



Shells and ochre in Middle Paleolithic Qafzeh Cave, Israel: indications for modern behavior

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ABSTRACT

Qafzeh Cave, the burial grounds of several anatomically modern humans, producers of Mousterian industry, yielded archaeological evidence reflecting their modern behavior. Dated to 92 ka BP, the lower layers at the site contained a series of hearths, several human graves, flint artifacts, animal bones, a collection of sea shells, lumps of red ochre, and an incised cortical flake. The marine shells were recovered from layers earlier than most of the graves except for one burial. The shells were collected and brought from the Mediterranean Sea shore some 35 km away, and are complete *Glycymeris* bivalves, naturally perforated. Several valves bear traces of having been strung, and a few had ochre stains on them.

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Introduction

Until a few years ago it was assumed that seashells were collected to be used as decoration beginning in the Upper Paleolithic, and are thus, a part of the technical and social revolution attributed to modern humans (e.g., Kuhn et al., 2001; Bar-Yosef, 2002). New dating techniques and new discoveries of shell assemblages in recent years revealed that the exploitation of shells by humans began about 50,000 years earlier than previously thought (Henshilwood et al., 2004; Bar-Yosef Mayer, 2005; Vanhaeren et al., 2006; Bouzouggar et al., 2007). The shell assemblage of Qafzeh Cave sheds new light on this discussion.

Anatomically Modern Humans (AMH) were first discovered in the 1930's in Skhul and Qafzeh caves, but due to their morphological variability were described as a special population named *Paleoanthropus palestinensis* by McCown and Keith (1939). Their resemblance to *Homo sapiens sapiens* led later to their re-naming as "Proto-Cro Magnons" (Howell, 1957), suggesting their ancestry to the makers of the European Upper Paleolithic cultures. Most surprising were the physical features of these hominins and their association with what at the time was called a "Levallois-Mousterian" stone industry that suggested a general contemporaneity with European Neanderthals.

The original proposal to date these fossils to some 40–50,000 years ago was substituted by a series of thermoluminescence (TL)

and electron spin resonance (ESR) readings that placed both the Skhul and Qafzeh hominins in the range of 130–90 ka BP (Schwarz et al., 1988; Valladas et al., 1988; Mercier et al., 1993). Currently they are seen as representatives of early or archaic modern humans, who according to mtDNA emerged some 200 ka BP in Africa, and later spread into Eurasia (Cann et al., 1987; Forster, 2004). African fossils support the genetic proposal as shown by the discoveries of Kibish-Omo (ca. 200 ka BP) and Herto-Bouri (ca. 165 ka BP; White et al., 2003; McDougall et al., 2005). In addition, analysis of cultural evidence from Africa (McBrearty and Brooks, 2000) indicates that the cultural elements considered as markers of modern behavior appeared in this continent during the past 200 ka.

Excavations in Qafzeh Cave provided a wealth of information concerning the behavior of hominins who produced the Mousterian industry. In addition to systematic burials of adults and children (Vandermeersch, 1981; Tillier, 1999), the use of ochre for body painting (Hovers et al., 2003) and the presence of marine shells, to be described below, suggest a level of symbolism currently associated with modern behavior.

The archaeological contexts of Qafzeh Cave

Qafzeh Cave, situated near Nazarteth in the Lower Galilee, Israel, was first excavated by R. Neuvillie and M. Stekelis in 1933–1934. The exposed stratigraphy (layers lettered A to M) consisted of Holocene deposits and Upper Paleolithic and Middle Paleolithic layers, based on the identification of stone tools (Neuvillie, 1951). Excavations were renewed in 1965 and continued until 1979 (Vandermeersch, 1966, 1969a,b, 1970, 1972, 1981).

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Following the seasons of 1977–1979, Bar-Yosef and Vandermeersch (1981) suggested that the Mousterian levels at Qafzeh Cave should be redated to 100–80,000 years ago. Later, Valladas et al. (1988) recorded TL dates for the lower layers that contained the human burials that averaged 92 ± 5 ka, with a range of 82.4 ± 7.7 ka to 109 ± 9.9 ka. ESR dates by Schwarcz et al. (1988) proposed an average early uptake (EU) date of 96 ± 13 ka and a linear uptake (LU) of 115 ± 15 ka. Both TL and ESR readings showed no systematic increase with depth. Thus, the radiometric readings, as well as geological observations (Farrand, 1979; P. Goldberg, pers. comm.), led to the conclusion that the sediments of layers XXIV through XVII accumulated rapidly. This lack of chronological change is also apparent from the analysis of the lithic assemblages (Hovers, 1997). The lithic industry is dominated by the use of radial or centripetal Levallois technique, with a relatively low frequency of retouched pieces in the lower levels (Hovers, 1997; Hovers and Raveh, 2000).

