolithic Burial Customs', pp. 115-117; Fig. 2; Pl. I, II2-3. Dani Nadel et al, 'Wooden Objects from Ohalo II', p. 660.
[471] The 'pencil-shaped piece of wood' (Object III) was found (Hut 15; Sq. N79) in the middle of a hut floor. Ibid., pp. 645, 653-655; Fig. 1, 14-18.
[472] The small oval shaped piece of wood (Object IV) was found (Hut 15; Sq. N79) in the middle of a hut floor. Ibid., pp. 645, 657-658; Fig. 1, 22-23.
[473] Maher et al, 'Twenty Thousand-Year-Old Huts', p. 3.The burials were found (Structure 1; Area R/S2/60; Layer V) under the floor of a hut, but the exact stratigraphic relationship between the skeletal remains and the hut is unclear. Muheisen, 'La Préhistoire en Jordanie'.
[474] Maher et al, 'Twenty Thousand-Year-Old Huts', pp 3-6; Fig. 3, 5B.
[475] The two acephalous skeletons (Burial A-B) were found (Grave I; Area H16) in the same grave, but erosion is likely the cause for the lack of a skull for one individual (Burial A). The adjacent grave (Grave VIII) was discovered 10 cm from Grave

cranium sitting upon long bones and led excavators to suggest that, '…skull removal and reburial at 'Uyun al-Hammam demonstrates that this burial practice originated prior to the Natufian.'[476]

Neve David

Middle-Late Epipaleolithic **c. 16,000-15,000 cal BP** **MNI: 1**

A pierced stone mortar was found covering the skull of an articulated skeleton like a type of helmet at Neve David near Mt. Carmel.[477]

el-Wad Cave & Terrace

Natufian **c. 15,000-11,500 cal BP** **MNI:15-16?**

^{14}C dates of occupation at el-Wad near Mt. Carmel encompass the entire Natufian sequence.[478] Burials dating to both the Early and Late Natufian were found both in front of and within the mouth of cave. Five Late Natufian individuals were buried with *Dentalium* shell adornments, some of which were found still attached to the skull by a calcareous layer.[479] An 'isolated skull' was found touching the skull of an articulated skeleton (Homo 25), both of which were located lying upon the pelvis of another skeleton (Homo 26).[480] Mugharet el-Wad skulls could be buried separately with grave goods. Some of those grave goods included a calcite carving of a human head and a twin bone pendant adhered to a skull.[481] A majority of burials at Mugharet el-Wad were packed with sizable limestone perhaps to, 'prevent the ghost from walking.'[482] More Late Natufian burials were later uncovered and notably included the skeletal remains of children and adults, many of which lacked skulls.[483]

Erq el-Ahmar

Early Natufian **c. 15,000-13,500 cal BP** **MNI: 6**

Six crania were found with lumps of ochre under a slab in a burial pit at a rock shelter at Erq el-Ahmar near the Dead Sea.[484] Cranial fragments were also uncovered.[485] Unfortunately, documentation of this site is inadequate.[486] It was stated that a horse molar was located next to each crania, but the horse was not yet present in Southwest Asia during

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I . Maher, 'Excavations at the Geometric Kebaran Site of 'Uyūn al-Ḥammām', pp. 268-269. Maher et al, 'Unique Human-Fox Burial', pp. 4-5, 7; Fig. 3.

[476] The secondary burial (Grave II) was found (Area G16) in Geometric Kebaran sediment. Maher, 'Excavations at the Geometric Kebaran Site of 'Uyūn al-Ḥammām', p. 269.

[477] Two burials (ND1-2) were discovered at Neve David. ND1 contained the mortar '*comme une sorte de casque en pierre*' and ND2 was acephalous, but highly incomplete and the skull loss was likely due to erosion. Ronen and Kaufman, 'La Sépulture Kébarienne Géométrique', p. 337.

[478] Weinstein-Evron et al, 'After 70 Years', p. 42. Weinstein-Evron et al, 'New ^{14}C Dates for the Early Natufian', pp. 1-10.

[479] Garrod, 'Notes on Some Decorated Skeletons', pp. 123-127. PERSONAL ADORNMENT IN THE EPI-PALEOLITHIC OF THE LEVANT CHERRA WYLLIE,1 FRANK HOLE2

[480] Garrod , 'Notes on Some Decorated Skeletons', pp. 123-124.

[481] Boyd and Monahan, 'Death, Ritual, and Natufian Social Structure', p. 270; Tab. 4. Orrelle, *Material Images of Humans*, p. 172; Fig. 20:3.

[482] Dorothy Garrod, 'The Stone Age of Palestine', *Antiquity*, 8(30) (1934), pp. 133-155, (p. 138).

[483] H106 (Sq. M/N 7; Grave 8), H107 (Sq. M/N 7; Grave 6), H108-H109 (Sq. L/M 7; Grave 5), H110 (Sq. L 8; Grave 7), H115 (Sq. K/L 6; Grave 4), H122 (Sq. L/M 6; Grave 10), H125 (Sq. M/N 5-6; Grave 11), and H127 (Sq. M 8; Grave 9) are described as missing their skulls or crania, whereas H121 (Sq. L 6; Grave 10) was only represented by a mandible. Weinstein-Evron et al, 'After 70 Years', pp. 88-90.

[484] Neuville, *Le Paléolithique et le Mésolithique*, pp. 86-120.

[485] Ibid., pp. 109-110.

[486] For more on documentation issues at Erq el-Ahmar see Bouquetin, 'Pratiques Funéraires', pp.160-167.

the Natufian.[487]

Hof Shahaf

Early Natufian **c. 15,000-13,500 cal BP** **MNI: 1**

A burial was uncovered without a cranium (Fig. 99) at Hof Shahaf near Lake Kinneret, but the mandible was found *in situ*, which suggests that it, 'was deliberately removed.'[488] The burial included a *Dentalium* shell that may have originated from Southeastern Anatolia.[489]

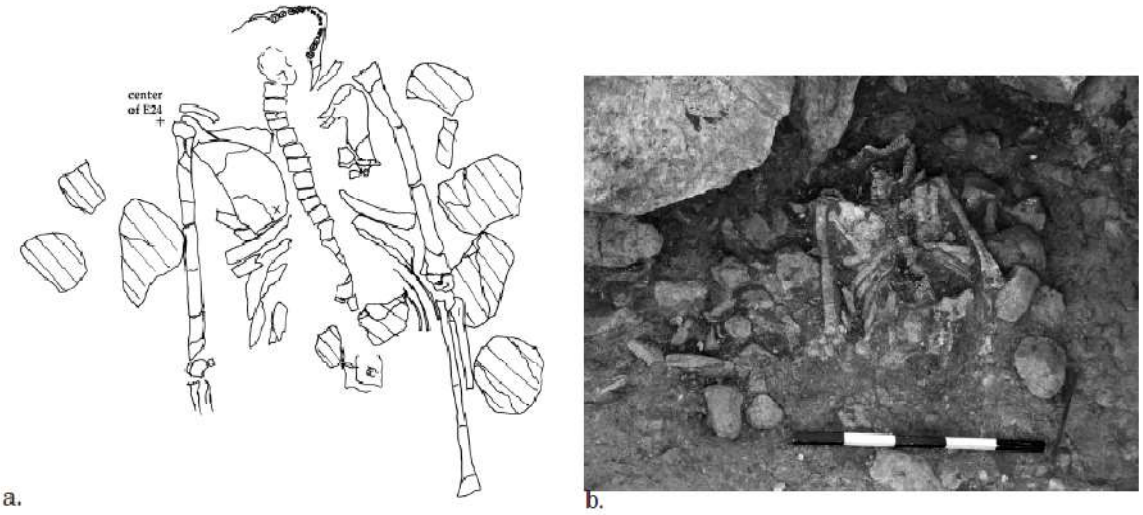


Fig. 99. (a) Plan and (b) photo of an acephalous burial from Hof Shahaf. Marder et al (2099), p. 513; Fig. 13.

Kebara Cave

Early Natufian **c. 15,000-14,200 cal BP** **MNI: 23**

Evidence for human usage of Kebara Cave near Mt. Carmel dates to at least the Mousterian.[490] The upper half of a possible Neanderthal skeleton was found within a burial pit and missing a cranium, but the reason for its lack is uncertain (Fig. 99).[491] It is uncertain if cremation existed in the Natufian, but the differences between individuals with 'heavily

[487] Benz, 'Little Poor Babies', p. 173; Note 14.
[488] The acephalous skeleton from Hof Shahaf was found (West Area; Layer II; Locus L27) near a curved structure (Structure 106). Ofer Marder et al, 'Hof Shahaf: A New Natufian Site on the Shore of Lake Kinneret' in *Natufian Foragers in the Levant*, ed. by Bar-Yosef and Valla, pp. 505-526, (pp. 511-513; Fig. 8c-13).
[489] Marder et al, 'Hof Shahaf: A New Natufian Site', pp. 513, 520-521; Fig. 13.
[490] Paul Goldberg and Ofer Bar-Yosef, 'Site Formation Processes in Kebara and Hayonim Caves and their Significance in Levantine Prehistoric Caves', in *Neandertals and Modern Humans in Western Asia*, ed. by Takeru Akazawa, Kenichi Aoki and Ofer Bar-Yosef, (New York: Kluwer Academic Publishers, 2002), pp. 107-126, (pp. 109-110).
[491] The identification of the skeleton (Kebara 2, KMH2, 'Moshe') as *Homo neanderthalensis* or *Homo sapien* is debated. Ofer Bar-Yosef and Bernard Vandermeersch, *Le Squelette Moustérien de Kébara 2*, (Paris: Editions du Centre National de la Recherche Scientifique, 1991). cf. Baruch Arensburg and Anna Belfer-Cohen, 'Sapiens and Neandertals: Rethinking the Levantine Middle Paleolithic Hominids', in *Neandertals and Modern Humans,* ed. by Akazawa, Aoki and Bar-Yosef, pp. 311-322. The reason(s) for the missing cranium is debated, but it may have been removed by human intervention. Bar-Yosef et al stated that the process of the burial included '*enlèvement du crane avec précaution, après cette period de décharnement*.' Ofer Bar-Yosef et al, 'La Sépulture Néandertalienne de Kébara (Unité XII)', in *L'Homme de Néandertal: Actes du Colloque International de Liège, 4-7 Décembre 1986*', Vol. 5, ed. by Marcel Otte, Études et Recherches Archéologiques de l'Université de Liège 28-35, (Liège: Université de Liège, 1988), pp. 17-24, (p. 20).Tillier et al claimed that the Kebara 2 grave is the first direct proof of subsequent human intervention on a burial, but that intentionality and a fortiori ritual action cannot be discussed. Anne-Marie Tillier et al, 'Les Sépultures Néanderthaliennes du Proche-Orient: État de la Question', *Paléorient*, 14(2) (1988), pp. 130-136, (p. 132). Even if the cranium of Kebara 2 was purposefully removed, it would not necessarily indicate a direct connection from the Mousterian to the earliest forms of postmortem skull removal in the Epipaleolithic and Moshe is only mentioned 'tongue and cheek' by Goring-Morris and Belfer-Cohen, 'Different Strokes for Different Folks', p. 46; Note 4.

blackened' and cranial remains those without at Kebara Cave may demonstrate an organized use of fire with the deceased.[492]

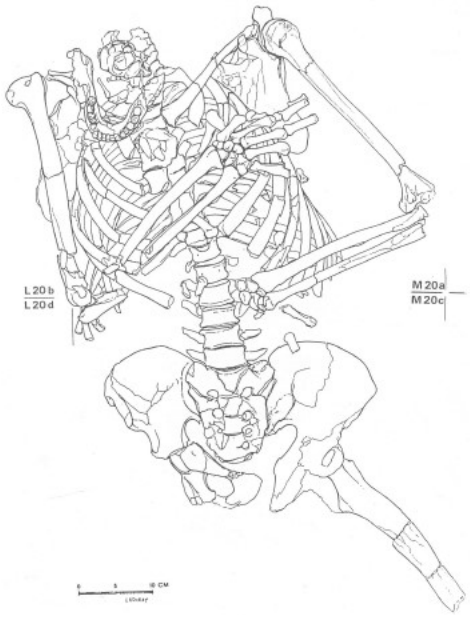


Fig. 99. Drawing of KMH2 'Moshe' skeleton from Kebara Cave. Bar-Yosef (1988), p. ??; Fig. 99.

Shubayqa 1

Early Natufian c. 14,600-14,200 cal BP MNI: 2

Two individuals from the Early Natufian phase at Shubayqa 1 in the Black Desert were found with red ochre and striations on cranial bones.[493]

Wadi Hammeh 27

Early Natufian c. 14,450-14,100 cal BP MNI: 3

Wadi Hammeh 27 is an open-air Early Natufian site in the Jordan Valley. Homo 3 was interred wearing a *Dentalium* necklace and some of the long bones contained red ochre.[494] The cranium of Homo 2 appears almost 'heart-shaped,' somewhat brachycephalic, and its white color may indicate multiple interments or other postmortem treatments.[495] Homo 2-6 were represented primarily by cranial and dental remains in a collective secondary burial. Placement of cranial fragments in Structures 1 and 2 occurred at Wadi Hammeh 27.[496] Most of these fragments appear burned and some appear 'thoroughly burnt.'[497] The excavators suggest that the, '…odds favour some kind of deliberate treatment of the skulls.'[498] Excavators claim that while it is possible that these cranial fragments were burned as a result of cremation, one should exercise caution and can only say with certainty that, '… they appear to represent an unusual mortuary treatment of the skull.'[499]

Hayonim Cave & Terrace

Natufian c. 14,400-13,900 cal BP (cave) 13,800-11,000 cal BP (terrace) MNI: 22

The graveyard at Hayonim Cave in western Galilee was occupied from the Early to Late Natufian period. Comprised of 16 graves with 48 burials, this Natufian graveyard

[492] The bones were heated to approximately 200-600° C and all mandibulae, as well as inferior parts of the crania were 'heavily blackened or calcined, while in six cases the frontal and the superior aspects of the crania were not heavily burned.' This may demonstrate 'that the skeletal parts were not randomly tossed into the fire but that some systematic procedure was involved.' Bar-Yosef and Sillen, 'Implications of New Accelerator Date', p. (207).
[493] Four individuals at Shubayqa 1 contained pigmentation and two of which (Phase 5; Context 169, 175), were Early Natufian and pigment was observed only on cranial bones. Richter et al, 'Ochre, Ground Stone, and Wrapping the Dead', pp. 444-449; Fig. 2, 6j, 9.
[494] Webb and Edwards, 'Natufian Human Skeletal Remains', pp. 109, 116, 119.
[495] Ibid., p. 113.
[496] Structure 2 may be a ritual building, due to a large decorated slab. A. Nigel Goring-Morris and Anna Belfer-Cohen, 'Symbolic Behaviour from the Epipalaeolithic and Early Neolithic of the Near East: Preliminary Observations on Continuity and Change', in *Magic Practices and Ritual in the Near Eastern Neolithic: Proceedings of a Workshop Held at the 2nd International Congress on the Archaeology of the Ancient Near East (ICAANE), Copenhagen University, May 2000*, ed. by Hans Georg K. Gebel, Bo Dahl Hermansen and Charlotte Hoffmann Jensen, Studies in Early Near Eastern Production, Subsistence, and Environment 8, (Berlin: ex oriente, 2002, pp.67-79, (p.71; Note 5).
[497] Webb and Edwards, 'Natufian Human Skeletal Remains', p. 117.
[498] Ibid., p. 118.
[499] Ibid., p. 119.

demonstrates an array of mortuary practices, such as pillowing.[500] The graveyard contained primary and secondary burials. Some graves were marked by stone circles, paved with small stones, or covered with stone slabs.[501] Grave XIII is likely the oldest burial and is the only single internment from the Early Natufian occupation, the rest date to the Late Natufian.[502] The badly damaged Grave II yielded a fragmented cranium (H.3). A fragmented child skull (H.14) was found in the fill of Grave VIII and was likely a secondary burial.[503]

Primary graves from the Early Natufian retained their skulls, but crania for many Late Natufian skeletons were missing.[504] Early Natufian burials at Hayonim Cave were often decorated with *Dentalium* shells, fox teeth, and ochre. The Late Natufian burials often went unadorned. Other artifacts uncovered included a boar tusk, bone spatula, stone pipe fragments, and two stone plaquettes which were suggested to have covered the eyes of the dead.[505] A double burial at Late Natufian Hayonim Terrace contained stones placed on the skulls, two tortoise shells, and the skeletal remains of two dogs and, 'it cannot be by chance' that the skull of one of the dogs was found near the skull of one the interred (H.8) and a foot rested upon the skull of the other (H.10).[506] A cup-marked stone was found by the skull of Homo 8 and many mandibulae were found.[507]

Azraq 18

Early-Late Natufian c. **14,000-13,000 cal BP** **MNI: 2**

Excavators uncovered several fragmented human skeletons of at least three adults and four children (A-H) dating to the middle of the Early Natufian to the beginnings of the Late Natufian occupation of Azraq 18 in the Azraq Basin.[508] Cranial pigmentation was found on refitted bone fragments (# 170-174) and likely attributed to individual A, 'This robust male had ochre pigment on his skull, demonstrating that it was defleshed at the time of burial.'[509] Ochre pigment was later found on another fragment (# 108) discovered displaced between the lower limbs of individual B, but its identity is uncertain.[510] Skull removal and reburial at Azraq 18 is, 'highly probable.'[511] Further study of Cranium # 108 revealed a calcareous crust between the layers of ochre, which may indicate a 'reburial between applications of pigments' and the stain pattern on the cranial fragment of another individual 'might indicate that a

[500] The 'graveyard' contained burials from the Early and Late Natufian, but the heads that 'were placed on piles of stones' (H.1, H.4) were found (Sq. E-H/22-26) in graves (Grave I, III) assigned to the Early Natufian. Belfer-Cohen, 'Natufian Graveyard in Hayonim', pp. 298-300; Fig. 1; Tab. 1.

[501] Two graves (Grave V, IX) were constructed entirely of limestone slabs. Others were covered with stone slabs, paved with small stones or marked with stone circles (Grave I, III, IV). Ibid., p. 297.

[502] Ibid., p. 298.

[503] A crushed child skull (H.14) was found (Stratum B; Phase 2; Sq. G/21; Grave VIII) among undressed stones and slabs at Hayonim Cave, evidently as a secondary burial. Bar-Yosef and Goren, 'Natufian Remains in Hayonim Cave', pp. 51-53, 55; Fig. 2-3. Belfer-Cohen, 'Natufian Graveyard in Hayonim', p. 299; Tab. 1.

[504] Early Natufian primary burials (Grave I, III, VI-VIII, IX) at Hayonim retained the skulls, but Late Natufian primary burials (Graves X-XI, XV) did not, with two exceptions (H.34, Grave XII; H.39, Grave XVI). Belfer-Cohen, 'Natufian Graveyard in Hayonim', p. 300.

[505] Ibid., pp. 304-306.

[506] Tchernov and Valla, 'Two New Dogs', p. 72.

[507] Ibid. p. 72. Belfer-Cohen, 'Natufian Graveyard in Hayonim', p. 299; Tab. 1.

[508] Andrew Garrard and Brian Byrd, *Beyond the Fertile Crescent: Late Palaeolithic and Neolithic Communities of the Jordanian Steppe; The Azraq Basin Project: Project Background and the Late Palaeolithic (Geological Context and Technology)*, Vol. 1, Oxford Levant Supplementary Series 13, (Oxford: Oxbow Books, 2013), pp.287-293, 388.

[509] Andrew Garrard, 'Natufian Settlement in the Azraq Basin, Eastern Jordan', in *Natufian Culture in the Levant*, ed. by Bar-Yosef and Valla, pp. 235-242, (p. 240).

[510] Bocquentin and Garrard, 'Natufian Collective Burial Practice and Cranial Pigmentation', pp. 698-699.

[511] Bocquentin et al, 'Headless, but Still Eloquent!', p. 39.

modelled eye was placed in the orbit before staining.'[512] An auroch horn core was found standing arched in the ground.[513]

Raqefet Cave

Early-Late Natufian **c. 14,000-11,700 cal BP** **MNI: 7**

An acephalous skeleton was found as part of a double burial at Raqefet Cave near Mt. Carmel and it was suggested that the skull rested upon an elevated surface before removal.[514] A stone slab was placed near the skull of the other individual, which was found, 'far from the vertebral column' suggesting some form of displacement.[515] This dual internment included the earliest evidence for flowers being used at a burial.[516] It has been suggested that phytolith remains at Raqefet Cave may indicate symbolic use such as, floral burial lining or 'the use of shrouds.'[517] Headrests of stone or 'perishable material is very likely' for some burials at Raqefet Cave.[518] In addition to evidence for feasting, mortars carved from boulders and into the bedrock were used to brew beer at the funeral site are the earliest known evidence for fermented beverage brewing.[519]

Eynan ('Ain Mallaha)

Early-Late Natufian **c. 14,000-11,900 cal BP** **MNI: 14**

At Eynan near Lake Hula, stones were found placed on both sides of the head of a burial, perhaps in order to hold it in place.[520] An isolated skull was found on the floor of a building that may have served ritual purposes and another isolated skull was found buried in a collective burial with a complete skeleton.[521] A group of eight skulls was found along with postcranial remains that do not equal the number of those interred.[522] A burial is represented by a mandible.[523] A human calvaria was found together with a large fragment of a fox mandible on a floor, suggesting a significantly symbolic context.[524] Two carved limestone heads were found at Eynan and a burial with a possible *Dentalium* headdress and other

[512] The cranium of a 'robust' individual (# 170-174) and a cranium (# 108) that may have been moved and had a modeled orbit both contained pigment. Bocquentin and Garrard, 'Natufian Collective Burial Practice and Cranial Pigmentation', pp. 698-701; Fig. 5-7.
[513] Andrew Garrard et al, 'Prehistoric Environment and Settlement', p. 21. The artifact was found (Sq. 4) over a collective burial. Bocquentin and Garrard, 'Natufian Collective Burial Practice and Cranial Pigmentation', p. 694; Fig. 1.
[514] A double burial (D-E/14) was discovered with the skeletons (H25, H28) lying parallel towards one another each other. H25 was partially disturbed and H28 had the cranium removed. Bachrach and Bocquentin, 'Burials of the 2011 Season', p. 53.
[515] Ibid., p. 53.
[516] Nadel et al, 'Earliest Floral Grave Lining', pp. 11774-11778.
[517] Power, Rosen and Nadel, 'Economic and Ritual Use of Plants', p. 63.
[518] Headrests are suspected for some burials (H2, H13, H17, possibly H9-H10) at Raqefet Cave. Lengyel, Nadel and Bocquentin, 'Natufian at Raqefet Cave', in *Natufian Foragers in the Levant*, ed. by Bar-Yosef and Valla, p. 495.
[519] Revuen Yeshurun, Guy Bar-Oz and Dani Nadel, 'The Social Role of Food in the Natufian Cemetery of Raqefet Cave, Mount Carmel, Israel', *Journal of Anthropological Archaeology*, 32(4) (2013) 511-526. Liu et al, 'Fermented Beverage and Food Storage', pp. 783-793.
[520] The stones were placed on both sides of the skull (H15). Perrot, Ladiray and Soliveres-Massei, 'Les Hommes de Mallaha (Eynan).
[521] An isolated skull (H37) was discovered in *or* on the ground of a possibly ritually used building (Structure 1). Ibid., p. 43. Another isolated skull (H17) was included with a complete burial (H19). Bouquetin, 'Pratiques Funéraires', pp. 252-253; Fig. 124.
[522] It is unclear as to whether the deposits found (Loc. 9) were successive. Perrot, Ladiray and Soliveres-Massei, 'Les Hommes de Mallaha (Eynan)', pp. 56-57; Fig. 31.
[523] Ibid., p. 51, Fig. 29.
[524] A '*calotte crânienne*' (H102) was discovered in a structure (Structure 131) with objects interpreted as possibly 'religieux.' Valla, 'Aspects du Sol de l'Abri 131', pp. 283-296. Perrot, Ladiray and Soliveres-Massei, 'Les Hommes de Mallaha (Eynan)', Pl. 28. Bouquetin, 'Pratiques Funéraires', p. 249.

adornments were also found.[525] A pair of gazelle horns was found adorning a skull and another pair was found mixed with a disturbed burial.[526] Ochre lumps were found with some burials and a puppy burial was recovered.[527] Decapitation has been suggested regarding a red flint dagger found next to the skull of an articulated skeleton.[528]

Nahal Oren

Late Natufian **c. 13,000-11,600 cal BP*** **MNI: 7**

A burial ground on a terrace at Nahal Oren near Mt. Carmel was dated via lithic evidence to have been in use throughout the Late Natufian.[529] Several acephalous burials were found in a cemetery with stone mortars that may have served as 'tombstones.'[530] A small pierced mortar was found in a grave at the Nahal Oren cemetery and suggests the, 'Natufian inclination to provide the dead with prepared food (either symbolically or in reality).'[531] Four skulls were found buried together with a complete skeleton, but the documentation makes it unclear if the deposits were cached or successive.[532] A bone anthropomorphic figurine was found along with other human figurine representations in other media.[533]

Hilazon Tachtit Cave

Late Natufian **c. 12,400-12,000 cal BP** **MNI: 4***

In the Late Natufian layer at Hilazon Tachtit Cave in western Galilee, several acephalous burials were found in collective burial pits that may have been used as primary burial locations until skulls and long bones could be removed for secondary burial.[534] A skeleton interpreted as a shaman burial retained the skull.[535]

Hatula

Late Natufian **c. 13,200-12,000 cal BP** **MNI: 2**

Hatula in the Judean Hills was occupied from the Late Natufian to the PPNA and the excavators state that, 'A few additional human remains were found, isolated, in the Natufian deposits: skull and mandible fragments, teeth and long bones.'[536]

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[525] The burial (H91) with the possible headdress and the carved stone heads were discovered separately. Brian Boyd, 'Houses and Hearths, Pits and Burials: Natufian Mortuary Practices at Mallaha (Eynan), Upper Jordan Valley', in *Archaeology of Death*, ed. by Campbell and Green, p. 21. Orrelle, *Material Images of Humans*, p. 172 ; Fig. 20:1-2.

[526] The burials (H25, H27) were found (Locus 10) with horn cores. Perrot, Ladiray and Soliveres-Massei, 'Les Hommes de Mallaha (Eynan), p. 59.

[527] Ibid., pp. 34, 87, 90-91.

[528] Ibid., pp. 46, 49.

[529] Grosman, Ashkenazy and Belfer-Cohen, 'Natufian Occupation of Nahal Oren', p. 20.

[530] Some burials (H7t, H14t, H21t) at Nahal Oren were discovered acephalous, but others were complete. Noy, 'Some Aspects of Natufian Mortuary Behavior' in *People and Culture in Change*, ed. by Hershkovitz, pp. 53-57. These pierced mortars are also described as stone pipes. Stekelis and Yizraeli, 'Excavations at Naḥal Oren', pp. 11-12; Pl. 3B-C.

[531] The mortar was uncovered in the cemetery (Grave H25). Eitam and Schoenwetter, 'Feeding the Living, Feeding the Dead', p. 18.

[532] Stekelis, 'Oren Valley', p. 131. Bouquetin, 'Pratiques Funéraires', p. 176.

[533] Orrelle, *Material Images of Humans*, p. 176; Fig. 24:1.

[534] Grosman and Munro, 'Hilazon Tachtit Cave', in *Quaternary of the Levant*, ed. by Enzel and Bar-Yosef, pp.303-306.

[535] Leore Grosman, Natalie Munro, and Anna Belfer-Cohen, 'A 12,000-Year-Old Shaman Burial from the Southern Levant (Israel)', *Proceedings of the National Academy of Sciences of the United States of America*, 105(46) (2008) , pp. 17665-17669.

[536] Ronen and Lechevallier, 'Natufian-Early Neolithic site Hatula', p. 147.

Epipaleolithic: Anatolia

Pınarbaşı

Middle-Late Epipaleolithic **c. 16,150-15,100 cal BP** **MNI: 2**

A burial with a removed cranium was found at the Middle-Late Epipaleolithic site of Pınarbaşı on the Konya plain.[537] This burial may be the '… earliest instance of clear-cut, post-burial cranium retrieval in South-west Asia.'[538] A later burial was uncovered near the same area, but the skull had not been removed.[539] However, it contained a large cache of grave goods covered in red ochre located near the skull, including a tortoise shell containing 140 *Dentalium* shells like those found on the Natufian headdresses at el-Wad. Also, evidence of burnt sediment indicated some activity near the head and led the excavators to propose that, 'This second burial also suggests that the head may have been a particular focus of ritual practices relating to the dead.'[540]

Epipaleolithic: Mesopotamia

Shanidar Cave

Late Natufian **c. 12,000-10,600 cal BP** **MNI: 2**

Shanidar Cave had a long history of human activity, since the Mousterian.[541] Although artificial cranial deformation of Neanderthal skulls is uncertain, at least two skulls from the Proto-Neolithic were found intentionally modified, likely due to bandaging.[542]

[537] Skeletal remains of a male (c. 25-29) were found (Area B, Grave 13), and C^{14} dated (c. 16.15-15.07 ka cal BP) to 'likely to just predate the beginning of the Early Natufian.' Baird et al, 'Juniper Smoke, Skulls and Wolves' Tails', pp. 180, 183-184; Fig. 5-7; Tab. 1.
[538] Ibid., p. 180.
[539] Skeletal remains of a male (c. 30-50) were found (Area B, Grave 14), and C^{14} dated to 15,180-14,246 cal BP. Ibid., pp. 182-183; Fig. 8; Tab. 1.
[540] Ibid., p. 182.
[541] Layer D at Shanidar Cave dates to the Mousterian. Meiklejohn et al, Artificial Cranial Deformation in the Proto-Neolithic and Neolithic', p.84.
[542] Trinkaus, 'Artificial Cranial Deformation in the Shanidar 1 and 5 Neandertals', pp. 198-199. Chech et al, 'A New Reconstruction of the Shanidar 5 Cranium', pp. 143-146. Two individuals (SA295-A; SA337-A) were found (Layer B1) in a 'Proto-Neolithic burial site' which was a 'roughly similar age' with the Levantine Natufian. Meiklejohn et al, 'Artificial Cranial Deformation in the Proto-Neolithic', pp. 84, 89, 91; Tab. 4; Note 49.

