

RITUAL PRODUCTION, INTRA-SITE ACTIVITIES AND INDIVIDUAL EXPRESSION – AN ANALYSIS OF ART FROM THE NATUFIAN SITE OF WADI HAMMEH 27, JORDAN

Janine M Major

The Natufian culture (c.13,000-10,200 BP) of the Levant sits at a major turning point in human prehistory – the transition between Palaeolithic mobile hunter-gatherer communities and the settled agrarian villages of the Neolithic. Characterised by a microlithic industry, a marked increase in ground stone equipment and permanent structures, the Natufian also witnessed a florescence of art; figurines, decorated utilitarian items and art mobilier. The Natufian site of Wadi Hammeh 27, located in the Jordan Valley, has yielded the most significant assemblage of Natufian art items to date including the first decorated architectural feature in the Levant. In a departure from previous analysis of Natufian art, which have concentrated on stylistic and contextual aspects, the study of the assemblage from Wadi Hammeh 27 combines an analyses of manufacture techniques and context as well as relationships between media, motif and artefact type. While the overall aim of the study is to contextualise the art items from Wadi Hammeh 27 both within the site itself and within the broader sphere of Natufian communities, this paper has a more specific focus. A small sample of art items from Wadi Hammeh 27 is presented to consider how such an analysis can inform us about individual expression, ritual production and re-use of art items at this site.

The Natufian – A General Description

The Natufian is an archaeologically defined entity that is found in the Levant from c.13,000 – 10,300 BP. The Natufian period is divided into three phases: Early Natufian (c.13,000 – 11,250 BP), Late Natufian (c.11,250-10,500 BP) and Final Natufian (c.10,500 – 10,3/200 BP). Natufian communities were the first to adopt a sedentary lifestyle. This move toward sedentism can be argued as the first step in the process of Neolithisation; a move that provided the social and economic conditions that favoured the development of domestication of plants and animals allowing for the rise of the later Mesopotamian city states.¹ Natufian communities were changing the way people had structured their environments and buried their dead for millennia. They were residing, at least seasonally, in bounded and built habitats and they were burying their dead within these environments displaying a range of mortuary rituals. Coincident with these social changes and within the new worldview that was developing there was also a florescence of art.

The area which supported the Natufian entity, the Levant, is a geographically defined corridor within southwest Asia which extends from the Negev Desert in the south to the Syrian steppe in the north and from the Jordan rift in the east to the Mediterranean Coast.



- 1 Mureybet
- 2 Dederiyeh Cave
- 3 Moghr al Ahwal
- 4 Saaïdé II
- 5 Hayonim Cave/Terrace
- 6 Nahal Oren
- 7 el Wad
- 8 el Kebara
- 9 Oumm ez-Zoueitina
- 10 'Ain Mallaha
- 11 Wadi al-Khawwan I
- 12 Salibiya I
- 13 Fazael VI and IV
- 14 Azraq 18
- 15 Erq al-Ahmar
- 16 'Ain Sakhri
- 17 Abu Salem
- 18 Shunera
- 19 Upper Besor 6
- 20 Rosh Zin
- 21 Wadi Matah
- 22 Ramat Harif
- 23 Shukbah

Figure 1. Map of Levant
Wadi Hammeh 27 and other Natufian sites with art objects

In modern geo-political terms, the Levant encompasses Jordan, Israel and the Palestinian Territories, the Sinai Peninsula, Lebanon, Syria and southeast Turkey. This area follows the western arc of the palaeoenvironmental zone commonly referred to as the Fertile Crescent (Figure. 1). The Levant can be divided into three main ecozones, woodland, steppe and desert, with varying biogeographical features and rainfall patterns. The southern Levant, encompassing the coastal plain, Mount Carmel and Jordan Valley areas, is considered the heartland of the Natufian culture and home to larger base camps.²

The discovery of the Natufian culture is credited to Dorothy Garrod following her work at Shukbah and el Wad Caves. In 1929, while excavating at el Wad, she detected a Mesolithic occupation horizon (Layer B). Garrod noted a similarity between the material culture of Layer B1 and that of Shukbah Layer B that she had excavated the previous year. Realising that she had identified a previously unknown Epipalaeolithic culture, she named it after the nearby wadi:

'... By this time it was abundantly clear that we were dealing with a microlithic culture that would not fit exactly into any of the pigeon-holes already existing, and I therefore decided to give it a label of its own, adopting the name Natufian from the Wad[i] en-Natuf at Shukbah'.³

In 1928, Lambert had made a sounding in the cave of El Wad from which he recovered the first evidence of prehistoric Levantine art; a fragmentary bone sickle haft with the terminus carved into the shape of

an ungulate. Subsequent excavations by Garrod at El Wad yielded the first Levantine anthropomorphic representation – a head carved in calcite.⁴ The cave of el Wad continued to provide evidence of Natufian art from both Garrod's excavations and those more recently undertaken by Weinstein-Evron⁵.

The discovery of a previously unknown Epipalaeolithic culture was quickly confirmed and characteristically defined on the basis of its lithic, bone and ground stone material through subsequent excavations in the Mount Carmel and the Judean Desert regions.⁶ This arbitrary definition retained its value as more and more sites throughout the Levant yielded similar material culture assemblages.⁷

Through the unearthing of the Natufian culture, a lithics technology and craftsmanship not previously anticipated from Levantine prehistory was revealed. This included a culture that invested time and energy in creating three-dimensional representational images of humans and animals as well as the decoration or marking of utilitarian items in a manner that exceeded functionality. To date, over thirty Natufian (and Harifian – a contemporary culture that inhabited the peripheries of the Levant in the Negev⁸) sites have been excavated. Excavations range from small test pits to extensive open area excavations.

The Natufian is generally characterized through its lithics industry; an industry dominated by microliths, especially lunates (a small flint blade retouched into a 'half-moon' shape). Also common are helwan blades (blades with oblique bifacial retouch) and bladelets that fitted into bone sickle hafts. Helwan blades, backed lunates and triangles regularly make up over forty percent of tool kit assemblages with variation from Early to Final Natufian assemblages. Other tools include various types of other retouched bladelets, flakes, endscrapers and burins.⁹

The lustrous sheen (silica gloss) often present on blades, a phenomenon associated with the cutting of cereals, at first led to speculation by Garrod that the Natufians were the world's first farmers.¹⁰ This interpretation has since been replaced by the view that, during the Natufian period, communities exploited a broad spectrum of wild resources that included the harvesting of wild cereals (emmer wheat, barley and nuts [acorn, pistachio and almonds]) as well as the hunting of wild animals. Natufian faunal assemblages reflect regionally based hunting of local wildlife and game, consisting of gazelle, various deer species, cattle, wild boar, ibex, equids, waterfowl, tortoise and fish.¹¹

During the Natufian period, there is a move toward sedentism. For the first time there is evidence of sedentary or semi-sedentary hamlets/villages and seasonal base camps with oval or circular semi-subterranean structures, commonly termed pit houses, consisting of low stone walls with a superstructure of perishable materials. Large, base-camp settlements, such as 'Ain Mallaha, Wadi Hammeh 27 and Hayonim Cave, show signs of consecutive stages of rebuilding of these structures.¹² Different lines of faunal assemblage analyses lend support to arguments for the sedentary nature of some sites, particularly within the Natufian heartland.¹³

Natufian burials reveal evidence for a culture which practiced various mortuary rites that changed through time. These mortuary practices included individual and group burials, primary and secondary burials and often have a relationship with the built environment as they appear underneath domestic structures. Decorated burials are few and mostly limited to the Early Natufian period (e.g. El Wad, 'Ain Mallaha, Hayonim Cave, Wadi Hammeh 27). Decorations included items of personal adornment such as *Dentalium* (a cuttle like shell from the Mediterranean and Red Seas) fashioned into skullcaps, anklets and bracelets as well as bone and animal teeth worked into pendants and beads for necklaces.¹⁴