The rich and diverse mammalian fauna discovered at Qafzeh is evidence of the wealth of food supplies, although remains of the vegetal diet were not preserved, and phytolith analysis like in Amud Cave (Madella et al., 2002) was not conducted. The faunal assemblages are dominated by Red deer, fallow deer, and aurochs, as well as a large amount of microvertebrates (Haas, 1972; Bouchud, 1974; Rabinovich and Tchernov, 1995; Tchernov, 1996; Rabinovich et al., 2004). It is worth noting here that the Upper Paleolithic levels at Qafzeh also yielded some land snails (*Levantina*) and freshwater bivalves (*Unio*), presumed to be food remains (Avnimelech, 1937).

The human remains of seven adults (Nos. 3, 5, 6, 7, 8, 9, 25) and several juveniles (Nos. 4, 10, 11, 12, 13, 14, 15, 21, 22), as well as a few isolated bones and teeth were found during the two series of excavations at the site (Vandermeersch, 1981; Tillier, 1999). Almost all the burials were uncovered in layer XVII, except for the single burial of H. 11 that was found in layer XXII. An engraved cortical flake, interpreted as having symbolic meaning, was also discovered in layer XVII (Hovers et al., 1997). The marine shells were retrieved from earlier levels below most of the skeletons. Figure 1 shows the horizontal distribution of the shells in the cave, and Figure 2 is a cross section of the excavation, indicating the location of the shells relative to the human remains. The lowest deposits, layers XXIV–XXI in this area, could be considered as one layer when compared to the nature of the sediments of layer XVII and their overall thickness. Their subdivision into levels XXIV through XXI was made on the basis of visible hearths and changes in the size of the fine gravels.

The shells were distributed over an area of 6 m^2 and there is no indication that they were directly associated with any of the human burials (Vandermeersch, 1981; Tillier, 1999). It is also worth noting that Upper Paleolithic levels at Qafzeh Cave were preserved only inside the cave (Bar-Yosef and Belfer-Cohen, 2004). An overall thickness of ca. 2 m of Mousterian deposits, with no evidence for human burials, overlaid layer XVII. In sum, the shells were originally located in the context of the lowermost Middle Paleolithic levels at Qafzeh Cave, below most of the burials.

The shells

At Qafzeh Cave, ten *Glycymeris* valves were discovered, some of them bearing ochre stains (Fig. 3). *Glycymeris insubrica* is a bivalve, approximately 4–7 cm in diameter, and nowadays is abundant on the Israeli coast, although it seems to represent a population on the verge of extinction (Mienis et al., 2006; Sivan et al., 2006). Taborin (2003) described some of these shells and referred to them as *G. violacescens* (Lamarck, 1819), but it has recently been pointed out (Mienis et al., 2006) that they should be referred to as *G. insubrica* (Brocchi, 1814).

We measured the height of the *Glycymeris* valves from Qafzeh with a digital caliper, compared them to those present on the beach

today, and found that four out of five measurable valves are within the same size range as the current population, and one shell is larger (Fig. 4). Various variables may account for change in size, especially change in environmental conditions in the eastern Mediterranean, but this will not be dealt with in this paper. The Qafzeh shells were examined under a binocular microscope at up to $\times 45$ magnification and are described below in stratigraphic order from bottom to top. The main observations are summarized in Table 1.

Shells from level XXIV

Square C12, No. 112, Figure. 3.1. This is a relatively robust/heavy valve of *Glycymeris insubrica*, (the largest in this assemblage) with a lip that was chipped and abraded in antiquity and a hole in the umbo. On the inside (concave) surface there are remains of red ochre stains. On the outside surface is a very smooth patina in the center of the valve and near the umbo. In the middle of this smooth area is a fairly deep groove that is rounded at its bottom. This groove seems to be the result of invertebrate activity, possibly a marine worm. Additional pitting is visible on the outside surface of this valve, and on the bottom right close to the lip are spots of yellowish ochre, as well as greenish spots.

Square B14, No. 103, Figure. 3.9. Three conjoining fragments of the lip (or margin) are very fragile and tend to fall apart to the touch. They are naturally abraded.