PPNA: South Levant

Hatula

EPPNA **c. 12,000-11,400 cal BP** **MNI: 3**

Following the Late Natufian occupation of Hatula, a single skull was found in the PPNA layers, as well as the inclusion of an auroch skull in another burial.[543] Many burials at Hatula displayed evidence of the use of stone headrests for the deceased.[544]

Netiv Hagdud

PPNA **c. 11,300-10,800 cal BP** **MNI: 23**

The majority of individuals recovered from the open-air site of Netiv Hagdud in the Jordan Valley underwent skull or cranium removal.[545] Acephalous burials and isolated skulls were uncovered, one of which was found in a 'dumping zone.'[546] Skulls were also found cached, sometimes in pairs.[547] A cache of at least three fragmentary skulls was found by a cobble stone installation inside the only partitioned oval-shaped structure found at Netiv Hagdud that likely, 'had a different function from most other habitations at the site.'[548] The skull fragments of children were found both under floors and in fills.[549] Clay anthropomorphic figurines and figurine heads were found, one of which, 'has a series of incisions on top of the flat head, possibly indicating the presence of net-like headgear.'[550]

Jericho (Tell el-Sultan)

PPNA **c. 11,200-10,500 cal BP** **MNI: 44**

The prehistory of Jericho in the Jordan Valley spanned over four millennia and is the subject of over a century of archaeological research. Kenyon discovered evidence for special treatment of the head at Jericho and was the first to use the term, 'skulls cult.'[551] Though the crania cache found at Natufian Erq el-Ahmar may be older than the first cache found at Jericho, the Natufian find is not well documented.[552] No burials have been recovered from the Epipaleolithic occupation of Jericho, but PPNA acephalous skeletons, skulls, and crania were found. A group of five LPPNA decapitated infant skulls were found in a plastered

[543] The isolated skull (H04) and inclusion of the auroch skull in a burial (H09) date to the Khiamian and the Sultanian transitional period prior to the EPPNA. Le Mort, Hershkovitz, and Spiers, '*Les Restes Humains*', in *Le Gisement de Hatoula*, ed. by Lechevallier, Ronen and Anderson, pp. 39-57.
[544] Ibid., pp. 59-72.
[545] 17 out of 25 primary or secondary burials were found missing skulls. Anna Belfer-Cohen and Baruch Arensburg, 'The Human Remains from Netiv Hagdud', in *An Early Neolithic Village*, ed. by Bar-Yosef and Gopher, pp. 201-208.
[546] Bar-Yosef et al, 'Netiv Hagdud: An Early Neolithic Village', p. 412.
[547] Anna Belfer-Cohen et al, 'The Human Remains from the PPNA Site of Netiv Hagdud, Jordan Valley, Israel', *Journal of the Israel Prehistoric Society*, 23 (1990), pp. 79-85.
[548] The three fragmentary skulls were found (Locus 8) with 70 other seemingly symbolic items. Bar-Yosef et al, 'Netiv Hagdud: An Early Neolithic Village', p. 411. Kuijt called this find a 'cache of three crania.' Kuijt, 'Negotiating Equality through Ritual', p. 322.
[549] Belfer-Cohen and Arensburg, 'Human Remains from Netiv Hagdud', in *An Early Neolithic Village*, ed. by Bar-Yosef and Gopher, p. 206.
[550] Bar-Yosef et al, 'Netiv Hagdud: An Early Neolithic Village', p. 417; Fig. 13.
[551] Kenyon, *Excavations at Jericho*, Vol. III, ed. by Holland, p. 53.
[552] Neuville, *Le Paléolithique et le Mésolithique*, pp. 86-120. cf. Bouquetin, 'Pratiques Funéraires', pp.160-167. Documentation and preservation of skull remains is also an issue concerning Jericho. Bonogofsky, 'Complexity in Context' in *Skull Collection, Modification and Decoration*, ed. by Bonogofsky, p. 16.

circular basin, interpreted as an altar for a foundation sacrifice.[553] Four LPPNA crania were found together under the floor of a house.[554] A cac of nine LPPNA-EPPNB crania were buried in a courtyard near a large round tower in rows of three facing west.[555] A cache of six LPPNA-EPPNB skulls was found in a tight circle facing toward the center skull and were thought to belong to a nearby find of acephalous skeletons, but the theory was incorrect.[556] Only groups of skulls or crania were uncovered in the early occupation of Neolithic Jericho, none of which received any form of decoration.[557]

Large walls which demarked the boundaries of Jericho and a high tower with a staircase leading to the top were found (Fig. 99).[558] The purposes for these structures are debated, but following the abandonment of the tower, 12 people were interred headfirst near the base of the tower and blocked off the staircase entrance.[559] The skeletons all retained their skulls and it may represent the only burial cache from an 'unambiguous context' to not undergo skull removal 'at Jericho, or any other excavated PPNA period site.'[560]



Fig. 99. Tower of Jericho. Kenyon (1981), Pl. 5.

[553] The five LPPNA (Stage VIIB) skulls (Munich: F43-47; Jericho: F 201.23 2, 7) were found (Trench I; Sq. FI) in a round basin (AT) near a child burial (F42). Kenyon, *Excavations at Jericho*, Vol. III, ed. by Holland, pp. 49-50; Pl. 31b, 32a, 33b, 213, 238.

[554] The four PPNA (Stage VIII) female crania (Munich: M31-34; Jericho: M 11.4Ba 1-4) were found (Sq. M1) in a 'nest' under a house (House MO). Ibid., p. 233; Pl.134a, 279a.

[555] The LPPNA-EPPNB (Stage VIIIC) crania (Munich: D35-44; Jericho: D 200.6c 1-10) were found (Trench I; Sq. DI) about 5 m from the tower near a wall (Wall BS). Ibid., p. 53; Pl. VIIc, 36a-b. Kurth and Röhrer-Ertl, 'Anthropology of the Mesolithic to Chalcolithic', in *Excavations at Jericho*, Vol. III, ed. by Holland, pp. 436, 444-445.

[556] The LPPNA-EPPNB (Stage VIII) skulls (Munich: E11-16; Jericho: E 12.3 A-F) were found (Trench NE; Sq. EI-II) in an open area near a building (Building I). Kenyon, *Excavations at Jericho*, Vol. III, ed. by Holland, p. 287; Pl. VIIIa, 155a, 302b-c, 303. The skulls were believed to belong to some acephalous burials. Ibid., Pl. 155, 302c, 303a. Kurth and Röhrer-Ertl, 'Anthropology of the Mesolithic to Chalcolithic', in *Excavations at Jericho*, Vol. III, ed. by Holland, p. 436.

[557] However, it should be noted that Nigro designated an isolated skull (Munich: F 38; Jericho F 201.13 c) to the PPNA. Nigro, 'Beheaded Ancestors', p. 13; Tab. 1.

[558] The wall was constructed in at least three phases on the north, south, and west. The first and most well preserved phase to the west was found preserved to a height of over 3.5 m and was almost 2 m wide at the base. The inner face of the wall was dressed with mud plaster and so was the staircase and outer face of the over 8 m high and 9 m diameter tower attached to the western wall. Kenyon, *Excavations at Jericho*, Vol. III, ed. by Holland, pp. 6-12, 19-20;Pl. 203-204).

[559] I. W. Cornwall, 'The Pre-Pottery Neolithic Burials', in *Excavations at Jericho*, Vol. III, ed. by Holland, pp. 385-406. Kenyon interpreted the walls and tower as primarily defensive and that the later (Stage VIA) group burial followed the abandonment of the tower. Kenyon, *Excavations at Jericho*, Vol. III, ed. by Holland, pp. 6-8, 32-34; Pl. 232-233. Bar-Yosef interpreted the structures as preventive measures against flooding combined with a possible ritual purpose. Ofer Bar-Yosef, 'The Walls of Jericho: An Alternative Interpretation', *Current Anthropology*, 27(2) (1986), 157-162, (p. 161). Ronen and Adler suggested a mainly spiritual defensive purpose for the walls and tower. Avraham Ronen and D. Adler, 'The Walls of Jericho were Magical', *Archaeology, Ethnology & Anthropology of Eurasia*, 2(6) (2001), pp. 97-103, (p. 98). Barkai and Liran proposed an archaeoastronomical interpretation for the tower, which faced Mount Quruntul and the midsummer sunset. Ran Barkai and Roy Liran, 'Midsummer Sunset at Neolithic Jericho' *Time and Mind: The Journal of Archaeology, Consciousness and Culture*, 1(3) (2008), pp. 273-284.

[560] Kuijt, 'Negotiating Equality through Ritual', pp. 324-325; Fig. 4.

Zahrat adh-Dhra' 2 (ZAD 2)

LPPNA **c. 11,000-10,500 cal BP** **MNI: 4**

A human skull and two mandibulae were found at Zahrat adh-Dhra' 2 (ZAD 2) on the Dead Sea Plain with a cairn of stones marking the position, along with a phallic figurine.[561] Also, an infant skull was found within a small burial pit.[562]

WF16 (Wadi Faynan)

LPPNA-EPPNB **c. 11,000-10,250 cal BP** **MNI: 11**

Acephalous burials at WF16 in Wadi Faynan led excavators to, 'strongly suspect that these had been deliberately removed, perhaps in the process of specifically targeting the skull and the upper body.'[563] A skull that, 'protruded above the plaster floor' was a visible part of the architecture at WF16 and may suggest some type of dedicatory purpose.[564] A secondary burial of the skull of a child seems to have been interred directly above an adult skeleton that had white gypsum paste and linear black markings on the back of its skull.[565] A deposit of large cranial fragments were carefully stacked above an acephalous burial where two leg bones were placed cross-shaped in the place where the skull would have been.[566]

A fox skull, caprine horns, and perhaps human skull fragments were incorporated unseen inside *pisé* walls.[567] The fill from an antique burial cut into PPNA layers and produced a polished and pierced fragment of a human cranium that is believed to date to the Neolithic and two other similarly pierced bone fragments were found in the same fill, perhaps serving as pendants or otherwise hung for display.[568] A unique small limestone head with a carved face was discovered, and on the reverse, is another carved face in an upside down position.[569] A large two-tiered communal structure was found at WF16.[570] A disarticulated skull rested on a stone headrest and likely was also exposed within the interior of a structure at nearby WF328.[571]

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[561] The multiple burial (F.5) was found (Sq. J24) near a structure (Structure 2) with secondarily deposited long bones and included a phallic figurine (RN 010036). Edwards et al, 'From the PPNA to the PPNB', pp. 26, 38; Fig. 16.

[562] The infant skull from ZAD 2 was found (Structure 1; Sq. E28; Loc. 25.1) in a small pit. Ibid., pp. 25-26; Fig. 3-4.

[563] Poor preservation of burials presents a challenge discerning between erosion and human intentionality with regards to missing bones, but some (Burial O17, O26-27, O41) appear intentional. Mithen et al, 'Death and Architecture', in *Death Rituals, Social Order and the Archaeology of Immortality*, ed. by Renfrew, Boyd and Morley, p. 104.

[564] The protruding skull (F8) was found (Context 298; Evaluation Trench 2). Roberts, 'The Human Remains' in *Early Prehistory of Wadi Faynan*, ed. by Finlayson and Mithen, pp. 401-407.

[565] The burial (O38) was found (Structure O83) to include a fragmented infant cranium and a truncated primary burial. Mithen et al, 'Death and Architecture', in *Death Rituals, Social Order and the Archaeology of Immortality*, ed. by Renfrew, Boyd and Morley, pp. 95, 104, 107; Fig. 6.10.

[566] Long bones from the left leg and a tibia of the right leg formed the cross or X shape for the burial (B32). Finlayson et al, 'New Excavations at WF16', Fig. 5A.

[567] Unseen skeletal elements were referenced for three structures (Structures O12, O33, O45) at WF16. Mithen et al, 'Death and Architecture', in *Death Rituals, Social Order and the Archaeology of Immortality*, ed. by Renfrew, Boyd and Morley, p. 106.

[568] The cranial fragment (SF558) was found along with two other possible cranial fragments (SF566, SF572) were found (Fill 376) in the fill from an 'antique burial' (O71). Pascal Flohr, 'The Architecture of WF16' in *WF16 Excavations at an Early Neolithic Settlement in Wadi Faynan*, ed. by Mithen et al, pp. 653-672, (pp 62-65, 671; Fig. 6.12).

[569] The dual faced limestone head (SF238) was found in a burial (B32). Finlayson et al, 'New Excavations at WF16', Fig. 6F.

[570] Structure O75 is an impressive 22 x 19-m. Bill Finlayson et al, 'Architecture, Sedentism, and Social Complexity at Pre-Pottery Neolithic A WF16, Southern Jordan', *Proceedings of the National Academy of Sciences of the United States of America*, 108(20) (2011), pp. 8183-8188.

[571] The likely displayed skull (Burial F39910) was found (Structure F3992, Evaluation Trench 3) near WF16 at WF328.

el-Hemmeh

LPPNA **c. 10,800-10,500 cal BP** **MNI: 3**

An isolated young juvenile skull which, 'displayed several pathologies and/or modifications' was found in one of three mortuary structures in the LPPNA layers at el-Hemmeh in Wadi Hasa.[572] The other two structures each contained an articulated skeleton that was covered with plaster virtually everywhere except the skulls.[573]

PPNA: North Levant

Tell Qaramel

PPNA **c. 11,750-10,650 cal BP** **MNI: 15**

Primary acephalous burials were found in flexed positions at MPPNA Tell Qaramel near the Qoueiq River.[574] An isolated skull with cervical vertebrae was found cached with two mandibulae placed beside of the skull facing opposite directions.[575] Another collective burial contained an acephalous skeleton, two crania, and a partial mandible.[576] An isolated cranium was found and a charred fragmented human cranium was discovered buried with animal bones.[577] Most of the burials at Tell Qaramel were found in or nearby living spaces, but the depositional context of one burial was found in Tower I and, 'is suggestive of a foundation offering.'[578] A collective burial cache of two human skulls and two crania which featured an, 'enlargement in skull bones' were found in the eastern wall of Tower I.[579] Tower I was built with a central hearth upon the ruins of the most monumental of the circular towers at Tell Qaramel and may have served, 'as a cult and assembly place (shrine/common house).'[580]

Two other structures at Tell Qaramel may have held a primarily ritual function. The center of a circular structure near Tower I contained a stone arrangement which contained two large stylized auroch horns over a pebbled-lined pit that held four actual auroch bucrania.[581] Another structure contained a stone stela, white stone anthropomorphic figurine, human bones surrounded by rocks, and bull skeletons buried symmetrically on the north and

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Mithen et al, 'Death and Architecture', in *Death Rituals, Social Order and the Archaeology of Immortality*, ed. by Renfrew, Boyd and Morley, p. 105

[572] The skull from el-Hemmeh was found (Structure 6; F13) in a pit sunk into a platform feature. Makarewicz and Rose, 'Early Pre-Pottery Neolithic Settlement', pp. 26-27; Fig. 5.

[573] The two skeletons were found (Structure 6, F14-15) near the isolated skull. Ibid., pp. 26-28; Fig. 5-6.

[574] Five acephalous burials were found (Grave G2-07, Individual T5-07-9; Grave G6-07, Individual T5-07-15; Grave G8-07, Individual T5-07-19; Grave G10-08, Individual Grave 10-08; and Grave G11-03, Individual Tem-03-8). Kanjou et al, 'Early Human Decapitation', p. 4, Tab. 1.

[575] Skeletal remains of a cranium (Grave G5-07; Individual T5-07-12) and two mandibulae (Grave G5-0; Individuals T5-07-13, T5-07-14) were discovered together. Kanjou, 'Study of Neolithic Human Graves from Tell Qaramel', pp. 31-32; Photo 4.

[576] Found in Grave G8-08. Acephalous skeleton (Individual T5-07-17), crania (Individuals T5-07-17, T5-07-17) and mandible (Individual T5-07-17). Ibid., p. 32-33; Photo 5.

[577] A cranium (Individual T5-07-16) was found (Grave G7-07) in isolated and another (Individual K-03-7) was found (Grave G5-03) in association with animal skeletal remains. Ibid., pp. 29-30.

[578] Kanjou et al, 'Early Human Decapitation', p. 4.

[579] Remains of four individuals (Individuals TO-04-01/02/03/04) were found (Grave Tower 1; Sq. K-7). Kanjou, 'Study of Neolithic Human Graves from Tell Qaramel', p. 27.

[580] Tower I was approximately 6.5 meters in diameter and was built upon Tower II from the previous H2 phase. Mazurowski et al, 'Chronology of the Early Pre-Pottery Neolithic Settlement Tell Qaramel', pp. 778-779.

[581] Kanjou et al, 'Early Human Decapitation', p. 3.

south walls which may indicate, 'a ritual use of this building.'[582] One of the dislocated mandibulae from the Tower I grave and the axis of an acephalous burial found near the shrine/communal building displayed cutmarks, illustrating the technical complexities of manual decapitation postmortem using stone tools.[583]

Tell Mureybet

PPNA **c. 11,300-10,500 cal BP** **MNI: 1**

A cranium and fragmented long bones were found under an oven in a building with wall paintings at Tell Mureybet on the west bank of the Euphrates.[584] Figurine heads, headless figurines, and figurines with stylized heads were also found.[585] A find of small anthropomorphic figurines together with auroch bones at Tell Mureybet has been interpreted in a spiritual context.[586]

Jerf el-Ahmar

PPNA **c. 11,300-10,500 cal BP** **MNI: 7**

The site of Jerf el-Ahmar is now submerged, due to the construction of the Tishrin Dam on the Euphrates River. Two skulls were found buried together in what has been interpreted as a foundation deposit.[587] The bases of three skulls contained traces of charring and were found together in what may have been a stone oven.[588] A decapitated skeleton was found splayed on the floor (Fig. 99) of a building that was set on fire and the person's death likely occurred in connection with the act of burning the building, which also contained a skull between two low walls.[589]

A small circular building contained three auroch bucrania that likely hung upon a wall and the center of which, was adorned with a strand of clay beads and a limestone pendant.[590] A section of a hexagonal bench in a burnt circular building from the LPPNA-EPPNB transitional phase at Jerf el-Ahmar was found carved with triangular zig-zag lines, which may depict scales or feathers because the bench was flanked by a



Fig. 99. Acephalous skeleton from Jerf el-Ahmar. Stordeur & Abbès (2002), p. 587; Fig. 15.1.

[582] The structure was found (SW corner; Sq. K-4b,d/L-4a,c) orientated on an E-W axis and measured 5 x 10 m. Ibid., p.3
[583] An axis of an acephalous individual (Grave G2-07; Individual T5-07-9) and a mandible (Grave G Tower I; Individual TO-04-03) demonstrated cutmarks consistent with manual defleshing. Kanjou et al, 'Early Human Decapitation', pp. 4-9; Fig. 2-4.
[584] Akkermans and Schwartz, *Archaeology of Syria*, p. 52.
[585] Ibid., p. 85, fig. 3.17.
[586] The cache was found (Building EA 47; Phase III East) in a building that may have served ritual purposes. '*Il est possible, si l'on considère leur position stratigraphique, que les statuettes féminines et les chevilles osseuses aient été incluses dans l'architecture; leur présence indiquerait alors la volonté de marquer l'édifice du symbole, mis en lumière par J. Cauvin, de la « femme et du taureau».*' Stordeur et al, 'Les Bâtiments Communautaires', p. 37.
[587] The skulls were found (Building EA 7; Stage I East) at the bottom of a post hole. Ibid., pp. 36-37.
[588] Jammous and Stordeur, 'Jerf al-Ahmar', in *Syrian-European Archaeology Exhibition*, p. 28.
[589] The headless skeleton was found (Building EA 30; Phase II West) and the skull is said to belong to a separate individual. Stordeur et al, 'Les Bâtiments Communautaires', p. 37. Verhoeven, 'Death, Fire and Abandonment', p. 62.
[590] The installation was found (Level 3) to have likely hung upon a wall in an approximately 4 m diameter structure. Akkerman and Schwartz, *Archaeology of Syria*, p. 55.

serpent and a raptor stele as well as, a schematic anthropomorphic motif that may, 'represent headless human bodies.'[591]

Tell Sheikh Hassan

LPPNA-EPPNB c. 11,000-10,400 cal BP MNI: 9

A cache of three human skulls were found in an ash deposit at Tell Sheikh Hassan, which is now flooded by a lake behind the Tabqa Dam.[592] Six mandibulae were recovered together.[593] An alabaster anthropomorphic statuette with a stylized head was found and may belong to the EPPNB occupation of Tell Sheikh Hassan.[594]



Fig. 99. Müller-Neuhof (2006), p. 32; Fig. 1a

PPNA: Anatolia







Fig. 99. (a) Different designs of bone painting, (b) pigment patterns on cranial fragments, and (c) cutmarks observed on skulls from Körtik Tepe. W(o Erdal (2099), pp. 9, 13; Fig. 2-3a-c, 6a.

Körtik Tepe

EPPNA c. 11,600-11,200 cal BP MNI: 20*

Located near the confluence of Batman Creek and Tigris River, Körtik Tepe contains the most burials from the PPN, but does not exhibit skull removal.[595] Articulated skeletons were found with parallel lines painted with ochre on the skulls and other bones prior to a lime plaster coating (Fig. 99).[596] Cutmarks on skulls and other bones indicate manual defleshing with stone tools relating to mortuary *chaînes opératoires* (Fig. 99).[597] Burials were found with tortoise carapaces near the skull and some graves were encircled by animal skulls and horns.[598]

; Parenthesis original. Stordeur and Abbes, 'Du PPNA au PPNB', pp. 575, 586-587; Fig. 7.4; 15.4-5.

[592] The skull cache from Tell Sheikh Hassan was discovered in a possible hearth without any other bones. Cauvin, *Les Premiers Villages*, p. 128; Note 48.

[593] Clère, Adeleine and Ferembach, 'Étude Anthropologique des Mandibules', pp. 265-273.

[594] Müller-Neuhof, 'EPPNB Human Sculpture', pp.32-37; Fig. 1a-b, 2.

[595] Ten possible skull internments are believed to be the remainders of other disturbed burials and not evidence for secondary skull removal and/or decapitation. Erdal, 'Bone or Flesh', p. 17. Two acephalous burials were also found, but excavators believe that since the vast majority of the burials have articulated skulls, these two skulls 'were destroyed over time.' Özkaya and Coşkun, 'Körtik Tepe', in *Neolithic in Turkey, New Excavations & New Research*, ed. by Özdoğan, Başgelen and Kuniholm, pp. 93-94.

[596] Erdal, 'Bone or Flesh', pp. 9, 21-22; Fig. 2-3. Özkaya and Coşkun, 'Körtik Tepe', in *Neolithic in Turkey, New Excavations & New Research*, ed. by Özdoğan, Başgelen and Kuniholm, pp. 93-94.

[597] Erdal, 'Bone or Flesh', p. 13; Fig. 6.

[598] Ibid., p. 6.

Göbekli Tepe

PPNA-MPPNB **c. 11,500-10,000 cal BP** **MNI: 3**

Although burials have not been discovered, the enclosures at Göbekli Tepe in Southeastern Anatolia were intentionally buried and human bones were found within the fill, the majority of which are skull fragments.[599] Cranial fragments from three individuals were modified in such a way as to suggest evidence for, 'a variation of skull cult' because of special modifications including deep carvings and a perforated hole on one fragment, which are the only modifications of their kind in the PPN and may be specific to Göbekli Tepe.[600] There are traces of red ochre on the fragments from the skull with the perforated hole and its location atop the skull would have allowed a string to be placed through it and strung along the deep carved grooves to perhaps be hung in suspension.[601] Even without the discovery of burials, some of the chief excavators at Göbekli Tepe concluded that, 'death and burial ritual must be part of the interpretation of the functional and ideological role of the enclosures at Göbekli Tepe.'[602]

Two central anthropomorphic pillars are stylized depicting bodies adorned with fox loincloths and wearing necklaces, one necklace depicts an unknown H-shaped symbol, disc, and crescent, while the other necklace depicts a bucranium pendant.[603] The 'heads' of the pillars are elongated, faceless, and somewhat rectangular, thus giving them a T-shaped form and thereby allowing an anthropomorphic interpretation for all of the T-shaped pillars. However, the elongated heads may have originally depicted faces, due to a similarly shaped and stylized pillar found with facial features at nearby Nevalı Çori.[604] A fairly complete statute of a bearded man was found.[605] Most other anthropomorphic statuary are not complete and is comprised of stone heads, often found deposited at the bases of central pillars.[606] Among the imagery in a motif carved on one of the T-shaped pillars is a vulture near a circular object and a headless ithyphallic man below.[607] Also, a separated head is depicted on a fragment of another pillar (Fig. 99).[608]

A stone 'totem pole' was found and depicted what may be a leopard holding a human head above another smaller person holding an unidentified object and flanked by serpents.[609]

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[599] Among the 691 human bones recovered, 408 are skull fragments including 7 fragments of 3 specially modified human skulls. Gresky, Haelm, and Clare, 'Modified Human Crania from Göbekli Tepe', p. 1.

[600] Ibid., p. 1.

[601] Ibid., p. 6.

[602] Notroff, Dietrich and Schmidt, 'Gathering of the Dead?', in *Death Rituals, Social Order and the Archaeology of Immortality*, ed. by Renfrew, Boyd and Morley, pp. 78-79.

[603] The above description is of 5.5 m tall Pillars 18 and 31 in Enclosure D. Schmidt, 'Göbekli Tepe – The Stone Age Sanctuaries', pp. 239-256.

[604] Hauptmann and Schmidt, 'Die Skulpturen des Frühneolithikums', in *Badisches Landesmuseum Karlsruhe*, p. 80. The pillar was found (Level III; Building 13C), designated as a *Kultgebäude*. Hauptmann, 'Ein Kultgebäude in Nevalı Çori', in, *Between the Rivers and Over the Mountains*, pp. 37-69; Fig. 16.

[605] Schmidt, 'Göbekli Tepe – The Stone Age Sanctuaries', p. 249, Fig. 20.

[606] At Göbekli Tepe, 34 out of 43 anthropomorphic sculptures are incomplete with the highest number of preserved fragments being the heads. Dietrich, 'Losing Your Head at Göbekli Tepe', p. 5.

[607] Schmidt, 'Animals and a Headless Man,' pp. 39-40; Fig. 2.

[608] The large fragment was found (Enclosure D; Layer III) in fill and may part of a missing pillar. Oliver Dietrich, 'A Separated Head Between Animals on a Stone Slab from Göbekli Tepe', *The Tepe Telegrams*, (2017) <https://www.dainst.blog /the-tepe-telegrams/2017/05/17/a-separated-head-between-animals-on-a-stone-slab-from-gobekli-tepe/> [Accessed 6 March 2019].

[609] The 5 x 6m 'totem' was found (Layer II, Sq. L9-46) in an area which dates to the EPPNB, but the pole itself may have



Masks of a range of sizes made from stone or clay were found.[610] A stone headless anthropomorphic figurine was found, dating to the EPPNB.[611]

Fig. 99. A separated head between animals from Göbekli Tepe. Dietrich (2017a).

Çayönü Tepesi

PPNA **c. 11,200-10,500 cal BP** **MNI: 20**

The 'Skull Building' at Çayönü near the Boğazçay tributary of the Tigris River contained the skeletal remains of about 450 individuals and was a type of charnel house used for over a thousand years with at least five distinct burial and rebuilding sub-phases, the first two of which date to the PPNA.[612] The 'Skull Building' earned its moniker due to the many skulls recovered therein, some of which had likely fallen from shelves and were found on the main room floor.[613] Two sealed pits were found, the largest of which contained primary and secondary human burials combined with auroch skulls and horns.[614] The smaller pit contained secondary burials of 15 (MNI) individuals represented by skulls and postcranial bones with cutmarks from defleshing, which runs contrary to the primary articulated burials commonly found elsewhere during this period at Çayönü.[615]

been created in the PPNA. Köksal-Schmidt and Schmidt, 'The Göbekli Tepe "Totem Pole" ', pp. 74-75; Fig. 1.

[610] Dietrich, Dietrich, and Notroff, 'Clay Mask Depiction from Göbekli Tepe', pp. 8-11; Fig. 2-4. Dietrich, Notroff and Dietrich, 'Behind the Mask', <http://www.asor.org/anetoday/2018/09/Behind-the- Mask> [Accessed 15th October 2019].

[611] Klaus Schmidt, ' „Zuerst kam der Tempel, dann die Stadt", Vorläufiger Bericht zu den Grabungen am Göbekli Tepe und am Gürcütepe 1995-1999', *Istanbuler Mitteilungen*, 50 (2000), pp. 5-41, (pp. 33-34; Fig. 14b).

[612] The approximately 450 individuals were recovered from rooms, cellars, and pits within the 'Skull Building.' The PPNA sub-phases of the 'Skull Building' begin with the earliest Round Building (BM1c) sub-phase to the early part of the Grill Plan (BM1a-b) sub-phase. There are 30 radiocarbon dates available for Çayönü, two of which are charcoal samples from later layers of the Round Building sub-phase (Level r3 Sample GrN 10358 9,180 ± 80 bp) and the transitional Round Building Grill dates (Level r3 Sample GrN 10359 9,050 ± 40 bp). *PPND*, <http://www.exoriente.org/associated_projects/ppnd_site.php?s=14> [Accessed 21st February 2020]. The two dates were calibrated with current software (GrN 10358 10,557-10,222 cal BP; GrN 10359 10,254-10176 cal BP; OxCal 4.3; Intcal13; 95.4%).

[613] The skulls recovered from the floor likely date to the PPNA, but most of the skulls recovered from the 'Skull Building' date to the later PPNB sub-phases, which may be considered to be the origin of the 'Skull Building.' Schirmer, 'Some Aspects of Building', pp. 379-381. A. Özdoğan, 'Çayönü', in *Neolithic in Turkey: The Cradle of Civilization/New Discoveries*, ed. by Özdoğan and Başgelen, p. 51.

[614] Ibid., Fig. 22.

[615] Le Mort et al, 'Feu et Archéoanthropologie au Proche-Orient', pp. 40-41; Fig. 2. Croucher, 'Death, Display and Performance', in *Archaeology of Cult and Death*, ed. by Georgiadis and Gallou, p. 15.

PPNA: Mesopotamia

Nemrik 9

PPNA **c. 11,500-10,500 cal BP** **MNI: 6***

In the early burials at Nemrik 9 near the Tigris River, 'skull burials were common.'[616] A structure contained a skull burial with accompanying grave goods and a human mandible was found incorporated a stone pavement structure, along with the horn of a gazelle.[617] Figurine finds include raptor heads and two broken anthropomorphic figurines, one of which is a stone sculpture of a male head.[618] The male sculpture is phallic in shape and has an engraved head with a zig-zag line across the face that may represent face paint or a tattoo.[619]

Qermez Dere

EPPNA-LPPNA **c. 11,200-10,800 cal BP** **MNI: 6**

At Qermez Dere near the Jebel Sinjar Mountain Range, a cache of six human crania were found deposited at the final abandonment of the last of three successively built structures.[620] Each structure contained at least one central clay non-structural plastered pillar and was meticulously cleaned prior to each abandonment and subsequent filling.[621]

[616] Sołtysiak et al, 'Human Remains from Nemrik, Iraq', p. 112.
[617] The skull was found (House 2) in the fill of a collapsed house. Kozlowski, 'Nemrik 9: A PPN Neolithic Site', p. 27; 'Nemrik 9', p. 108.
[618] Ibid., p. 108.
[619] Polish Centre of Mediterranean Archaeology, *University of Warsaw, Nemrik*, <https://pcma.uw.edu.pl/en/2019/02/14/nemrik-2/> [Accessed 10th January 2020].
[620] The crania were found (Building RAA) in the northwest area of the building. Molleson 'The Human Remains' in *Qermez Dere, Tel Afar*, ed. by Watkins, pp. 17-22. Watkins, Baird and Betts, 'Qermez Dere and Early Aceramic', pp. 20-21; Fig. 2.
[621] Trevor Watkins, 'The Origins of House and Home?', *World Archaeology*, 21(3) (1990), pp. 336-347, (pp. 338-343; Fig. 2-4).

PPNB-PPNC: South Levant

Nahal Oren

LPPNA-EPPNB **c. 10,700-10,400 cal BP** **MNI: 5**

In addition to treatments of the human head found in the Natufian layers, acephalous burials were discovered in the PPNB layers at Nahal Oren.[622] One of the burials with skull intact was found marked by a large boulder and some complete skeletons were interred with grave goods, including a bone spatula near a cranium.[623]

Jericho (Tell es-Sultan)

PPNB **c. 10,500-8,500 cal BP** **MNI: 78**

The cult of skulls continued at Jericho from the PPNA and reached its zenith in the PPNB. In the EPPNB layers above the plastered circular basin containing five LPPNA infant skulls, a cranium and three acephalous burials were found, which may also have been part of a human sacrifice.[624] Two MPPNB skulls were found buried in juxtaposition to one another within a rectangular pit.[625] Two isolated crania were incorporated into the architecture of a small MPPNB building that may have served a cultic function, due to the discovery of 30 acephalous skeletons in the surrounding area.[626] One cranium was imbedded within a wall and the other was placed under the floor, facing east in a corner near the entrance.[627]

Nine EPPNB-LPPNB plastered skulls (Fig. 99) were found in fill between two walls, perhaps either discarded, or to serve a function akin to that of undecorated skull deposits.[628] Three LPPNB plastered skulls and two painted skulls were found together in a rectangular pit.[629] Some of the plastered skulls found at Jericho exhibit evidence of artificial cranial modification.[630] The small room which contained the skulls incorporated into the

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[622] An isolated acephalous burial was found (Layer III; R500) and two more were found (Layer III; R600) in a collective burial area. Noy, Legge, and Higgs, 'Excavations at Nahal Oren, pp.78-79; Fig. 3.

[623] Ibid., p. 79.

[624] The EPPNB (Stage VIIIC.xix) child cranium (Munich: F38; Jericho: F 201.13 c) was found (Trench I; FI) on a floor and the acephalous skeletons were found in the above fill. Kenyon, *Excavations at Jericho*, Vol. III, ed. by Holland, p. 50; Pl. 237, 34a.

[625] The two MPPNB (Stage XVIA) skulls (Munich: B1 A-B; Jericho: B4.45 2-3) were found (Trench I; Wall 64) on their sides. Ibid., p. 74; Pl. 48b, 221.

[626] The acephalous skeletons were found (Sq. D, EI) in the area near the skull finds. Ibid., p. 78.

[627] The imbedded cranium was found (Sq. EI; Stage XIII) imbedded in a wall (Wall E169) and the other was found (Sq. EI; Stage XIV) near an entrance. Ibid., pp. 298, 305; Pl. 163b, 169b, 171, 172a, 306b, 308b-c.