The presence of marine shells amongst Natufian material culture suggests trade routes to the coastal southern and western regions. The recovery of obsidian at 'Ain Mallaha¹⁵ indicates long distance trade

also occurred to the north, to Anatolia. Other practices peculiar to the Natufian were the manipulation of the deceased through the practice of skull removal¹⁶ and the first evidence in the Near East for the domestication of the dog.¹⁷

The introduction of sickles at this time suggests an intention to intensify plant-food procurement through a more efficient means of harvesting which is complemented by a marked increase in plant processing equipment such as pestles, mortars, bowls and cupholes.¹⁸ The amount and variety of bone implements also increases during the Natufian which is indicative of a contemporaneous shift in subsistence strategies and an increase in domestic craft specializations such as hide working, basketry, weaving and matting.¹⁹

Natufian Art

The art of the Natufian has also become a defining feature of the social changes that were taking place at this time; a change that is impressive in relation to its relative sudden appearance in contrast to the paucity of art from previous periods.²⁰ When considering the paucity of Levantine artistic manifestations prior to the Natufian, however, one should bear in mind that artistic expressions may have been ephemeral in nature, such as body paintings and earth drawings, or made from perishable materials.²¹

This contrast between the paucity of art in the Palaeolithic and its florescence in the Natufian has led to the latter being referred to as an 'explosion' with possible intellectual reference to the rhetoric used for European Paleolithic Cave Art (e.g. Pfieffer's *The Creative Explosion*).²² Whilst the term 'explosion' is debatable, on current evidence the Natufian is the period that gives birth to Levantine art and, from this time, archaeological assemblages in the Levant continued to yield evidence of communities involved in the production of symbols and imagery; from this time, 'art' becomes a defining feature of the communities of the Levant.

Art not only becomes more abundant in the Natufian period but it often displays an unprecedented degree of technical mastery in its and application to both functional and non-functional artefacts. Crafted from various media such as stone, bone, horn core and ostrich eggshell, these artefacts have been recovered from different contexts in both open-air and cave sites from the base-camps within the Natufian 'heartland' to the peripheral zones; north to the Euphrates Basin and south to the Negev.

Natufian art can be divided into two broad categories, figurative and non-figurative. Figurative art is either anthropomorphic or zoomorphic and the subject matter can be represented both naturally and schematically. Figurative art is generally sculpted. Non-figurative art comprises geometric and abstract motifs applied to one or more surfaces of a blank or preform. Jacques Cauvin described Natufian art as 'essentially zoomorphic'.²³ Such a statement ignores the dominance of geometrically incised or decorated items and seems to be in reference to what Cauvin (2000) considered to be a smaller number of anthropomorphic representations. When it comes to zoomorphic and anthropomorphic images, neither dominates in the archaeological record of this period. In all categories, differences are not to be found so much in counting artefacts, rather it is evident in the investment of labour, the degree of technical precision, the treatment of the raw canvas and the perception and use of space in relation to the application of motifs. In relation to investment of labour and the attainment of a high degree of technical precision between zoomorphic and anthropomorphic figurines, zoomorphic imagery clearly dominates. Zoomorphic imagery is often represented realistically or with geometric designs upon its surface. Anthropomorphic representations are often ambiguous with little detail and are rarely representational.

Pending the publication of Wadi Hammeh 27²⁴, I was most fortunate to be offered the assemblage of art items from this site to study in detail and analyse within the context of the wider Levantine Natufian artistic repertoire and culture. This site has yielded one of the most extensive and well provenanced corpuses of decorated items, particularly from an open-air Early Natufian settlement. It is not only significant in

relation to its secure provenance and quantity of art items but also for the different expressions of art it has yielded. These include anthropomorphic, zoomorphic and geometric motifs which appear on bone and stone items including figurines, pendants, sickle hafts, plaques, pebbles, grooved stones, waisted stones, pestles, vessels and architectural elements. The significance of this assemblage and its potential value to understanding Natufian lifeways should not be underestimated. Unfortunately, detailed archaeological contextual information has been lacking in either field reports or subsequent discussions of Natufian art until the last few decades. The recent investigations undertaken at Wadi Matah, El Wad Chamber III and Hayonim Cave have led the way in understanding the importance of information that can be gained from Natufian art when it is contextualised.²⁵

Furthermore, work undertaken by Gregg on the art assemblage from the Natufian site of Wadi Matah, d'Errico and Nowell²⁶ on the Berekhat Ram figurine from the Golan Heights and, further afield, by Brumm and colleagues²⁷ on engraved stone items from the Indian Neolithic site of Sanganakalu-Kupgal, have highlighted the value of the application of the types of microscopic analysis instituted by Marshack²⁸ and further developed by d'Errico²⁹ to other than just debatable 'notational' items.

A major issue in Natufian archaeology is understanding the transition from a mobile hunter-gatherer lifestyle to a more sedentary existence. As we approach the centenary of the discovery of the Natufian and the subsequent concentration on excavating Natufian and contemporary sites, it is worth recognizing that while this discourse has been developing the corpus of extant Natufian art items has been growing. Also, not since the early 1990s has a comprehensive analysis of Natufian art been undertaken.³⁰ The availability of a previously unstudied assemblage of Natufian art allows for an updated consideration of the production and use of images and symbols during the Natufian and how these might inform us about intra and inter-site relationships and codes of practice; what Belfer-Cohen has referred to as the 'distinct social micro-units ... within the macro-structure of the Natufian entity'.³¹ Wadi Hammeh 27 provides the forum within which to examine this new evidence. The analysis of this assemblage breaks with the traditional means by which Levantine art has been studied and includes an intensive investigation of the assemblage from Wadi Hammeh 27 which incorporates an analysis of techniques of manufacture from the perform to the final, decorated product.

A number of scholars' comments have impacted on the methods developed for the analysis of the Wadi Hammeh 27 art assemblage. Campana³² highlighted the chronological position of the Natufian entity and its implementation of many activities that characterize the later Neolithic concluding that 'every effort must be made to maximize the information obtained from the available artifacts'. Boyd³³ suggested Natufian imagery be studied as technologies that provide a means for investigating social agency. In relation to prehistoric imagery generally, Marshack³⁴ called for methodological, systematic, direct analyses of the diverse symbolic materials and traditions and their development. Regarding prehistoric mobiliary art specifically, Bednarik³⁵ claimed that the potential of analytical studies which look at the technological processes of mobiliary art remain 'inadequately explored'.

Through the application of a microscopic analysis, the fine detail of individual artefacts from the art assemblage at Wadi Hammeh 27 is being investigated in relation to the raw material, the manufacture techniques of performs and motifs as well as the sequence of production of the motifs. In formulating criteria to identify manufacture techniques and their morphological determinants for the artefacts being studied a number of publications were sourced. Particularly pertinent to the development of these criteria were the work of the following researchers: d'Errico³⁶ for determining tool morphologies and sequences; Campana³⁷, Stordeur³⁸ and Le Dosseur³⁹ for understanding the manufacture of Natufian bone items; Wright⁴⁰ for considering the working of Pleistocene ground stone items from the Levant; and Bednarik⁴¹ in relation to distinguishing between anthropogenic and natural markings.

The analysis of the Wadi Hammeh 27 assemblage involved optical microscopic observation that was recorded both textually and with a digital camera at a number of resolutions, in order to develop a story of production from the 'macro' to the 'micro' detail, i.e. from the selection and preparation of the raw 'canvas' to the manufacture techniques and sequence of the production of a motif and any subsequent reuse of the item. The examination of the Wadi Hammeh 27 assemblage was complemented by the first hand observation of Natufian artefacts from other sites.

The overall aim of the investigation is to consider each object from Wadi Hammeh 27 by combining aspects of manufacture techniques, context, media and motif in order to contextualise the items both within the site itself and within the broader sphere of Natufian communities. This paper, however, focuses on a small sample of art items from Wadi Hammeh 27 to provide examples of how the above aspects combine to allow a consideration of individual expression, ritual production and re-use of art items at this site.