Square B14, No. 102, Figure. 3.7. This valve is broken along the “long” axis to the right of the umbo and along part of the lip. The surface is naturally worn and the umbo is naturally holed. A yellow ochre spot can be seen on the surface of the hole in the umbo.

Shells from level XXIII

Square C11, No.791, Figure. 3.8. These two fragments were discovered together: one from the center of the valve, 30 mm long, and another fragment 22 mm long from the shell margin.

Shells from levels XXII

Square C12, No.107, Figure. 3.2. This *Glycymeris insubrica* valve is heavily beach worn with a hole in the umbo. The outside surface has pitting, as well as dark grey spots. Under magnification, reddish spots are also visible that could be ochre. The shell is overall smooth, the hinge has no teeth left, and the inner margin serration is completely missing. The hole of this valve is definitely a result of natural abrasion, but one corner is “notched,” a result of use wear.

Shells from layer XXI

Square C10, No. 404, Figure. 3.5. This is an almost complete valve, with slight breakage at the margin and a fairly large hole in the umbo. The shell is brown/violet. The hole seems to be a result of percussion as its walls are straight; it is impossible to determine whether this percussion was intentionally made by humans. In contrast, the breakage of the margin is typically rounded. A notch in the hole is rounded as a result of stringing.

Square C11, No. 632, Figure. 3.6. Most of this shell has a reddish/brown “patina.” There is a hole in the umbo and slight breakage of the lip in two places. On one side of the hinge that is broken, growth lines are clearly visible. The hole is a result of natural abrasion. The reddish “patina” seems to cover over the hinge teeth after they were heavily abraded. On one side of the hinge where there is no patina, the structure of the shell is visible, and in that area there are black spots of dendritic manganese.

Square C11, Figure. 3.10. This is a *Glycymeris* fragment that contains a part of the hinge.

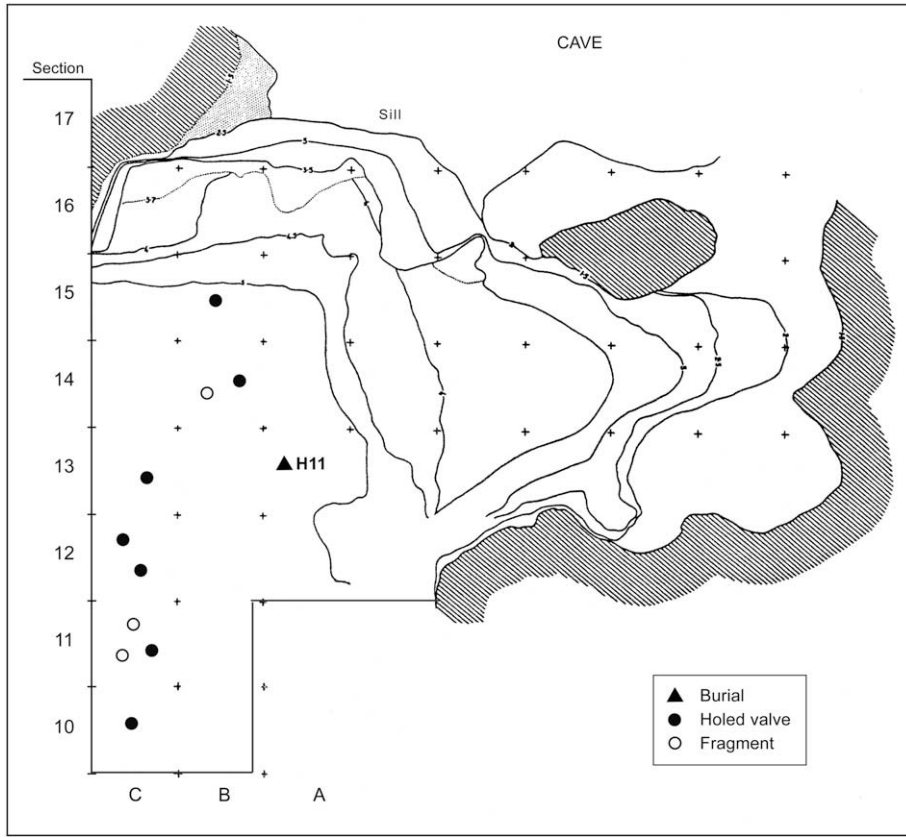


Fig. 1. A plan of levels XXI–XXIV indicating the distribution of shells. Contour lines indicate the bedrock topography that descends from inside the cave towards the area of the terrace.