[628] In 1953, seven EPPNB-MPPNB (Stage XIV-XVIIA) plastered skulls (Munich: D110-116; Jericho: D.612 Reg. 530-535) were found (Trench I; Sq. DI) in the space between two walls (Wall 56, 72). Kenyon, 'Excavations at Jericho', pp. 107-108. In 1957, two additional EPPNB-MPPNB plastered skulls (Munich D117-118; Jericho D 10.6k Reg. 2000-2001) were found in the same location. Kenyon, *Digging up Jericho*, pp. 74-75; Pl. XII. Kurth and Röhrer-Ertl, 'Anthropology of the Mesolithic to Chalcolithic', in *Excavations at Jericho*, Vol. III, ed. by Holland, pp. 436-437. Kenyon suggested that the nine plastered skulls were from the EPPNB (Stage XVI) and intentionally discarded into the MPPNB (Stage XVIIA) fill. Kenyon, *Excavations at Jericho*, Vol. III, ed. by Holland, p. 77; Pl. 50a-b, 59a, 220-223, 239. However, Nigro suggests that the MPPNB wall (Wall 72) was constructed in order keep them in a delimited area, although 'they were thrown into it in a somewhat disrespectful way.' Nigro, 'Beheaded Ancestors', pp. 18-19; Fig. 13-a.

[629] The three LPPNB (Stage NNi) plastered skulls were found (Sq. EIII-IV) together, but not in the same condition. One skull (Munich E22; Jericho: E 121.32B Reg. 3657) was both plastered and painted, while two (Munich E20-21; Jericho E 121.31-32) were only plastered and fragmentary. It was suggested that the two painted skulls (Munich E25-26; Jericho E 121.32 D1-2) may belong to the PPNA. Kenyon, *Excavations at Jericho*, Vol. III, ed. by Holland, p. 310; Pl. 57a-b, 322b. Kurth and Röhrer-Ertl, 'Anthropology of the Mesolithic to Chalcolithic', in *Excavations at Jericho*, Vol. III, ed. by Holland, pp. 436-437.

[630] Strouhal, 'Five Plastered Skulls', pp. 244-245; Tab. 1. Hirst, 'British Museum Exhibition Review', p. 3.

architecture was discovered to be a side room of a MPPNB cultic building with associated finds of a bone mask and two caches of large fragmented plastered statues, including a head modeled similarly to the plastered skulls with inlaid shell eyes with well decorated facial features.[631] Also, a LPPNB plaster bust of a stylized human with a rectangular head was found near where the six LPPNA-EPPNB skulls were found cached in a tight circle.[632] Ritual activities may be suggested by the presence of *maṣṣebot* near special purpose buildings.[633]

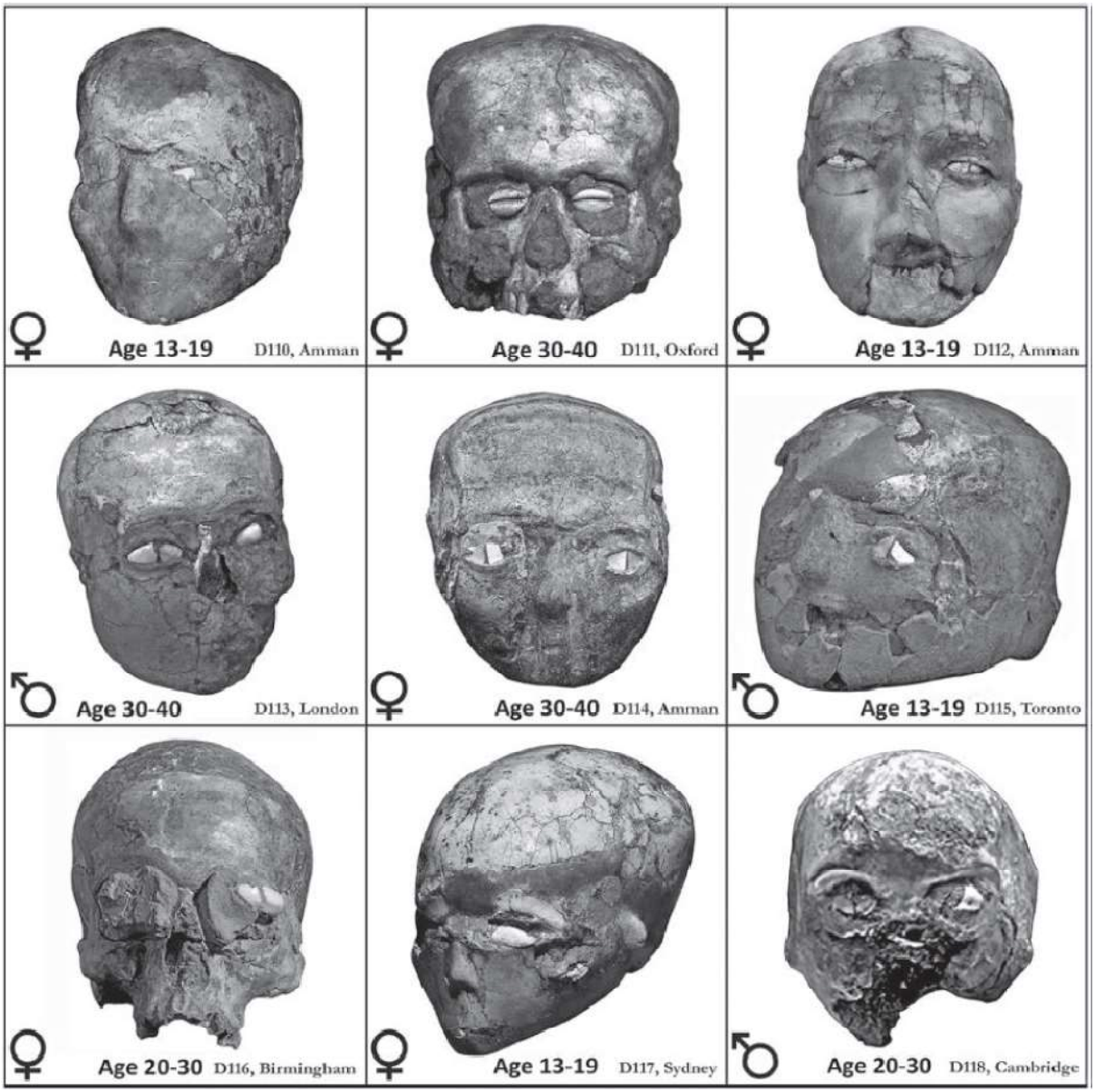


Fig. 99. Nine plastered skulls from Jericho (D110-118) with current location and probable demographic information. Nigro (2017), p. 19; Fig. 13b.

[631] The mask and two plaster statue caches (Cache 190, 195) were found (NE Trench; Sq. EI-II) near a building which Garstang designated as a shrine or '*megaron*.' The left foot of one of the fragments has six toes like the fragment from 'Ain Ghazal. Garstang, 'City and Necropolis', pp. 166-167; 'L'Art Néolithique a Jéricho', pp. 355-356. Rollefson, 'Ritual and Ceremony', p. 36; Pl. IV.3.

[632] The LPPNB (Stage IX) bust was found (Sq. EII) on a floor near a plastered circular bin about 2 m from where the LPPNA-EPPNB (Stage VIII) skull cache (Munich: E11-16; Jericho: E 12.3 A-F) was found. Kenyon, *Excavations at Jericho*, Vol. III, ed. by Holland. pp. 290; Pl. 57, 303a-b, 311.

[633] Kenyon, *Digging Up Jericho*, Pl. 17.

Sefunim Cave

LPPNA-EPPNB **c. 10,500-10,200 cal BP** **MNI: 1**

An acephalous burial was found in Sefunim Cave at Mt. Carmel near a limestone mortar similar to those found at Nahal Oren and it was suggested that a pit found under the mortar may have been the location of the original burial.[634] Continual, but sporadic usage of the cave site may reflect the, 'need for symbolic/ritual seclusion and exclusivity.'[635]

Kfar HaHoresh

PPNB **c. 10,500-8,750 cal BP** **MNI: 33**

Like Nahal Oren Cave, the small site of Kfar HaHoresh near Nazareth was perhaps a, 'funerary installation or a regional ritual center.'[636] However, there is evidence for a greater diversity of ritual at Kfar HaHoresh. Stone slabs or postholes for 'totems' may have been used to mark graves near the skull.[637] Many acephalous burials were unearthed.[638] Numerous skull fragments and over 12 isolated skull burials were found, sometimes as an inclusion in other graves.[639] Certain skulls were plastered and later buried following a 'second death.'[640] A red washed plastered skull was found buried facing east in association with various lithics and a headless gazelle skeleton.[641] Although fragmentary, a plastered skull painted with imported Anatolian cinnabar was found near a posthole and was likely similar in style to the plastered skull washed with red ochre.[642] 'Several other fragments of

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[634] The burial was found (Layer 7, Sq. K38) in a location said to dated by Ronen to the 'Neolithic.' Ronen marks a sharp break between the Neolithic Layer 7 and the Natufian Layer 8a. Ronen, 'Excavations at the Cave of Sefunim', pp. 277, 279. Shimelmitz et al places Layer 5 to the PPNB. Shimelmitz et al, 'Upper Paleolithic and Epipaleolithic of Sefunim', p. 111; Tab. 1. Belfer-Cohen and Goring-Morris note the identification of an 'Early PPNB layer at Sefunim cave [Iraq el-Baroud]'. Anna Belfer-Cohen and A. Nigel Goring-Morris, 'A New Look at Old Assemblages: A Cautionary Tale', in *Systèmes Techniques et Communautés du Néolithique Précéramique au Proche-Orient*, ed. by Laurence Astruc, Didier Binder and François Briois, (Antibes: Éditions APDCA, 2007), pp. 15-24, (p. 19; Brackets original). Radiocarbon dates for Layer 5 were obtained and date to the EPPNB (see Sefunim Cave entry in Appendix 99 for ^{14}C dates), but Layer 7 in which the acephalous burial was found, did not provide radiocarbon dates. Since Layer 7 is two layers older than the EPPNB date established for Layer 5 and younger than the Natufian Layer 8a, the burial may date to the PPNA.

[635] Ibid., p. 22.

[636] Schmandt-Besserat, 'The Plastered Skulls', in *'Ain Ghazal Excavation Reports*, ed. by Schmandt-Besserat, p. 225.

[637] Goring-Morris, 'The Quick and the Dead', in *Life in Neolithic Farming Communities*, ed. by Kuijt, p. 113.

[638] Simmons, Goring-Morris and Horwitz, 'What Ceremony Else?', in *Faces from the Past*, ed. by Faerman et al, p. 5. In addition to the acephalous burials mentioned above, the skeleton of an individual (H-5) was found (M/O54; L1020) without a cranium. Goring-Morris et al, '1992 Season of Excavations', pp. 78-79, 105; Fig. 2. Also, a 'half-a-man' was found (L1804) absent a cranium. A. Nigel Goring-Morris et al, 'The 2007–8 Excavation Seasons at Pre-Pottery Neolithic B Kfar HaHoresh, Israel', *Antiquity*, 82(318) (2008), pp. 1-3 (Fig. 2).

[639] In 2001, skeletal remains of 60 (MNI) were analyzed, including over 12 isolated skull burials. Vered Eshed, 'From Foraging to Farming in the Holocene (The Pre-Pottery Neolithic Period 8,300–6,000 B.C.) in the Southern Levant: The Skeletal Evidence', (unpublished doctorial thesis, Tel Aviv University, 2001). In 2017, the MNI increased to 85. Jacqueline Meiera, A. Nigel Goring-Morris and Natalie Munro, 'Depositional Histories of Faunal Remains from the Neolithic Cultic Site of Kfar HaHoresh, Israel', *Journal of Anthropological Archaeology*, 48 (2017), pp. 233-249, (p. 223). 'However, instances of removed skulls being subsequently placed intentionally into graves together with other postcranial remains is also documented on occasion, though it is possible that they reflect separate events.' Goring-Morris, 'Life, Death and Emergence', in *Archaeological Perspectives on Transmission*, ed. by Clarke, p. 95.

[640] Simmons, Goring-Morris and Horwitz, 'What Ceremony Else?', in *Faces from the Past*, ed. by Faerman et al, p. 23.

[641] The plastered skull (KHH Homo 1) was found (Trench I; Sq. H36; L1004) under a plastered surface. Goring-Morris et al, '1992 Season of Excavations', pp. 83-88, 105; Fig. 5-8. Hershkovitz et al, 'Remedy for an 8500 Year-old Plastered Human Skull', pp. 779-785.

[642] The fragmented skull (KHH Homo 8) was found (Sq. R/S54; L1036) near the animal depiction. Goring-Morris, '1997 Season of Excavations', pp. 1, 3; Fig. 2. Goren, Goring-Morris and Segal, 'Technology of Skull Modelling', pp. 674-677; Tab. 1-3.

plastered skulls' have been found.[643]

The intertwining of human and animal remains in a variety of mortuary contexts demonstrates the cosmological importance of animals regarding ritual practice and belief. A fox mandible was found with an acephalous child skeleton and a large green and white bead was found in the former location of the cranium.[644] Another fox mandible was found with an isolated skull burial of a child.[645] A cache of four skulls were found at the east end of a stone lined circular pit marked by a 'tombstone' and adjacent to an artiodactyl horn core (Fig. 99).[646] A kidney shaped ashen pit was found beneath a plastered surface lined with large human and animal bones.[647] The pit contained 13 human mandibulae that displayed cutmarks and were arranged in an oval shape around the periphery of the pit.[648] It also included the acephalous skeletons of two adults, one of whom appeared to be holding an infant who also lacked a skull.[649]

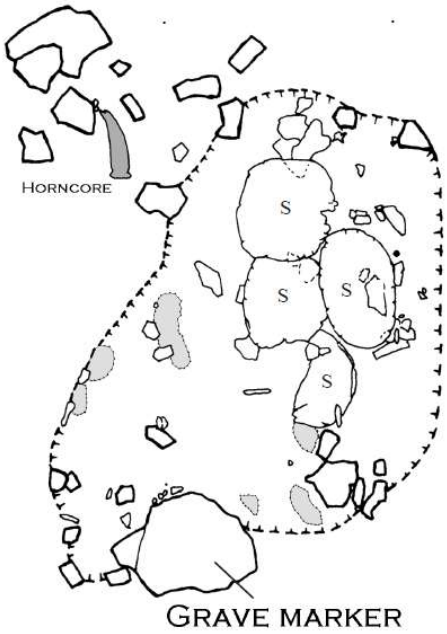


Fig. 99. Cache of four skulls with horn core at Kfar HaHoresh (L1304). Goring-Morris (2099), p. 96; Fig. 12.5.

Under a plastered floor, another ashen pit was discovered to contain the remnants of a unique human-animal-shell-stone funerary installation.[650] Human bones from at least four individuals and gazelle bones were arranged in such a manner as to depict the head, front leg, back, and tail of an animal in profile.[651] Although it is uncertain exactly which animal was depicted, the mouth of the animal was shown by using a human mandible and upturned cranium with a perforated hole, the eye was illustrated by a stone, a human leg and foot formed the tail, and gazelle bones were used for the nostrils and front hoof.[652] A large human mandible fragment was found in the middle of a small circular patch of plaster, which overlaid the depiction.[653] A plastered skull fragment with a line of shells demarked one side

[643] Goring-Morris, 'Life, Death and Emergence', in *Archaeological Perspectives on Transmission*, ed. by Clarke, p. 96.
[644] The acephalous skeleton was found (L1352) with another smaller green bead. Ibid., p. 98; Fig. 12.6.
[645] The child's skull burial was found (L1362) with an adjacent fox mandible. Ibid. p. 98.
[646] The skull cache was found (Sq. ZZ/A51-52; L1304) in the production area of Kfar HaHoresh near two kilns. Ibid., pp. 93, 96-97; Fig. 12.3, 12.5.
[647] The pit was found (Sq. J/K51-53; L1003) under a plastered surface (L1001) near Trench I. Goring-Morris et al, '1997 Season of Excavations', pp. 1, 3; Fig. 2.
[648] Simmons, Goring-Morris and Horwitz, 'What Ceremony Else?', in *Faces from the Past*, ed. by Faerman et al, p. 22.
[649] Goring-Morris, 'Life, Death and Emergence', in *Archaeological Perspectives on Transmission*, ed. by Clarke, p. 95; Fig. 12.3.
[650] The animal depiction was found (Sq. P/Q 54-56; L1155) separated by a posthole (Sq. Q 56-57) that excavators suggest did not have an integral architectural purpose, but rather a type of integral 'marker or totem' and on the other side, the poorly preserved remains of what was likely another animal depiction were found (Sq. Q 57-58; L1162). Goring-Morris et al, '1997 Season of Excavations', pp. 1-3; Fig. 2-4.
[651] Ibid., p. 2.
[652] Excavators suggested that the animal depicted may have been an auroch, boar, or lion. Ibid., pp. 2-3. Simmons, Goring-Morris and Horwitz, 'What Ceremony Else?', in *Faces from the Past*, ed. by Faerman et al, p. 21; Fig. 13b.
[653] Half of a human mandible was found (L1027) in the patch over the animal depiction. Goring-Morris et al, '1997 Season of Excavations', p. 3.

of the animal profile and both a burial and skull cache disrupted a portion of the depiction.[654] The skull cache was found near a posthole and included three skulls, at least one of which was plastered.[655]

Two 'Bos pits' date to the earliest usage of Kfar HaHoresh and have been interpreted as the remains of a mortuary feast.[656] The first 'Bos pit' discovered contained an acephalous individual with the postcranial partially articulated remains of eight aurochs and there is evidence of a hole later dug specifically to remove the human skull.[657] An acephalous burial and a blade cache were associated with the second 'Bos pit,' which contained the remains of four aurochs and other animals.[658] There is evidence that some skulls were wrapped in organic materials and thus continuity from the PPNB to skulls found in ceramic vessels in the PN was suggested.[659] A pit described as a '*favissa*' contained what may be a ritual burial of moulded, painted, and plastered remains that may represent a torso or some type of base.[660]

Motza

PPNB **c. 10,500-8,750 cal BP** **MNI: 14**

At the 'megasite' of Motza in the Judean Hills, a thin layer of plaster on or around most skeletons and in patches was often found in the grave fill.[661] Several acephalous burials were found at Motza.[662] The disarticulated skeletal remains of an individual without a cranium were found buried along with animal bones and a pair of gazelle horns, as well as a human mandible from a separate individual.[663] A collective burial contained patches of plaster, along with one complete and three fragmented skulls.[664] A double human burial included the skeletal remains of at least two foxes, which included a fragment of a fox mandible found on the skull on one of the interred.[665] Three standing stones at Motza have been interpreted as *maṣṣeboth*.[666] A broken headless anthropomorphic figurine and a stylized bird head pendant

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654 Ibid., pp. 2-3; Fig. 3-4.

655 The skull cache was found (Sq. Q56-57) at the northern end of the pit (L1155). Goring-Morris, 'Life, Death and Emergence', in *Archaeological Perspectives on Transmission*', ed. by Clarke, pp. 93, 96; Fig. 12.3.

656 Goring-Morris and Horwitz, 'Funerals and Feasts', pp. 905-911; Fig. 2-4.

657 A pit (L1019) was dug apparently to remove the skull of the acephalous skeleton (H-3) which was found (Trench I; Sq. H65-66; L1005) covered with a layer of chalk under a plastered floor (L1008-1009) and was separated from the aurouchs by a limestone slab. Goring-Morris et al, '1992 Season of Excavations', pp. 81-83, 105; Fig. 4. Goring-Morris and Horwitz, 'Funerals and Feasts', p. 906. Eshed, Hershkovitz and Goring-Morris , 'A Re-Evaluation of Burial Customs', p. 97; Tab. 2

658 The acephalous burial was found (L2266) adjacent to the blade cache (L2267) and 'Bos pit' (L2268). Other animal remains within the pit included goat, hare, raptor, wildcat, gazelle, and tortoise. Jacqueline Meier, A. Nigel Goring-Morris and Natalie Munro, 'Aurochs Bone Deposits at Kfar HaHoresh and the Southern Levant Across the Agricultural Transition', *Antiquity*, 91(360) (2017), pp. 1469-1483, (pp. 1472-1475; Fig. 1.B; Tab. 2).

659 Goring-Morris, 'Life, Death and Emergence', in *Archaeological Perspectives on Transmission*, ed. by Clarke, p. 95.

660 The plastered remains were found (L1363) inside the main burial area. Ibid., p. 97.

661 Khalaily et al, 'Excavations at Motza', p. 29.

662 Acephalous burials (L4049, L5050, L5070) found (Layer VI, Sq. N-O19) at Motza include a dual burial (L4046-L4047) of an acephalous adult holding an infant. Ibid., pp. 27-29; Fig. 19-21. Later excavations have uncovered six more acephalous burials found (Stratum 3-4, Areas B3, B10, Sq. BN-BO41) at Motza. Hamudi Khalaily and Jacob Vardi, 'Moza', 131 (2019), <http://www.hadashot-esi.org.il/report_detail_eng.aspx?id=25538> [accessed Jan 19, 2020].

663 The skeletal remains (L4049a) included a mandible and a few other postcranial bones, along with mostly gazelle bone and the mandible (L4049b) of another individual. A deposit of auroch bones was found (L.4005) in a single EPPNB pit, for which Khalaily et al suggested a 'symbolic or ritual context' similar to the 'Bos Pit' at Kfar HaHoresh. Khalaily et al, 'Excavations at Motza', pp. 25; 27; Fig. 20; Note 47.

664 The burial (L4050, L4053-L4054) of five (MNI) people was found with the incomplete skeletal remains of a child. Ibid., pp. 27-29; Fig. 20.

665 Hagar Reshef et al, 'Tails of Animism: A Joint Burial of Humans and Foxes in Pre-Pottery Neolithic Motza, Israel', *Antiquity*, 93(371) (2019), pp. 1-8.

666 Khalaily et al, 'Excavations at Motza', p. 7.

were found.[667]

Shkārat Msaied

EPPNB-MPPNB **c. 10,300-9,700 cal BP** **MNI: 15**

Stone cists were cut into the plaster floor of a circular building at Shkārat Msaied near Ba'ja and Beidha.[668] This MPPNB special building served as a mortuary house for this small village.[669] A cist burial marked by a monolith of orange sandstone was found without a skull, but with the inclusion of ovi-caprine mandibulae, suggestive of feasting.[670] A collective burial contained the carefully sorted bones of at least eight individuals with cranial fragments and seven north-facing skulls in the southern part of the cist.[671] A stone cist contained the skeletal remains of at least three children, one of which was represented by a mandible and another was represented by an acephalous skeleton.[672] Another stone cist contained a cache of three skulls, all of which faced west, next to a stone box that contained the skeletal remains of foxes.[673] Acephalous child skeletons are attested at Shkārat Msaied.[674]

Kharaysin

EPPNB-MPPNB **c. 10,200-10,000 cal BP** **MNI: 2**

The postcranial skeletal remains of two individuals, who were buried simultaneously, were found at Kharaysin in the Zarqa River Valley.[675] Apparently after enough decomposition had taken place, the grave was later opened in order to remove the cranium of the first individual interred and the skull of the second.[676]

Nahal Yarmuth 38

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667 The figurine (L4040, Bkt. 40644) and pendant (L4050, Bkt. 40836) were found (Layer VI) in fill. Ibid., pp.24-25; Fig. 17.

668 Kinzel et al, 'Shkārat Msaied 2016', pp. 13-17.

669 Numerous burials were uncovered in this circular structure (Unit F; Areas III-IV, VI; Sq. E100, E105 E105/E110, E105/F105, D100, D105). In addition to the burials discussed above, a mass grave (Unit F, Burial 6, Loc. 90120) of 37 individuals was discovered. Moritz Kinzel et al, 'Insights into PPNB Architectural Transformation', pp. 46-48; Fig. 5. Architectural aspects and numerous varied burials have led to the classification of the special building Unit F as a 'mortuary house – a house of the dead.' Kinzel, 'Special Buildings at PPNB Shkārat Msaied', in *Decades in Deserts*, ed. by Nakamura, Adachi and Abe, p. 88.

670 The monlith was found (Unit F, Burial 1, Loc. 50111) marking a burial. Charlott Jensen et al, Preliminary Report on the Excavations at Shakarat Al-Musay'id, 1999-2004', *Annual of the Department of Antiquities of Jordan*, 49 (2005), pp. 115-134, (pp.124-125; Fig. 1, 5, 13-14).

671 The skulls were found (Unit F) in the southern part of a cist. Hermansen et al, 'Shkârat Msaied: 2005', p. 4; Fig. 1-2.

672 The mandible (B 115.102) and headless skeleton (B 115.103) were found (Unit F, Loc. 80.303) at Shkārat Msaied. Kinzel et al, 'Shkārat Msaied, the 2014 and 2015 Seasons', *Neo-Lithics*, 2 (2015), pp. 7-8.

673 The skulls (Skull #1-3) were found in a stone cist (Unit F, Loc. 110.108) next to a stone box (Loc. 110.109) which contained the remains of more than one fox (Vulpes sp). Kinzel et al, 'Shkārat Msaied, the 2014 and 2015 Seasons', pp. 6-8; Fig. 5-6, 9.

674 One child skeleton (Bone nr: 124.117) was found (Unit F, Loc. 120.105) missing a skull and the other (Bone nr: 120.165) was found (Unit F, Loc. 120.131) missing a cranium, but it is possible that the associated mandible belongs to a separate individual. Kinzel et al, 'Shkārat Msaied 2016', pp.13-17; Fig. 1, 3-4.

675 PPNA and PPNB occupations of Kharaysin were dated via ^{14}C dates and material assemblage. A MPPNB layer was dated (Sample CNA 3467.1.1 9,092 ± 35 bp) and the burial under discussion 'probably also corresponds to the MPPNB, although its chronological attribution to the PPNA cannot be ruled out.' The burial pit (SU 34) was found (Area I100, b2) with the acephalous remains of two individuals, which likely date to the MPPNB, but could date to the LPPNA at the large (25-36 ha) site. Ibáñez et al, 'Kharaysin: A PPNA and PPNB Site', pp. 13, 18; Fig. 4; Note 3. The sample was calibrated to the late EPPNB-MPPNB with current software (CNA 3467.1.1 10,297-10,192; OxCal 4.3; IntCal13; 94.2%).

676 Ibid., p. 13.

MPPNB **c. 10,000-9,500 cal BP** **MNI: 4***

'Skulls were missing in several of the burials' at the possible MPPNB burial site of Nahal Yarmuth 38 near Eshtaol in the Judean Foothills .[677] A stone figurine with an elongated head and stylized face was found included with a burial at the small (0.1-0.2 ha) site and animal bones were found near or within graves.[678]

Abu Gosh

MPPNB-LPPNB **c. 10,000-9,400 cal BP** **MNI: 3**

An adult separated skull was associated with the primary burial of a child at Abu Gosh in the Judean Mountain range.[679] Two skeletons were also found without crania at Abu Gosh.[680]

Nahal Hemar

MPPNB-LPPNB **c. 10,000-9,200 cal BP** **MNI: 6**

Nahal Hemar Cave in the Judean Desert was occupied by hunter-gatherer communities during the PPNB and may have been, 'designated primarily for ceremonial-cum-burial purposes' along with Kfar HaHoresh.[681] Numerous crania and skull fragments were found at the cave.[682] Six crania were found modeled not with plaster, but with a type of animal collagen adhesive.[683] Artificial cranial modification in order to obtain a brachycranic appearance may have been a factor in selection for modeling, which only took place on the back of the crania and, 'increased tranverse dimensions.'[684] Leaving the face undecorated, the modeling on the back of the crania is in a net pattern, on which some type of headdress (e.g. hair, feathers, fabrics, etc.) may have been placed and would have highly accentuated the shape of the head.[685] Two stone masks were found with red pigment, traces of collagen, and hair.[686] It was perhaps because of these masks, that the fronts of the crania were not decorated.[687] Two of the modeled crania show signs of burning, but it is unknown if this was intentional.[688] In addition to fragments of plastered anthropomorphic statues, anthropomorphic figurine heads constructed from plaster coated bone ends with facial detail and red coloring were found.[689]

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[677] Radiocarbon dating is underway, but Nahal Yarmuth 38 is currently assigned to the Southern Levantine MPPNB, based on plaster and lithic evidence. Thus far, the skeletal remains of about 40 (MNI) were found at Nahal Yarmuth 38. Avi Gopher et al, 'Nahal Yarmuth 38', pp. 5, 7.

[678] Ibid., p. 6; Fig. 5.6.

[679] Lechevallier, *Abu Gosh et Beisamoun*, pp. 35-40, 147-152; Fig. 4, 9. Benz, 'Little Poor Babies', in *Beyond Elites*, ed. by Keinlin and Zimmermann, pp. 175-177; Tab. 1.

[680] The acephalous skeletons (Sk. 514, 537) were found (Habitation I, Sq. L 10-M 10) with a large stone on their bodies, but the excavation report does not state were the large stones were placed. Geneviève Dollfus and Monique Lechevallier, 'Les Deux Premières Campagnes de Fouilles a Abou Gosh (1967-1968)', *Syria*, 46(3/4) (1969), pp. 277-292, (pp.280-281).

[681] Goring-Morris and Belfer-Cohen, 'Different Strokes for Different Folks', p. 42.

[682] Arensburg and Hershkovitz, 'Neolithic Human Remains', in *Naḥal Ḥemar Cave*, ed. by Bar-Yosef and Alon, pp. 50-58.

[683] Nahal Hemar was first excavated by amateurs and so the stratigraphical locations for the decorated crania and other finds are uncertain. Six crania (Homo 2-4, 7-9) exhibited evidence of collagen decoration. Nissembaum, 'Eight-Thousand-Year-Old Collagen', pp. 5-10. Bower, 'Ancient Adhesive Surfaces, p. 279.

[684] Arensburg and Hershkovitz, 'Artificial Skull "Treatment" in the PPNB', in *People and Culture in Change*, ed. by Hershkovitz, pp. 128-129.

[685] Schick, 'Neolithic Cult Headdress', pp. 25-33.

[686] Bar-Yosef and Alon, 'Excavations at Naḥal Ḥemar Cave', in *Naḥal Ḥemar Cave*, ed. by Bar-Yosef and Alon, p. 24.

[687] Bar-Yosef, 'Early Neolithic Stone Masks', in *From Village to Cities*, ed. by Özdoğan, Hauptman and Başgelen, p. 79.

[688] Homo 1 and 4 exhibited evidence of burning. Arensburg and Hershkovitz, 'Neolithic Human Remains', in *Naḥal Ḥemar Cave*, ed. by Bar-Yosef and Alon, pp. 50-51, 53; Pl XXII.1-2.

[689] Bar-Yosef and Alon, 'Excavations at Naḥal Ḥemar Cave', in *Naḥal Ḥemar Cave*, ed. by Bar-Yosef and Alon, pp. 19-23. Yuval Goren, Irena Segal and Ofer Bar-Yosef, 'Plaster Artifacts and the Interpretation of the Nahal Hemar Cave', *Journal of*

'Ain Ghazal

MPPNB-LPPNB **c. 10,000-8,500 cal BP** **MNI: 23**

Continual occupation of 'Ain Ghazal along the banks of the Zarqa River spans almost three millennia, originating in the MPPNB and reaching 'megasite' status (c. 14 ha) by the LPPNB, which was then followed by a population decline in the PPNC and later Yarmoukian culture of the PN before the abandonment of the site.[690] Special treatment of the head at MPPNB-LPPNB 'Ain Ghazal is evidenced by the practice of skull removal and an array of modifications. Some individuals were buried under the floors of houses and later the skull or cranium was removed.[691] A cache of four human crania were found oriented toward the southwest, two of which contained traces of white plaster in the eye sockets and one used a strip of bitumen to depict an eye.[692] Three crania with traces of plaster were found in a row facing east under a floor.[693] An isolated plastered skull with cutmarks was found in a small pit under a floor (Fig. 99).[694]

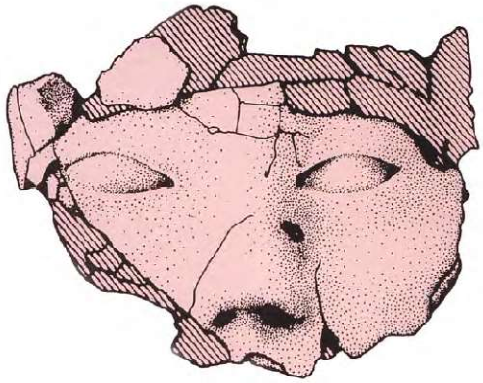


Fig. 99. Plastered skull fragment (88-1) from 'Ain Ghazal. Schmandt-Besserat (????), p. 216; Fig. 6.2.1.