Individual Expression at Wadi Hammeh 27

Items of personal adornment, such as beads and pendants, are recognized as mechanisms for expressing individual and/or community identities. These items, fashioned predominantly from bone and animal teeth, are ubiquitous in Natufian assemblages in both domestic and burial contexts. They are predominantly undecorated but, when decorated, designs often consist of linear geometric motifs.⁴² Decorated pendants have been recovered from sites within the heartland area (e.g. Hayonim Cave⁴³ and Kebara⁴⁴) as well as from the peripheries in the southern Negev/Sinai (e.g. Ramat Harif and Abu Salem⁴⁵) and to the north in Syria (e.g. Dederiyeh Cave⁴⁶ and Mureybet⁴⁷). Prior to the excavations at Wadi Hammeh 27, there were no examples of representational zoomorphic motifs on pendants recovered from a Natufian context.

Wadi Hammeh 27 is the only site where a bone pendant was fashioned into a zoomorphic expression, specifically an avian motif (Figure. 2). This is a unique find and all the more remarkable due to the recovery of a similarly carved pendant fragment with 'winged feathers' preserved though in a slightly variant overall shape (Figure. 3). A familiarity with working bone with flint tools as well as grinding them to shape is evident from Natufian assemblages, however, the manufacturers of these bone items often made a distinction between these two technologies. Bone tools were generally carved or whittled to shape with scrapers or burins while objects of personal adornment were ground with abrasive stones⁴⁸, a trend that was also noted at Wadi Hammeh 27 by Le Dosseur⁴⁹.

While the 'avian' pendants from Wadi Hammeh 27⁵⁰ likewise reflect this trend in that they were fashioned by grinding, on current evidence, the exploitation of bone into a pendant with zoomorphic expression is limited to this site. Furthermore, the specific form that this expression takes suggests a relationship between the avian motif and Wadi Hammeh 27 which is further individualized within the site.

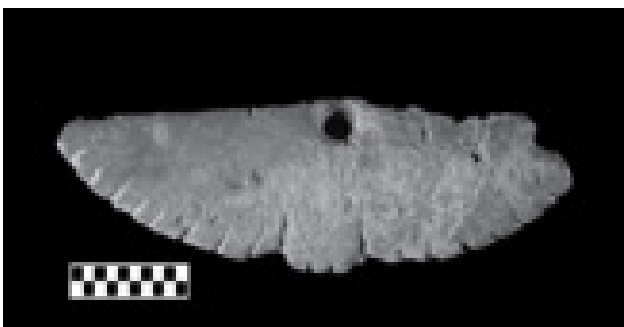


Figure 2. 'Avian Pendant'

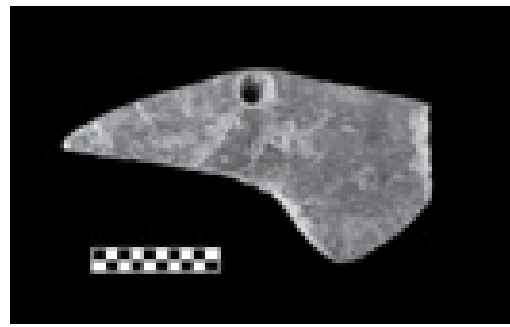


Figure 3. 'Avian' Pendant Fragment (Photo - J Major)

Ritual Production

The selection of natural pebbles for their resemblance to zoomorphic, anthropomorphic and phallic forms is noted from several sites and has been commented upon by previous researchers.⁵¹ At Wadi Hammeh 27, a grooved stone exhibits a naturally formed motif of circumscribing parallel lines (Figure. 4). Parallel lines are a widely distributed motif amongst Natufian assemblages which is represented as an incised or relief motif on bone and stone items from sites both within the base-camps of the Natufian heartland as well as the peripheral zones.⁵²

The grooved travertine stone from Wadi Hammeh 27 resembles the 'shaft straightener' type common throughout Natufian assemblages which are sometimes decorated (e.g. Wadi Hammeh 27, Figure. 5). However, the friable nature of the travertine suggests it was not used functionally as a shaft-straightener but merely mimics this form.⁵³ The natural formation of the circumscribing parallel lines were formed by differential weathering of the porous and dense bands of travertine prior to the item being modified by the central longitudinal groove⁵⁴. The item raises the possibility that the stone was chosen due to a ritual significance of the natural surface which reflected a recurring motif amongst Natufian communities. Alternatively, a more pragmatic reason for its choice could be that it was a labour saving device wherein nature had already provided the decorative element.

The time invested in the non-functional embellishment of many Natufian items suggest ritual and meaning vested in both the processes of production and the end result. With respect to this travertine grooved stone, the processes of production of the circumscribing parallel lines are attributable to nature but the end result, a banded pebble, may have been recognised by Natufian artisans as analogous to decorative elements of their cultural products. The recognition of a pre-existing decoration on this stone may have encouraged its anthropogenic modification in a similar manner to which other natural forms were selected for their resemblance to zoomorphic and phallic representations or their potential to do so⁵⁵. The application of a central groove to the banded travertine stone produced a decorated non-functional grooved stone similar to the 'shaft straightener' type but, being non-functional, the end result was symbolic rather than utilitarian.

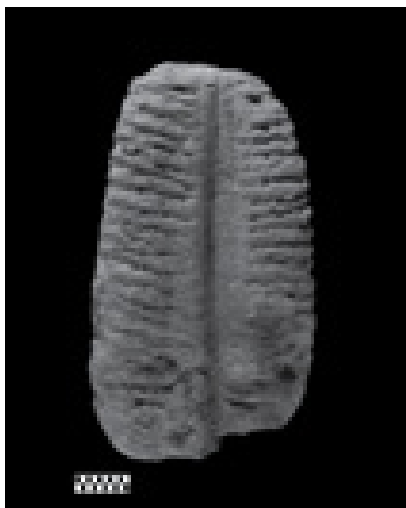


Figure 4. Travertine Grooved Stone
(Photo - J Major)



Figure 5. Decorated Limestone Grooved Stone
(Photo - J Major)



Figure 6. Incised Limestone Fragment
(Photo - J Major)

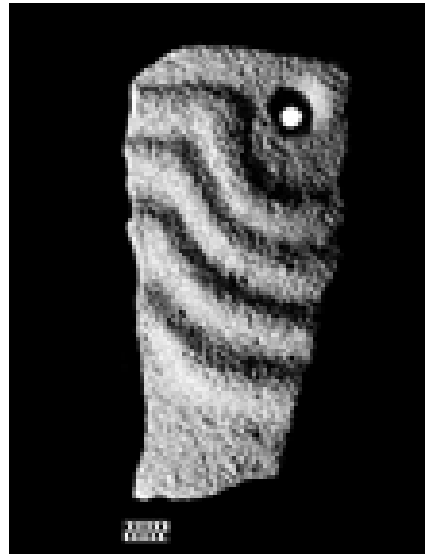


Figure 7. Perforated Vessel Fragment
(Photo - Courtesy P Edwards)

Re-use of Art Items

The context of discard of artefacts at Wadi Hammeh 27 has implications for the interpretation of the fragments of art items recovered. Hardy-Smith and Edwards⁵⁶ concluded that the Wadi Hammeh 27 assemblage consisted of primary and *de facto* refuse which define artefacts as discarded in their place of use or abandonment, respectively. By default, the fragments of art items were in use but their use, by nature of their preservation, was not in the form of the original item. That fragmented art items were re-used at Wadi Hammeh 27 can be inferred from the following items.