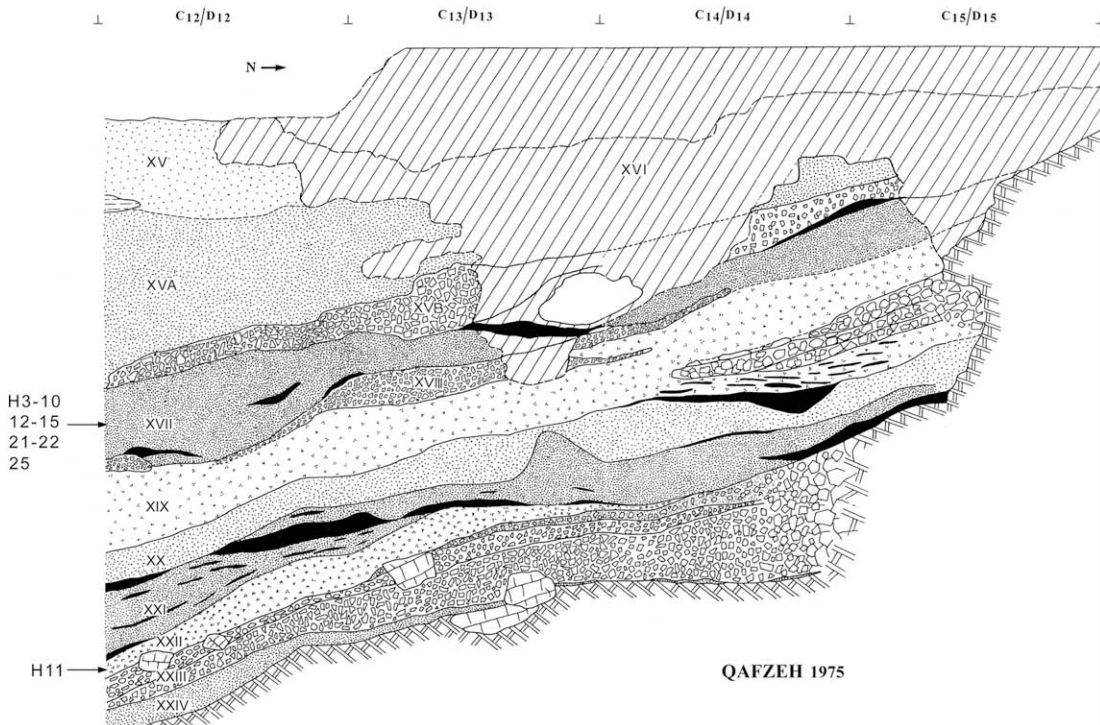


Fig. 2. A profile of the Middle Paleolithic levels at Qafzeh, indicating the layers in which the skeletal remains and shells were discovered.



Fig. 3. *Glycymeris insubrica* from Qafzeh Cave. Table 1 provides information on each item.

Square C13, No. 119, Figure. 3.4. The shell has a beige patina and is slightly damaged and cracked on the outside surface. This wear seems to have existed in antiquity. The right side was broken post-excavation and has been glued, leaving some holes. The hole in the umbo is a result of natural abrasion, and it was further enlarged by

percussion, either intentionally or during or after excavation, but the margins of the hole are not abraded or smooth.

Square B15, No. 73, Figure. 3.3. This is a complete valve with a hole in the umbo. There are dark gray/ black spots of dendritic manganese both inside and outside. The hole is a result of percussion (either intentional or the result of natural movement against a rock), and on one side there is a smoother notch that is evidence of friction from a string.

Discussion

The *Glycymeris* valves described above were collected by humans and brought to the cave from a distance of about 40 km. Two aspects of the Qafzeh shells are most conspicuous and add significantly to our understanding of the early appearance of modern human behavior: 1) the ochre stains on some of the shells, and 2) the holes that apparently served for suspending shells. Walter (2003) examined the red and black stains on two of the shells and determined that the red stains are ochre and the black are manganese. Indeed, black dendritic manganese stains are a natural deposition and not a result of human activity, and were common throughout the site on the stone artifacts, as well as on the human skeletons. The red ochre stains, by contrast, are certainly the result of human manipulation, as demonstrated in a detailed study by Hovers et al. (2003). Traces of grating on at least one of the recovered ochre chunks further testifies to human exploitation (Vandermeersch, 1969a). Walter (2003) described one shell that