Two fragmentary modeled and modified crania were found at different buildings at 'Ain Ghazal, both of which were painted red with traces of plaster, black bitumen, and were likely sanded.[695] A fragmented child cranium was found with black bitumen at the back, interpreted to indicate hair.[696] This find, along with one of the aforementioned red with black fragmented crania and the cache of three east-facing crania, were found in the same room of

1, (p. 123; Tab. 1). Orrelle, *Material Images of Humans*, p. 216; Fig. 64. and PPNC (c. 8,900-8,400 cal BP) at 'Ain Ghazal produced head ccupations did not. Rollefson and Kafafi, 'Town of 'Ain Ghazal', in nandt-Besserat, pp. 3-29, (p. 3). Rollefson, 'Recalibrating 'Ain Ghazal', in *Pioneer of Arabia*, ed. by Kafafi and Maraqten, pp. 305-318; Tab. 1.

[691] For example, the acephalous burial found (Sq. 302; LoC. 127) under a floor. Rollefson and Kafafi, 'Town of 'Ain Ghazal', in *'Ain Ghazal Excavation Reports*, Vol. 3, ed. by Schmandt-Besserat, pp. 14-16; Fig. 1.1.12. Kuijt, 'Regeneration of Life', p. 177; Fig. 3. 'More than 80 Middle PPNB human burials have been excavated to date, but very few skulls have been found.' Griffin, Grissom and Rollefson, 'Three Late Eighth Millennium Plastered Faces', p. 60.

[692] The four crania (Skulls A-D) were found (Sq. 3074) in a shallow outdoor pit associated with two infant burials (Burial 3074/040a-b). Rollefson, 'Neolithic 'Ain Ghazal (Jordan)', p. 390. Rollefson et al, 'Excavation at Pre-Pottery Neolithic B Village', p. 110. Rollefson and Kafafi, 'Town of 'Ain Ghazal', in *'Ain Ghazal Excavation Reports*, Vol. 3, ed. by Schmandt-Besserat, pp. 16-17; Fig. 1.1.16.

[693] The three crania were found (Sq. 3083/3283; Locus 116) cached in a straight line and belong to males 40+ years in age. Rollefson and Simmons, 'Neolithic Village of 'Ain Ghazal', pp. 153, 155; Fig. 12. Rollefson and Kafafi, 'Town of 'Ain Ghazal' in *'Ain Ghazal Excavation Reports*, Vol. 3, ed. by Schmandt-Besserat, pp. 16-17; Fig. 1.1.15. Although Rollefson and Kafafi reported that the crania received no postmortem treatment other than skull removal, Bonogofsky stated that the crania contain traces of coarse plaster. Bonogofsky, 'Complexity in Context', in *Skull Collection, Modification, and Decoration*, ed. by Bonogofsky, p. 20. Rollefson, 'Recalibrating 'Ain Ghazal', in *Pioneer of Arabia*, ed. by Kafafi and Maraqten, p. 312.

[694] The plastered skull (88-1) was found (Sq. 2872) under a floor and actually consists of cranial face bones, as well as partial parietal, occipital, temporal, and frontal bones. The occipital and temporal bones contained cutmarks. Alan Simmons et al, 'A Plastered Human Skull from Neolithic 'Ain Ghazal, Jordan: Field Report', *Journal of Field Archaeology*, 17(1) (1990), pp. 107-110; Fig. 2. Schmandt-Besserat, 'The Plastered Skulls', in *'Ain Ghazal Excavation Reports*, Vol. 3, ed. by Schmandt-Besserat, pp. 216-218; Fig. 6.2.1-2, 4.

[695] The fragmented cranium (AG 83 3078 062) was found (Sq. 3078; Loci 062-063) on a floor of a house. Rollefson, 'Neolithic 'Ain Ghazal', p. 390. The other fragmented cranium (AG 84 3083 107) was also found (Sq. 3083; Locus 107) under a floor of a house. Rollefson, Schmandt-Besserat and Rose, 'Decorated Skull from MPPNB 'Ain Ghazal', p. 100. Bonogofsky, 'Cranial Modeling and Neolithic Bone', pp. 141-146.

[696] Rollefson and Simmons, 'Excavations at 'Ain Ghazal', pp. 17-18.

the same structure.[697] This structure also contained a complex mortuary installation of nine individuals interred around a hearth, one buried in a corner, and an infant interred at the entrance.[698] Also inside the structure, four infants were found evenly spaced on the floor and two flint-stabbed zoomorphic figurines were deposited.[699]

Treatment of the head at 'Ain Ghazal is also demonstrated via plaster and stone anthropomorphic representations. Three pink-washed plastered faces with inlaid bitumen eyes were found deposited face down in a row, but without the corresponding skulls.[700] Anthropomorphic figurine heads and some headless figurines were found.[701] Large fragments of plaster anthropomorphic statues and busts were found in two separate caches.[702] Some of these fragments were parts of likely seven standing statues and perhaps five two-headed busts.[703] One bust displayed three stripes of red pigment on the face.[704] 'Ritual Buildings' at LPPNB 'Ain Ghazal include 'shrines' and 'temples' with standing stones and an anthropomorphic orthostat.[705]

Beisamoun

MPPNB-PPNC **c. 10,000-8,400 cal BP** **MNI: 21**

Located in the same Hula Basin region as the Natufian 'Ain Mallaha settlement, the site of MPPNB-EPN Beisamoun was a large (12-20 ha) site contemporary with Tell Aswad.[706] Two plastered skulls were found facing east under an antechamber of an abandoned rectangular MPPNB building with a red coated floor, similar to a building designated as a sanctuary at Jericho.[707] An exceptional assemblage of flint specimens were found associated with the plastered skulls.[708] The two plastered skulls were displayed, perhaps as a part of a mortuary installation.[709] Two collective burial pits of several acephalous individuals were

[697] The crania were found (Central Field; Sq. 3083/3283) in the same building, along with a unique concentration of burials. Schmandt-Besserat, 'The Plastered Skulls', in *'Ain Ghazal Excavation Reports*, Vol. 3, ed. by Schmandt-Besserat, pp. 216, 220; Fig. 6.2.2.

[698] Seven of the nine skeletons were acephalous. Rollefson, Schmandt-Besserat and Rose, 'Decorated Skull from MPPNB 'Ain Ghazal', p. 100; Note 8. Schmandt-Besserat, 'The Plastered Skulls', in *'Ain Ghazal Excavation Reports*, Vol. 3, ed. by Schmandt-Besserat, p. 220.

[699] Rollefson and Simmons, 'Excavations at 'Ain Ghazal', pp. 17-18. Schmandt-Besserat, 'The Plastered Skulls', in *'Ain Ghazal Excavation Reports*, Vol. 3, ed. by Schmandt-Besserat, p. 220.

[700] The three faces (Faces 1-3) were found (Sq. 3081/2; Loc. 139) face down *in situ* with an estimated 40% of the original plaster missing. Griffin, Grissom and Rollefson, 'Three Late Eighth Millennium Plastered Faces', pp. 59-63; Fig. 1-3.

[701] Rollefson, 'Ritual and Ceremony', pp. 32-35; Pl. II.3, III.4.

[702] Like the discovery at Jericho, a large plaster fragment of a six-toed foot was found within the first cache. Rollefson, 'Ritual and Ceremony', pp. 30-36; Fig. 1; Pl. I-II.2, IV.3. Garstang, 'L'Art Néolithique a Jéricho', pp. 355-356. The second cache actually consists of two small pits, the head was found (Sq. 3081) separate from the other statuary (Square 3282). Rollefson, 'Neolithic 'Ain Ghazal (Jordan): Ritual and Ceremony, II', p. 45-48; Pl. I.

[703] Some statues would have stood almost one meter high. Grissom, 'Neolithic Statues from 'Ain Ghazal', pp. 24-45.

[704] Schmandt-Besserat, 'Ain Ghazal Monumental Figures', pp. 1-17; Fig. 5.

[705] Rollefson and Kafafi, 'Town of 'Ain Ghazal', in *'Ain Ghazal Excavation Reports*, Vol. 3, ed. by Schmandt-Besserat, pp. 19-23; Fig. 1.1.19-24.

[706] Fanny Bocquentin et al, 'The PPNB site of Beisamoun (Hula Basin): Present and Past Research', in *The State of the Stone: Terminologies, Continuities and Contexts in Near Eastern Lithics*, ed. by Elizabeth Healey, Stuart Campbell and Osamu Maeda, Studies in Early Near Eastern Production, Subsistence, and Environment 13, (Berlin: ex oriente, 2011), pp. 197-211, (pp. 201, 204-205, 207; Fig. 3B; Tab. 4).

[707] The two plastered skulls (Crânes 1-2) were found (Area C; Sq. Y14; Level 1; L180) near the threshold of the building's antechamber, a building (Structure 150) which the early excavators claimed was '*identique*' to a building at Jericho designated as a '*sanctuaire*.' Ferembach and Lechevallier, 'Découverte de Deux Crânes Surmodelés', pp. 224-226, 229-230; Fig. 3; Pl. I-II. cf. Garstang and Garstang, *The Story of Jericho*, pp. 47-51.

[708] Fanny Bocquentin et al, 'The PPNB site of Beisamoun', in *State of the Stone*, ed. by Healey, Campbell and Maeda, pp. 201, 204-205, 207; Tab. 4; Fig. 3B.

[709] Lechevallier, *Abu Gosh et Beisamoun*, pp. 147-151; Fig. 47; Pl. XXXI.1.

found on either side the plastered skulls, one outside and one within the antechamber.[710] Near the plastered skulls, the remains of four neonates were found, three of which were represented by skulls only.[711] Later excavations uncovered four additional acephalous skeletons, dated to the PPNC-EPN.[712] At least one of which, provides evidence for a high degree of knowledge on the part of the individual who expertly removed the cranium.[713] A secondary burial of a cranium was also uncovered, dating to this period of transition from the LPPNB to the Early PN.[714]

Yiftahel

MPPNB-LPPNB **c. 9,700-8,750 cal BP** **MNI: 9**

Several acephalous burials found at Yiftahel in Lower Galilee provide evidence for skull removal.[715] In an open area near a large rectangular structure, three plastered skulls were found *in situ* lined in a row facing west.[716] Two anthropomorphic figurines were found, one was found headless and the head of the other has 'an elongated form.'[717] In the later PN levels of Yiftahel, a burial of an articulated skeleton was found with a standing stone above the skull.[718]





Fig. 99. (a) plastered skulls from Yiftahel (Homo 1-3) *in situ* and (b) after restoration. Milevski et al (2008), p. 43; Fig. 7-8.

[710] The aceph (L188, L191) on either side e de Deux Crânes Surmo

[711] The remai vith the plastered skull

[712] Bocquenti

[713] The aceph n. Ibid., pp. 36, 42, 45; Fig.

[714] The cranium was found (Sector F; Sq. W25 ; Layer 01; L232) in a pit facing NW. Fanny Bocquentin, Khalaily et al, 'Renewed Excavations at Beisamoun', p. 21, 34; Fig. 11; Tab. 5.

[715] Three acephalous burials (Homo 2-3, 7) were found (Area C; Sq. B/C36-38, L/M49; L700, L722, L730) with the skulls removed, 'apparently removed by Neolithic inhabitants themselves.' Baruch Arensburg, Yosef Garfinkel and Israel Hershkovitz, 'Neolithic Skeletal Remains at Yiftahel, Area C (Israel)', *Paléorient*, 12(1) (1986), pp. 73-81, (p. 75; Fig. 2, Pl. I:1, 3). A single acephalous burial (T30) was found (Level C3) in a later excavation. Hamoudi Khalaily, Ofer Marder and Ianir Milevski, 'New Excavations at the PPNB site of Yiftahel, Israel', *Neo-Lithics*, 2-3 (2000), pp. 18-20. While some skeletons retained their skulls, 'others had their skull removed post-mortem,' one of which was a flexed burial (L5582) found (Area I, Stratum 3) without a cranium, facing west. Ianir Milevski et al, 'The Plastered Skulls and Other PPNB Finds from Yiftahel, Lower Galilee (Israel)', *Paléorient*, 34(2) (2008), pp. 37-46, (pp. 39, 42; Fig. 2-3, 5).

[716] The three modeled skulls (H1-3) were found (Area I; Stratum 3 d; Open Area 402; N. of Building 501) in a pit (L4187). Khalaily et al, 'Recent Excavations at the Neolithic Site of Yiftahel', pp. 7-9; Fig. 10-11.

[717] Gubenko and Ronen, 'More from Yiftahel', pp. 150-151; Fig. 1.1-2, 2.1-2.

[718] The burial (Tomb L2100) was found (Area G) in a location which dates to the Lodian/Jericho IX culture. Khalaily et al, 'Recent Excavations at the Neolithic Site of Yiftahel', p. 9.

Tell Roim West

MPPNB-LPPNB **c. 9,500-8,750 cal BP** **MNI: 2**

Two acephalous burials were uncovered in the PPNB layers at Tell Roim West in the Hula Basin, Upper Jordan Valley.[719]

el-Hemmeh

MPPNB-LPPNB **c. 9,500-8,750 cal BP** **MNI: 1**



A human skull was found was found inside a plastered bin, along with a cache of grave goods in the PPNB layers at el-Hemmeh.[720] The grave goods cache included a multicolored stone anthropomorphic figurine with a highly elongated stylized head (Fig. 99), long blades, animal bones, red ochre, and other items.[721] The placement of the grave goods cache led excavators to suggest that they may have been placed inside of a vessel which has long since disintegrated.[722]

Fig. 99. Anthropomorphic figurine with elongated head from el-Hemmeh. Makarewicz & Austin (2006), p. ?? ; Fig. 4.

Wadi Shu'eib

MPPNB-LPPNB **c. 9,500-8,500 cal BP** **MNI: 14**

The majority of burials uncovered at the large (14-16 ha) MPPNB-LPPNB site of Wadi Shu'eib in the Central Jordanian Highlands were found lacking crania.[723] A collective burial of four acephalous individuals was found in a pit under a red plastered floor with a plaster anthropomorphic figurine.[724]

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[719] The acephalous individuals (Stratum V; Burial 2125, 2126) and below discussed deformed skulls (Strata II-III; Burial 2067, 3040) were found (Sectors B-D) in layers spanning from the PPNB-PN. Eshed and Nadel, 'Changes in Burial Customs', pp. 118-125; Fig. 2-5, 9-13; Tab. 1-3.

[720] The skull and grave goods cache were found (Space 17) inside a plastered bin that was created due to a space between two walls (W.367, W.414). Cheryl Makarewicz and Anne Austin, 'Late PPNB Occupation at el-Hemmeh: Results from the Third Excavation Season 2006', *Neo-Lithics*, 2 (2006), pp. 19-23, (p. 21).

[721] The grave goods included: five long blades, two large bone needles, a bone awl, bone spatula, two split polished metapodials, three unmodified ungulate metapodials, a large amount of red ochre, and an anthropomorphic figurine. Makarewicz and Austin, 'Late PPNB Occupation at el-Hemmeh', pp. 21-22; Fig. 4.

[722] Ibid., p. 21.

[723] Only three out of 13 adult (Burials 2, 8, 12) and two out of six child (Burials 5, 11) skeletons retained cranial elements. Simmons et al, 'Test Excavations at Wadi Shu'eib', pp. 36-40). Simmons et al, 'Wadi Shu'eib: A Large Neolithic Community', pp. 29, 30, 33-34; Tab. 12-13.

[724] The four individuals (I 1-4) were found (Area I; Burial 1) by a road cut that disrupted a portion of the collective burial.

Khirbet Hammam

MPPNB-LPPNB **c. 9,500-9,250 cal BP** **MNI: 1**

Directly under three sizeable pierced ground stone objects, the fragmented skull of a child was found at Khirbet Hammam in Wadi al-Hasa and the tightly clustered nature of the small fragmented skull may indicate that it was placed within a type of perishable container.[725]

Ujrat el-Mehed

LPPNB **c. 9,400-9,000 cal BP** **MNI: 12**

Excavators have suggested that Urjat el-Mehed in South Sinai was a 'religious center.'[726] All of the burials found at Urjat el-Mehed were secondary burials and besides skulls, very few postcranial bones were brought to the oval shaped stone paved pits inside unused huts.[727] Select postcranial bones were laid upon the paved grave floor and skulls were often placed on top of long bones, but some were inlaid with the skulls.[728]

Ba'ja

LPPNB **c. 9,200-8,900 cal BP** **MNI: 9**

At Ba'ja near Beidha, at least seven skulls were found together in a small collective burial chamber with other postcranial bones that were moved in order to allow for multiple internments.[729] Red pigment was found on bones and grave goods.[730] A pearl ornament was found under the skull of an infant burial.[731] Another collective burial contained the skeletal remains of at least six individuals, one of which was articulated except for the cranium.[732] A collective burial contained animal bones with human skulls and unarticulated postcranial remains of six individuals, one of whose skull was intentionally placed, 'directly in the NE corner and looking towards the east.'[733] The eastern burial chamber wall was intentionally placed in front of a fresco that depicted what may be a ladder image and light rays emanating from a human.[734]

Atlit-Yam

PPNC **c. 9,000-8,000 cal BP** **MNI: 6**

Evidence for special treatment of the head continued at the submerged PPNC site of Atlit-Yam, which contained acephalous skeletons and finds of isolated skulls. Underwater

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Simmons et al, 'Wadi Shu'eib: A Large Neolithic Community', pp. 27-30; Fig.14-15; Tab. 12.

[725] The skull at Khirbet Hammam (WHS 149), Wadi al-Hasa, was found (East Field, Test Trench 2) beneath three *in situ* ground stone items and the associated fill yielded a shell (Glycymerissp) bead. Peterson, 'Khirbet Hammam 2006', p. 5.

[726] Hershkovitz, Bar-Yosef and Arensburg, 'Pre-Pottery Neolithic Populations', p. 81.

[727] Five collective secondary burial pits were found (Loc. 26-31). Two contained four and five skulls, respectively (Loc. 26-27). One pit contained two skulls (Loc. 28). Two pits contained a single skull (Loc. 29, 31). Ibid., pp. 62-64; Fig. 2-5.

[728] Ibid., pp. 62-64; Fig. 2-3.

[729] The small (c. 0.6m^2) burial chamber was found (Area D 11-12, 21-22) to contain the remains of (MNI) 12 people, some of whom provided evidence of 'partial or fully mummified body parts.' Gebel and Hermansen, '2000 Season at Late PPNB Ba'ja', p. 22; 'LPPNB Ba'ja 2001', pp. 16-18; Fig. 6.

[730] Gebel and Hermansen, '2000 Season at Late PPNB Ba'ja', p. 22; 'LPPNB Ba'ja 2001', p. 18.

[731] Gebel and Hermansen, '2000 Season at Late PPNB Ba'ja', p. 22; 'LPPNB Ba'ja 2001', p. 18; Fig. 7A.

[732] The collective burial was found (Area C; Sq. C10, Burial Loc. 152) in a pit cut through a plastered floor within a small room. Gebel, Hermansen and Kinzel, 'Ba'ja 2005', p.15; Fig. 5.

[733] The collective burial was found (Area C; Sq. C10; Burial Loc. 170) near a wall and buttress. Ibid., pp. 16-18; Fig.7.

[734] Gebel and Hermansen, '2000 Season at Late PPNB Ba'ja', p. 22; (Fig. 4); 'LPPNB Ba'ja 2001', p. 17.

taphonomic processes may have led to the disarticulation of some skeletal remains, but 'the practice of post-mortem skull detachment may have still been practiced in Atlit-Yam.'[735] Cutmarks on an isolated hemi-skull may indicate treatment, 'with a special stone implement either for defleshing or as a preparatory procedure for skull decoration.'[736] Two burials each contained two child skulls, one with postcranial bones framing the pair in a rectangular shape and the other pair was found isolated.[737] A cattle horn core was found next to an isolated human calvarium and a grinding stone was found under the skull of an articulated burial.[738] Two 'ritual structures' were discovered, one of which contained three megaliths with two circumscribed with grooves in order to denote a schematic head from body and thus indicate an anthropomorphic shape.[739] Another megalithic 'ritual structure' at Atlit-Yam contained seven *maṣṣebot* in a semi-circle.[740]

PPNB-PPNC: North Levant

Dja'de el-Mughara

LPPNA-EPPNB **c. 10,700-10,200 cal BP** **MNI: 28**

At Dja'de el-Mughara in the Middle Euphrates Valley, an acephalous skeleton was found with the cranium removed and the cranium was later found near the feet of the individual.[741] An isolated skull was either placed on a floor or perhaps incorporated into the architecture for display, apparently as a secondary burial (Fig. 99).[742] Another isolated skull was found in a pit with ash, clay fragments, pebbles, and animal bones.[743] A fragmented, but fairly well preserved skull was found wedged between large stones.[744]



Fig. 99. Isolated skull (Crâne 627) from Dja'de. Chamel (2014), p. 164; Fig. 53.

[735] There are examples of skeletons (H25, H28, H48, H86) without skulls and/or crania found (
and in 2005, Galili et al gave four possible cephalic remains (H3, H6, H13, H41b) that indicate
skull from the rest of the skeleton and its separate burial.' Galili et al, 'Burial Practices at Submerged Pre-Pottery Neolithic C Site', pp. 12-13; Fig.9a, 12. However in 2013, Galili et al stated that, 'there are occurrences of skeletons with no skull and a single separated skull burial.' Galili et al, 'Submerged Prehistoric Settlements', p. 187.

[736] The type of cutmarks described to polish the hemi-skull (H6) found near a wall adjacent to a structure (Structure no. 8c) at Atlit-Yam were described with reference to a fragmented cranium (AG 84 3083 107) found (Sq. 3083; Loc. 107) at 'Ain Ghazal, which were later interpreted as likely indicative of a sanding procedure. Hershkovitz and Galili, '8000-Year-Old Human Remains', pp. 324, 328-329; Fig. 5, 7-8. Bonogofsky, 'Cranial Modeling and Neolithic Bone Modification', pp. 141-146.

[737] The skull burials (H37-38) were found (Area F) framed by postcranial bones, but the separated skull burials (H80-81) were found (Area L) in isolation. Galili et al. 'Burial Practices at Submerged Pre-Pottery Neolithic C Site', pp. 9, 11, 13-14; Fig. 9b-11; Tab. 2.

[738] The horn core was found (Area G) near a calvarium (H-13) and the ground stone was found (Area K) under a skull (H-91a) in a group burial (The referenced text states that the horn core was near the isolated calvarium (H-13), but Table 3 lists the burial goods for H-13 as 'axes' and assigns the horn core to H-11 found in Area B). Ibid., pp. 9-12; Fig. 6-9a; Tab. 3.

[739] The 'ritual structure' (Structure 67) contained three oval shaped megaliths. Galili et al, 'Submerged Prehistoric Settlements', p. 184; Fig. 5.

[740] The 'ritual structure' (Structure 56) contained seven *maṣṣebot*, six of which were standing *in situ*. Ibid., p. 184; Fig. 4.

[741] The acephalous skeleton (Individual 259) was found (Sector AE; Wall 170) and the cranium was found (Layer C1c) 15-10 cm away from the feet of the skeleton, which led excavators to suggest that the burial was primary with a later removal of the cranium. Bérénice Chamel, 'Bioanthropologie et Pratiques Funéraires des Populations Néolithiques du Proche-Orient: L'Impact de la Néolithisation (Étude de Sept Sites Syriens – 9820-6000 cal. BC)', (unpublished doctorial dissertation, Université Lumière Lyon 2, 2014), pp. 192-194; Fig. 79.

[742] The skull (Crâne 627) was found (Sq. U-V/B1-B2; Structure 627) in the SW corner of the building. Ibid., pp. 163-164; Fig. 53.

[743] The LPPNA skull (Crâne 659) was found (Phase DJ I; Sector C) lying upon a bed of pebbles, but it may not have been intentional. Ibid. pp. 164-165; Fig. 54.

[744] The LPPNA skull (Crâne 681) was found (Phase DJ I; Sector Em; Layer M4) in association with flints and a grindstone. Ibid., pp. 165-166; Fig. 56.

Another fragmented skull was found beneath debris from a fire and had an auroch rib underneath.[745] Two fragmented child skull caps were found with an anthropomorphic figurine.[746]

The *Maison de Morts* was a not a place of permanent habitation, but rather a place where those who died away from a village were wrapped in mats and transported for burial.[747] All 38 individuals recovered from this possible charnel house were young adults and children. Collective burials included an immature skull with the long bones of three adults and another contained an adult skeleton found holding the skeletal remains of a child in one arm and resting the other hand on an isolated skull.[748] Eight skulls and crania were found in a collective pit, at least some of which appear to be secondary burials.[749] Mandibulae were recovered at Dja'de, but often the depositional context was unclear. However, three mandibulae may be considered foundation deposits for different structures within the *Maison de Morts*.[750] A collective burial would include two slightly burned skulls.[751] The final collective burial included at least six separated skulls.[752] An anthropomorphic figurine with a flat head was found.[753] Anthropomorphic figurines made from phalanges of equids were also discovered.[754]

Tell Mureybet

LPPNA-EPPNB **c. 10,500-10,200 cal BP** **MNI: 5**

At PPNB Tell Mureybet, five isolated skulls were found, some of which were coated with yellow clay, set upon red clay bases, and placed against walls on the ground as, 'a type of cult furniture.'[755] Red clay also may have provided a headrest for an articulated skeleton.[756]

Tell Aswad

EPPNB-LPPNB **c. 10,500-9,500 cal BP** **MNI: 45**

An isolated skull was found in a basket and two skulls were found in a small clay box at Tell Aswad near Damascus.[757] Four plastered skulls with bases were found decorated with

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[745] The EPPNB skull (Crâne 677) was found (Phase DJ IIa; Sector Em; Layer K7) in a burnt section of the *Maison Brúlée*. Ibid. p. 167; Fig. 57.

[746] The MPPNB 'calottes sol' were found (Phase DJ IIb; Sector E; Sq. y4; Floor 469) in along with skeletal remains of an adult. Ibid., pp. 175-176; Fig. 64-65.

[747] Coqueugniot, 'Dja'de el Mughara (Moyen-Euphrate)', in *Espace Naturel, Espace Habité*, pp. 109-114; Fig. 1.

[748] Ibid., pp. 111-112.

[749] The skulls and crania (Crâne A-G, J) were found (Sector D; Grave 180; Structure 155; Sq. V-W/0-1) together in the *Maison de Morts.* Chamel, 'Bioanthropologie et Pratiques Funéraires', pp. 220-226; Fig. 98-100; Tab. 10.

[750] A mandible from Structure 155 and two from Structure 27-28 within the *Maison de Morts* may be interpreted as foundation deposits. pp. 226, 236-237; Fig. 106.

[751] The two immature skulls (DJ-1, DJ-2) were found (Sector C; Grave 179; Structure 155) in a collective burial of 12 (NMI) individuals, most of whom where children. Ibid., 229-234; Fig. 102-104; Tab. 12.

[752] The skulls (Crâne K, L-P) were found (Grave 108; Sq. Y/0-1; Structure 27-28) in the final collective burial of 16 (MNI) individuals. Ibid., pp. 243-248 ; Fig. 110-112; Tab. 14.

[753] Coqueugniot, 'Dja'de (Syrie) et les Représentations Symboliques', in *La Transition Néolithique en Méditerranée*, ed. Manen, Perrin and Guilaine, pp. 91-108; Fig. 2.

[754] Christidou, Coqueugniot and Gourichon , 'Neolithic Figurines Manufactured from Phalanges', pp. 319-335.

[755] '*Ils n'étaient donc pas enterrés mais visibles aux habitants de la maison comme une sorte de mobilier cultuel.*' Cauvin, *Les Premiers Villages*, p. 128. de Contenson, 'Les Coutumes Funéraires', p. 188. Chamel, 'Bioanthropologie et Pratiques Funéraires, pp. 345-352; Fig. 157.

[756] Cauvin, *Les Premiers Villages*, p. 128; Note 49.

[757] Danielle Stordeur et al, 'Reprise des Fouilles à Tell Aswad de Damascène: Résultats Préliminaires', *International Congress on the Archaeology of the Ancient Near East 3, Paris, Avril, 2002*, (Paris: University of Paris 1 Pantheon-Sorbonne,

red and black pigment placed against a wall as a possible foundational deposit in a carefully prepared burial area at MPPNB Tell Aswad and the complete skeletal remains of a baby were found on top of two of the plastered skulls, separated by a thin layer of earth.[758] In addition to the over-modeled skulls, this collective burial included an acephalous burial, isolated cranium, and an articulated skeleton whose head once rested on a 'funeral cushion.'[759] A primary grave also provided plant phytolith evidence of a perishable 'funeral pillow' under the skull.[760] Another collective burial contained two complete skeletons with a shell found near one skull and two mandibulae found stacked near the other skull, as well as two separated skulls deposited to the right of each skeleton.[761] Seven crania were found surrounding and atop two primary burials.[762]

An often used hearth was found near the skull of a skeleton, whose head rested upon a perishable headrest in a collective burial.[763] The collective burial also contained three crania set in a thin layer of clay upon the thorax of the primary burial which was near the acephalous skeletal remains of five children.[764] A clay headless anthropomorphic figurine was found in one of two hearths near the five child acephalous skeletons.[765] Ten additional acephalous skeletons were later uncovered at Tell Aswad.[766] A secondary burial of an immature skull was found with the acephalous skeleton of another individual.[767] The use of shrouds for some burials at Tell Aswad may be evidenced from a

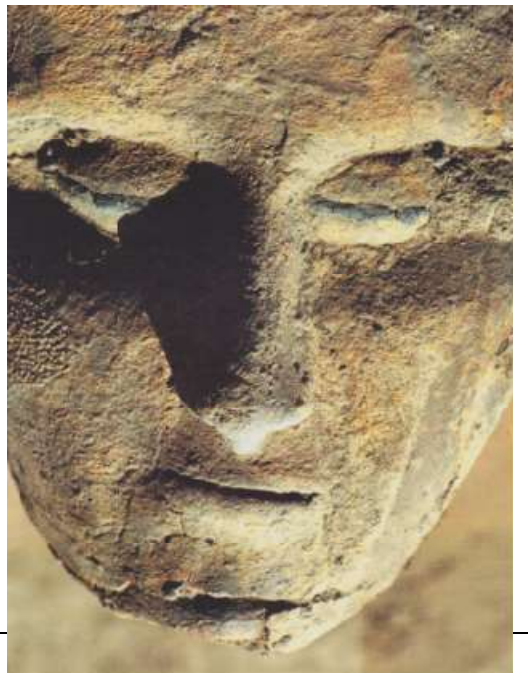


Fig. 99. Modeled skull from Tell Aswad (741 CS3). Stordeur & Khawam (2007), p. 30; Fig. 7-2.

2002), pp. 231-245, (p. 237; Fig. 5).

[758] Found in the *dortoir des morts* (Level B0, St.671, Individuals 671 CS1, CS2), Skulls 671 CS1 and 671 CS2 were found stuck together, as were 671-CS3 and 671-CS4. Individual (671-5) was found [illegible] t al, 'L'aire Funéraire de Tell Aswad', p. 41; Fig. 2.1-6.

[759] The acephalous individual (671-1), isolated cranium (671-3) found [illegible], and the burial with a *coussin funéraire* headrest (671-6) were found as parts of a collective burial (Level B0, Sq. ZV/ZW, 129-131, St.671). Ibid., pp. 43-44, 54, 57; Fig. 1.

[760] Primary burial (Level B0, Sq. ZV/ZW, 125-126, St.662) of an individual with an *oreiller funéraire*. Ibid., pp. 50, 54, 57, 60; Fig. 1, 4.2.

[761] Collective burial of at least seven individuals (Level B0, Sq. ZU/ZV, 129-131, St.544). Individuals 544-1 and 544-2 were both found with a separated skull and 544-1 was found with the two mandibulae stacked near the skull. Ibid., p. 45; Fig. 3.3, 5-6.

[762] A zoomorphic figurine was placed on one of the skulls (Level B0, Sq. ZW/ZX, 130, St.672), Ibid., pp.49, 55; Fig. 1, 4.4.