Firstly, an incised limestone fragment consists of seven panels, three of which are minimally preserved, made up of three vertical and one horizontal incision. Within two panels are rows of short strokes. The vertical lines and some of the shorter strokes are truncated by breaks (Figure. 6). The horizontal incision superimposes the vertical lines and the shorter strokes; it also circumscribes the object. The truncation of the vertical incisions and short strokes indicates that originally these marks covered a larger surface area. The superposition of the horizontal incision and its circumscribing nature indicate it was made after the original item was broken, giving the fragmented item a new use and meaning, the nature of which remains unknown.⁵⁷

A decorated fragment of a basalt vessel likewise indicates re-use due to a perforation near its rim (Figure. 7)⁵⁸. There are no known examples of decorated Natufian vessels that are perforated. Some are known to depict drilled dot motifs (e.g. 'Ain Mallaha) but these do not penetrate the raw material.⁵⁹ Although the sequence of production of the hole in relation to the motif could not be established definitively, it is reasonable to assume that the perforation was independent of the original use. The perforation on this fragment suggests it may have been suspended, perhaps as a pendant, but the determination of any differential wear within the perforated area which would support this suggestion was inhibited due to a lack of direct observation of the item.

Lastly, Wadi Hammeh 27 yielded two fragments of incised limestone, from different occupation phases, that bear almost identical motifs on their smoothed, obverse faces (Figs. 8 and 9). The motif, described as a 'vegetal' motif⁶⁰, consists of a vertical incision from which a series of parallel lines diverge. In the first example (Figure. 8), the lines are shown to diverge from both sides of the vertical incision. In the second (Figure. 9), the same diverging nature is inferred from the relationship between the vertical incision and the distal oblique line of the parallel line set. In both examples, the vertical line has been incised more deeply

than the parallel line sets. Also, in both examples the parallel line sets taper at their extremities (i.e. at the point furthest from the vertical line). While the parallel lines on the second example (Figure. 9) appear more linear than the slightly curved diverging lines on Figure 8 item, the series of parallel lines truncated at the right lateral break on Figure 9 comprise the curved form. A series of five parallel lines is also truncated at the proximal break on the Figure 8 item, thus both sets of parallel lines related to a vertical incision are opposed by sets of obliquely oriented parallel line sets.

Only one of these items (Figure.8) was observed directly and the examination of the other relied on the original description as well as a photograph of the incised surface. Both fragments have flat reverse surfaces and examination showed that the reverse surface of the item in Figure 8 was smoothed. A point of difference between both items is the incising of the reverse of the item in Figure 9 with a single line which traverses the piece. Notwithstanding, the incising of the reverse of this fragment, the points of similarity in the motifs, their production and application to the same raw material with a similar thickness (max. 30 and 28mm), surface treatment and profile, allows for the possibility that, although non-joining, these fragments may derive from the same original item.

Suggesting that they may have originally derived from the same item requires a consideration of how they might relate to each other within an original design. If the parallel line sets truncated at the lateral breaks are accepted as evidence for the repetition of the 'vegetal' motif on the original item, then their orientation in relation to the 'vegetal' motif suggests a design of repeated 'vegetal' motifs that extend radially from a central focal point with the bridging piece between these two fragments no longer preserved.

The first example (Figure. 8) was found at the southern end of the site in Plot XXJ within a topsoil horizon containing Natufian artefacts, which Hardy-Smith and Edwards argue may have been upwardly dispersed through faunalurbation from the Phase I occupation surfaces⁶¹. The second example (Figure. 9) was recovered from Plot XXF in the northern area of the site from within the earliest occupation phase, Phase 3 (see Figure. 10 for site plan). If indeed these fragments did originally derive from one item, they represent fragments which were kept and discarded through time and their end-life in different occupation phases suggests a value in their broken state. Unlike the other two items discussed above, the lack of subsequent markings on these two fragments supports the general notion of a re-use value for other fragments of art items at Wadi Hammeh 27, and elsewhere, which is inferred by their discard context⁶².



Figure 8. Incised Limestone Fragment



Figure 9. Incised Limestone Fragment
(Photo - Courtesy P Edwards)

The analysis of the art assemblage from Wadi Hammeh 27 departs from previous analyses of Natufian assemblages which have concentrated on the stylistic and contextual aspects of Natufian art. The analysis of the art assemblage from Wadi Hammeh 27 combines information regarding manufacture techniques with issues of context and relationships between media, motif and artefact. Here, the focus has been to show how this information can combine to inform us about specific aspects such as ritual production, intra-site activities and individual expression at Wadi Hammeh 27.

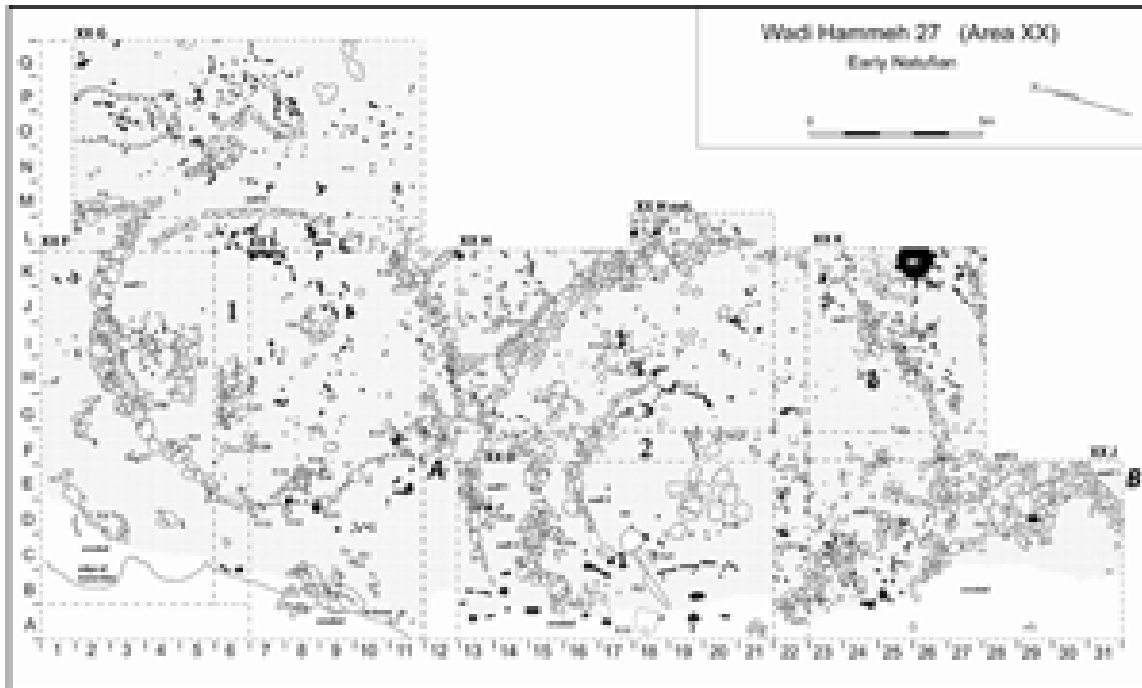


Figure 10. Site Plan of Wadi Hammeh 27 (After Hardy-Smith and Edwards 2004, Figure. 2)

