

Death, Mortuary Ritual, and Natufian Social Structure

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Mortuary data are used to examine social structure and differentiation within the prehistoric Natufian cultural complex of Southwest Asia. New interpretations are presented regarding the nature and importance of changes in Natufian social structure through a rigorous analysis of burials from the three best documented sites. Intra-settlement descent group differentiation, perhaps along extended family or kin-group lines, is inferred for the early Natufian. We interpret this novel development to be a result of adopting new markers for social relations during a period of social change and stress when larger populations rapidly coalesced and resided together for longer periods each year. There is no evidence to indicate that any of these kin-groups had significantly greater wealth or status. Mortuary behavior changed significantly during the late Natufian, in part reflecting greater emphasis on the burial of individuals and increased settlement mobility. We argue that there is no strong mortuary evidence for hereditary social inequality during the Natufian, and that mortuary ritual was multidimensional and had considerable embedded meaning that often lacks direct ethnographic parallels and simple categorization into evolutionary stages. © 1995 Academic Press, Inc.

INTRODUCTION

This article utilizes mortuary data to examine social structure and differentiation within the prehistoric Natufian cultural complex of Southwest Asia. The Natufian continues to be of considerable interest to a wide range of scholars examining the emergence of complex hunter-gatherers and the onset of intensive food procurement strategies. The Natufian is particularly relevant since it has been interpreted as representing sedentary hunter-gatherers, it directly preceded early food production during the Neolithic, it includes the earliest cemeteries in Southwest Asia, and hereditary social inequality has been inferred. To date, there has been little explicit archaeological research aimed at elucidating changes in Natufian social organization despite its importance in the fundamental transition to settled food-

producing villages. Wright's (1978) analysis of the mortuary remains from El-Wad is the only rigorous and explicit study of Natufian social structure. Wright argued that the Natufian was characterized by an increased level of social complexity with ascribed status, and Henry (1989:209-210) used this interpretation as supporting evidence for inferring that the Natufian was an incipient chiefdom (yet see Belfer-Cohen 1992; Olszewski 1991; Perrot and Ladiray 1988). These claims for the onset of hereditary inequality during the Natufian are of preeminent significance since such social structure formed the foundation upon which more elaborate developments were built.

We present alternative interpretations regarding the nature and importance of changes in Natufian social structure through a rigorous analysis of mortuary data from the three best documented sites.

The study examines the results from recently published burial assemblages at the important Natufian sites of Hayonim Cave (Bar-Yosef 1991; Belfer-Cohen 1988a, 1988b) and Ain Mallaha (Perrot and Ladiray 1988), as well as the earlier published results from El-Wad (Garrod and Bate 1937). Vertical and horizontal differentiation in intrasite social structure are analyzed on synchronic and diachronic levels, and claims for ascribed status hereditary inequality during the Natufian are reevaluated. The study considers a series of burial variables within the context of archaeological formation processes.

Several salient trends in social dynamics are distinguished, including a key distinction between initial early Natufian practices and those during the later Natufian. Although Natufian mortuary behavior was quite variable, the early Natufian was characterized by intra-settlement descent group differentiation, perhaps along extended family lines or ethnic groups. We interpret this novel development of group graves to be a result of adopting new markers for social relations during a period of considerable change and stress when larger populations rapidly coalesced and resided together for longer periods each year. Grave goods are common (almost always items of personal adornment) and are associated with almost one-quarter of the individuals. Notably, there is a lack of spatial association between individuals with grave goods—no group burials clearly have more than one individual per group with grave goods. Thus, these grave goods are not attributes of these small descent groups but rather are marking particular individuals within the group. These distinctions dramatically decline during the late Natufian with the virtual disappearance of grave goods, along with an increase in secondary burials, single interments, and the onset of the tradition of skull removal after interment. These successive trends in mortuary behavior are interpreted as evidence of greater emphasis

on individuals and increased settlement mobility. They also reflect the changing nature of inter-personal interaction and group organization, and were a harbinger of subsequent social changes that occurred with the emergence of the first food-producing villages.