[763] The collective burial (Level B0, Sq. ZX/ZY-124, St.569) included a primary burial of an individual (569-1) with a head cushion made from '*fibres végétales très fines*.' Ibid., pp. 50-51, 57; Fig. 1, 5.1.

[764] The collective burial included a primary individual (569-1), upon which three crania were placed in association with five acephalous burials (Level B0, Sq. ZX/ZY, 124-126) of immature individuals (586, 594, 599, 569b, 570), only one of which may be anthropic skull removal certain, due to the location of the pit. Ibid., pp. 50-51, 57; Fig. 1, 5.1-3, 8.

[765] The anthropomorphic figurine was found along with zoomorphic figurines and animal bones. Ibid., pp. 50, 57; Fig. 5.5-6.

[766] The anthropomorphic figurine was found along with zoomorphic figurines and animal bones. A collective burial (Level B0, Sq. ZW/ZX, 128-130, St.519) contained the acephalous skeletons of two individuals (544-1, 544-2). Another collective burial (Level B0, Sq. ZV/133, St.599) contained the remains of two individuals, one of which (559-1) underwent skull removal. A primary burial (Level B0, Sq. ZV/133, St.599) of an individual (534-1) was found (Level B0, Sq. ZU/130, St.534) without a skull. A collective burial (Level B0, Sq. ZW/128-129, St.500) contained the skeletal remains of three individuals, one of which (500-1) was found missing a skull. A collective burial (Level B0, Sq. ZZ/130-131, St.675) contained the skeletal remains of at least four individuals and no skulls were found. A primary burial (Level B0, Sq. ZW/138-139, St.496) contained a skeleton without a cranium. Ibid., pp. 45-50, 57; Fig. 1, 3.1-3.

[767] The collective burial (Level B0, Sq. ZY/131, St.509) contained an immature skull (509-2) and a skeleton (509-1) without a cranium. Ibid., pp. 1, 48, 60; Fig. 1, 4.5-6.

thin white film of plant phytoliths covering the body, especially the skull.[768] A separate LPPNB cache of four naturalistic plastered skulls (Fig. 99-99) with elongated cranial areas were found tightly encircled around the undecorated skull of a child.[769] The plastered remains of a modeled face without a skull were found near the cache.[770] Anthropomorphic figurines with stylized heads or lacking heads were found.[771]



Fig. 99. Skull cache from Tell Aswad (left to right 741 CS5, CS3, CS1) Stordeur & Khawam (2007), p. 28; Fig. 5-1.

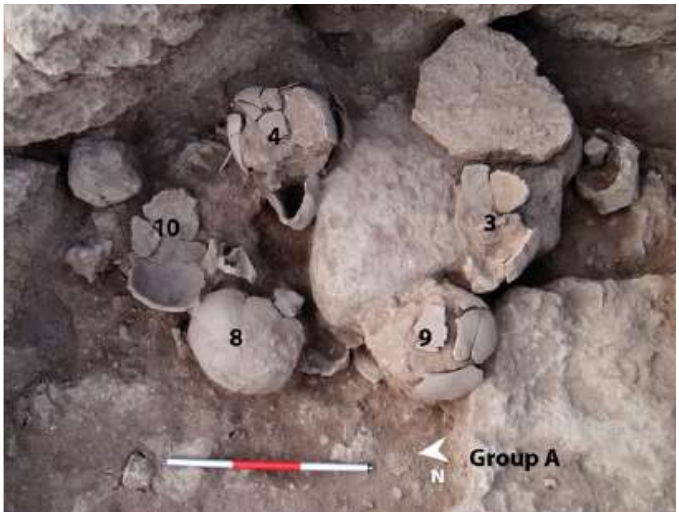
Tell Qarassa North

EPPNB-MPPNB **c. 10,400-10,100 cal BP** **MNI: 27**

Acephalous burials and a deposit of two skulls were discovered at EPPNB Tell Qarassa North on the Leja Plateau.[772] 11 crania with dislocated mandibles were found deposited on stone stabs in an oval building and the crania showed evidence of hostility and/or mutilation.[773] The crania were discovered in two circular caches of five and six, respectively (Fig. 99-99).[774] The cache of five crania were oriented towards the center of the circle, but

[768] Level B0, Sq. ZW, 129-130, St.555. Ibid., p. 46; Fig.1, 3.7.
[769] Four over-modeled skulls (741 CS1-3, CS5) were found in a burial cache (Level B5, Sq. ZM/ZN-122, St.741) encircled around the skull of a child. Stordeur and Khawam, 'Les Crânes Surmodelés de Tell Aswad', pp. 27-29; Fig. 3-8.
[770] No skull was found that corresponds to the plastered facemask (741-S7), but a mandible was found which may correspond to 741-S7. Ibid., pp. 5-32; Fig. 4.1, 6.1, 8.4-7.
[771] Cauvin, *Les Premiers Villages*, p. 123; Fig. 27.
[772] 'This deposit was prepared with three stones placed horizontally, aligned on a north–south axis. […] This movement suggests that the cranium was on the surface for a time, uncovered by sediment.' Jonathan Santana et al, 'Interpreting a Ritual Funerary Area at the Early Neolithic site of Tell Qarassa North (South Syria, Late 9th Millennium BC)', *Journal of Anthropological Archaeology*, 37 (2015), pp. 112-127, (pp. 116, 118; Fig. 7). The below discussed skull cache (Burial BC-12) was found (Sq. Y/Z-67/68) in the early layers at Tell Qarassa North. Juan José Ibáñez et al, 'The Early PPNB Levels of Tell Qarassa North (Sweida, Southern Syria), *Antiquity*, 84(325) (2010), pp. 1-5, (p. 2).
[773] Santana et al, 'Crania With Mutilated Facial Skeletons', pp. 205-216.
[774] Five crania were found (Zone 2, Sq. J-41/42) in the north (Group A) and six in the south (Group B), with fractured

two crania were positioned facing one another.[775] The cache of six crania included and encircled a central cranium which was fractured prior to deposition and the cranial fragments were sprinkled throughout on top of the other crania.[776]



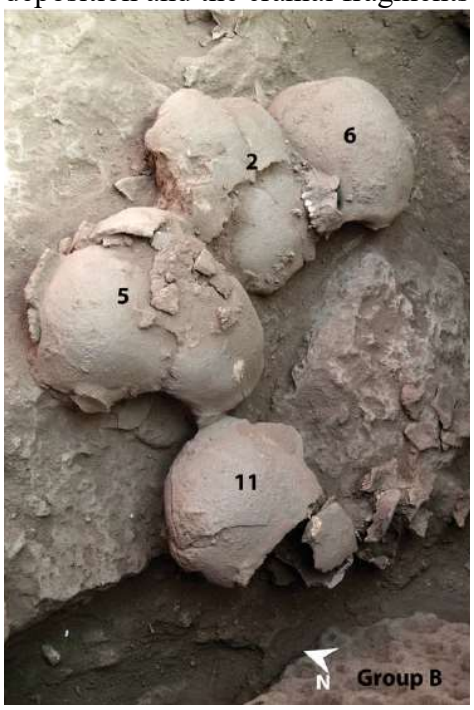


Fig. 99. Two Skull caches from Tell Qarassa North (Group A-B). Santana et al, (2012), p. 209; Fig. 4-5.

Crania from both sexes and various ages were found at Tell Qarassa North, but this cache were all male in varying stages of decomposition, which would suggest that the arranger(s) of this cache knew the deceased in some fashion, at least enough to know that they were all male.[777] The building in which the two crania caches were found was buried intentionally and hostility may be involved.[778] The arrangement of the cache of six may be, 'related to the position of the setting or rising sun' and provide archaeoastronomical evidence for an ancient understanding of the Neolithic skyscape.[779] Numerous burials were later opened for cranium removal Tell Qarassa North and a cache with a cranium and fragmented skull were found.[780] Anthropomorphic figurines were found 'clearly associated with the funerary levels.'[781] Also, a bone wand with two carved human faces was found.[782]

Cranium 11 at its center. Ibid., p. 207; Fig. 2, 4-5.

[775] Within Group A, Cranium 8-9 faced one another. Ibid., p. 213.

[776] Within Group B, Cranium 11 was encircled and fractured. Ibid., p. 213.

[777] Ibid., p. 212.

[778] 'Once the crania had fulfilled their ritual functions, they were abandoned in a process that has been termed turning of affection.' Drawing from ethnographical research from Pécontal-Lambert, Santana et al described examples in which trophy crania were believed to be harmful to their possessors. Lips were sewn or closed, substances placed within the mouth, or the mandible removed for apotropaic purposes. Crania burial and sealing of entrances 'also seems to stress this idea of distancing the crania, perhaps with the aim of protecting the living'. Ibid., pp. 213-214. Anne Pécontal-Lambert, 'Approche Ethnologique d'un Aspect du Comportment "Magico-Religieux" des Neolithiques du Proche-Orient', *Palebios*, 3(2-3) (1987), pp. 15-26.

[779] 'The orientation of the crania in an east-west axis is probably related to the position of the setting or rising sun.' Ibid., p. 213.

[780] Acephalous burials were found in Sq. U/V (Burials BC-8, 10, 24) and also in Sq. X/Y/Z (Burials BC-1, 2, 3, 5, 7, 16, 19, 23, 15), along with a skull cache (Burial BC-12). Santana et al, 'Interpreting a Ritual Funerary Area', pp. 115-11; Fig. 2, 4-7, 9; Tab. 1-3.

[781] Ibid., p. 122; Fig. 13 A-C.

[782] The wand was found (Sq. V-67) via sieving material. Ibáñez, Gonález-Urquijo and Braemer, 'Human Face and the Origins of the Neolithic', pp. 82, 85; Fig. 3.

Moghr el-Ahwal

MPPNB **c. 9,700-9,500 cal BP** **MNI: 8**

Acephalous burials were found within stone lined pits in a cave at MPPNB Moghr el-Ahwal in the Qadisha Valley.[783]

Tell Halula

MPPNB-LPPNB **c. 9,700-9,250 cal BP** **MNI: 1**

One possible case of secondary skull removal was uncovered in the 114 seated burials uncovered at MPPNB Tell Halula in Syria, but it is uncertain if this was intentional or the result of taphonomic processes.[784] Cowrie shells were found around some skulls, which may have been part of headdresses.[785] Mineralized textile remains found in a burial may have been part of a mat which covered the head.[786] Grave goods including figurines and ochre were used in many highly organized burials (Fig. 99).[787] A painting of stylized women around a red square was found on a plastered floor.[788]

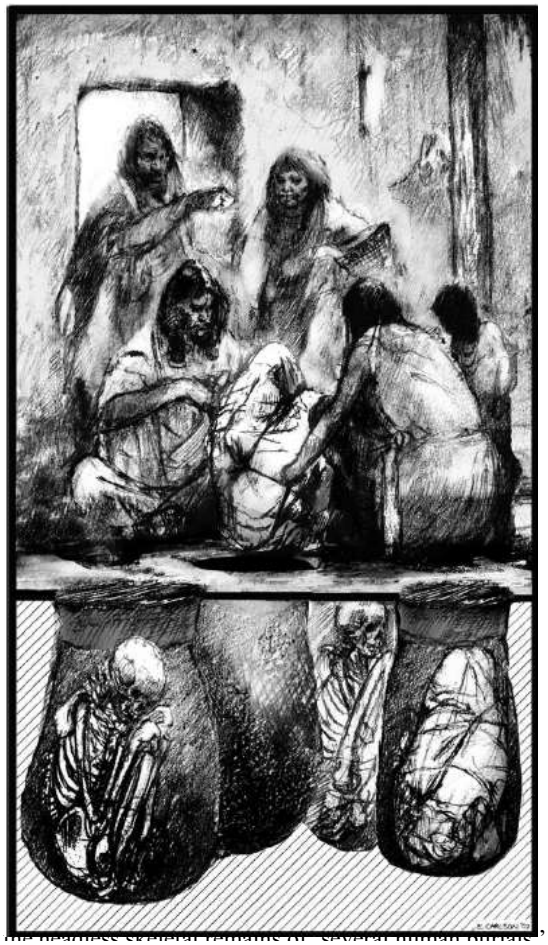


Fig. 99. Artistic reconstruction of seated burials at Tell Halula. Guerrero et al, (2009), p. 388; Fig. 8.

Basta

MPPNB-LPPNB **c. 9,500-9,000 cal BP** **MNI: 10**

Acephalous burials were encountered at Basta near Wadi Musa and two double skull burials were found.[789] Architecture in Basta contains underground 'channels' that are

[783] Cave 2 (Sq. S-U, Loc. 9, 12, 15, 18, 25, 28, 32-33) contained [illegible] several human [illegible], Andrew Garrard, 'The Epipalaeolithic and Pre-Pottery Neolithic [illegible] Bar-Yosef, pp. 691-698, (pp. 695-696). Garrard and Yazbeck, 'Qa[illegible]

[784] Emma Guerrero et al, 'Seated Memory: New Insights into Ne[illegible] Syria', *Current Anthropology* , 50(3) (2009), pp. 379-391; (p. 386; Fig. 5-6). Josep Anfruns and Miquel Molist, 'Prácticas Funerarias en el Neolítico de Siria: Análisis de los Documentos de Tell Halula (Valle del Éufrates)., in *El Mediterráneo en la Antigüedad: Oriente y Occidente, Actas del Ier Congreso Español Antiguo Oriente Próximo 1997, Madrid*, ed. by J. L. Cunchillos et al., (Madrid: C.E.P.O Publicaciones, 1998). For an explanation of taphonomic processes at tell Hatula and in general, see Anabel Ortiz, Philippe Chambon and Miquel Molist, ' "Funerary bundles" in the PPNB at the Archaeological Site of Tell Halula (Middle Euphrates valley, Syria): Analysis of the Taphonomic Dynamics of Seated Bodies', *Journal of Archaeological Science*, 40(12) (2013), pp. 4150-4161.

[785] Kuijt et al, 'Changing Neolithic Household', p. 512.

[786] The textile remains were discovered in a funerary bundle (Burial 4DE251). Ortiz, Chambon and Molist, 'Funerary Bundles ', p. 4153.

[787] Guerrero et al, 'Seated Memory', p. 386.

[788] Molist Miquel, 'Des Représentations Humaines Peintes au IXe Millénaire BP sur le Site de Tell Halula (Vallée de l'Euphrate, Syrie)', *Paléorient*, 24(1) (1998), pp. 81-87, (p. 84; Fig. 4).

[789] Site excavators state that a portion of the acephalous burials may be due to intensive use of the burial area where the two dual skull caches were found (Area A. Burial B6, B8. Room 30-31). Nissen et al, 'Report on the First Two Seasons', p. 96.

always on virgin soil in order to keep the floors off the damp ground and since sub-floor
l g the PPNB, they may have also
s [790] Three human skulls
l of human bones were found
i A human skull was
i ial at two separate locations
v A limestone head and
r h carved human faces,
v g. 99).[793] A fragment of a
l also found.[794]





Fig. 99. Possible amulet (top) and small carving of a human head (bottom) from Basta. Gebel (2017), p. 63; Fig. 4.

Tell Ramad

LPPNB-PPNC **c. 9,200-8,650 cal BP** **MNI: 27**

The *culte des crânes* at Tell Ramad near Damascus has yielded the largest collection of plastered skulls (Fig. 99-99), recovered in three caches of eight, three, and at least 12, respectively.[795] A fragmented anthropomorphic statuette was found as part of a possible foundation rite along with the cache of eight skulls, which were reconstructed with lime plaster in both the face and neck areas, prior to the application of red pigment on the forehead.[796]

The cache of three plastered skulls were found along with clavicles and were also coated red, which was interpreted as symbolic for blood and/or life.[797] The cache of over 12 plastered skulls were found separated by reddish clay balls and it also included two anthropomorphic statuettes, one of which has a stylized head and the other consists of pelvis and legs.[798]



Fig. 99. Plastered skull (R.67.2) from Tell Ramad. de Contenson (2002), Pl. XXIII/2.

[790] Nissen et al, 'Report on Excavations at Basta', p. 14.
[791] The skulls (Burial 37) were found (Area A, Channel 25/20) in a burial channel. Ibid., p. 15.
[792] A seperated skull was found (Area A. Room 29) included in two burials (Burials 32-35), Ibid., p. 18.
[793] Ibid., p. 26; Fig. 6.1-2.
[794] Nissen et al, 'Report on the First Two Seasons', p.106; Fig.16.1.
[795] de Contenson stated that about 23 skulls were discovered in Levels I-II. de Contenson, *Ramad, Site Néolithique*, p. 56. A later study by Anfruns and Oms stated a total of 27 handled skulls and they distinguish 16 totally or partially plastered, six with plaster remains and red pigment, four with red staining only, and one skull fragment with black pigment. 48.2 % of 56 individuals discovered at Tell Ramad underwent skull removal and treatment. Anfruns and Oms, 'Un Nouveau Regard sur les Restes', p. 123.
[796] Found (Level 1, M 4 SO) inside a niche. The clay and plaster statuette (R.67.3) is a fragment of a lower torso with leg holes. de Contenson, 'Ramad, Site Néolithique', pp. 56, 325-326; Pl. XXIII, XXIV-l; 'Les Coutumes Funéraires', pp. 187-188; Fig. 5-7.
[797] Both the skulls and clavicles were found (Level II; M 4 NE, H 10) coated red, which was interpreted as symbolic of blood and life. de Contenson, 'Ramad, Site Néolithique', p. 56. '*Quant aux morceaux d'ocre rouge, ils évoquent un rite funéraire largement attesté dans le monde entier depuis le Paléolithique moyen ; la couleur rouge est communément considérée comme le symbole du sang et donc de la vie.*' de Contenson, 'Les Coutumes Funéraires', p. 185.
[798] The clay and plaster statuettes (R.67.4, R.67.5) were found (Level II) with the 12 cached plastered skulls. de Contenson, 'Ramad, Site Néolithique', pp. 326-327; Pl. XXIV, XXV.

Cranial fragments were found in many layers and an unknown number of human skulls were found in a pit along with animal bones.[799] Ceramic figurine heads depicting elongated skulls were also found at Tell Ramad.[800]

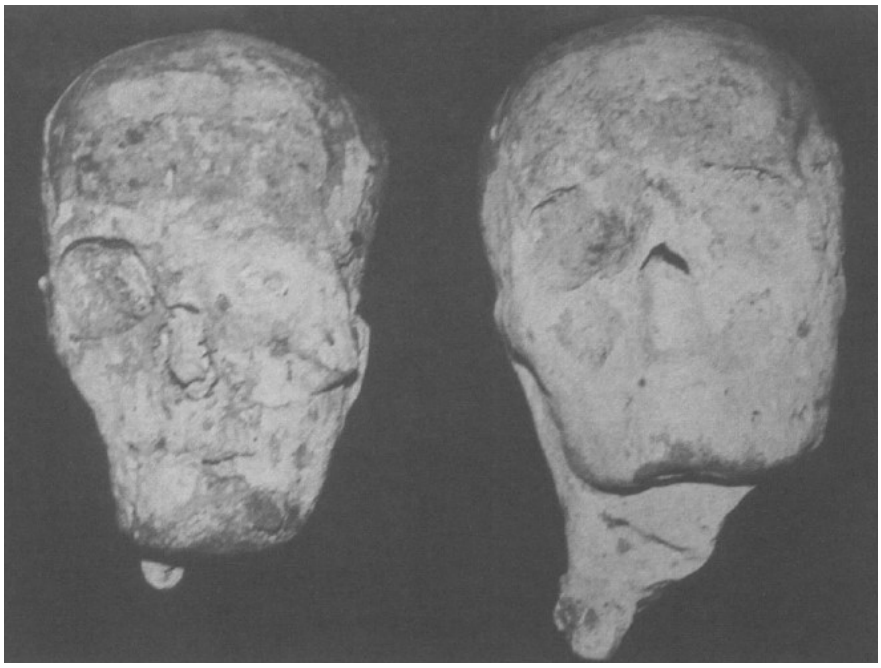


Fig. 99. Two plastered skulls (R 66-3 & R 66-2) from Tell Ramad. Bonogofsky (2099), p. 4; Fig. 4.

Abu Hureyra

LPPNB-PN **c. 8,300-7,300 cal BP** **MNI: 38**

Abu Hureyra was a sizeable (12 ha) settlement with a large population (c. 2,500-6,000) that was occupied during both the Epipaleolithic and Neolithic periods and were among the first to domesticate cereals.[801] Though possibly dating to the Epipaleolithic, the secondary burial of a cranium should likely be considered as a Neolithic foundational burial.[802] A special purpose structure at Abu Hureyra contained a room with a burial pit and a charnel room.[803] A burial pit was found to contain the skeletal remains of 25-30 individuals, comprised largely of children and young adults, many of which were incomplete and lacked skulls.[804] Apparently, these individuals were exposed until decomposition allowed for the removal of the skulls and the postcranial bones were buried collectively in a pit under a

[799] The skulls were found (Level II) with animal bones. de Contenson, 'Seconde Campagne a Tell Ramad', pp. 170-171.
[800] The anthropomphic figurines (R.69.420, R.69.34) were found (Level III) with elongated heads perhaps depicting hair styles, headdresses, or ACM. de Contenson, 'Ramad, Site Néolithique', pp. 56, 323, 325-326; Pl. XXI, XXIII, XXIV-l.
[801] Moore, Hillman and Legge, *Village on the Euphrates*, pp. 274, 397.
[802] A cranium and femur fragment were found (72.501; Level 53) apparently deliberately buried in the Natufian levels at Abu Hureyra I. Ibid., pp. 277-278. The burial likely dates to the Neolithic, based primarily on dental evidence. Theya Molleson and Theo Arnold-Forster, 'A Question of Identity: Is the Earliest Neolithic Burial from Tell Abu Hureyra, Syria, Possibly a Foundation Burial?', *Paléorient*, 41(1) (2015), pp. 117-125.
[803] Acephalous skeletons, single skull deposits, and skull caches were among the skeletal remains of 24 (MNI) individuals found (Trench B; Phase 8 Building; Room 3) in a charnel room at Abu Hureyra. Moore, Hillman and Legge, *Village on the Euphrates*, pp. 205-206, 280-282; Fig. 8.16-17; 10.2; Tab. 10.2.
[804] The burial (Pit 144) was found (Trench B, Phase 8 Building, Room 2) to contain the remains of 25 (MNI) people. Moore, Hillman, and Legge, *Village on the Euphrates*, pp. 203, 277-279; Figs. 8.17; 10.1; Tab. 10.1.

plaster floor.[805]

The remains of at least 24 individuals were preserved, due to a fire that caused the abandonment of a charnel room.[806] Acephalous skeletons, single skull deposits, and skull caches were among the skeletal remains in the charnel room.[807] Most of the skulls were located in the northern part of the room, which seems to follow a pattern because the same can be said for other charnel areas (e.g. Qermez Dere, Nevalı Çori, Çayönü).[808] A skull was found wrapped in bitumen coated matting, which suggests that it was brought to the room.[809]

Apparently, the charnel room provided a final resting place for some and an 'intermediate place' for others to undergo excarnation and/or have rites (i.e. skull removal) performed.[810] Isolated and cached skulls were found in other locations at Abu Hureyra.[811] Red ochre was found on some skulls.[812] A line of cinnabar was smeared on the skull of a skeleton and a similar pigment was detected on a mandible.[813] An isolated skull was found colored red by an apparent vegetable dye.[814] An auroch skull was found set in a pit near a corner of a structure and animal horn cores and bones were included in some burials.[815]

[805] Ibid., p. 279.

[806] The charnel room was found (Trench B, Phase 8 Building, Room 3) burned, which Moore, Hillman, and Legge interpret as unintentional. Ibid., pp. 205-206, 280-282; Figs. 8.16-17; 10.2; Tab. 10.2. However, Merrett and Meiklejohn suggested ritualistic intentionality regarding the fire. cf. Merrett and Meiklejohn, 'House 12 at Bouqras' in *Faces From the Past*, ed. by Faerman et al, pp. 135-136.

[807] A detailed burial table for Trench B can be referenced at <https://www.rit.edu/academicaffairs/abuhureyra/burial_tables.php> [Accessed 16 January 2020].

[808] Benz, 'Beyond Death', pp. 263-264; Note 25.

[809] The skull (Burial 73.2400) was found (Trench B; Phase 8 Building; Room 3) wrapped *in situ*. Moore, Hillman, and Legge, *Village on the Euphrates*, pp. 280-282; Fig. 10.3-4.

[810] Ibid., pp. 282-283.

[811] Both isolated skulls (Trench B: 73.2138, 73.2400, 73.2953, 73.1045, 73.1186; Trench C: 72.545-72.547, 72.554-72.558, 72.561-72.562, 72.564; Trench E: 73.3273, 73.3067, 73.2655, 73.123; Trench G: 73.3066) and grouped skulls (Trench E: 73.2951, 73.3437, 73.2656) were uncovered at Abu Hureyra. For Trenches B, E, G see Moore, Hillman and Legge, *Village on the Euphrates*, pp. 261-295. For Trench C see, <https://www.rit.edu/academicaffairs/abuhureyra/burial_table_tC.php> [Accessed16 January 2020].

[812] Andrew M.T. Moore, 'The Excavation of Tell Abu Hureyra in Syria: A Preliminary Report', *Proceedings of the Prehistoric Society*, 41 (1975), pp. 50-77, (p. 61).

[813] The skeleton (73.2772) was found (Trench A, Levels 211-212, Walls 127, 198) buried between two walls and the mandible (Trench C, 73.846) contained traces of the pigment on the maxilla area. Molleson, Comerford and Moore, 'Neolithic Painted Skull', pp. 230-235.
230-235.

[814] The isolated skull (73.3273) was found (Trench E, Phase 4 Building, Wall 383) colored red, but the color has since faded. Moore, Hillman and Legge, *Village on the Euphrates*, pp. 231, 285; Fig. 8.49.

[815] The auroch (*Bos primigenius*) skull was found (Trench D, Phase 4 Building, Wall 106, Pit 14) sat upright and a seated burial was found (Trench E, Phase 5 Building, Room 1, 73.1930) with a caprine horn core with other animal bones. Ibid., pp. 217-218, 233, 286; Figs. 8.33-34, 51; 10.7). Animal horn and bone were found in association with some human remains at Abu Hureyra (Trench B: 73.225, 73.2401, 73.1571; Trench D: 73.852; Trench E: 73.2747, 73.1930, 73.2271). <https://www.rit.edu/academicaffairs/abuhureyra/burial_tables.php> [Accessed16 January 2020].

PPNB-PPNC: Cyprus

Shillourokambos

C-EPPNB - C-LPPNB (Early A-Late Phase) c. 10,400-9,000 cal BP MNI: 8

In a deep pit that was likely a well, acephalous skeletal remains and separated skulls were found at Shillourokambos. Charred human bones were found and a complete skeleton with stones covering the head and thorax were discovered in the lower levels of the pit.[816] Above that deposit, skull fragments and the remains of (MNI) 15 individuals were found.[817] Approximately eight of those individuals were represented by long bones arranged in the north-central part of the cavity. An acephalous individual was placed in 'hyper-contraction' in the northern portion of the pit and another individual lacking a cranium was found in the southern part.[818] Two skulls covered by small stones were found in the western part of the cavity.[819] It was suggested that the separated skulls may have belonged to the found long bones, but the 'long bones numbered more than two individuals, while the equivalent number of skulls was missing.'[820] Infant skeletal remains covered the adult inhumations and this layer was sealed by an apparent natural collapse.

Above that layer, three separated skulls were found.[821] Two, of which were found together and another was found associated with long bones.[822] The positions of the skeletal remains was interpreted as indicative of secondary burial following intentional dismemberment and while it was suggested that some of the long bones may have belonged to the separated skulls, the long bones outnumber the skulls and so 'skull removal must be considered.'[823] Animal horns, pig skulls, and other skeletal remains from animals were found arranged with the human remains in this layer.