Endnotes

- 1 F.R. Valla, Hamoudi Khalaily, Nicolas Sameulian and F. Bocquentin, 'From Foraging to Farming: The Contribution of Mallaha (Eynan) Excavations, 1996-2001 in Bulletin du Centre de recherche français de Jérusalem (10 printemps 2002 - English translations), Available [Online] <http://bcfrj.revues.org/document1272.html> , 4 [09.04.08]
O. Bar-Yosef, 'The Natufian Culture in the Levant, Threshold to the Origins of Agriculture' in *Evolutionary Anthropology* 6 (5) (1998): 162.
D.V. Campna, *Natufian and Protoneolithic bone tools: manufacture and Use of Bone Implements in the Zagros and the Levant* (Oxford: BAR International Series 494, 1989): 17.
- 2 A. Belfer-Cohen, 'The Natufian in the Levant' in *Annual Review of Anthropology* 20 (1991): 167.
Bar-Yosef, (1998): 162.
F.R. Valla, 'The Natufian: A Coherent Thought' in D.A.E. Garrod and the Progress of the Palaeolithic – Studies in Prehistoric Archeology of the Near East and Europe, eds. W. Davies and R. Charles (Oxford: Oxbow Books, 1999): 226.
- 3 D.A.E. Garrod, 'A New Mesolithic Industry: The Natufian of Palestine', in *Journal of the Royal Anthropological Institute* 62 (1932): 261.
- 4 *Ibid.*, Pl. XIII, 1A.
D.A.E. Garrod and D.M. Bate, *The Stone Age of Mount Carmel*, (Oxford: Clarendon Press 1937), 3-4, Plate XIII.4; Tamar Noy, 'Art and Decoration of the Natufian at Nahal Oren', in *The Natufian Culture in the Levant*, eds. O. Bar-Yosef and F.R. Valla (Ann Arbor: International Monographs in Prehistory, 1991): Fig. 6.5.
- 5 M. Weinstein-Evron, *Early Natufian El Wad Revisited*, (ERAUL 77 Études et Recherches Archéologiques de L'Université de Liege, 1998).

- 6 Ibid.
D.A.E. Garrod, 'The Natufian Culture: The Life and Economy of a Mesolithic People in the Near East' in *Proceedings of the British Academy* (1957):221-227.
R. Neuville, 'Le Paléolithique et le Mésolithique du Désert de Judée' in *Archives de L'Institut de Paléontologie Humaine Mémoire* 24 (Paris: Masson et Cie, 1951).
- 7 For a comprehensive catalogue of Natufian sites refer to O. Bar-Yosef and F.R. Valla, (eds.) *The Natufian Culture in the Levant* (Ann Arbor: International Monographs in Prehistory, 1991) and references therein.
- 8 N. Goring-Morris, 'The Harifian of the Southern Levant' in *The Natufian Culture in the Levant*, eds. O. Bar-Yosef and F.R. Valla (Ann Arbor: International Monographs in Prehistory, 1991): 173-216.
- 9 Bar-Yosef,(1998):164.
Belfer-Cohen,'The Natufian in the Levant',(1991):161.
F. Hours, 'Remarques sur L'utilisation de Listes-Types pour l'étude Paleolithique Superieur et de L-Epipaleolithique du Levant' in *Paléorient* 2 (1974): 3-18.
- 10 Although a lustrous sheen or 'sickle gloss' can be associated with crop gathering there are other uses of blades which will result in a similar sheen. For a further discussion see P. Anderson, 'Harvesting Wild Cereals During the Natufian as seen from experimental cultivation and harvest of wild einkorn wheat and microwear analysis of stone tools' in *The Natufian Culture in the Levant*, eds. O. Bar-Yosef and F.R. Valla (Ann Arbor: International Monographs in Prehistory, 1991): 521-556
D.A.E. Garrod, 'Excavations in the caves of Wady el-Mughara 1929-1930' in *Bulletin of American School of Prehistoric Research* 7 (1931): 10.
- 11 Site reports indicate the exploitation of a broad spectrum of regionally based wild resources. See also, S.J.M. Davis 'The age profiles of gazelles predated by ancient man in Israel: Possible evidence for a shift from seasonality to sedentism in the Natufian' in *Paléorient* 9 (1983): 55-62.
- 12 J. Perrot, 'Excavations at Eynan (Ein Mallaha): Preliminary Report on the 1959 Season' in *Israel Exploration Journal* 10 (1960): 14-22.
P.C. Edwards, 'Wadi Hammeh 27: An Early Natufian site at Pella, Jordan' in *The Natufian Culture in the Levant*, eds. O. Bar-Yosef and F.R. Valla (Ann Arbor: International Monographs in Prehistory, 1991): 123-148.
Valla et al., (2002), Available [Online] <http://bcfrj.revues.org/document1272.html> , 8 [09.04.08]
O. Bar-Yosef, 'The Archaeology of the Natufian Layer at Hayonim Cave' in *The Natufian Culture in the Levant*, eds. O. Bar-Yosef and F.R. Valla (Ann Arbor: International Monographs in Prehistory, 1991): 81-93.
- 13 Davis,(1983):55-62.
E. Tchernov, 'Commensal animals and human sedentism in the Middle East' in *Animals and Archaeology* 3, *Early Herders and their flocks*, eds. J. Clutton-Brock and C. Grigson (Oxford: BAR International Series, 1984): 91-115.
D. Henry, 'Preagrultural sedentism: The Natufian example' in *Prehistoric Hunter-Gatherers: The Emergence of Cultural Complexity*, eds. T.D. Price and J.A. Brown (New York: Academic Press, 1985): 365-381.
See also, P.C. Edwards, 'Problems of recognizing earliest sedentism: the Natufian example', in *Journal of Mediterranean Archaeology* 2(1) (1989): 5-48.
- 14 F. Bocquentin, *Pratiques Funéraires, Paramètres Biologiques et Identités Culturelles au Natoufien: Une Analyse Archéo-Anthropologique*, unpublished Ph.D. thesis, (Bordeaux: L'Université Bordeaux 1, 2003).
S.G. Webb and P.C. Edwards, 'The Natufian human skeletal remains from Wadi Hammeh 27' in *Paléorient* 2002, 28(1): 103-124.
P.C. Edwards, 'Wadi Hammeh 27(1991): 146
Perrot, (1960): 16, Pl. 2B.
A. Belfer-Cohen, 'Art Items from Layer B, Hayonim Cave: a case study of art in a Natufian context' in *The Natufian Culture in the Levant*, eds. O. Bar-Yosef and F.R. Valla (Ann Arbor: International Monographs in Prehistory, 1991): 571.
Valla et al. (2002): 14.
- 15 Valla et al. (2002).
- 16 Bocquentin (2003): 348 ff. and references therein.
- 17 S.J.M. Davis and F.R. Valla, 'Evidence for domestication of the dog 12,000 years ago in the Natufian of Israel, in *Nature* 276 (1978): 608-610.
- 18 K. Wright, *Ground Stone Assemblage Variations and Subsistence Strategies in the Levant, 22,000 to 5,500 BP: Volumes 1 and II*, (Yale: Yale University, 1992). 194ff, Table 1.1
- 19 Campana, (1989): 16-17, 136.
- 20 Possible art items from previous periods include the Berekhat Ram figurine from the Golan Heights, N. Goren-Inbar, 'A Figurine from the Acheulian site of Berekhat Ram' in *Journal of Israel Prehistoric Society* 19, (1986): 7-12; and engraved stone artefacts from Qafzeh Cave, Quneitra and Hayonim Cave, E.B. Hovers, B. Vandermeersch and O. Bar-Yosef, 'A Middle Palaeolithic engraved artefact from Qafzeh Cave, Israel' in *Rock Art Research* 14(2), (1997): 79-87; N. Goren-Inbar, 'Quneitra: A Mousterian Site on the Golan Heights' in *Monograph* 31 (Jerusalem: Institute of Archaeology, 1990); A. Belfer-Cohen and O. Bar-Yosef, 'The Aurignacian at Hayonim Cave' in *Paléorient* 7 (1981): 19-42. Art items from the Early Epipalaeolithic, just prior to the Natufian, include abstract linear markings engraved on bone and stone items from