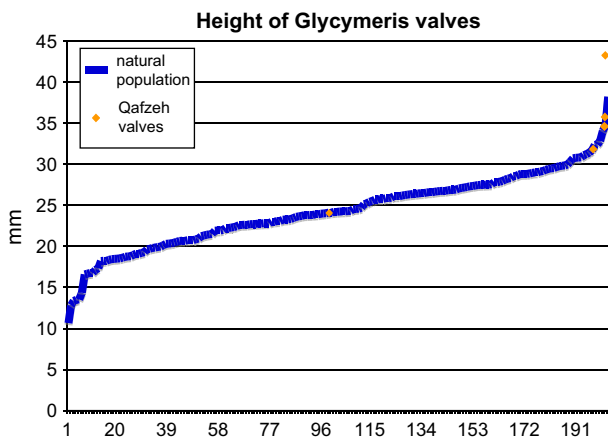


Fig. 4. The height of the Qafzeh shells plotted on a graph that shows the height of *Glycymeris insubrica* valves based on a random sample of 200 specimens collected recently on the Israeli Mediterranean beach. Only 5 valves of the Qafzeh assemblage were complete enough to allow height measurement.

Table 1
Specific attributes of Qafzeh shells by level

Level	Specimen no.	No. in Figs. 3 and 5	Completeness	Height (mm)	Hole diameter (mm)	Hole condition	Wear traces	Ochre stains	Manganese
XXI	404	5	Almost complete, lip damaged	32.02	6.55	Natural hole broken by percussion	One side of hole has a "corner"	–	–
	632	6	Lip damage, heavily patinated and abraded		3.32	Natural hole in umbo	–	–	Yes, near hinge
	C11	10	Fragment with part of hinge			–	–	–	–
	119	4	Slight damage			Natural hole in umbo that was later enlarged	–	–	–
	73	3	Complete valve	36.03	6	Natural hole in umbo	Hole has a smooth notch on 1 side	–	Yes, inside and outside
XXII	107	2	Complete valve, heavily abraded	35.77	5.78	Natural hole in umbo	Smooth corner in hole	Reddish stains on outside.	Yes, outside
XXIII	791	8	One body and one lip fragment			–	–	–	–
XXIV	112	1	Complete robust valve with damaged lip.	43.09	5.55	Natural hole in umbo	Smooth corner in hole	Reddish stains on inside, yellow spots on outside.	–
	103	9	Three conjoining fragments			–	–	–	–
	102	7	Broken valve	24.06	4.03	Natural hole in umbo	–	Yellow stain on hole margin	–

contains ochre on the entire concave surface, but we identified additional ochre stains on the convex side of the same shell, as well as other stains on other shells (Table 1). The position of the stains in the concave and convex side of one of the valves, and an additional yellow ochre stain found inside the umbonal hole of another, reinforces the human nature of this deposition.

It has been suggested that the shells served as ochre containers (Vanhaeren et al., 2006). While this suggestion seems plausible, unfortunately it cannot be supported for the following reasons. First, all seven complete or almost-complete valves that contain the umbo have a hole in them, and second, four of them have a notch in the perimeter of the hole that is typical of suspending wear (Table 1; Fig. 5). Taborin (2003: 114) made a similar observation on item 112 of level XXIV. The "notches" within the holes of some of the shells indicate that the shells were strung. Moreover, the complete absence of ochre stains on seven other shells, further supports the interpretation of their use as ornaments rather than as ochre containers.

The one shell from level XXIV that has the most reddish stains on its concave side had a few yellowish stains on the outside, as well as tiny greenish stains visible only under a binocular microscope. Our attempt to identify the latter material with the help of SEM-EDS failed. It should be noted that this particular shell (Fig. 3.1) is the only shell of the ten that had a significant amount of ochre on its convex side. If any shell was ever used as an ochre container at Qafzeh, it is this particular one and none of the others. It is important to keep in mind that this, like all other valves, has a natural hole in the umbo, which makes it less likely to serve in this capacity. Being the largest valve in the assemblage it may have had a special value attributed to it, and it may have been deliberately painted with ochre. The presence of ochre stains on the outer (convex) surface of at least one shell conveys the possibility that it was rubbing against a body painted with ochre. Unfortunately, none of these suggestions can be verified.