Animal bone fragments were also found in the above layer which apparently sealed all the deposits, but a complete hyper-contracted skeleton was found above that layer and the top layer contained 'mainly skull fragments' and a mandible.[824] Evidence suggests that complete skeletons were deposited in the cavity and that many were dismembered following a period of decomposition with the secondary arrangement of long bones and removal of cephalic extremities 'to an unknown destination and for unknown use showed that people descended

[816] The complete skeleton was found (Sector 1; Pit 23; Level H) above where the charred skeletal remains were found (Sector 1; Pit 23; Level I). Koutrafouri, 'Ritual in Prehistory', Vol. 2, p. 108; Tab. 33.
[817] The (MNI) 15 burial was found (Sector 1; Pit 23; Level F) above where the skull fragments were found (Sector 1; Pit 23; Level G). Ibid., pp. 14, 107-108; Fig. 17; Tab. 33.
[818] In addition to the hyper-contracted acephalous individual from the northern part, in volume 1 Koutrafouri stated that a 'mandible was placed where the skull would have been if it had not been removed' from the acephalous individual recovered from the southern part of the pit, but in volume 2, it states that 'the teeth were placed where the skull would have been.' Koutrafouri, 'Ritual in Prehistory', Vol. 1, p 193. cf. Koutrafouri, 'Ritual in Prehistory', Vol. 2, p. 107; Tab. 33.
[819] In volume 1 Koutrafouri stated that the separated skulls covered by stones were found in a western part of the cavity and the same is stated under the 'Human Depositions' heading for Table 33 in volume 2. However, under the 'Stone' heading within the same Table 33 it states that the small stones covering the two skulls were located at the 'eastern edge of the cavity.' Koutrafouri, 'Ritual in Prehistory', Vol. 1, p 193. cf. Koutrafouri, 'Ritual in Prehistory, Vol. 2, p. 107; Tab. 33.
[820] Koutrafouri, 'Ritual in Prehistory', Vol. 1, p 193.
[821] The three skulls were found (Sector 1; Pit 23; Level D), along with an infant hyper-contracted skeleton above where the collapse was found (Sector 1; Pit 23; Level E). Ibid., p. 193.
[822] Koutrafouri, 'Ritual in Prehistory', Vol. 2, p. 106; Tab. 33.
[823] Koutrafouri, 'Ritual in Prehistory', Vol. 1, p 193.
[824] The mandible and skull fragments were found (Sector 1; Pit 23; Level A) above where the complete skeleton (Sector 1; Pit 23; Level B) and animal bone fragments were found (Sector 1; Pit 23; Level C), which apparently sealed the aforementioned deposits (Sector 1; Pit 23; Level D-I). Koutrafouri, 'Ritual in Prehistory', Vol. 2, pp. 105-107; Tab. 33.

repeatedly in *Fosse* 23 to complete these practices.'[825] While some of the separated skulls deposited may correspond to the found long bones, 'the possibility of them to have been transported from somewhere else cannot be excluded.'[826] In another likely well at Shillourokambos, a feline figurine head with possible anthropomorphic facial features was discovered.[827] This find, along with the discovery of a feline skeleton buried in a separate pit facing a human burial may suggest human-animal relations beyond sustenance.[828]

Mylouthkia

C-LPPNB (Period 1B) **c. 9,500-9,000 cal BP** **MNI: 7**

A well that had run dry at Mylouthkia contained secondary skull burials, along with numerous animal bones and stone items.[829] In addition to various animal bones and stone objects, the lowest levels of the well contained human cranial fragments, two of which were charred.[830] Following another deposit of animal remains and stone artifacts with minimal human bones, four (MNI) individuals represented by deposits of a mandible, two separated crania, and cranial fragments were found.[831] One of the cranial fragments was charred and this deposit was also accompanied with numerous animal bones and stone items, including a pink mace head associated with one of the separated skulls.[832] Remains of a human atlas vertebra and a tooth were found mixed with yet another large deposit of animal and stone items.[833] These likely belong to the final skull deposited in this well which, 'must have been removed from another place where the decomposition of bodies occurred' prior to being 'transported and deliberately introduced' into the well shaft.[834] This final skull deposit displayed evidence of charring and artificial cranial modification 'probably by a cradle-board.'[835]

Khirokitia

Khirokitian (Late Aceramic Neolithic) **c. 9,000-8,000 cal BP** **MNI: 29**

Mortuary practices differed from earlier Cypriot PPNB sites at the eponymous settlement. Individuals were often buried under floors of circular structures. Most burials were simple pits, but some were lined with stone and cairns marking the heads.[836] Artificial cranial modification, likely via cradle-boarding, was observed on the majority of adult Khirokitian

[825] Koutrafouri, 'Ritual in Prehistory', Vol. 1, p. 194.
[826] Ibid., p. 194.
[827] The feline figurine head dates to the Early Phase A (Period 1A; C-EPPNB) and was discovered in Structure 66, which was likely a well. Ibid., p. 148.
[828] A Late Phase human burial (B. 283) was found (Structure 299) with a cache of grave goods and a feline skeleton buried in another pit which faced the human burial. Koutrafouri, 'Ritual in Prehistory', Vol. 2, p 109; Tab. 34. Jones, 'Considering Living-Beings', pp. 87-88; Fig. 3-4.
[829] Paul Croft, 'The Wells and Other Vestiges' in *Colonisation and Settlement of Cyprus*, ed. by Peltenburg, pp. 3-9, (pp. 4-6). Peltenburg, 'Conclusions: Mylouthkia 1' in *Colonisation and Settlement of Cyprus*, ed. by Peltenburg, pp. 87-88, 91; Fig. 11.3.
[830] The cranial fragments were found (Fill 329, 331-333) at the bottom of the well shaft. Fox, 'Human Remains: Skeletal Remains', in *Colonisation and Settlement of Cyprus*, ed. by Peltenburg, p. 45. cf. Croft, 'Animal Bones', in *Colonisation and Settlement of Cyprus*, ed. by Peltenburg, p. 55.
[831] The fragmented skulls were found (Fill 282) deposited along the sides of the well shaft. Fox, 'Human Remains: Skeletal Remains', in *Colonisation and Settlement of Cyprus*, ed. by Peltenburg, pp. 44-45.
[832] Croft, 'Animal Bones', in *Colonisation and Settlement of Cyprus*, ed. by Peltenburg, p. 54.
[833] The vertebra and tooth were found (Fill 264) with a large assortment of animal remains and stone items. Fox, 'Human Remains: Skeletal Remains', in *Colonisation and Settlement of Cyprus*, ed. by Peltenburg, pp. 43-44.
[834] Croft, 'Animal Bones', in *Colonisation and Settlement of Cyprus*, ed. by Peltenburg, p. 54.
[835] Fox, 'Human Remains: Skeletal Remains', in *Colonisation and Settlement of Cyprus*, ed. by Peltenburg, p. 44.
[836] Koutrafouri, 'Ritual in Prehistory', Vol. 2, pp. 152-217; Tab. 65-69.

skulls.[837] A modeled clay figurine head and stone schematic anthropomorphic figurines were also found at Khirokitia.[838]

Cape Andreas-Kastros

Khirokitian (Late Aceramic Neolithic) c. 8,300-8,000 cal BP MNI: 7

A small number of burials were discovered at Cape Andreas-Kastros, most of which were represented by cranial fragments and mandibulae.[839] Artificial cranial deformation was observed on at least one of the crania.[840]

PPNB-PPNC: Anatolia

Çayönü Tepesi

PPNB c. 10,500-9,000 cal BP MNI: 245

During the PPNB phases of the 'Skull Building' at Çayönü, acephalous skeletons and numerous skulls were found.[841] Auroch horns were found in a floor depression and an acephalous woman holding an infant was found in a channel under the 'Skull Building.'[842] Another channel contained over 90 human skulls lined in a straight north-south row with the skulls facing east or west and long bones consecutively stacked.[843] What may be the disarticulated acephalous skeletal remains of the 90+ skulls were found in another channel.[844] The 'Skull Building' also contained secondary headless burials with grave goods and a decapitated primary burial.[845] 49 more human skulls were found within chamber rooms, nearly half of which were interred with animal bones.[846] The chamber room skulls were charred, due to an intentional fire at the final abandonment and burial of the 'Skull Building.'[847]

Defleshing via stone tools is indicated by cutmarks, attached mandibles, and cervical

[837] ACM was observed on 50% of female and 39% of male adult crania at Khirokitia. Angel, 'Human Remains from Khirokitia', in *Khirokitia: Final Report*, ed. by Dikaios, pp. 416-428; Appendix II. Le Mort, 'Le Peuplement de Chypre', pp.118-119; Note 78.
[838] Dikaios, *Khirokitia: Final Report*, Pl. 95-97, 154.
[839] Koutrafouri, 'Ritual in Prehistory', Vol. 1, pp. 259-262.
[840] Massei-Soliveres 'Etude des Crânes du Cap Andreas-Kastros' in *Cap Andreas-Kastros*, pp. 83-87. Koutrafouri, 'Ritual in Prehistory', Vol. 2, pp. 236-237; Tab. 86.
[841] The PPNB acephalous burials and skulls recovered from the 'Skull Building' at Çayönü are from the Channeled (BM2c) sub-phase and the Cobble-Paved (BM2a-c) sub-phase. Croucher, 'Tactile Engagements', in *Principle of Sharing*, ed. by Benz, p. 282; Fig. 1.
[842] The cattle horns were uncovered in the Channeled Building (BM2c) sub-phase. Schirmer, 'Some Aspects of Building', pp. 381-382. The acephalous woman was discovered in the central cellar-channel of the Channeled Building (BM2c) sub-phase. Croucher, 'Archaeology of Cult and Death', p. 15.
[843] The 90 (MNI) skulls and long bones were unearthed in the western cellar-channel of the Channeled Building (BM2c) sub-phase of the 'Skull Building.' Özbek, '93rd Annual Meeting ', p. 374. Özdoğan, 'Çayönü', in *Neolithic in Turkey: The Cradle of Civilization*, ed. by Özdoğan and Başgelen, Fig. 26.
[844] The disarticulated remains were excevated in the eastern cellar-channel of the Channeled Building (BM2c) sub-phase. Özbek, 'Human Remains at Çayönü', p. 374.
[845] The acephalous burials are from the Cobble-Paved (BM2b) sub-phase of the 'Skull Building' and included grave goods (e.g. beads and/or boar tusks), but the decapitated skeleton was not interred with grave goods. Özdoğan, 'Çayönü' in *Neolithic in Turkey: The Cradle of Civilization*, ed. by Özdoğan and Başgelen, p. 51. A unique LPPNB burial in a communal building (Building DE) was buried in a type of stone cist or '*coffrage*' with the skull placed at the NW corner. Kodaş, 'Le Bâtiment DE de Çayönü', p. 46; Fig. 5.
[846] The 49 skulls were from the Cobble-Paved (BM2a) sub-phase of the 'Skull Building' and those associated with animal bones were discovered in the eastern chamber room above the channels. Özdoğan, 'Çayönü' in *Neolithic in Turkey: The Cradle of Civilization*, ed. by Özdoğan and Başgelen, p. 51; Fig. 25.
[847] Özbek, 'Culte des Crânes', p. 129. Le Mort et al, 'Feu et Archéoanthropologie au Proche-Orient', pp. 37-50.

vertebrae exhibited on some skulls.[848] Human and animal blood residue was found on a stone slab interpreted as an 'altar,' as well as auroch and sheep blood from a long black flint blade which suggests that some type of corpse processing occurred.[849] A bucranium hung upon a wall and the presence of standing stones may suggest ritual activity.[850] Stone and clay anthropomorphic figurines were found headless or with stylized heads at various locations at Çayönü, but not at the 'Skull Building.'[851]

Nevalı Çori

EPPNB-MPPNB **c. 10,400-9,700 cal BP** **MNI: 16**

Rescue excavations at Nevalı Çori took place before the site was flooded by the building of the Atatürk Dam and they discovered evidence for special treatment of the head. An acephalous burial was recovered under the floor of a house.[852] Another acephalous burial was found in a pit inside a large rectangular special purpose structure and the former head location was replaced by a large stone.[853] This large structure also contained buried crania from nine individuals, six of which were buried in pairs and faced one another.[854] Under a foundation platform, five crania were found buried in a pit together with several long bones and a long flint blade was found directly under one of the crania.[855]

In addition to evidence for skull removal, statuary at Nevalı Çori gives insight into an understanding of the treatment of the head. A life sized stone sculpture of an elongated human head was found defaced and with a snake carved on the back.[856] A large (3m) anthropomorphic central pillar with a damaged head was found in a special purpose building similar in plan to some enclosures at Göbekli Tepe.[857] Other objects found at Nevalı Çori similar to those discovered at Göbekli Tepe included a raptor-human-head composite stone 'totem pole' and a small limestone mask.[858] Numerous clay anthropomorphic figurines were found, many of which lacked heads.[859]

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[848] Özbek, 'Culte des Crânes', p. 129. Loy and Wood, 'Blood Residue Analysis', p. 452.
[849] Wood, 'Revisited: Blood Residue', in *Light on Top of the Black Hill*, p. 764. Özdoğan, 'Çayönü', in *Neolithic in Turkey: The Cradle of Civilization*, ed. by Özdoğan and Başgelen, p. 52.
[850] Ibid., p. 52. Croucher, 'Tactile Engagements', in *Principle of Sharing*, ed. by Benz, p. 283.
[851] Vivian Broman Morales, *Figurines and Clay Objects from Sarab and Çayönü*, Oriental Institute Communications 25, (Chicago; University of Chicago, 1990), pp. 60-63; Pl. 22-25a-b.
[852] Two burials were found (Level I; House 25), one of which was without a skull. The acephalous burial was found (Level III; House 2) in a large (c. 16 x17m) rectangular building. Hauptmann, 'Urfa Region', in *Neolithic in Turkey: The Cradle of Civilization*, ed. by Ozdoğan and Başgelen, p. 71.
[853] The acephalous burial was found (Level III; House 2) in a large (c. 16 x17m) rectangular building. Ibid., p. 72.
[854] The crania were found (Level III; House 2) under the structure and three burial pits contained a dual interment. Ibid., p. 72; 'Nevali Çori: Architektur', p. 102.
[855] The skulls were found (Level I; House 25A) in the lowest level and may be part of a foundation deposit. Hauptmann, 'Urfa Region', in *Neolithic in Turkey: The Cradle of Civilization*, ed. by Ozdoğan and Başgelen, p. 70.
[856] Hauptmann, 'Nevali Cori: Eine Siedlung', pp. 15-33; Fig. 23.
[857] The pillar was found (Level III; Building 13C), designated as a *Kultgebäude*. Hauptmann and Schmidt, 'Die Skulpturen des Frühneolithikums', in *Badisches Landesmuseum Karlsruhe*, p. 80. Hauptmann, 'Ein Kultgebäude', in, *Between the Rivers*, pp. 37-69; Fig. 16.
[858] The 'totem pole' survived in two large fragments found (Level III; Building 13C) in the same possible cult building as the large anthropomorphic pillar. Hauptmann, 'Nevali Cori: Eine Siedlung', pp. 67-68. The small mask was designated as a miniature. Hauptmann, 'The Urfa Region', in *The Neolithic in Turkey: The Euphrates Basin*, ed. by Özdoğan, Başgelen and Kuniholm, pp. 85-138; Fig. 17.
[859] Michael Morsch, 'Magic Figurines? Some Remarks About the Clay Objects of Nevalı Çori', in *Magic Practices and Ritual in the Near Eastern Neolithic: Proceedings of a Workshop Held at the 2nd International Congress on the Archaeology of the Ancient Near East (ICAANE), Copenhagen University, May 2000*, ed. by Hans Gebel, Bo Dahl Hermansen and Charoltt Hoffmann Jensen, Studies in Early Near Eastern Production, Subsistence, and Environment 8, (Berlin: ex oriente, 2002), pp. 145-162; Fig. 4; Pl. 1-3.

Boncuklu

EPPNB-MPPNB **c. 10,300-9,400 cal BP** **MNI: 6**

Boncuklu is located on the Konya Plain and may have been an antecedent to Çatalhöyük, predating it by over a thousand years. Auroch bucrania were found embedded in walls at Boncuklu.[860] Primary burials were found under the floors of houses, but skulls and skull fragments were found in midden or deposited in open areas. A unique skull burial began with fragmented human bones placed upon an ashen layer, upon which was placed a polishing stone and an isolated red painted skull associated with yellow ochre and shell beads.[861] An isolated skull was found upside down and displayed significant wear, indicating a long history of use.[862] Another skull was found covered with red ochre beads and two pendants.[863]

One burial contained the remains of four (MNI) skeletons with three skulls placed at one end of a large pit.[864] No acephalous burials have been discovered, but several skull burials were found. A stable isotope analysis showed that the diet of those buried within houses differed substantially from the burials consisting of primarily cranial elements found buried in open areas and midden.[865] This may represent skulls from households not yet excavated or from outside communities. It may also suggest a socially distinct group within the settlement evidenced by dietary differences and mortuary practice.

Cafer Höyük

MPPNB-LPPNB **c. 10,100-9,300 cal BP** **MNI: 2**

Two acephalous skeletons were discovered at Cafer Höyük in the Euphrates Valley, one of whom was an adult and the other was a child covered by a type of plaster and a flat stone.[866]

Hacılar

MPPNB **c. 10,000-9,500 cal BP** **MNI: 4**

Burials were not found at aceramic Hacılar near Lake Burdur, but 'a number of human skulls' were uncovered (Fig. 99).[867] Two dolichocephalic skulls were found set upon pebbles on a floor and faced domestic



Fig. 99. Two skulls found placed upon virgin soil at Hacılar. Mellaart (1961), p. 96.

[860] Baird, Fairbairn and Martin, 'Animate House, pp. 753-776; Fig. 3, 5-6.
[861] The isolated skull was found (Area M; Gr.43) buried in an open area pit. Baird and Fairbairn, 'Boncuklu Project: Spread of Farming', Vol. 5, p. 19.
[862] The skull was found (Area K; Gr.13) inverted within a small pit. Baird, Fairbairn and Martin, 'Animate House, pp. 753-776.
[863] This likely articulated primary adult burial was found (Area M; Gr.42) disturbed by animal activity. Douglas Baird and Andrew Fairbairn, 'The Boncuklu Project: The Spread of Farming and the Antecedents of Çatalhöyük, *Heritage Turkey*, Vol. 4, p. 23. Baird and Fairbairn, 'Boncuklu Project: Spread of Farming', Vol. 5, p. 19.
[864] The burial was found (Area M; F.306) with long bones at the base of the large pit. Baird and Fairbairn, 'Boncuklu Project: Spread of Farming', Vol. 4, p. 23.
[865] Jessica Pearson, 'The First Farmers of Central Anatolia: A Reconstruction and Comparison of Burial Practice, Diet and Health at the Neolithic site of Boncuklu Höyük and Beyond', in *Boncuklu: First Farmers in Central Anatolia and the Antecedents of Çatalhöyük, From Foragers to Farmers in Central Anatolia*, Vol. 1, ed. by Douglas Baird and Andrew Fairbairn, (London: British Institute at Ankara, forthcoming).
[866] Jacques Cauvin et al, 'The Pre-Pottery Site of Cafer Höyük', in *The Neolithic in Turkey: The Cradle of Civilization/New Discoveries*, ed. by Özdoğan and Başgelen, pp. 87-103, (p. 90).
[867] The skulls were found (Aceramic Level V-VII) in the Aceramic levels at Hacılar. Mellaart, *Excavations at Hacilar*, Vol. 1, p. 6.

structures.[868] An infant skull was found placed on another floor and a cranium was found in a nearby courtyard.[869]

PPNB-PPNC: Mesopotamia

Ganj Dareh

EPPNB-MPPNB **c. 10,200-9,900 cal BP** **MNI: 14**

Cases of artificial cranial modification were verified for 14 burials discovered at Ganj Dareh in the Gamas-Ab Valley of the Zagros Mountain range.[870] Several stylized anthropomorphic clay figurines were also found, including a 'stalky-headed' example and another 'with a pointed head.'[871]

Tepe Abdul Hosein

EPPNB-MPPNB **c. 10,150-9,700 cal BP** **MNI: 5**



Four adult male crania from Tepe Abdul Hosein in the Ab-e Qeshlaq Valley of the central Zagros Mountains demonstrate evidence for artificial cranial modification (Fig. 99).[872] A cranium from an articulated skeleton was found enclosed within a block of plaster.[873] Also, an adult skeleton without cranial elements was found with fetal skeletal remains.[874]

Fig. 99. ACM on a cranium (AH19001) from Tepe Abdul Hosein. Lorentz, (2017), p. 978; Fig. 4.

Ali Kosh

MPPNB-Final PPNB **c. 9,500-8,500 cal BP** **MNI: 7**

A burial cluster of 11 (MNI) individuals was found at Ali Kosh in the Zagros Mountains, most of whom were represented by crania and/or mandibulae, along with some postcranial

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[868] The two 'fine-looking dolichocephalic skulls' were found (Aceramic Level VII) in the lowest Aceramic level. Ibid., p. 6; *Excavations at Hacilar*, Vol. 2, p. 5; Pl. Vb..

[869] The cranium was found (Aceramic Level III) in a courtyard and the infant skull was found (Aceramic Level V) 'abandoned on the floor' of a possible courtyard wall. Mellaart, *Excavations at Hacilar*, Vol. 1, p .6.

[870] Of the over 100 burials uncovered at Ganj Dareh, 14 were available for study and it was determined that all showed evidence of forms of ACM. Meiklejohn et al, 'Artificial Cranial Deformation in the Proto-Neolithic and Neolithic', pp. 89-93, Fig. 2; Tab. 4; Pl. 1-3.

[871] Philip E.L. Smith, 'Survey of Excavations in Iran During 1966-67: Ganj Dareh Tepe', *Iran*, 6 (1968), pp. 158-160, (p. 159); 'Survey of Excavations in Iran During 1968-69: Ganj Dareh Tepe', *Iran*, 8 (1970), pp.178-180, (p. 179); 'Ganj Dareh Tepe', *Paléorient*, 2(1) (1974), pp. 207-209, (p. 207).

[872] Three definite (Individual AH10035, 13029, 19001 Sk.2) and one likely (Individual AH11001) examples of artificial cranial modification were observed from Tepe Abdul Hosein. Lorentz, 'Ubaid Headshaping', in *Beyond the Ubaid*, ed. by Carter and Philip, pp. 134-136; Fig. 9.5; Tab. 9.2; 'Marking Identity through Cultural Cranial Modification', p. 977; Tab. 2.

[873] An individual (AH10026) could not be assessed for artificial cranial modification because the cranium was found (Sq. 11G) 'enclosed within a block of plaster.' Ibid., pp. 977-978; Tab. 2.

[874] Two individuals were recovered without cranial remains. The lack of cranial elements for one acephalous skeleton (Individual AH19001 Sk. 3) may be the result being found (Sq. 20L) in the context of a mud brick tumble, but a cause for another acephalous skeleton (Individual AH10032-adult) found (Sq. 11G) at Tepe Abdul Hosein is not stated. Ibid., pp. 976, 979; Tab. 1.

bones.[875] At least seven crania were analyzed and all exhibited evidence for artificial cranial modification and some were very elongated (Fig. 99).[876] Although it is a small sample size, 'another cultural modification of the head observed at Ali Kosh was the postmortem avulsion of the same tooth in the adult male crania.[877]



Fig. 99. ACM observed on (a) block of skulls and (b) an individual cranium from Ali Kosh. *Sołtysiak & Nauka (2018),* <https://archaeofeed.com/2018/05/remaisn-of-people-with-modified-skulls-uncovered/> [Acessed 99 January 2020]

At Bouqras in the Euphrates Valley, the skeletal remains of six individuals were found in varying stages of excarnation within a possible charnel house that was likely intentionally set

[875] The burial cluster not excavated *in situ*, but rather three large blocks (A-C) were cut and were transported to Razi University in Kermanshah, Iran. Block A contained a cranium (H1) and a partial skeleton (H2). Block B contained two crania (H3-4), a mandible (H7), and four disarticulated skeletons (H5, H10-12). Block C contained a skull (H6) and small postcranial skeletal remains. Sołtysiak and Darabi, 'Human Remains from Ali Kosh', pp. 77-78; Fig. 2-3.

[876] At least seven crania (H1-6, H13) displayed evidence for circumferential modification of the cranium via band wrapping. Ibid., pp. 79-80; Fig. 5; Tab. 1.

[877] The upper right first incisor was removed in all adult male crania. Ibid., pp. 80-81; Tab. 1.

on fire. The remains were charred to various degrees and included a fragmented cranium, two skulls, and two mostly complete skeletons.[878] The skulls of all, but the fragmented cranium were studied and they exhibited artificial cranial modification.[879] It was suggested one may have died in the fire, but that the others were on the roof of the building before it collapsed in the blaze.[880] Fragmented headless anthropomorphic figurines and a clay head were found in nearby houses, some of which were damaged by the fire.[881] A white plaster wall relief of a stylized human was covered with red ochre and the one eye preserved was inlaid with obsidian.[882]

Choga Sefid

LPPNB-PN (Sefid Phase, Period 5) **c. 9,000-8,000 cal BP** **MNI: 6**

At least six crania from Choga Sefid on the Deh Luran plain demonstrate evidence for 'extreme cranial deformation.'[883] Anthropomorphic figurines were also recovered from the site.[884]

PN-EB: South Levant

Tell Roim West

LPPNB-EPN **c. 8,400-7,600 cal BP** **MNI: 4**

[878] The skull (TA), cranium (TE), and skeleton (TB) were found in one room (Area A; Level III; House 12; Room 1). Another almost complete skeleton (TD) was found (House 12; Room 2) in an adjacent room. A skull (TC) with some postcranial elements was found (House 12; Room 3) in a long rectangular room similar to Room 1. A fragmented cranium (TF) was found (House 12; Room 6) in a small room. Merrett and Meiklejohn, 'House 12 at Bouqras', in *Faces from the Past*, ed. by Faerman et al, pp. 130-134; Tab. 1-2; Fig. 2-5. P.A. Akkermans et al, 'Bouqras Revisited: Preliminary Report on a Project in Eastern Syria', *Proceedings of the Prehistoric Society*, 49(1) (1983): 335-372, (p. 369).

[879] Meiklejohn et al, 'Artificial Cranial Deformation in the Proto-Neolithic and Neolithic', pp. 89-91; Fig. 2; Tab. 4.

[880] Merrett and Meiklejohn, 'House 12 at Bouqras', in *Faces from the Past*, ed. by Faerman et al, p. 136.

[881] A figurine was found (Area A; Level III; House 13) in one house and the other figurine and head were found (House 16) together in a house across from it. P.A. Akkermans and Harry Fokkens, 'De prehistoriche nederzetting Tell Bouqras', *Phoenix*, 24(2) (1978), pp. 55-65. Akkermans et al, 'Bouqras Revisited', pp. 335-372; Pl. 40c.

[882] The relief was found (Area A, Level III; House 16) on a wall across from a hearth. Merrett and Meiklejohn, 'House 12 at Bouqras', in *Faces from the Past*, ed. by Faerman et al, p. 130. Akkermans and Schwartz, *Archaeology of Syria*, p. 121.

[883] Some burials found (Zone A4) at Choga Sefid showed traces of ochre and 'The skulls show extreme cranial deformation.' Frank Hole, *Studies in the Archaeological History of the Deh Luran Plain: The Excavation of Chaga Sefid*, Memoirs of the Museum of Anthropology 9 Ann Arbor: University of Michagan 1977. pp. 91, 344-345 (Pl. 28, 30-31).

[884] Some burials found (Zone A4) at Choga Sefid showed traces of ochre and 'The skulls show extreme cranial deformation.' Hole, *Studies in the Archaeological History of the Deh Luran Plain*, pp. 91, 229, 344-345; Fig. 90; Pl. 28, 30-31.

A large stone stab was placed by the heads of some articulated primary burials in the PN layers at Tell Roim West in the Hula Basin.[885] ACM was observed in two individuals, one of which was a headstone marked burial.[886]

Sha'ar Hagolan

EPN (Yarmukian) c. 8,500-7,900 cal BP MNI: 2

Burials are few at Sha'ar Hagolan in Israel, but treatment of the head may be observed during the Yarmukian culture of the PN by two fragmented human crania found in a corner of a room under the topsoil.[887] Further insight may be gleaned from the unique style of numerous anthropomorphic clay figurines found at Sha'ar Hagolan, with their stylized bodies and very elongated heads.[888] [find a pic]

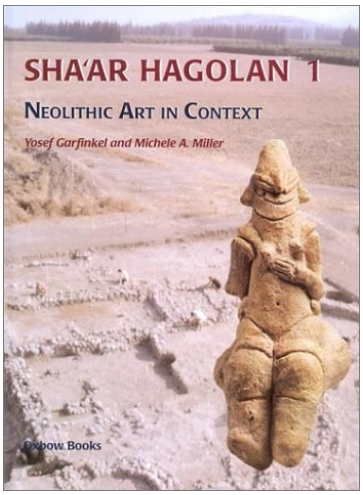


Fig. 99. Figurine head from Sha'ar Hagolan. Garfinkle (2099), p. 99; Fig. 99.

Nahal Beşet I

EPN (Wadi Rabah) c. 8,300-8,100 cal BP MNI: 1

An acephalous burial from the Wadi Rabah pottery culture was found in a supine position with arms folded on the chest area at Nahal Beşet I in Upper Galilee.[889]

Teluliot Batashi

EPN (Lodian, PNA, Jericho IX) c. 7,900-7,600 cal BP MNI: 1

An isolated skull was found in a burial marked by a few stones in the Lodian pottery culture layers at Teluliot Batashi in the Vale of Sorek.[890]

Neve-Yam

PN (Wadi Rabah) c. 7,500-7,200 cal BP MNI: 2

Two skull calvaria were found at the now-submerged Wadi Rabah culture site of Early Chalcolithic Neve-Yam of the Carmel Coast, one of which was found charred and was included with the complete skeleton of a child.[891]

Eilat

Late Neolithic-Early Chalcolithic c. 7,500-6,300 cal BP MNI: 20

A Late Neolithic-Early Chalcolithic burial ground at near the Red Sea in southern Israel

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[885] Three burials (L.1057, L.2067, L.3016) were found (Section A-B; Layer II-III) with a large stone slab near the skull. Eshed and Nadel, 'Changes in Burial Customs', pp. 121-123; Fig. 7-11; Tab. 2.

[886] ACM was observed on two skulls of articulated burials (L.2067, L.3040). Ibid., pp. 122-125; Fig. 8-10, 12-13; Tab. 3.

[887] The poorly preserved crania were found (Area E; Building Complex II; Room Q) together in the northwest corner of a room. Garfinkel, Ben-Shlomo and Marom, 'Sha'ar Hagolan: A Major Pottery Neolithic Settlement', p. 118.

[888] In addition to other figurine categories, over 100 anthropomorphic figurines were found at PN Sha'ar Hagolan. Ibid., p. 128; Fig. 17-22; Tab. 3.

[889] The acephalous burial was uncovered in a shallow pit without grave goods. Avi Gopher, 'Horvat Galil and Nahal Bezet I: Two Neolithic Sites in Upper Galilee', *Journal of the Israel Prehistoric Society*, 22 (1989), pp. 82-92. Avi Gopher and Estelle Orrelle, 'New Data on Burials from the Pottery Neolithic Period (Sixth-Fifth Millennium BCE) in Israel', in *Archaeology of Death*, ed. by Campbell and Green, pp. 24-28.

[890] Another burial was found (Layer IVa) at Teluliot Batashi in the same layer as the skull burial, but the skeleton retained the skull. Kaplan, בטאשי בתלוליות, שורק-נחל (Excavations at Teluliot Batashi)', p. 10; Fig. 3; English summary.

[891] Both calvaria (H2, H6a) were found (Area A) during underwater excavations with taphonomic processes similar to those at Atlilt-Yam. Ehud et al, 'Evidence for a Separate Burial Ground', pp. 35, 40; Tab. 3.

'shows some continuity with the PPN, i.e., separation of skulls.'[892] *Tumulus* tombs contained one to four burial chambers with skulls separated on the western side, often near a stone 'pillow.'[893] One tomb contained a 'nest' of six skulls in a semi-circle at the base of an anthropomorphic standing stone.[894] Simple graves at the pre-Ghassulian burial ground were marked with stones that formed a schematic shape of a flex burial (Fig. 99).[895] Ritual activity may be suggested by arrangements of multiple *maṣṣeboth*, interpreted as 'groups of deities' (Fig. 99).[896] Also, a stone installation containing a sacred wood (Fig. 99) was found at Eilat in the Negev Desert and the presence of numerous hearths at the burial ground may indicate ritual meals.[897]



Fig. 99. (a) Anthropomorphic schematic burial in Grave I, (b) *Tumulus* V with standing stones, and (c) Sacred wood installation at Eilat. Eshed and Avner (2099), pp. 5-6, 10, 12; Fig. 2, 6, 8.

Jebel al-Buhais 18 (BHS 18)

Late Neolithic-Chalcolithic **c. 7,100-5,800 cal BP** **MNI: 275**

Nearly 500 primary and secondary burials were discovered at a Late Neolithic burial

[892] Excavators of Eilat prefer to describe the site as Late Neolithic, rather than Pottery Neolithic, due to the lack of pottery in the desert region. Eshed and Avner, 'Late Neolithic–Early Chalcolithic Burial Site', p. 23.
[893] Note the stone 'pillow' in a collective burial excavated in *Tumulus* XV. Ibid., pp. 7-9; Fig. 5; Note 2.
[894] The 'nest' was discovered in *Tumulus* V at the foot of an anthropomorphic unshapen *maṣṣebah*. Ibid., pp. 7-8; Fig. 4.
[895] Ibid., pp. 5-6; Fig. 2.
[896] Avner, 'Protohistoric Developments of Religion', pp. 29, 43-47; Fig. 25b-c, 26a, 27.
[897] A charred Juniper tree trunk was found enclosed within a stone installation, interpreted as a sacred tree (*Asherah*) and the ritual meal suggested by the numerous hearths may be akin to the Akkadian *Kispu* ritual. Ibid., p.44-46; Fig. 26). Eshed and Avner, 'Late Neolithic–Early Chalcolithic Burial Site', pp. 11-12, 24; Fig. 8). Uzi Avner and Liora Kolska Horwitz, 'Sacrifices and Offerings from Cult and Mortuary Sites in the Negev and Sinai, 6th-3rd Millennia BC', *Aram*, 29 (1-2) (2017), pp. 35-70, (p. 45).

ground at al-Buhais 18 on the Oman Peninsula in Southeastern Arabia.[898] Crania are oriented to the east in primary burials, but secondary burials represent the majority of interments.[899] The large number of secondary burials is likely due to individuals who died away from Jebel al-Buhais during a period in the annual nomadic cycle. Following a local burial, the skeletal remains would later be exhumed and reburied at BHS 18.[900] Secondary burials usually consisted of an arrangement of long bones with the skull on top and 'sometimes, only the skull was buried.'[901] Burials adorned with beaded headdresses, headbands, facial jewelry, earrings, and other ornaments have been unearthed.[902]

Peqi'in Cave

Chalcolithic (Ghassulian) c. 6,400-6,200 cal BP MNI: 22

All of the burials found at Late Chalcolithic Peqi'in Cave in Galilee were secondary burials. One of the niches within the cave contained 19 disassociated skulls orderly placed therein.[903] At least three human skulls were found inside the bowls of high-footed fenestrated ceramic chalices, some of which were sculpted and painted to represent facial features of human heads.[904]

Many of the jars and ossuaries in which individuals at Peqi'in Cave were interred were also painted and/or sculpted with anthropomorphic imagery, including head and facial features.[905] Some of the ossuary lids contain three-dimensional sculpted heads, one of which has a net-patterned 'head-dress motif.'[906] An anthropomorphic figurine head carved from the tooth of a hippopotamus was found, as well as anthropomorphic figurines with stylized bodies and heads.[907]

Bab edh-Dhra'

EB I-IV(IBA) c. 5,500-4,200 cal BP MNI: 300

Numerous carefully arranged tombs at Early Bronze Age Bab edh-Dhra' near the Dead

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[898] Adelina Kutterer, Johannes Kutterer, and Hans-Peter Uerpmann, 'Interactive Catalog of the Results on the Human Remains from the Neolithic Graveyard al-Buhais 18 (BHS18, UAE): Archaeological, Osteological, and Isotopic Data', <https://publikationen.uni-tuebingen.de/xmlui/static/html/EXTERN/Catalog_BHS18/index.html> [Accessed 5 February 2020].

[899] Secondary burials comprise approximately 60% of the corpus. Roland de Beauclair, 'Funerary Rites in a Neolithic Nomad Community in Southeastern Arabia: The Case of al-Buhais 18', *Documenta Praehistorica*, 35 (2008), pp. 143-152, (pp. 145-146; Fig. 4; Tab. 1).

[900] Kutterer stated that the secondary burials may have been from elsewhere within the same graveyard. Kutterer, 'Remarks on Neolithic Burial Customs', in *Death and Burial in Arabia*, ed. by Weeks, p. 5.