- the Kebaran and Geometric Kebaran periods at Ohalo II, D. Nadel, 'Levantine Upper Palaeolithic – Early Epipalaeolithic burial customs: Ohalo II as a case study' in *Paléorient* 20 (1994): 113-122; Urkan e-Rub II, E. Hovers, 'Art in the Levantine Epipalaeolithic: an engraved pebble from a Kebaran site in the lower Jordan Valley' in *Current Anthropology* 31(3), (1990): 317-322; Neve David, Daniel Kaufmann, 'A Unique Engraved Object from the Epipalaeolithic of Israel' in *Rock Art Research* 16 (1), (1999): 109-112; Kharaneh IV, M. Muheissen, 'The Epipalaeolithic Phases at Kharaneh IV' in *The Prehistory of Jordan – the state of research in 1986* (Oxford: BAR International Series 396, 1988): 353-367. Most recently, a slightly modified chert 'figurine' was recovered from the Geometric Kebaran horizon at Wadi Matah, M. Gregg, '*Fabricating ideas: cognitive processes and image creation in the southern Levant at the end of the Pleistocene period*', (2002). For a discussion of the relative paucity of Late Pleistocene Levantine art, with the exception of Natufian art, compared to the Western European artistic tradition see O. Bar-Yosef, 'Symbolic Expressions in the later Prehistory of the Levant: Why are they so few?' in *Beyond Art: Pleistocene Image and Symbol*, eds. M. Conkey, O. Soffer, D. Stratmann and N.Jablonski (San Francisco: California Academy of Sciences, 1997): 161-182.
- 21 O. Bar-Yosef, 'Symbolic Expressions in the later Prehistory of the Levant: Why are they so few?' in *Beyond Art: Pleistocene Image and Symbol*, eds. M. Conkey, O. Soffer, D. Stratmann and N.Jablonski (San Francisco: California Academy of Sciences, 1997): 161, 181.
N. D. Munn, *Walbiri Iconography: Graphic Representation and Cultural Symbolism in a Central Australian Society*, (Ithaca and London: Cornell University Press, 1973).
R.G. Bednarik, 'A Taphonomy of Palaeoart' in *Antiquity* 68 (1994): 69.
- 22 J. E. Pfeiffer, *The Creative Explosion*, (New York: Harper and Row, 1982).
- 23 Cauvin commented that the art of the Natufian is 'essentially zoomorphic, exactly comparable to the Franco-Cantabrian art of Western Europe'. While the content of zoomorphism may be comparable in a very general sense, a marked difference exists between the static, two-dimensional, parietal art of the Franco-Cantabrian and the portable, three-dimensional representations of the Natufian. J. Cauvin, *The Birth of the Gods and the Origins of Agriculture*, (Cambridge: Cambridge University Press, 2000): 25.
- 24 P.C. Edwards, *Wadi Hammeh 27: An Early Natufian Settlement at Pella in Jordan*, (in press).
- 25 Gregg, M., *Fabricating Ideas: Cognitive Processes and Image Creation in the Southern Levant at the end of the Pleistocene*. Unpublished MA Thesis. (Toronto, Toronto University, 2002).
M. Weinstein-Evron, *Early El Wad Revisited*, (ERAUL 77 Études et Recherches Archéologiques de L'Université de Liege, 1998).
Belfer-Cohen, 'Art Items from Layer B, Hayonim Cave', (1991): 569-586.
- 26 F. d'Errico and A. Nowell, 'A New look at the Berekhat Ram figurine: Implications for the origins of symbolism, in *Cambridge Archaeological Journal* 10(1) (2000): 123-167.
- 27 A. Brumm, N. Boivin and R. Fullager, 'Signs of Life: Engraved Stone Artefacts from Neolithic South India, in *Cambridge Archaeological Journal* 16(2) (2006): 165-190.
- 28 A. Marshack, *The Roots of Civilization*, (New York: McGraw-Hill Book Company, 1972).
A. Marshack, 'Upper Paleolithic Notation and Symbol', *Science* 178 (1972): 817-832.
- 29 High resolution microscopis analysis and Scanning Electron Microscopy have been used to investigate the fine detail of Paleolithic engraved stone and bone items, examples of which are contained in the following publications: F. d'Errico, 'Study of Upper Palaeolithic and Epipalaeolithic engraved pebbles' in *Scanning Electron Microscopy in Archaeology*, ed. S.L. Olsen, (Oxford: BAR Series 452, 1988).
F. d'Errico, 'Paleolithic Lunar Calendars: A case of wishful thinking?', in *Current Anthropology* 30(1) (1989): 117-118.
F. d'Errico, 'A New Model and its Implications for the Origin of Writing: The La Marche Antler Revisited', in *Cambridge Archaeological Journal* 5(2) (1995): 163-206.
F. d'Errico, 'Holes and grooves: the contribution of microscopy and taphonomy to the problem of art origins' in *Journal of Human Evolution* 33 (1997): 1-31.
- 30 Previous site specific works were published in 1991 by T. Noy on Nahal Oren and by Belfer-Cohen on Hayonim Cave. In 1994, a more general account focusing on stylistic and distributional aspects of Natufian art was undertaken by A. Uribe but this remains an unpublished thesis.
T. Noy, 'Art and Decoration of the Natufian at Nahal Oren' in *The Natufian Culture in the Levant*, eds. O. Bar-Yosef and F.R. Valla (Ann Arbor: International Monographs in Prehistory, 1991): 557-568.
Belfer-Cohen, 'Art Items from Layer B, Hayonim Cave', (1991): 596-586.
A. Uribe, 'Natufian Decorated Objects: An Interpretive Analysis', unpublished thesis (London: University College London, 1994).
- 31 Belfer-Cohen, 'Art Items from Layer B, Hayonim Cave', (1991): 584.
- 32 Campana, (1989) :17
- 33 B. Boyd, ' "Twisting the Kaleidoscope": D.A.E. Garrod and the "Natufian Culture" ' in *D.A.E. Garrod and the Progress of the Palaeolithic – Studies in Prehistoric Archeology of the Near East and Europe*, eds. W. Davies and R. Charles (Oxford: Oxbow Books, 1999): 222