The largest numbers of ochre pieces at Qafzeh Cave (Hovers et al., 2003) were found in layers XIX and XXI. One shell (from XXIV) has traces of both red and yellow pigment, another (No. 102 from XXIV) has only yellow pigment, and the third (No.107 from XXII) only red. Indeed, the largest amounts of ochre came from the same levels as the shells (Hovers et al., 2003: their Table 1). Although ochre continued to be in use in later times as the remains were uncovered in later deposits, and especially in layer XVII, shells were not found in this layer or in the later Mousterian levels. Thus,

we conclude that just as some of the flint artifacts were ochre stained, so were some of the shells, and that the shells that were strung were used as decoration, either on the body, on garments, or on other types of perishable objects. The use of naturally perforated shells as objects of decoration is well attested in many parts of the world at different periods (e.g., Francis, 1989: 26).

A recent taphonomic study of *Glycymeris insubrica* on the eastern Mediterranean coast (Sivan et al., 2006: their Table 2), demonstrates that shells with naturally perforated umbos are almost as abundant (41.5%) as non-perforated valves. Assuming that the *Glycymeris* population on the coast about 100,000 years ago was similar to that of today, it follows that the Qafzeh people targeted specifically shells with a hole in the umbo. It is worth noting that one of the shells (Fig. 3.6), which has a hole and is broken, may have been collected in this condition, unlike another item (Fig. 3.7) that was certainly broken after collection in antiquity. Similar observations of naturally perforated *Glycymeris* and *Cerastoderma* in the lowermost sterile layers of Grotta dei Moscerini in Italy are worth noting, but because they were found below the archaeological deposits, they were probably not used by humans (Stiner, 1994: 186). d'Errico and Vanhaeren (2007), taking into account only the 19.7% of perforated umbos that are not broken in Sivan et al.'s (2006) study, found that there is a very low probability of selecting a few perforated valves by chance.

During the period under discussion the Mediterranean Sea was at about –80 m to –40 m below the current msl (Waelbroeck et al., 2002; Siddall et al., 2003), about 10 km further to the west than it is today. The distance of Qafzeh from the coast makes it impossible for geomorphologic processes to be a factor in the presence of the shells in the archaeological sediments. Likewise, no geological formation that contains *Glycymeris* has been reported in the vicinity of Qafzeh Cave (Horowitz, 1979).

The actual collection of a few shells and bringing them to a site may in itself be an important clue to their value. Shells can be transported and relocated by humans or animals (e.g., Erlandson and Moss, 2001). In the case of the *Glycymeris* at Qafzeh Cave, it is more likely that this is the result of human action. When animals (rodents, birds) transport shells it is because they are collected as a food item, but here the condition of the shells (the tiny holes in the shell body that result from activity of various invertebrates after the mollusc died) indicates that they were collected as dead specimens from the beach where they were abraded and their umbos were holed. Smaller and lighter shells that may attach, especially to