[901] 29 secondary skull deposits were listed by de Beauclair in 2008. de Beauclair, 'Funerary Rites in a Neolithic Nomad Community', pp. 144-146; Fig. 2-3; Tab.

[902] de Beauclair, Jasim and Uerpmann, 'New Results on Neolithic Jewelry', pp. 178-180; Fig. 2-4.

[903] Gal, Smithline and Shalem, 'Gender Features and Social Hierarchy', in *Archaeology of Difference*, ed. by Edwards and McCollough, p. 44.

[904] Gal, Shalem, and Smithline, 'The Peqi'in Cave', pp. 198, 203; Fig. 6, 15-16.

[905] Ibid., pp. 200-202; Fig. 9-10, 12-14.

[906] Shalem interpreted this net-patterned 'headdress motif' in connection with the net pattern seen on the PPNB Nahal Hemar skulls and the imagery from sculptures from Nevali Çori, as well as suggesting connections with anthropomorphic imagery found on other objects from Peqi'in Cave with imagery from other PPNB sites pp. 153-158; Fig. 2-6. Shalem, 'Cultural Continuity and Changes', pp. 148-170.

[907] A pierced hole on the figurine head was interpreted for attaching hair. The stylized anthropomorphic figurines were described as 'violin shaped' and the heads of these figurines were proportionally small (or possibly lacking). Gal, Shalem, and Smithline, 'The Peqi'in Cave', pp. 202-205; Fig. 19-20.

Sea contained interments of multiple individuals.[908] Skulls were often arranged on the left side of the tombs with postcranial bones collected upon a reed mat in the center with ceramic vessels and other grave goods lining the other sides.[909] Later at Bab edh-Dhra', the arrangement and processing of human remains in a secondary burial context would take place in over ten charnel houses that were discovered (Fig. 99).[910] Also, clay anthropomorphic figurines were found in both the shaft tombs and charnel houses at Bab edh-Dhra'.[911]

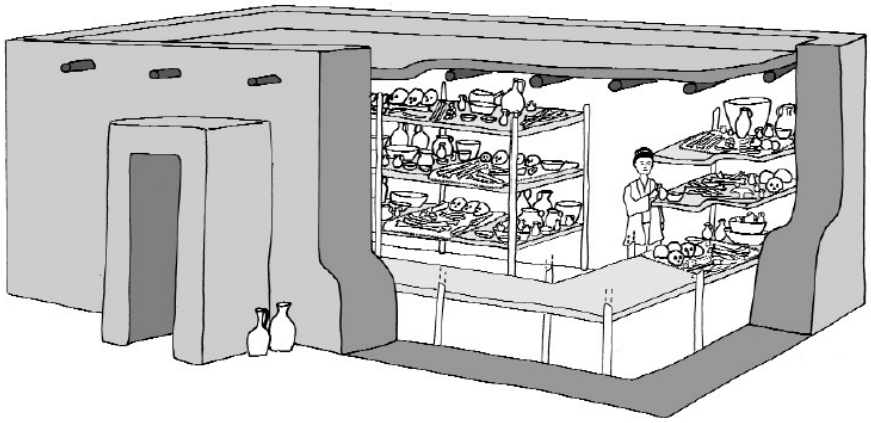


Fig. 99. Artistic reconstruction of EB II-III charnel house at Bab edh-Drah'. Chesson (1999), p. 154; Fig. 5.

PN-EB: North Levant

Shir

EPN (Late Neolithic) **c. 9,000-8,300 cal BP** **MNI: 2**

Two acephalous primary burials were found at Late Neolithic Shir off the Nahr as-Sārūt tributary of the Orontes River, one of which had a large flint blade found in place of the skull and obsidian was found near the head area of the other acephalous skeleton.[912] A ceramic shard depicting a nude man with an elongated head was also found.[913]

Tell el-Kerkh

EPN (Rouj 2c) **c. 8,500-8,000 cal BP** **MNI: 40**

Numerous acephalous skeletons and separated skulls were found in a 'cemetery' at the

[908] R. Thomas Shaub and Walter Rast, *Bab edh-Dhra': Excavations in the Cemetery Directed by Paul W. Lapp (1965-1967)*, Reports to the Expedition to the Dead Sea Plain, Jordan 1, (Winona Lake: Eisenbrauns, 1989).
[909] Chesson, 'Remembering and Forgetting in Early Bronze Age', in *Performing Death*, ed. by Laneri, pp. 117, 131; Fig. 6.3.
[910] Both local and nonlocal individuals were found in the charnel houses which may suggest that extended kin groups would return to Bab edh-Dhra' with their dead for burial. Gregoricka, Ullinger and Sheridan, 'Status, Kinship, and Place', pp. 1-17.
[911] Chesson, 'Libraries of the Dead', pp.145, 152, 155; Tab. 1, 5-6.
[912] The two acephalous burials were found (Level 4-9; Area L/M 7; Unit 11, 117) along with the secondary burial of five individuals and four incomplete infant skeletons. The burial in Unit 117 contained the 'very large dagger-like flint blade' and the two pieces of obsidian were from the burial in Unit 11. Bartl, Hijazi and Haidar, 'Late Neolithic Site of Shir', p. 15.
[913] The shard was found (Area G/H14) in 2005. Karin Bartl and Olivier Nieuwenhuyse, 'Reliefverzierte keramik des Neolithikums aus Shir, Westsyrien', in *Fundstellen: Gesammelte Schriften zur Archäologie und Geschichte Altvorderasiens ad honorem Hartmut Kühne*, ed. by Dominik Bonatz, Rainer Czichon and Florian Janoscha Kreppner, (Wiesbaden: Harrassowitz Verlag, 2008), pp. 9-16; Fig. 2-4.

PN 'megasite' (14 ha) Tell el-Kerkh in the Rouj Basin.[914] Mortuary practices at Tell el-Kerkh included primary, secondary, and 'cremation' burials.[915] 'Only a few intentional skull separations (decapitations)' could be observed among the primary burials.[916] Secondary and cremation remains were often found in collective burials, mostly consisting of skulls and long bones placed to one side of a burial pit.[917] Rather than waiting for taphonomic processes to separate bone and sinew, secondary burials likely occurred much less than a year after primary burial and some of those burials would be exhumed and cremated.[918]

Skulls and long bones 'were treated with respect and considerable care,' but excavators do not interpret this behavior as 'skull display' or 'real skull caching' and instead suggest that, 'People probably wanted to send the souls of dead to the other world through the removal of skeletons, or they simply cleaned up older inhumations when they dug a new grave.'[919] Pragmatic and ethereal reasons need not be mutually exclusive, but treatments of the head seem to have played a significant role in the mortuary practices at Tell el-Kerkh.

Tell Sabi Abyad

Pre-Halaf - Transitional Proto-Halaf **c. 8,200-7,900 cal BP** **MNI: 2**

An acephalous skeleton was found in a burial ground in the Pre-Halaf to Early Halaf transitional levels at Tell Sabi Abyad I in the Balikh River Valley.[920] No isolated skull burials were discovered at Tell Sabi Abyad, but there was an instance of a skull removed and later returned to approximately the original position.[921] 11 large clay objects interpreted as 'torsos' were imbued with animal bones and horn cores and likely sat among two corpses on the roof of an intentionally burned building.[922] Anthropomorphic figurines were found in both the Pre-Halaf and Halaf levels, some of which were headless and some contained dowel holes.[923] Pottery shards from Tell Sabi Abyad may depict imagery of humans with elongated heads, wearing headdresses, or perhaps donning masks.[924]

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[914] Over 240 individuals were found (Central Area; Sq. E251, 270-271) at the cemetery on the mound designated as Tell Ain el-Kerkh. Akira Tsuneki, 'The Archaeology of Death in the Late Neolithic: A View from Tell el-Kerkh', in *Interpreting the Late Neolithic*, ed. by Nieuwenhuyse et al, pp. 202-212, (p. 203).

[915] Cremation burials did not occur near the time of death, but may be considered a secondary burial. Ibid., pp. 208-211; Fig. 17.8-10; Tab. 17.3.

[916] Ibid., p. 209. (Parenthesis original). Some instances of acephalous burials (Str. 926-927, 930) were found (Central Area; Sq. E270) that may indicate intentional skull or cranium removal. Sari Jammo, 'Skull Removal Practices in the Near East Neolithic of Tell el-Kerkh, Syria', 筑波大学 先史学 考古学研究 (*Tsukuba Archaeological Studies*), 25 (2014), pp. 47-66.

[917] Tsuneki, 'Archaeology of Death', in *Interpreting the Late Neolithic*, ed. by Nieuwenhuyse et al, pp. 207-209; Fig. 17.6-8; Tab. 17.2.

[918] Ibid., p. 211.

[919] Ibid., p. 211.

[920] The upper body of the acephalous skeleton was found (Operation III) disarticulated. Akkermans, 'Burying the Dead', in *Proceedings of the 5th International Congress*, ed. by Córdoba et al, p. 626.

[921] A skull fragment was found (Operation III) in a pit, but the intentionality of placement is uncertain. There were two main burial areas at Tell Sabi Abyad, one for adults (Operation III) and one for children (Operation I). The adult burial (B99-11) of skull removal and replacement was found (Operation I; Level 7) in the child burial area. Ibid., pp. 626-627, 634, 644; Fig. 8; Note 42.

[922] Akkermans interpreted the undiagnostic clay objects as 'torsos,' but Verhoeven suggests that they may have represented stylized animals, mythical creatures, or monsters. Ibid., p. 628. cf. Verhoeven, 'Death, Fire and Abandonment', pp. 50, 54-60 ; Fig. 3-5; Tab. 1.

[923] Ellen Belcher, 'Embodiment of the Halaf: Sixth Millennium Figurines from Northern Mesopotamia', (unpublished doctorial dissertation, Columbia University, 2014), pp. 238-249, 462-469; Fig. 5.46-47; Tab. 5.29.

[924] Molleson and Campbell, 'Deformed Skulls at Tell Arpachiyah', in *Archaeology of Death*, ed. by Campbell and Green, p. 52; Fig. 9.4. Olivier Nieuwenhuyse, *Plain and Painted Pottery: The Rise of Late Neolithic Ceramic Styles on the Syrian and Northern Mesopotamian Plains*, (Turnhout: Brepols, 2007), Fig. 2.2.4:13-14.

Byblos

Chalcolithic-EB IV **c. 6,100-4,000 cal BP** **MNI: 370**

Over 1,000 jar burials were discovered at the necropolis at Chalcolithic Byblos on the coast of the Mediterranean Sea, many of which had the skull positioned towards the opening.[925] A number of examined skulls demonstrate evidence of artificial cranial modification.[926] At least two forms of head-binding were employed to accomplish the desired shape on individuals at Byblos, all of whom were likely female.[927] During the Early Bronze Age, numerous metallic schematic anthropomorphic figurines with elongated heads or tall headdresses were found, many of which were recovered from the Temple of the Obelisks.[928]

Umm el-Marra

EB III-IVA **c. 4,800-4,200 cal BP** **MNI: 1**

An acropolis dominated by a monumental mortuary complex at Umm el-Marra on the Jabbul Plain contained tombs for the elite, which included evidence for ritual animal and possible human sacrifice.[929] Evidence for a secondary burial was found with a human skull placed atop a mass of bones, which may have been held in a wooden container inlaid with ostrich eggshell.[930] An ivory comb, silver headbands, and eggshell eye inlays likely used to decorate anthropomorphic statues, were some of the items found in the tomb.[931]

PN-EB: Anatolia

Çatalhöyük

LPPN-PN **c. 9,100-8,000 cal BP** **MNI: 74**

A variety of head treatments were discovered at the settlement of Çatalhöyük on the Anatolian Plateau. Skull cult ideology continued to manifest itself at the large (13 ha) site, as is evidenced by the discoveries of acephalous skeletons and isolated skulls.[932] In fact, the number of acephalous burials is far outweighed by the number of skulls, crania, and mandibulae yet recovered. Cutmarks on an acephalous skeleton may demonstrate an instance

[925] Human remains were found in the majority of the jars, 35% of which had the skull oriented towards the opening. Artin, 'Necropolis and Dwellings of Byblos', pp. 78-80; Fig. 8-14.
[926] Nearly half of the skulls of the examined skulls (21 out of 53) showed evidence of artificial cranial deformation. Özbek, 'Étude de la Déformation Crânienne', p. 478.
[927] Ibid., pp. 456, 476; Fig. 5.
[928] The finds under discussion from the Temple of the Obelisks were found (Level 21-16) in 11 deposits. Ora Negbi and Sam Moskowitz, 'The "Foundation Deposits" or "Offering Deposits" of Byblos', *Bulletin of the American Schools of Oriental Research*, 184 (?) (1966), pp. 21-26, (p. 25; Fig. 2. Most of the EB IV anthropomorphic figurines were made from copper, but some were made from silver or gold and some contained gold leaf (e.g. Level 17; Deposit 14840, 15120). Albright, 'Remarks on the Chronology', pp. 26-27.
[929] The infant skeletons were found (Tombs 1, 3; Installations A-D) with equid skulls and equid acephalous skeletons, which may suggest sacrifice. Glenn Schwartz et al, 'Third-Millennium B.C. Elite Mortuary Complex', pp. 624-627, 632-634; Fig. 26-27.
[930] The secondary burial (Skeleton F) was found (Tomb 4) in the southern part of the tomb and may have been 'moved from a previous location within Tomb 4 or elsewhere.' Ibid., p. 613; Note 33.
[931] Similar eyes were recovered at Chuera and Mari. Ibid., pp. 613-614; Note 36-37. Glenn Schwartz, 'Status, Ideology, and Memory in Third-Millennium Syria: 'Royal Tombs' at Umm El-Marra,' in *Performing Death*, ed. by Laneri, pp. 39-68, (pp. 41, 57-58; Fig. 3.4-5.
[932] Conservatively, 15 acephalous primary burials, 16 skulls and crania from burials, and 43 individuals represented by crania and/or mandibles from non-burial contexts were excavated at Çatalhöyük. Haddow and Knüsel, 'Skull Retrieval and Secondary Burial', pp. 56, 59-60; Fig. 9; Tab. 1.

of manual defleshing by a stone blade.[933] Also, stratigraphic evidence for a post-retrieval pit was found, demonstrating that the skull could also be removed and other crania deposited after natural taphonomic processes.[934] At Çatalhöyük, skulls and crania were deposited with both acephalous and articulated primary burials, either singularly or in groups.[935] However, the majority of skulls and crania were found in non-burial contexts.[936] Skulls may have been placed in baskets and one skull 'had the brain extracted and a piece of cloth substituted.'[937]

Most went undecorated, but certain skulls and crania were painted with red ochre or cinnabar, sometimes covering the back and top of the skull and stopping in a straight line on the brow.[938] A number of burials were covered with red ochre, including the skull of an articulated burial with a cowrie shell in each eye socket.[939] The amount of wear on skulls and crania found in non-burial contexts compared with those found in primary burials may suggest that they were displayed for a period prior to deposition.[940] A red colored plastered skull was found in the arms of an articulated female primary burial and associated with an infant cranium.[941] Several layers of re-plastering and repainting indicate that it was in use for a long time.[942] Also, a human mandible with traces of red pigment and plaster was found in a possible post-retrieval pit and may have belonged to a, 'similarly decorated/plastered cranium.'[943]

Combinations of wall paintings, plaster reliefs, bucrania (real and modeled), and other animal skulls were used to create elaborate decorative motifs charged with symbolic imagery within certain houses, of which some contained isolated human skulls.[944] Paintings of skulls were found.[945] Wall paintings of vultures with long wings and headless people were found within some of the more elaborately adorned houses.[946] A depiction of a headless person with vultures in a wall painting over a platform that contained two human skulls was found in a 'shrine' house.[947] Two of the vultures appear to have human legs and may depict a

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[933] Andrews, Molleson and Boz, 'Human Burials at Çatalhöyük', in *Inhabiting Çatalhöyük*, ed. by Hodder, pp. 267-273; Fig. 11.8-15.

[934] A stratigraphically verified pit was cut into a burial (North Area; Building 129; Sp. 77; F.3686) in order to remove the skull from a now acephalous skeleton (Sk. 20430) and deposit two crania (Sk. 19493, 19450). Haddow and Knüsel, 'Skull Retrieval and Secondary Burial', pp. 57-59; Fig. 4, 6-8.

[935] The larger groups of skulls recovered likely represent the remains of disturbed primary burials, due to multiple interments, rather than skull caches. The multiple skulls recovered in earlier controversial excavations, including the 'piles of human bones, skulls and mandibles' found (Levels IV, VI) under the sleeping platforms of houses may serve as an example. Mellaart, 'Excavations at Çatal Hüyük: First Preliminary Report', p. 51. Haddow and Knüsel, 'Skull Retrieval and Secondary Burial', p. 62; Tab. 2.

[936] Ibid., pp. 62-63; Tab. 3.

[937] Mellaart, 'Excavations at Çatal Hüyük, 1963', pp. 66, 85, 93; Pl. XXIIb, XXIIIa, XXIVa.

[938] Mellaart, 'Excavations at Çatal Hüyük, 1962', p. 50; Pl. XXVa.

[939] Mellaart, 'Excavations at Catal Hüyük, 1965', p. 183; Pl. Lb.

[940] Haddow and Knüsel, 'Skull Retrieval and Secondary Burial', p. 56.

[941] The only plastered skull (Sk. 11330) recovered at Çatalhöyük was found (South Area; Building 42; F.1517) held by an older (age 50+) woman (Sk. 11306) and may be associated with an infant burial (F.1516). The only plastered skull (Sk. 11330) recovered at Çatalhöyük was found (South Area; Building 42; F.1517) held by an older (age 50+) woman (Sk. 11306) and may be associated with an infant burial (F.1516). Boz and Hager, '2004 Human Remains', in *Çatalhöyük 2004 Archive Report*.

[942] Boz and Hager, 'Living Above the Dead', in *Humans and Landscapes*, ed. Hodder, pp. 423-424, 435; Fig. 19.17.

[943] The mandible (19829.x2) was found (South Area; Space: 379; Building 89) near a platform. Knüsel et al, 'Çatalhöyük Human Remains Team', *Çatalhöyük 2012 Archive Report*, p. 146). Haddow and Knüsel, 'Skull Retrieval and Secondary Burial', p. 55; Fig. 3.

[944] Mellaart, 'Excavations at Çatal Hüyük, 1963', pp. 40-73; Fig. 4-9, 12-25; Pl. Ib-XIV.

[945] Mellaart, 'Excavations at Çatal Hüyük, 1962', p. 98; Pl. XXVIa.

[946] Mellaart, 'Excavations at Çatal Hüyük, 1963', pp. 65, 67-68; Fig. 20-22; Pl. VIIb-IX, XII, XIVa.

[947] The painting was located over a corner platform in the elaborately decorated Shrine VII, 21. Ibid., p. 64; Pl. XII. Current nomenclature has replaced 'shrine' with 'history house.' Hodder, and Pels, 'History Houses', in *Religion in the Emergence of Civilization*, ed. by Hodder, pp.163-186.

shamanic ritual.[948] The heads of some people were illustrated by an oval shape, perhaps as an indication of some type of hairstyle, headwear, or artificial cranial modification.[949]

Numerous anthropomorphic figurines were found at Çatalhöyük, many of which lacked heads.[950] This would include the well known figurine of a woman seated upon two leopards because the often depicted head is a restoration.[951] The discovery of such figurines led to the interpretation of 'Mother Goddess' worship at Çatalhöyük.[952] However, that interpretation has been challenged.[953] An argument against such an interpretation was that figurines at Çatalhöyük were found in midden and not in burial or other important contexts.[954] However in the final two seasons of excavations at Çatalhöyük, three anthropomorphic figurines and a statuette were found directly associated with burials that were perhaps ritualistically deposited as part of the condemnation of a very significant 'history house.'[955] Some heads of anthropomorphic figurines from Çatalhöyük portrayed a stylized elongated shape.[956] Figurine heads were also found, some of which had probable a dowel hole on the bottom.[957]

Hacılar

Final PPNB-EPN **c. 8,200-8,000 cal BP** **MNI: 0**

Many stylized anthropomorphic statuettes, figurine heads, figurines, and incised slabs were found in various locations at Hacılar.[958] Anthropomorphic figurines and figurine heads

[948] Though they avoid the term, 'shaman,' see the discussions concerning 'tricksters' and 'individuals or elders specialized in ritual knowledge' draped in bird feathers at Çatalhöyük. *Religion in the Emergence of Civilization*, ed. by Hodder, pp. 60-61, 130. Russell and McGowan, 'Dance of the Cranes', pp. 445-455.

[949] Mellaart, 'Excavations at Çatal Hüyük: First Preliminary Report', pp. 41-65; Pl. XIIIa-b, XIVb-c, XVb-c, XVI-XVIII; 'Excavations at Çatal Hüyük, 1962', pp. 43-103; Pl. Vb; 'Excavations at Catal Hüyük, 1965', pp. 165-191; Pl. LII-LXI.

[950] Mellaart, 'Excavations at Çatal Hüyük: First Preliminary Report', pp. 41-65 (Pl. VIII); 'Excavations at Çatal Hüyük, 1962', pp. 86-88, 92; Fig. 22-24, 28; Pl. XXc-XXIa-b; XXIIIa-b; 'Excavations at Çatal Hüyük, 1963', p. 80; Fig. 32; Pl. XVIIc-d. Lynn Meskell, 'Refiguring the Corpus', in *Material Beginnings*, ed. by Renfrew and Morley, pp. 150, 153; Fig. 11.6, 11.10.

[951] Mellaart, 'Excavations at Çatal Hüyük, 1962', pp. 93-97; Fig. 96-97; Pl. XXIV.

[952] In his description of the figurine (Ankara 79-250-65) of a woman seated upon leopards Mellaart said, 'In this " monumental" statue neolithic man has summed up his creed in a Great Goddess, Mistress of all life and death, human and animal and-judging by its findspot, a grainbin-vegetable as well.' Ibid., 95. This find led to the controversial Mother Goddesses interpretation proposed by some. Marija Gimbutas, *The Language of the Goddess: Unearthing the Hidden Symbols of Western Civilization*, (London: Harper & Row, 1989). Lotte Motz, *The Faces of the Goddess*, (Oxford: Oxford University Press, 1997). Jacques Cauvin, *The Birth of the Gods and the Origins of Agriculture*, trans. by Trevor Watkins (Cambridge: Cambridge University Press, 2000). Michael Balter, *The Goddess and the Bull Çatalhöyük: An Archaeological Journey to the Dawn of Civilization*, (New York: Routledge, 2006).

[953] Meskell, 'Refiguring the Corpus', in *Material Beginnings*, ed. by Renfrew and Morley, pp. 143-156. *Religion in the Emergence of Civilization*, ed. by Hodder. Richard Lesure, *Interpreting Ancient Figurines: Context, Comparison, and Prehistoric Art*, (Cambridge: Cambridge University Press, 2011).

[954] Lynn Meskell et al, 'Figured Lifeworlds and Depositional Practices at Çatalhöyük', *Cambridge Archaeological Journal*, 18(2) (2008), pp 139-161, (pp.143-144, 157).

[955] Two figurines (20736.x1, 20736.x3) were found (TPC Area; Building 150; Sp. 594; F.3855) in association with a burial (F.3867). Carrie Nakamura and Lynn Meskell, 'Limestone Figurines: Figural Analysis', in *Çatalhöyük 2016 Archive Report*, ed. by Scott Haddow ,2016, pp. 137-143 (Fig. 1-7) <http://www.catalhoyuk.com/sites/default/files/media/pdf/Archive_Report_2016.pdf> [Accessed 27th February 2019]. The figurine (32806.x1) and statuette (32806.x2) were found (TPC Area; Building 150) in association with two burial pits (F.3867-3868). Lynn Meskell and Carolyn Nakamura, 'Figurines and Clay Stamps: Building 150 Figurines', in *Çatalhöyük 2016 Archive Report*, ed. by Scott Haddow pp. 185-190; Fig. 2-4; Tab. 1, <http://www.catalhoyuk.com/sites/default/files/Archive_Report_2017.pdf >[Accessed 27th February 2019].

[956] Mellaart, 'Excavations at Çatal Hüyük: First Preliminary Report, pp. 41-65 (Pl. VIIa, IX; 'Excavations at Çatal Hüyük, 1962', p. 94; Fig. 30; Pl. XXXIIIc-d; 'Excavations at Çatal Hüyük, 1963', p. 74; Fig. 26; Pl. XVa-b.

[957] Mellaart, 'Excavations at Çatal Hüyük: First Preliminary Report', pp. 41-65; Pl. IXd; 'Excavations at Çatal Hüyük, 1963', p. 79; Fig. 31b; Pl. XVIc. Meskell, 'Refiguring the Corpus', in *Material Beginnings*, ed. by Renfrew and Morley, p. 150; Fig. 11.7; 'The Nature of the Beast', pp. 378-379; Pl. 3. Meskell and Nakamura, 'Figurines and Clay Stamps' in *Çatalhöyük Archive Report 2017*, p. 186; Fig. 1.

[958] Most of the anthropomorphic statuettes, figurines, and incised slabs were found in Level VI. Mellaart, *Excavations at Hacilar*, Vol. 1, pp.166-176; *Excavations at Hacilar*, Vol. 2, pp. 180-233, 472-522; Fig. 190-246; Pl. CXXV-CLXXXIV.

depicting several hairstyles were found at Hacılar, as some were apparently created separately and then pegged together.[959] Also, Late Neolithic figurines with detachable wooden heads were found.[960] A cup shaped like a human head was discovered as well.[961]

Hakemi Use

Transitional Proto-Halaf (Hassuna/Samarra) c. 8,100-8,000 cal BP **MNI: 45**

Hakemi Use was a Late Neolithic settlement of the Hassuna-Samarran pottery culture in Southeast Anatolia/Northern Mesopotamia on the bank of the Tigris River that displayed evidence for special treatment of the head. The head was oriented towards the east or west in the majority of primary burials, one of which contained traces of red ochre on the skull.[962] Three isolated skull burials were found, one of which was interred with half a stone bowl.[963] Evidence for artificial cranial modification was found on 16 individuals from Hakemi Use (Fig. 99).[964] Over 100 clay anthropomorphic figurines with highly elongated heads were found at the PN site.[965]

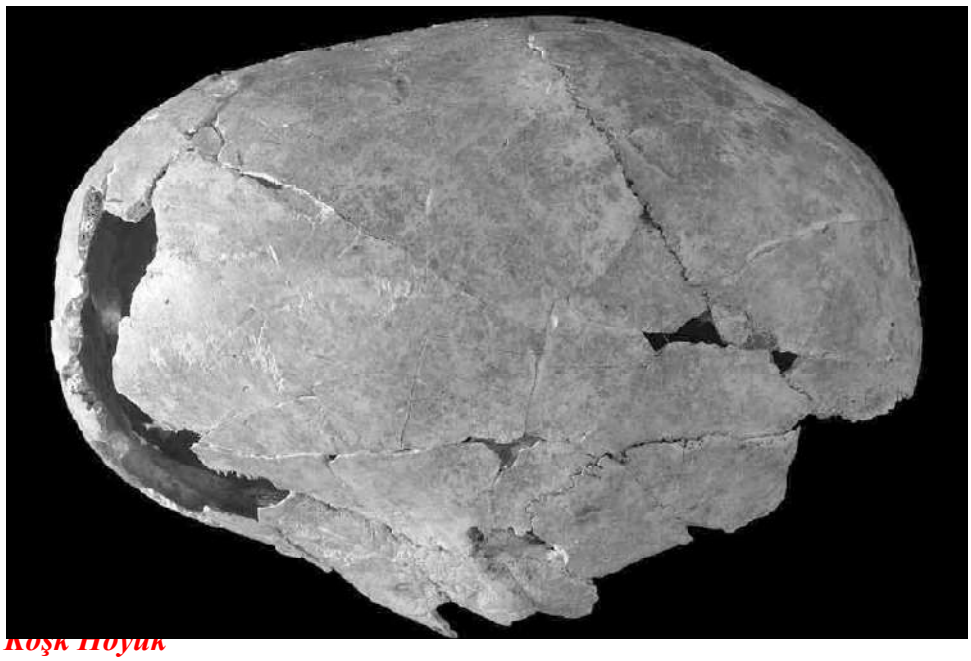


Fig. 99. ACM on a cranium (M202) from Hakemi Use. Erdal (2013), p. 219; Fig. 18.2.

Köşk Höyük

PN **c. 8,000-7,000 cal BP** **MNI: 21**

The continuation of skull cult practices continued in the PN, as evidenced from finds at Köşk Höyük on the Bor Plateau. Two acephalous skeletons were found under the floors of

[959] Mellaart, *Excavations at Hacilar*, Vol. 1, pp. 167-168.
[960] Mellaart, *Excavations at Hacilar*, Vol. 1, p. 175; *Excavations at Hacilar*, Vol. 2, Fig. 233; Pl. CLX a-e.
[961] The cup was found (Level VI, House Q.6) in a burial wrapped in cloth and partially burned, perhaps due to a Level VI fire. Mellaart, *Excavations at Hacilar*, Vol. 1, pp. 88-89, 107-108; *Excavations at Hacilar*, Vol. 2, Pl. LXIII 1; Fig. 57: 3.
[962] Red ochre was observed on the temporal bone of a primary burial (M 300). Yılmaz Selim Erdal, 'Life and Death at Hakemi Use', in *Interpreting the Late Neolithic*, ed. by Nieuwenhuyse et al, pp. 213-223, (pp. 217-218).
[963] The three isolated skulls may be skull interments or may indicate the keeping of skulls on walls or other areas, but the relationship between the skulls and the houses is not clearly identified in excavation reports. Erdal, 'Life and Death', in *Interpreting the Late Neolithic*, ed. by Nieuwenhuyse et al, pp. 217-218; Tab. 18.2.
[964] ACM via banding was observed on 16 individuals of all sexes, the majority of which were children. Ibid., pp. 218-220 ; Fig. 18.2.
[965] The elongated heads of these figurines have been interpreted as 'high crowns.' Tekin, 'Hakemi Use: A Newly Established Site', in *Universidad Autónoma de Madrid*, ed. by Córdoba et al, pp. 274-275; 'Hakemi Use Kazısında', in *Studies in Honor of Hayat Erkanal*, ed. by Avunç, pp. 720-721; Fig. 2-3.

houses.[966] Six undecorated skulls and crania were found, one of which was found inside a jar.[967] Three of the undecorated skulls were found in a row facing east between two plastered skulls, along with a headless anthropomorphic figurine.[968] A total of 13 plastered skulls have been found at Köşk Höyük under floors and upon plastered benches (Fig. 99).[969] One plastered skull was decorated with red ochre and had two black stones for eyes.[970]

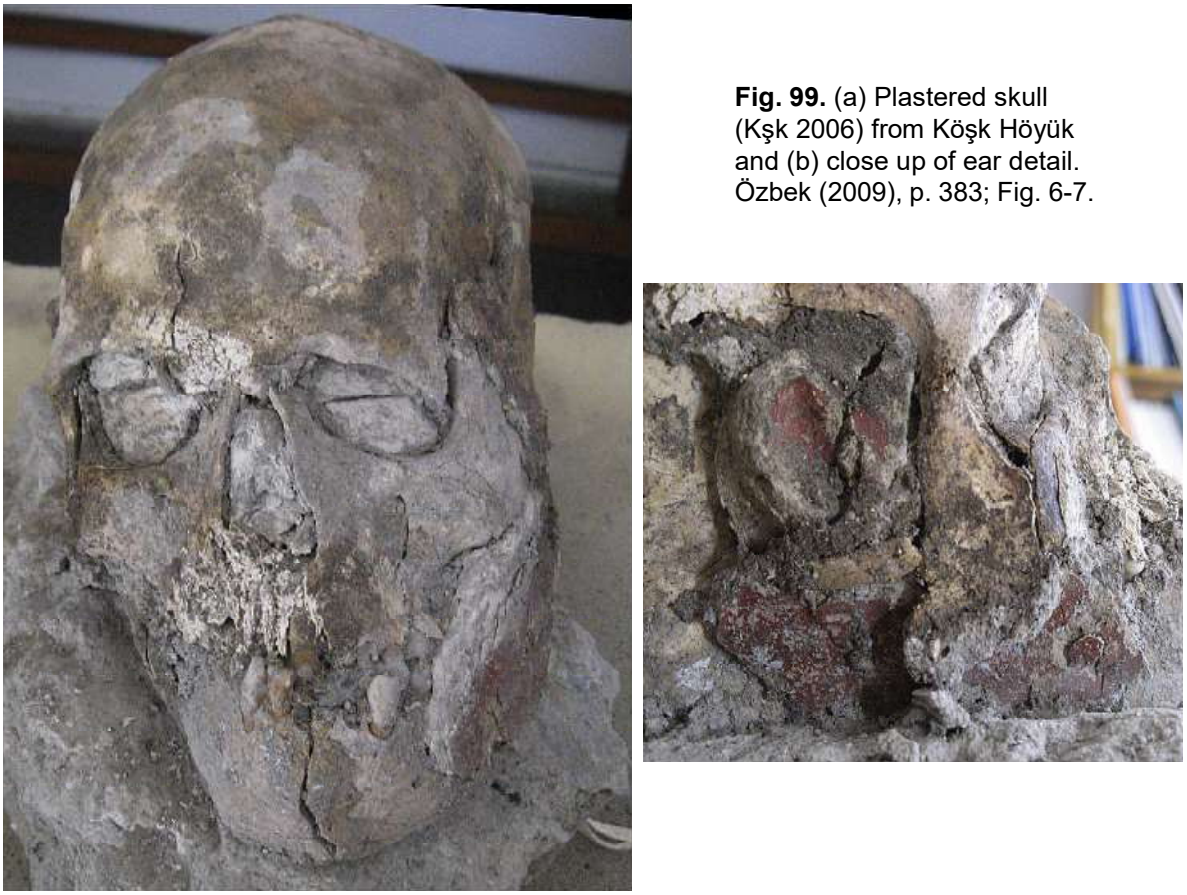


Fig. 99. (a) Plastered skull (Kşk 2006) from Köşk Höyük and (b) close up of ear detail. Özbek (2009), p. 383; Fig. 6-7.