- 34 A. Marshack, 'Palaeolithic Image Making and Symboling in Europe and the Middle East: A Comparative Review' in *Beyond Art: Pleistocene Image and Symbol*, eds. M. Conkey, O. Soffer, D. Stratmann and N. Jablonski (San Francisco: California Academy of Sciences, 1997): 86.
- 35 R.G. Bednarik, *Rock Art Science – The Scientific Study of Paleart*, (Belgium: Brepols Publishers, 2001): 181.
- 36 F. d'Errico 'Palaeolithic Origins of Artificial Memory Systems: an Evolutionary Perspective' in *Cognition and Material Culture: the Archaeology of Symbolic Storage*, eds. Colin Renfrew and Chris Scarre (Cambridge: McDonald Institute for Archaeological Research, 1998), and d'Errico (1995), (1988), (1989).
- 37 Campana, (1989).
- 38 D. Stordeur, *Outils et armes en os de Mallaha*. Mémoires et Travaux du Centre de Recherche Français de Jérusalem 6. (Paris, Association Paléorient, 1988).
- 39 G. Le Dosseur, *L'exploitation des matières osseuses au Levant Sud du Natoufien au PPNB récent. Etude techno-économique de onze séries épipaléolithiques et néolithiques précéramiques*. (Unpublished doctoral thesis. Paris, Université de Paris I, 2006). Le Dosseur's thesis includes her analysis of the bone assemblage from Wadi Hammeh 27.
- 40 Wright, (1992).
- 41 Bednarik (2001).
- 42 Exceptions to linear geometric motifs on pendants are found on stone and bone pendants from 'Ain Mallaha, Kebara and Mureybet. Perrot (1960): Fig. 5.7; Noy (1991): Figs. 2.1-4.
- 43 Belfer-Cohen (1991): Fig., 2.7
- 44 Turville-Petre (1932): Plate XXVIII, bottom row.
- 45 Goring-Morris (1991): Fig. 12, although the linear markings on the fossil pendants are not anthropogenic
- 46 Y. Nishiaki, H. Nkata, M. Aoki, H. Sudo, M. Yoneda, O. Kondo and T. Akazawa, 'The Excavations and the Cultural Stratigraphy of the Dederiyeh Cave, Syria: The 2003-2004 seasons'. *Bulletin of the Kochi University of Technology* (2005): Figs. 1, 5-7
- 47 Noy (1991): Fig.2.4.
- 48 Campana,(1988): 37.
Belfer-Cohen,'The Natufian in the Levant',(1991):169.
But see Stordeur (1988) and Le Dosseur (2006) for a discussion of the dominance of abrasive techniques for manufacturing bone items in the Early Phase at 'Ain Mallaha.
- 49 Le Dosseur (2006).
- 50 These items were not available to Le Dosseur for analysis but were analysed by the author who found them to have been ground to shape.
- 51 Edwards (*in press*).
M. Weinstein-Evron (1998): 109
- 52 Belfer-Cohen, 'Art Items from Layer B, Hayonim Cave, (1991): Figs. 4.1, 6.6, 6.7, 7.1, 7.2, 7.3, 7.6.
A.N. Garrard, 'Natufian Settlement in the Azraq Basin, Eastern Jordan' in *The Natufian Culture in the Levant*, eds. O. Bar-Yosef and F.R. Valla (Michigan: Ann Arbor: International Monographs in Prehistory, 1991): Fig. 4b.
Weinstein-Evron, (1998): Fig. 53.
B. Schroeder, 'Natufian in the Central Beqqa Valley, Lebanon', in *The Natufian Culture in the Levant*, eds. O. Bar-Yosef and F.R. Valla (Ann Arbor: International Monographs in Prehistory, 1991): Figs. 10.4, 10.6.
- 53 Edwards (*in press*).
- 54 Personal communication, Prof. John Webb, Department of Environmental Geoscience, La Trobe University.
- 55 Weinstein-Evron (1998): 109, Figs. 59 and 60; Weinstein-Evron and Belfer-Cohen (1993); Garrod (1932:266); Garrod and Bate (1937:41, Plate XII2:14); Turville-Petre (1932:276); and an unpublished naturally exfoliating 'zoomorphic' pebble recovered from Wadi Hammeh 27.
- 56 T. Hardy-Smith and P.C. Edwards, 'The Garbage Crisis in prehistory: artefact discard patterns at the Early Natufian site of Wadi Hammeh 27 and the origins of household refuse disposal strategies' in *Journal of Anthropological Archaeology* 23 (2004): 253-289.
- 57 P.C. Edwards, (*in press*).
- 58 P.C. Edwards, 'The symbolic dimensions of material culture at Wadi Hammeh 27' in J.M. Cordoba, M. Molist, M. Carmen Perez, I. Rubio and S. Martinez *Proceedings of the 5th International Congress on the Archaeology of the Ancient Near East, 5-8 April 2006*, (*in press*).
- 59 Perrot, (1960): Fig. 5.1
- 60 Edwards (*in press*).
- 61 Hardy-Smith and Edwards , (2004)
- 62 Hardy-Smith and Edwards , (2004): 279-282 note the similarity in discard patterns between Wadi Hammeh 27, 'Ain Mallaha and Hayonim Cave and Terrace.

Bibliography

- Anderson, P., 'Harvesting Wild Cereals During the Natufian as seen from experimental cultivation and harvest of wild einkorn wheat and microwear analysis of stone tools' in *The Natufian Culture in the Levant: International Monographs in Prehistory*, eds. O. Bar-Yosef and F.R. Valla (Michigan: Ann Arbor, 1991): 521-556.
- Bar-Yosef, O., 'The Archaeology of the Natufian Layer at Hayonim Cave' in *The Natufian Culture in the Levant*, eds. O. Bar-Yosef and F.R. Valla (Ann Arbor: International Monographs in Prehistory, 1991): 81-93.
- Bar-Yosef, O., 'Symbolic Expressions in the later Prehistory of the Levant: Why are they so few?' in *Beyond Art: Pleistocene Image and Symbol*, eds. M. Conkey, O. Soffer, D. Stratmann and N.Jablonski (San Francisco: California Academy of Sciences, 1997): 161-182.
- Bar-Yosef, O., 'The Natufian Culture in the Levant, Threshold to the Origins of Agriculture' in *Evolutionary Anthropology* 6 (5) (1998): 159-177.
- Bar-Yosef, O., and F.R. Valla, *The Natufian Culture in the Levant* (Ann Arbor: International Monographs in Prehistory 1991).
- Bednarik, Robert G., 'A Taphonomy of Palaeoart' in *Antiquity* 68(258) (1994): 68-75
- Bednarik, R.G., *Rock Art Science – The Scientific Study of Paleoart*, (Belgium: Brepols Publishers, 2001).
- Belfer-Cohen, A., 'The Natufian in the Levant' in *Annual Review of Anthropology* 20 (1991): 167-186.
- Belfer-Cohen, A., 'Art Items from Layer B, Hayonim Cave: a case study of art in a Natufian context' in *The Natufian Culture in the Levant*, eds. O. Bar-Yosef and F.R. Valla (Michigan: Ann Arbor: International Monographs in Prehistory, 1991): 569-588.
- Belfer-Cohen, A. and O. Bar-Yosef, 'The Aurignacian at Hayonim Cave' in *Paléorient* 7 (1981): 19-42.
- Bocquentin, F., *Pratiques Funéraires, Paramètres Biologiques et Identités Culturelles au Natoufien: Une Analyse Archéo-Anthropologique*, unpublished Ph.D. thesis, (Bordeaux: L'Université Bordeaux 1, 2003).
- Boyd, B., '“Twisting the Kaleidoscope”: D.A.E. Garrod and the “Natufian Culture”' in *D.A.E. Garrod and the Progress of the Palaeolithic – Studies in Prehistoric Archeology of the Near East and Europe*, eds. W. Davies and R. Charles (Oxford: Oxbow Books, 1999): 209-223.
- Campana, D.V., *Natufian and Protoneolithic bone tools: manufacture and Use of Bone Implements in the Zagros and the Levant*, (Oxford: BAR International Series 494, 1989).
- Cauvin, J., *The Birth of the Gods and the Origins of Agriculture*, (Cambridge: Cambridge University Press, 2000).
- Davis, S.J.M., 'Evidence for domestication of the dog 12,000 years ago in the Natufian of Israel, in *Nature* 276 (1978): 608-610.
- Davis, S.J.M. and F.R. Valla, 'The age profiles of gazelles predated by ancient man in Israel: Possible evidence for a shift from seasonality to sedentism in the Natufian' in *Paléorient* 9 (1983): 55-62.
- d'Errico, F., 'Study of Upper Palaeolithic and Epipalaeolithic engraved pebbles' in *Scanning Electron Microscopy in Archaeology*, ed. S.L. Olsen, (Oxford: BAR Series 452, 1988): 169-184.
- d'Errico, F., 'Paleolithic Lunar Calendars: A case of wishful thinking?', in *Current Anthropology* 30(1) (1989): 117-118.
- d'Errico, F., 'A New Model and its Implications for the Origin of Writing: The La Marche Antler Revisited', in *Cambridge Archaeological Journal* 5 (2), (1995): 163-206.
- d'Errico, F., 'Holes and grooves: the contribution of microscopy and taphonomy to the problem of art origins' in *Journal of Human Evolution* 33 (1997): 1-31.
- d'Errico, F., 'Palaeolithic Origins of Artificial Memory Systems: an Evolutionary Perspective' in *Cognition and Material Culture: the Archaeology of Symbolic Storage*, eds. Colin Renfrew and Chris Scarre (Cambridge: McDonald Institute for Archaeological Research, 1998): 19-50.
- d'Errico, F., and A. Nowell, 'A New look at the Berekhat Ram figurine: Implications for the origins of symbolism, in *Cambridge Archaeological Journal* 10(1), (2000): 123-167.