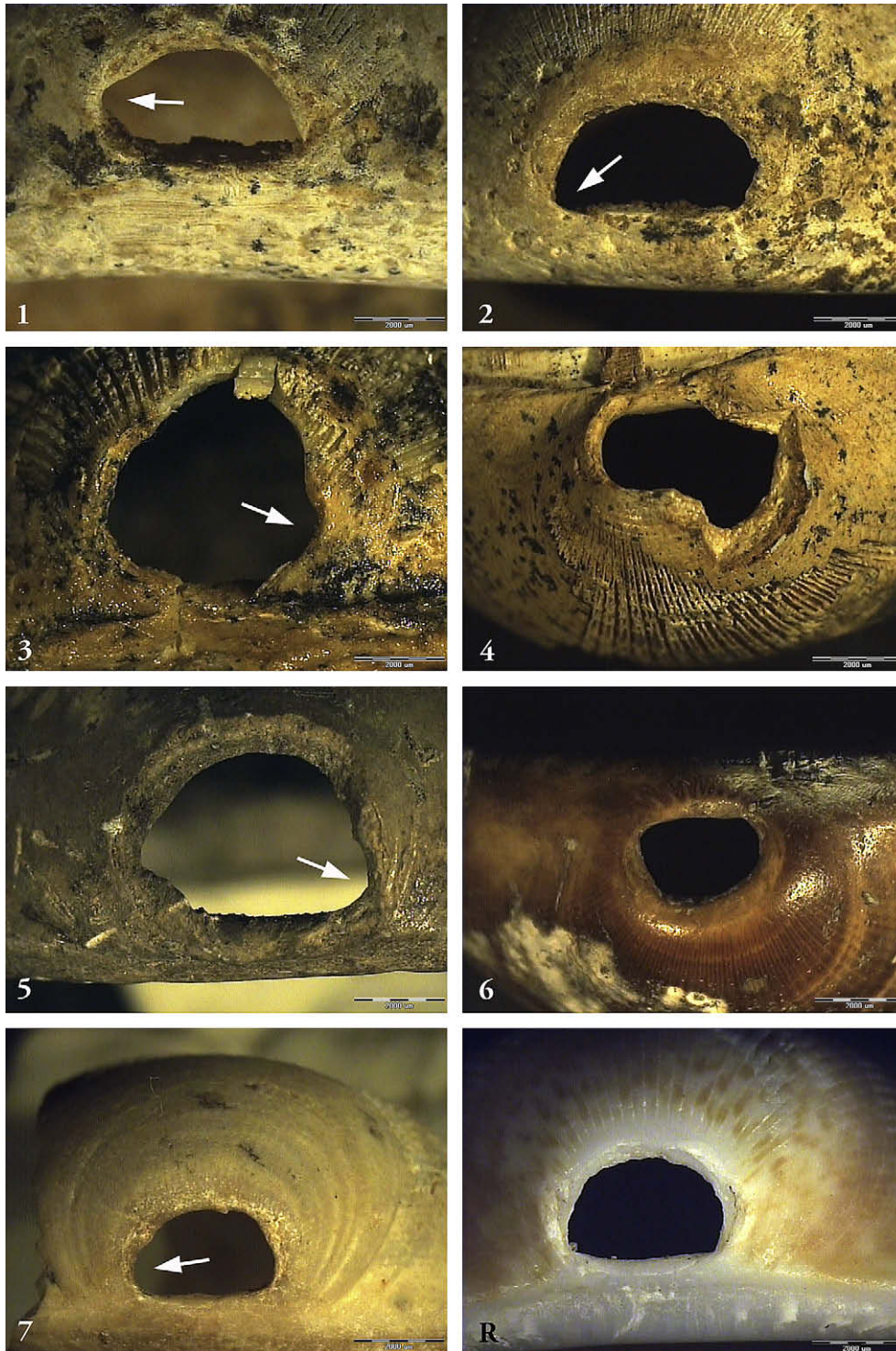


Fig. 5. The holes in the Qafzeh *Glycymeris* valves. Numbering of the items corresponds to the numbers in Fig. 3. Item R is a recently collected *Glycymeris* valve for comparison of natural perforation.

birds' feet, are sometimes transported inadvertently by animals, but here too, the size and weight of the *Glycymeris* makes this case impossible.

The Qafzeh foragers must have made special trips to the coast (about 45–50 km away) in order to collect the shells. It is quite likely that shell collection was not the only reason for reaching the coast; however, to date there is no evidence of other marine resources (other invertebrates, fish, etc.) at Qafzeh. Exploitation of particular resources beyond the immediate vicinity of the site is

known from several Middle Paleolithic sites, and at Qafzeh Cave ochre was brought from outcrops located approximately 8–60 km away from the site (Hovers et al., 2003: 501). Thus, an additional behavioral trait of modern humans is the choice of objects from the surrounding environment that are not related to their immediate survival.

Recently, several authors have suggested that the presence of mollusc shells at archaeological sites is an indicator of modern behavior, primarily in the context of procuring shellfish as a food

source (McBrearty and Brooks, 2000; Erlandson, 2001). Coastal or aquatic adaptation as an economic strategy is also shared with Neanderthals (Stiner, 1994; Taborin, 2003), whereas shell ornaments are not known to have been used by Neanderthals. One of the earliest examples of this subsistence activity is the shell midden at Pinnacle Point, South Africa, dated to ca. 164 ka, where shells were probably consumed but were not used as elements of decoration, although ochre was employed there. According to Marean et al. (2007), the presence of shellfish on the coastline provided people with a rich source of food during the long glacial MIS6, and thus, made that area a prime refugium.

Similar to the shells of Qafzeh, the shells from Skhul Cave in Mt. Carmel dated to ca. 120,000 years ago likely also represent modern human behavior. That assemblage consists of two *Nassarius gibbosus* shells, as well as a valve of *Acanthocardia deshayesii*, a fragment of *Laevicardium crassum*, and a *Pecten jacobaeus* (reported by Garrod and Bate, 1937: 224 and re-examined by Vanhaeren et al., 2006). The main criterion used by Vanhaeren et al. (2006) to determine that the shells were decorations is their holes, albeit apparently natural and not manufactured by humans. The context of seashells in burial grounds such as Skhul Cave is intriguing. To date Skhul Cave is the only case in which shells were possibly associated with Middle Paleolithic burials, but are not found in the presumed living strata of the same period at nearby Tabun Cave (Garrod and Bate, 1937; McCown and Keith, 1939). Given the generalized description of the burials and their archaeological context, it is hard to determine whether the shells from Skhul were grave goods, as was the wild boar jaw across Skhul V. A similar animal remain associated with a human burial was the antler placed directly on the chest of the adolescent in Qafzeh H. 11.