Şeyh Höyük

Middle-Late Halaf (Halaf IIA) **c.7,600-7,500 cal BP** **MNI: 5**

Five articulated skeletons were recovered from a rubbish pit at Şeyh Höyük, which led to

[966] An acephalous skeleton (Kşk. 2005) was found (Level III; House 26) during the 2005 excavations and another (Grave 17)) was found (Level III; Area F/A) during excavations in 2007. Özbek, 'Remodeled Human Skulls in Köşk Höyük', pp. 383-384; Fig. 5.

[967] Two fragmented undecorated skulls (Kşk. 1990.3-4) were found in 1990, but excavation details are unknown, due the death of the excavator in 1991. Bonogofsky, 'Complexity in Context', in *Skull Collection, Modification, and Decoration*, ed. by Bonogofsky, pp. 20, 22. Three well preserved jars were found (Level I; House 24) and one of them held the cranium (Kşk. 2007) of a young woman inside. Özbek, 'Remodeled Human Skulls in Köşk Höyük', pp. 381, 383; Tab. 1.

[968] The three unplastered skulls (Kşk. 2006.2-4) may have been wrapped in mats and were found (Level II; Area I/10) in a line between two plastered skulls (Kşk. 2006.1, 5) on a floor with a headless 'goddess' figurine inside a building where five plastered skulls (Kşk. 2000.1-5) were found (Level II; Area H/11) in 2000. Ibid., pp. 380-383; Fig. 2-8; Tab. 1.

[969] A plastered skull (Kşk. 1985) of a child was found (Level III) under a floor in 1985. In 1987, a plastered skull (Kşk. 1987) was found (Level III) on a plastered bench inside a building. Bonogofsky, 'Complexity in Context', in *Skull Collection, Modification, and Decoration*, ed. by Bonogofsky, pp. 20-21; Fig. 10. Two pink-painted plastered skulls (Kşk. 1990.1-2) were discovered in 1990, but excavation details are unknown, due the abovementioned death of the excavator. Five plastered skulls (Kşk. 2000.1-5) were found (Level II; Area H/11) on a mud-brick pedestal in a disturbed context, but they likely all faced the same direction. Bonogofsky, 'Bioarchaeological Study of Plastered Skulls', pp. 127-132; Fig. 3-9.

[970] This find consisted of the fragments of two plastered skulls (Kşk. 1989.1-2) found (Level I-II; Area G/8-9) with an assortment of possible grave goods, including horn cores. Bonogofsky, 'Bioarchaeological Study of Plastered Skulls', p. 127.

the interpretation that they were thrown into the pit after being killed.[971] All five crania from said skeletons displayed evidence for artificial cranial deformation.[972]

Domuztepe

Middle-Late Halaf (Halaf IIA) c. 7,600-7,500 cal BP MNI: 25

The majority of evidence for treatment of the head at the large settlement of Domuztepe on the bank of the Ceyhan River derives from the find of a multilayered mortuary pit ritual from the Late Halaf.[973] The 'Death Pit' began with pits dug into the 'Red Terrace' and filled primarily with animal bones that may suggest feasting, as well as small pot that contained a human skull fragment.[974] After the pit was flooded and quickly dried, 'large quantities of disarticulated and heavily processed human bones' were combined with earthen material in order to form a raised *pisé* structure in which even more processed human remains were placed, including skulls with evidence of blunt force trauma on one side, often atop the other bones.[975] Some skulls were seemingly arranged in a roughly circular manner.[976] The pit itself was not burned, but a large amount of ash covered the disarticulated human and animal skeletal remains. Cutmarks and other evidence demonstrate that both the animal and human bones were processed 'very likely for purposes of consumption.'[977] Some skulls near the top were filled with ashen material and one skull was found with a lump of plaster in the mouth.[978]

Other mortuary activities involving digging and filling pits in and around the 'Death Pit' occurred soon thereafter and add to the complexity of this likely public and dramatic ritual (Fig.99).[979] A child burial was found with their decapitated head reassociated with the body.[980] An isolated burial of a decapitated skull with evidence of blunt force trauma to one side was a found and a mandible was discovered in another pit.[981] Another deposit included

[971] Şenyürek and Tunakan, 'Skeletons from Şeyh Höyük', p. 439.
[972] Ibid., pp. 439-445; Tab. 1; Pl. 36-40. Özbek, 'Étude de la Déformation Crânienne', pp. 472-475; Tab. 9-10. Lorentz, 'Ubaid Headshaping', in *Beyond the Ubaid*, ed. by Carter and Philip, pp. 130-131; Fig. 9.3.
[973] The 'Death Pit' (F138) was found (Operation 1) to contain evidence for a complex ritual. Campbell, 'The Dead and the Living', in *Sepolti Tra I Vivi*, ed. by Bartoloni and Benedettini, p. 128; Fig. 3.
[974] Ibid., p. 129.
[975] Ibid., p. 129. Carter, 'On Human and Animal Sacrifice', in *Sacred Killing*, ed. by Porter and Schwartz, pp. 104-105, 107; Fig. 6.
[976] Excavations in 1997 uncovered 5 human skulls, 5 cranial fragments, and postcranial remains. In 1998, about 88 skull specimens were found (13 were partial crania placed at different locations in the 'Death Pit' fill). Ibid., p. 106; Fig. 7a. Carter, Campbell and Gauld, 'Elusive Complexity', p. 126; Fig. 11.
[977] Other that cutmarks, evidence for cannibalism included scorching and pot polish on bones. Carter, 'On Human and Animal Sacrifice', in *Sacred Killing*, ed. by Porter and Schwartz, pp. 101-102. Kansa et al, 'Whose Bones are Those?, pp. 159-172.
[978] Skulls (1938/23, 1939/1) filled with ash often were placed in an ashy cut and there was a single occurrence of plaster found in a skull (2631/2). Carter, 'On Human and Animal Sacrifice', in *Sacred Killing*, ed. by Porter and Schwartz, pp. 104-105, 108; Fig. 6.
[979] Carter references later Hurro-Hittite rituals which involved digging and filling of pits as portals for chthonic deities, including the 'Pit' (Hittite ^{d}Āpi). Carter, 'On Human and Animal Sacrifice', in *Sacred Killing*, ed. by Porter and Schwartz, p. 108; Note 3). Billie Jean Collins, 'Necromancy, Fertility and the Dark Earth: The Use of Ritual Pits in Hittite Cult', in *Magic and Ritual in the Ancient World*, ed. by Paul Mirecki, and Marvin Meyer, Religions in the Graeco-Roman World 141, (Leiden: Brill, 2002), pp. 224-242, (p. 225).
[980] The child's (F880) head was severed prior to internment. Carter, 'On Human and Animal Sacrifice', in *Sacred Killing*, ed. by Porter and Schwartz, pp. 107-108; Fig. 7c.
[981] The mandible (F868) and skull (F1143) burial were associated a large pit (F942) and the burial of an articulated skeleton (F929). Ibid., pp. 106-108; Fig. 7a-b, d.

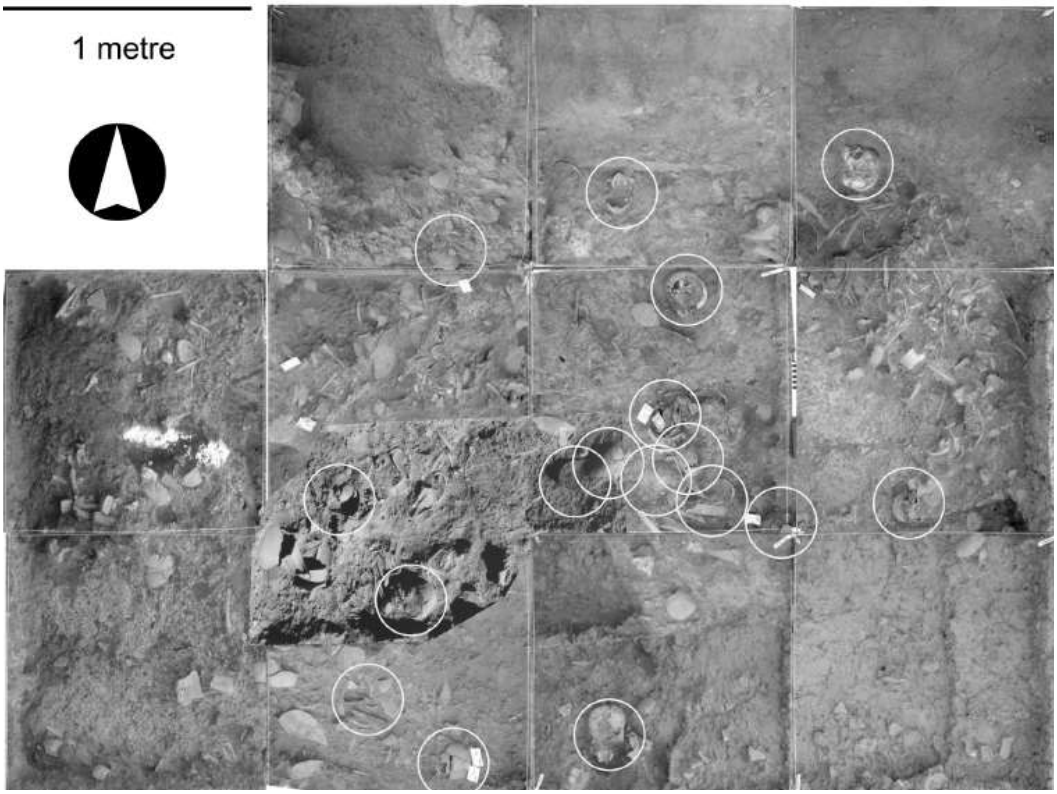


Fig. 99. The 'Death Pit' at Domuztepe with skulls circled. Campbell (????), p. ??; Fig. 4.

a child skull, pig skull, horn core, human skull fragment, and a pot.[982] A red stone anthropomorphic figurine 'lacking the head' was found in the vicinity of the 'Death Pit.'[983] Two large postholes were found to mark the location of the 'Death Pit' although other structures were constructed nearby, the location remained unused for generations.[984]



The 'ditch' was found near the 'Death Pit,' but was about a century older and it contained numerous broken pottery vessels, an obsidian mirror, and an anthropomorphic figurine head.[985] Other pottery sherds were painted with depictions that give further insight into head treatments at Domuztepe. One potsherd depicts two acephalous bodies and a severed head surrounded by birds.[986] Oother sherds depict a row of human heads (Fig. 99).[987] Other sherds may depict headless humans, humans with elongated heads, wearing headdresses, and/or masks.[988]

Fig. 99. Domuztepe sherds decorated with human heads. Carter (????), p. 115; Fig. 13a.

[982] This symbolic human-animal deposit (F1361) likely occurred later than the abovementioned main ritual, ancillary pits, and burials. Ibid., pp. 107-108; Fig. 7e.
[983] Carter, Campbell and Gauld, 'Elusive Complexity', pp. 122, 127; Fig. 12a.
[984] , 'On Human and Animal Sacrifice', in *Sacred Killing*, ed. by Porter and Schwartz, p. 109.
[985] Animal and a small amount of human bones were also discovered in the 'ditch.' Ibid., pp. 110-111.
[986] Ibid., pp. 111-113; Fig. 9.
[987] Ibid., pp. 111, 115; Fig. 13.
[988] Ibid., pp. 116, 119; Fig. 14a-b.

Titriş Höyük

Late Early Bronze Age (EB IV/IBA) c. 4,400-4,100 cal BP MNI: 58

The intramural tombs during the latter part of the Early Bronze Age at Titriş Höyük on the Tavuk Çay tributary of the Euphrates River often contained the secondary deposition of skulls arranged on one side or in small pits, due to individuals removing postcranial bones in order to make space for a corpse.[989] A bronze dagger and a spearhead were found under the skulls of articulated skeletons in two intramural burials.[990] Stylized anthropomorphic figurines were found in some of the tombs at Titriş Höyük.[991]

Intramural burials are not the only evidence for special treatment of the head at Titriş Höyük. A plaster basin used in connection with wine production contained a dismembered collection of human bones encircled by 17 human skulls, most of which displayed evidence of cranial trauma.[992] A passage was opened in order for the mortuary installation to be publicly displayed and it has been interpreted as a type of ritualistic massacre, likely related to interpersonal conflict brought about by the collapse of the Akkadian Empire.[993]

PN-EB: Mesopotamia

Türbe Höyük

Proto-Hassuna - Archaic Hassuna (Hassuna I) c. 8,400-8,000 cal BP MNI: 16

Skulls were found placed on the E or NE side of three collective cist burials of the Pre-Halaf Hassuna pottery culture at Türbe Höyük on the bank of the Botan River.[994] Excavators suggest that the skulls were from primary inhumations and later moved in order to include other burials (not from a secondary burial context) and two of the skulls contained traces of red pigment.[995]

Tell Hassuna

Proto-Halaf/Hassuna/Samarra (Hassuna II-III) c. 8,000-7,900 cal BP MNI: 3

The eponymous site for a distinctive Northern Mesopotamian pottery culture on the bank of the Tigris River also provides evidence for treatment of the head. Two skeletons, one of

[989] Laneri, 'Burial Practices at Titriş Höyük', p. 252.
[990] The dagger (Th 63201) was found (Building 4; B 96.75) under a skull and the spearhead (Th 65179) was also found (Building 2, B 96.65) under a skull. Nicola Laneri, 'I Costumi Funerari della Media Vallata dell'Eufrate Durante il III Millennio A.C.', (unpublished doctorial dissertation, Università Degli Studi di Napoli, 2004), pp. 223, 247; Fig. 15-16, 39.
[991] Two anthropomorphic figurines (Th 7557, 7560) were discovered in one tomb (B 94.48) and one figurine (Th 7594) was discovered in another (B 94.52). Ibid., pp. 214-216, 274 (Fig. 43). Erdal described these figurines as 'violin-shaped', but they are only roughly similar to the 'violin-shaped' figurines discovered at Peqi'in Cave. Erdal, 'A Possible Massacre', p. 17. Gal, Shalem, and Smithline, 'The Peqi'in Cave', pp. 202, 205; Fig. 20.
[992] Laneri interprets the mortuary installation (B98.87) in the light of Ancient Near Eastern wine mythology and ritual. Laneri, 'Burial Practices at Titriş Höyük', pp. 255-259; Fig. 3. Over 80% of skulls exhibited evidence of cranial trauma. Erdal, 'A Possible Massacre', pp. 6-7; Tab. 2.
[993] The 'gruesome and unusual public display' of the mortuary installation (B98.87) was found (Building 2; Room 13) with a passage opened so it could have been viewed near the intersection of two streets (Street A, C). Ibid., pp. 3-4, 16-17; Fig. 2-3.
[994] The three burials (M1-3) were found (Sq. I/J17-19) to contain the skeletal remains of 16 (MNI) individuals. Kodaş, Sağlamtimur and Erdal, 'Three Human Graves', p.15; Fig. 2.
[995] One skull (TH'04 BGB/M1) was discovered in a collective burial (Burial M1) and another skull (TH'04 BHO/M2) was discovered in a different collective burial (Burial M2), both skulls contained traces of red pigment. Ibid., pp.15-16; Fig. 2; Tab. 1

which was acephalous, were found apparently 'flung unceremoniously into a grain bin.'[996] An isolated fragmented skull was found in a 'rubbish pit.'[997] An anthropomorphic vessel of the later Samarran pottery culture at Tell Hassuna was found, which depicts a face with possible tattooed or painted lines and a nose ornament.[998]

Tell 'Azzo I

Halaf **c. 7,900-7,300 cal BP** **MNI: 4***

'Several headless human burials' were found in a *tholos* with several concentric rings of *pisé* walls in the Halaf levels of Tell 'Azzo I in the Mosul Region.[999]

Kerküşti Höyük

Early-Middle Halaf **c. 7,900-7,500 cal BP** **MNI: 2**

A 'single skull' was found in the Early-Middle Halaf layers at Kerküşti Höyük south of thr Mardin Pass in Northern Mesopotamia.[1000] 11 articulated burials were also found, one of which had a stone seal-pendant near the skull.[1001] In addition to fragmented anthropomorphic figurines, painted pottery was found at Kerküşti Höyük.[1002] Many symbolic images are illustrated on the pottery, some of which are stylized depictions of humans with elongated heads.[1003]

Yarim Tepe II

Middle Halaf-Ubaid Transitional Period **c. 7,600-7,250 cal BP** **MNI: 7**

Primary, secondary, and cremation burials were found in the Halaf pottery culture layers of PN Yarim Tepe II in the Sinjar Valley.[1004] Five fractured skulls were found placed on the left side and oriented east or west in three pits, one of which contained a cache of three skulls.[1005] A secondary burial of a child was found with the skull placed atop some

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[996] The acephalous skeleton was found (Level III; Room 10; Sq. B3) in a sunken grain bin. Lloyd, Safar and Braidwood, 'Tell Hassuna Excavations', pp. 267, 273; Fig. 30.

[997] The crushed skull was found (Level IV) in a rubbish pit and the excavators mention two small groups of postcranial bones found (Level IV; Room 4; Sq. C/D3-4) at two opposite corners of a room, but a burial context is uncertain. Ibid., pp. 267, 274; Fig. 31.

[998] The anthropomorphic vessel was found (Level V) in the Samarran levels (V-VI) at Tell Hassuna, which may be viewed as a Proto-Halafian entity following and somewhat overlapping with the Hassunian (often described as Hassuna-Samarra). Ibid., p. 281; Fig. 1; Pl. XVII.1-2. Bernbeck and Nieuwenhuyse, 'Established Paradigms', in *Interpreting the Late Neolithic*, ed. by Nieuwenhuyse et al, pp. 22, 27; Fig. 1.3; Tab. 1.1. Olivier Nieuwenhuyse and Walter Cruells, 'The Proto-Halaf Period in Syria: New Sites, New Data', *Paléorient*, 30(1) (2004), pp. 47-68, (p. 49).

[999] Tell 'Azzo is not well documented, thus the stratigraphic relationship between the acephalous skeletons and the ringed building is not well understood.'Excavations in Iraq', ed. by Killick and Roaf, p. 206.

[1000] The single skull and the articulated burials were found (Phase Vb; Sq. Y56-58) in the Halaf layers. Savaş Sarıaltun, 'A Halaf Settlement at Kerküşti Höyük', in *Interpreting the Late Neolithic*, ed. by Nieuwenhuyse et al, pp. 503-512, (pp. 505, 509-510; Fig. 45.4.

[1001] Sarıaltun, 'Halaf Settlement at Kerküşti Höyük', in *Interpreting the Late Neolithic*, ed. by Nieuwenhuyse et al, pp. 509-511; Fig. 45.12, 15.

[1002] Ibid., pp. 508-51; Fig. 45.10-13.

[1003] Sarıaltun and Erim-Özdoğan, 'Studies on Halaf Pottery', p. 43; Fig. 14.1, 3.

[1004] The earlier Hassuna levels at Yarim Tepe I consisted primarily of 'very unusual ritual practices (e.g., dismembered corpses found in special round or rectangular structures.' Nikolai Merpert and Rauf Munchaev, 'The Earliest Levels at Yarim Tepe I and Yarim Tepe II in Northern Iraq', *Iraq*, 49 (1987), pp. 1-36, (pp. 8-9; Parenthesis original). These 'unusal' mortuary practices may have included a mounted bucranium and the inclusion of auroch astragal bones in burials (i.e. the 'Hunter's Burial'), possibly used for accounting and/or divination (astragalomancy). Sue Ann McCarty, 'Telling The Future or hoarding The Past? A Halaf Cattle Astragalus Cache from Kazane Höyük, Southeastern Turkey', in *Interpreting the Late Neolithic*, ed. by Nieuwenhuyse et al, pp. 224-231, (pp. 228-230; Fig. 19.1.

[1005] The skull burials (N49, 55-56) were found (Level 8-9; Sq. 23) in three shallow pits, one of which contained a skull cache (N56). Merpert and Munchaev, 'Earliest Levels at Yarim Tepe I and Yarim Tepe II, (p. 27). Peter M.M.G. Akkermans,

postcranial bones.[1006] A cup that contained over 550 beads was found 'standing in front of the skull' of a primary articulated burial.[1007] An intentionally broken anthropomorphic figurine was constructed without a head and painted with details of the female form before it was found in a pit.[1008] A pottery sherd was found painted with a depiction of humans with stylized highly elongated heads.[1009]

Arpachiyah

Middle Halaf-Ubaid Transitional Period c. 7,600-7,100 cal BP MNI: 16

Five isolated human skulls were found in ceramic vessels at the Halaf levels of Arpachiyah near Nineveh, one of which was isolated and the other four were in a collective burial.[1010] One of the skulls may have been found in a vessel painted with symbolic imagery, including two anthropomorphic figures on either side of the rim of a huge vessel.[1011] A burial ground found in levels dated to the Halaf-Ubaid transitional period at Arpachiyah may have used grave markers.[1012] Acephalous skeletons and an isolated cranium burial were also found.[1013] Two crania were found interred with a complete skeleton and another burial of a complete skeleton was interred with a bowl, in which a fragmented infant skull was contained.[1014] Some of the skulls from Arpachiyah displayed evidence for artificial cranial modification.[1015] Numerous anthropomorphic figurines were found with 'the invariable absence of a human head.'[1016]

Choga Mish

Early-Late Middle Susiana c. 7,500-7,000 cal BP MNI: 1

A cranium recovered at Choga Mish in lowland Susiana displayed evidence of artificial cranial modification.[1017] Anthropomorphic figurines were found, including two heads which

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'Halaf Mortuary Practices: A Survey', in *To the Euphrates and Beyond: Archaeological Studies in Honour of Maurits N.van Loon*, ed. by Odette Haex et al, (Rotterdam: A.A. Balkema, 1989), pp.75-88, (p. 79).

[1006] Merpert and Munchaev, 'Earliest Levels at Yarim Tepe I and Yarim Tepe II, p. 27.

[1007] A 'very stylized clay figurine' was also found (Level 8-9) in the burial (N58). Ibid., pp. 25-26; Fig. 12.6.

[1008] Ibid., p. 27; Pl. VII.

[1009] Ibid., p. 34; Fig. 21.7.

[1010] The skulls were discovered in a '*tholos*' area, the first (G1) was found (Level VI) in 'a large plain globular high-necked jar.' In the collective burial (G2), three skulls were found (Level VII) in separate 'bowls' and another was interred in 'a large squat jar'. Hijara, 'Three New Graves at Arpachiyah', p. 125. Joan Oates, 'Religion and Ritual in Sixth-Millennium B.C. Mesopotamia', *World Archaeology*, 10(2) (1978), pp. 117-124; Pl. 5b.

[1011] Ippolitoni-Strika, 'Halafian Art, Religion, Society', p. 7; Fig. 5-6; Note 8. The figures were described as wearing a 'cap' and perhaps a 'horned headdress.' Carter, 'Human and Animal Sacrifice', in *Sacred Killing*, ed. by Porter and Schwartz, pp. 117-118; Fig. 15

[1012] The cemetery was found (Sq. Fb/Fc V.1-2) in layers (TT1-5) dominated by Ubaid pottery and contained the remains of 45 (MNI) without any overlap in graves, suggesting some type of grave markers. Mallowan and Rose, 'Excavations at Tall Arpachiyah', pp. 35, 37.

[1013] The acephalous skeletons (G21, 40) were found (Sq. Fb/Fc V.1) in a fragmentary condition and the cranium burial (G17) was found (Sq. Fc V.1) without grave goods. Ibid., pp. 39-40; Fig. 3-4.

[1014] The two crania found (Sq. Fc V.1) in a burial (G7) with a complete skeleton may also be associated with another complete burial (G2). The complete burial (G9) was found (Sq. Fb V.1) to contain other pottery vessels in addition to the vessel which contained the infant skull. Ibid., p. 38 ; Fig. 3-4.

[1015] Max Mallowan and Hilda Linford, 'Rediscovered Skulls from Arpachiyah', *Iraq*, 31(1) (1969), (p. 57). Molleson and Campbell, 'Deformed Skulls at Tell Arpachiyah', in Archaeology of Death, ed. by Campbell and Green pp. 45-55. Lorentz, 'Ubaid Headshaping', in *Beyond the Ubaid*, ed. by Carter and Philip, p. 130; Tab. 9.1.

[1016] Mallowan and Rose, 'Excavations at Tall Arpachiyah', pp. 80-82; Fig. 45.

[1017] The skull was found (Trench XXII; Sq. N11) in a Late Middle Susianan context. Donald Ortner, 'Artificial Cranial Deformation of a Human Skull from Chogha Mish', in *Chogha Mish: The First Five Seasons of Excavations 1961-1971, Part 1: Text*, Vol. 1, Pinhas Delougaz† and Helen J. Kantor†, ed. by Abbas Alizadeh, Oriental Institute Publications 101, (Chicago: Oriental Institute, 1996), pp. 319-322; Fig. 49; Appendix A. Delougaz† and Kantor†, ed. by Alizadeh, *Chogha*

may depict the wrapped head of individuals undergoing the process of artificial cranial modification.[1018] Also, pottery sherds painted with elongated heads were discovered at Choga Mish.[1019]

Ur

Transitional-Terminal Ubaid **c. 6,600-6,400 cal BP** **MNI: 14**

Every grave from the Ubaid layers of a burial area within a *temenos* enclosure at Ur near the Euphrates River was found with the remains of at least one pottery vessel, some of which were found to contain only pottery vessels along with other objects.[1020] An acephalous skeleton was found badly preserved.[1021] Though some were discovered in a state of poor preservation, five isolated skulls with pottery vessels were found buried at Ur.[1022] A collective burial contained disarticulated postcranial remains and eight skulls, five of which were found on one side of the grave and three were found on the other side.[1023] Anthropomorphic figurine heads and figurines were found, some of which were headless and others were of the ophidian style of the Ubaid.[1024] A reanalysis of excavation notes from the Royal Cemetery of Ur has suggested some isolated skull interments dating to the Early Dynastic period.[1025]

Değirmentepe

Transitional Ubaid **c. 6,500-6,400 cal BP** **MNI: 14**

Evidence of ACM via head-wrapping was found on 13-14 subadult crania at Değirmentepe near the northern Euphrates.[1026] A human mandible was found inside an oven in the central hall of a tripartite building with white plastered walls painted with sun and tree motifs.[1027]

Susa

Chalcolithic (Susa Period) **c. 6,200-5,800 cal BP** **MNI: 10***

Secondary burials of skulls in bowls and long bones in tall beakers were found in a cemetery at the Ubaid-related site of Late Chalcolithic Susa in the lower Zagros Mountains.[1028] Several of the skulls were covered in red with traces of the shroud which

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Mish: The First Five Seasons of Excavations 1961-1971, Part 2: Plates, Vol. 1, Oriental Institute Publications 101, (Chicago: Oriental Institute, 1996), Pl. 69.

[1018] Aurelie Daems and Karina Croucher, 'Artificial Cranial Modification', p. 9; Fig. 4-5.

[1019] Delougaz† and Kantor†, ed. by Alizadeh, *Chogha Mish: First Five Seasons of Excavations, Part 2*, Vol. 1, Pl. 58 A.

[1020] Some burials (e.g. PFG/EE, PFG/FF, PGF/GG, PGF/HH, PGF/WW) contained only pottery without skeletal remains. Woolley, *Ur Excavations*, Vol. IV, pp. 96-97, 101-102; Fig. 54-57, 72.

[1021] Remains of a red clay vase and a copper spearhead (U.14992) were found (Phase E7; Pit F) near the torso of the acephalous skeleton (PFG/G), whose bones were 'in bad condition.' Ibid., p. 88; Fig. 25; Pl. 30.

[1022] The five isolated skulls (PFG/P, PFG/S, PFG/LL, PFG/UU, PFG/VV) were found (Phase D5, E6-7; Pit F) in varying degrees of preservation. Ibid., pp. 90-91, 98, 101.

[1023] The eight skulls (PFG/L) were found (Phase E6; Pit F) 'lying in confusion' with the disarticulated bones and pottery vessels. Ibid., p. 88; Fig. 28; Pl. 5b.

[1024] Some anthropomorphic figurines were included in burials (e.g. U.15507 with PFG/JJ). Ibid., pp. 12-13, 97; Fig. 5; Pl. 5e, 20-22.

[1025] Karina Croucher, 'Life and Death in Late Prehistoric to Early Historic Mesopotamia', in *Death Rituals, Social Order and the Archaeology of Immortality*, in ed. by Renfrew, Boyd and Morley, pp. 223-236.

[1026] Metin Özbek, 'Cranial Deformation in a Subadult Sample From Değirmentepe (Chalcolithic, Turkey)', *American Journal of Physical Anthropology*, 115(3) (2001), pp. 238-244.

[1027] The mandible was found (Room DU) in an oven wall. Helwing, 'Feasts as a Social Dynamic', pp. 71-72; Fig. 2.

[1028] de Mecquenem, 'Notes sur les Modalités Funéraires', pp. 134-136, 139. Hole discussed a lack of adequate

enveloped them.[1029] The cemetery was associated with a large platform of an acropole that was destroyed in a large fire which may have originated in a charnel house.[1030] Several stylized anthropomorphic 'cobra figurines' were found at Susa, one of which was included in a burial.[1031] In addition to pottery with anthropomorphic depictions of humans with elongated heads, stamp seals depicting a complex arrangement of 'humans or humanoids' wearing, headdresses, or masks were found at Susa.[1032]

documentation of the burials. Hole, 'Symbols of Religion and Social Organization', in *The Hilly Flanks and Beyond*, p. 316; 'Monumental Failure', in *Beyond the Ubaid*, ed. by Carter and Graham, pp. 229-233; Fig. 15.2, 4-6.

[1029] Roland de Mecquenem, 'Fouilles de Suse 1929-1933', in Mémoires de la Mission Archéologique de Perse, Vol. 25, ed. by E. Leroux, (Paris:, 1934), pp.177-237, (p. 223).

[1030] Hole, 'Symbols of Religion and Social Organization', in *The Hilly Flanks and Beyond*, p. 317.

[1031] The 'cobra figurines' from Susa are interpreted as belonging to a similar stylistic framework as the ophidian Ubaid figurines and those found at other sites (e.g. Tepe Djaffarabad, Choga Bonut, Choga Mish, Uruk). Aurelie Daems, 'A Snake in the Grass: Reassessing the Ever-Intriguing Ophidian Figurines', in *Beyond the Ubaid*, ed. by Carter and Philip, pp. 149-161, (pp. 156-157; Fig. 10.5).

[1032] In order to avoid the term, 'shaman' for these figures, Hole created a term 'namash.' Since these figures are often depicted with animal imagery, he also called them 'masters of animals.' Hole, 'Monumental Failure', in *Beyond the Ubaid*, ed. by Carter and Graham, pp. 234-237; Fig. 15.8e-l; 'Symbols of Religion and Social Organization', in *The Hilly Flanks and Beyond*, pp. 315-329; Fig. 1a-b, f-g, 2.

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