- Edwards, P.C., 'Problems of recognizing earliest sedentism: the Natufian example', in *Journal of Mediterranean Archaeology* 2(1) (1989): 5-48.
- Edwards, P.C., 'Wadi Hammeh 27: An Early Natufian site at Pella, Jordan' in *The Natufian Culture in the Levant*, eds. O. Bar-Yosef and F.R. Valla (Ann Arbor: International Monographs in Prehistory, 1991): 123-148.
- Edwards, P.C., *Wadi Hammeh 27: An Early Natufian Settlement at Pella in Jordan*, (in press).
- Garrard, A., 'Natufian Settlement in the Azraq Basin, Eastern Jordan' in *The Natufian Culture in the Levant*, eds. O. Bar-Yosef and F.R. Valla (Ann Arbor: International Monographs in Prehistory, 1991): 235-244.
- Garrod, D.A.E., 'Excavations in the caves of Wady el-Mughara 1929-1930' in *Bulletin of American School of Prehistoric Research* 7 (1931): 5-11.
- Garrod, D.A.E., 'A New Mesolithic Industry: The Natufian of Palestine', in *Journal of the Royal Anthropological Institute* 62 (1932): 257-269.
- Garrod, D.A.E., 'The Natufian Culture: The Life and Economy of a Mesolithic People in the Near East' in *Proceedings of the British Academy* 43 (1957): 221-227.
- Garrod, D.A.E. and D.M. Bate, *The Stone Age of Mount Carmel*, (Oxford: Clarendon Press 1937).
- Goren-Inbar, N., 'A Figurine from the Acheulian site of Berekhat Ram' in *Journal of Israel Prehistoric Society* 19, (1986): 7-12.
- Goren-Inbar, N., 'Quneitra: A Mousterian Site on the Golan Heights' in *Monograph* 31 (Jerusalem: Institute of Archaeology, 1990).
- Goring-Morris, N. 'The Harifian of the Southern Levant' in *The Natufian Culture in the Levant*, eds. O. Bar-Yosef and F.R. Valla (Ann Arbor: International Monographs in Prehistory, 1991): 173-216.
- Goring-Morris, A. N. and A. 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*, eds. H.G.K. Gebel, B. Dahl Hermansen and C. Hoffman Jensen (Studies in Near Eastern Production, Subsistence and Environment Edition 8, 2002): 67-79.
- Gregg, M., *Fabricating Ideas: Cognitive Processes and Image Creation in the Southern Levant at the end of the Pleistocene*. Unpublished MA Thesis. (Toronto, Toronto University, 2002).
- Hardy-Smith, T. and P.C. Edwards, 'The Garbage Crisis in prehistory: artefact discard patterns at the Early Natufian site of Wadi Hammeh 27 and the origins of household refuse disposal strategies' in *Journal of Anthropological Archaeology* 23 (2004): 253-289.
- Henry, D.O., 'Preagricultural sedentism: The Natufian example' in *Prehistoric Hunter-Gatherers: The Emergence of Cultural Complexity*, eds. T.D. Price and J.A. Brown (New York: Academic Press, 1985): 365-384.
- Hours, F., 'Remarques sur L'utilisation de Listes-Types pour l'étude Paléolithique Supérieure et de L'Épipaléolithique du Levant' in *Paléorient* 2 (1974): 3-18.
- Hovers, E., 'Art in the Levantine Epipalaeolithic: an engraved pebble from a Kebaran site in the lower Jordan Valley' in *Current Anthropology* 31(3), (1990): 317-322.
- Hovers, E.B., B. Vandermeersch and O. Bar-Yosef, 'A Middle Palaeolithic engraved artefact from Qafzeh Cave, Israel' in *Rock Art Research* 14(2) (1997): 79-87.
- Kaufmann, D., 'A Unique Engraved Object from the Epipalaeolithic of Israel' in *Rock Art Research* 16(1) (1999): 109-112.
- Le Dosseur, G., *L'exploitation des matières osseuses au Levant Sud du Natoufien au PPNB récent. Etude techno-économique de onze séries épipaléolithiques et néolithiques précéramiques*. (Unpublished doctoral thesis. Paris, Université de Paris I, 2006).
- Marshack, A., *The Roots of Civilization*, (New York: McGraw-Hill Book Company, 1972).
- Marshack, A., 'Upper Paleolithic Notation and Symbol', *Science* 178 (1972): 817-832.

- Marshack, A., 'Palaeolithic Image Making and Symboling in Europe and the Middle East: A Comparative Review' in *Beyond Art: Pleistocene Image and Symbol*, eds. M. Conkey, O. Soffer, D. Stratmann and N. Jablonski (San Francisco: California Academy of Sciences, 1997): 53-89.
- Muheissen, M., 'The Epipalaeolithic Phases at Kharaneh IV' in *The Prehistory of Jordan – the state of research in 1986* (Oxford: BAR International Series 396, 1988): 353-367.
- Munn, N.D., *Walbiri Iconography: Graphic Representation and Cultural Symbolism in a Central Australian Society*, (Ithaca and London: Cornell University Press, 1973).
- Nadel, D., 'Levantine Upper Palaeolithic – Early Epipalaeolithic burial customs: Ohalo II as a case study' in *Paléorient* 20 (1994): 113-122.
- Neuville, R., 'Le Paléolithique et le Mésolithique du Désert de Judée' in *Archives de L'Institut de Paléontologie Humaine Mémoire* 24 (Paris: Masson et Cie, 1951).
- Noy, T., 'Art and Decoration of the Natufian at Nahal Oren' in *The Natufian Culture in the Levant*, eds. O. Bar-Yosef and F.R.. Valla (Ann Arbor: International Monographs in Prehistory, 1991): 557-568.
- Pfeiffer, J.E., *The Creative Explosion*, (New York: Harper and Row, 1982).
- Perrot, J., 'Excavations at Eynan (Ein Mallaha): Preliminary Report on the 1959 Season' in *Israel Exploration Journal*, 10 (1960): 14-22.
- Schroeder, B., 'Natufian in the Central Béqaa Valley, Lebanon', in *The Natufian Culture in the Levant: International Monographs in Prehistory*, eds. O. Bar-Yosef and F.R.. Valla (Michigan: Ann Arbor, 1991): 43-80.
- Stordeur, D., *Outils et armes en os de Mallaha*. Mémoires et Travaux du Centre de Recherche Français de Jérusalem 6. (Paris, Association Paléorient, 1988).
- Tchernov, E., 'Commensal animals and human sedentism in the Middle East' in *Animals and Archaeology 3, Early Herders and their flocks*, eds. J. Clutton-Brock and C. Grigson (Oxford: BAR International Series, 1984): 91-115.
- Uribe, A., 'Natufian Decorated Objects: An Interpretive Analysis', Unpublished Thesis (London: University College London, 1994).
- Valla, F.R., 'The Natufian: A Coherent Thought' in *D.A.E. Garrod and the Progress of the Palaeolithic – Studies in Prehistoric Archeology of the Near East and Europe*, eds. W. Davies and R. Charles (Oxford: Oxbow Books, 1999): 224-241.
- Valla, F.R., Hamoudi Khalaily, Nicolas Sameulian and F. Bocquentin, 'From Foraging to Farming: The Contribution of Mallaha (Eynan) Excavations, 1996-2001 in *Bulletin du Centre de recherché français de Jérusalem* (10 printemps 2002 - English translations). Available [Online] <http://bcrfj.revues.org/document1272.html> [09.04.08]: 71-90.
- Webb, S.G. and P.C. Edwards, 'The Natufian human skeletal remains from Wadi Hammeh 27' in *Paléorient* 28(1): 103-124.
- Weinstein-Evron, M., *Early Natufian El Wad Revisited*, (ERAUL 77 Études et Recherches Archéologiques de L'Université de Liege, 1998).
- Wright, K., *Ground Stone Assemblage Variations and Subsistence Strategies in the Levant, 22,000 to 5,500 BP: Volumes 1 and II*, (Yale: Yale University, University Microfilms International, 1992).