Many of the marine shells discovered in early modern human sites (Skhul, Blombos Cave, Grotte des Pigeons) belong to the genus *Nassarius*, a small gastropod under 2 cm in height. A few non-perforated bivalves were present at Skhul, but Qafzeh is the only Middle Paleolithic site in which the bivalve *Glycymeris* served as decoration. The presence of *Nassarius gibbosus* in the eastern Mediterranean during the Upper Pleistocene, as evidenced in Skhul, causes us to wonder why the Qafzeh foragers did not collect a few specimens of the latter as well. Given the paucity of data, it is premature to suggest that these two populations were different groups identifying themselves with different body decorations, as proposed by Kuhn et al. (2001) for the better-known Upper Paleolithic contexts.

Worth noting are *Glycymeris* shells in two other Levantine Mousterian sites (although not artificially modified), both in the context of a Mousterian lithic industry similar to that of Qafzeh. The shells were found in Ras el Kelb Cave on the Lebanese coast, and in Layer C of Sefunim Rockshelter in Mt. Carmel (Lamdan, 1984; Ronen, 1984; Reese, 1998). Both sites contain small numbers of shells of different species, but *Glycymeris* seem to be the most prominent. A re-examination of these assemblages is planned in the near future.

Other early assemblages of shells used for decoration were discovered in Blombos Cave in South Africa, dated to ca. 77 ka (Henshilwood et al., 2004; d'Errico et al., 2005), as well as in Grotte des Pigeons in North Africa, dated to ca. 82 ka (Bouzougar et al., 2007). Most intriguing is the recent discovery of *G. connollyi* in Pinnacle Point Cave 13b, South Africa, also dating to the Middle Stone Age ca. 100 ka, which although not perforated, are assumed to have been collected for their beauty (Jerardino and Marean, 2008).

The nature of modern behavior as derived from multiple sites of the Middle Paleolithic and Middle Stone Age is widely debated (e.g., McBrearty and Brooks, 2000; Henshilwood and Marean, 2003; Wynn and Coolidge, 2004; Brumm and Moore, 2005). Although discussing the underlying reasons for this behavior (e.g., Klein,

2000; Hovers and Belfer-Cohen, 2006) is beyond the scope of this paper, the general tendency is to view the evidence for symbolic behavior as emerging during the Middle Stone Age in Africa. In their long list of “archaeological signatures of modern human behavior,” McBrearty and Brooks (2000: their Table 3) divide the evidence into several categories, all of which pertain to the Qafzeh shells, as well as other Middle Paleolithic shell assemblages. In the category of ecology, “Range extension to previously unoccupied regions,” these shells form one of the first lines of evidence for the connection of Middle Paleolithic populations to the Mediterranean coast. In the category of technology, “Tools in novel materials, e.g., bone, antler;” the shells are not tools, but they were rarely used prior to the Middle Paleolithic (Erlandson, 2001) and are, therefore, artifacts of “novel material.” In the category of economy and social organization, several traits embody both the collection and the use of shells: “Long-distance procurement and exchange of raw materials, Intensification of resource extraction, especially aquatic and vegetable resources, and Group and individual self-identification through artefact style.” Finally, in the category of symbolic behavior, “Regional artefact styles, Self adornment, e.g., beads and ornaments, and Use of pigment” are all reflected in the shells and ochre present at Qafzeh Cave. Elsewhere one of us proposed that “Whether shells are obtained directly by their users, or indirectly, by communicating with other human groups, an element of “adventure” or “risk taking” is involved in obtaining them. Thus, wearing them could manifest not only mere decoration, but has the potential of depicting to their wearers a certain memory or experience that the shells are associated with” (Bar-Yosef Mayer, 2005: 177). Non-perforated shells known from other sites and collected either for their beauty or for other symbolic purposes (charms? souvenirs?) could be an additional category to be considered. While many of the expressions of early modern human behavior are from MSA assemblages (McBrearty and Brooks, 2000), the evidence presented here from the Levant emphasizes the similar nature of these traits across the Middle Stone Age/Middle Paleolithic of Africa and Western Asia.

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