We argue that there is no strong mortuary evidence for intra-community hereditary social inequality, and that Natufian mortuary ritual was multidimensional and had considerable embedded meaning related to social identity that in part lacks direct ethnographic parallels and simple categorization into evolutionary stages. Of course, social inequality need not be expressed in mortuary practices. Despite previous claims, however, there is no Natufian mortuary evidence for complex social features such as political positions, offices or institutions often associated with complex social systems (these occur much later in the Levant). Our results suggest that the Natufian was not a chiefdom, nor was it characterized by hereditary elites with ascribed status.

INTERPRETING PREHISTORIC MORTUARY PRACTICES

The use of archaeological burial data to elucidate prehistoric social structure was laid out in the prominent writings of Saxe (1970, 1971) and Binford (1971). Their interpretation of archaeological social organization and cultural complexity derives primarily from applying the evolutionary paradigm of Fried (1967) and Service (1962). This processual approach is based on the assertion that there is a direct relationship between burial treatment, the status of an individual in the living community and the general organization of a society. As Saxe (1971:39) states, "an individual's treatment at death is a reflection of the position occupied in a status system in life, and that differences between individual interments reflect the type of status system participated in (e.g., egalitarian

versus ranked), the outlines of the extinct status systems should be ascertainable." Thus, there is a distinction between achieved status (the product of one's accomplishments) and ascribed status (the result of hereditary inequality transmitted from one generation to the next). A critical correlate is that elaborate graves are representative of higher status, and thus there should be far fewer examples of this treatment (Peebles and Kus 1977).

Over the last 20 years, there have been numerous applications of this general social model to prehistoric mortuary assemblages (e.g., Clark and Neeley 1987; Chapman et al. 1981; Gilman 1990; King 1978; Larsson 1989; Rothschild 1979; Whittlesey 1978; Wright 1978). These more recent studies have refined and extended this realm of archaeological research. The main lines of inquiry for recent mortuary research include measurements of energy expenditure, the search for symbols of authority, rigorous examination of age-sex distributions, and consideration of the role that formation processes play in creating archaeological burial contexts (e.g., Brown 1981; Chapman and Randsborg 1981; O'Shea 1984; Peebles and Kus 1977; Tainter 1978).

A series of criticisms also have been put forward, pointing out that the identification of social status and inequality from prehistoric mortuary remains, particularly when dealing with small populations, is not always a straight forward procedure (Shanks and Tilley 1987). One caveat which has particular relevance to this study concerns recognition that children buried with considerable grave goods is not necessarily definitive of ascribed status. Instead, a number of other social and demographic variables are often more significant to the interpretation of the burials of children (Brown 1981:29). As Peebles and Kus (1977:431) state "The test for ranking is not merely the presence of richly accompanied child or infant burials". Recent

post-processual writings have been the most strident against applying the evolutionary paradigm for inferring social structure from mortuary remains. Ethnographic research is frequently drawn upon to demonstrate that there are often more exceptions than rules for mortuary behavior (Metcalf and Huntington 1991). Attitudes toward death may vary based on cultural meaning, ideas and beliefs. For example, social rankings may exist but not be expressed in burial practices; attitudes toward mortuary display may change over time, and social ranking may be exaggerated, disguised, or denied in death rituals (Hodder 1986; Little et al. 1992; Okley 1979); or the same burial object may have varied meaning and different objects may convey the same meaning to different subgroups of the population (Pader 1982). Hodder (1992:12) has stated that "... material culture is constituted within frameworks of conceptual meaning." These frameworks are often culture specific and require consideration of indigenous perceptions. Material culture is a subjective way of viewing social relations (Hodder 1986:56). Moreover, these perceptions are filtered thorough the background and biases of the archaeologist.

Our analysis employs the processual model for distinguishing social complexity through mortuary practices with a rigorous examination of the evidence for burial remains from three prominent Natufian sites. The study is multidimensional and considers expenditure and cost of graves and their furnishing, and patterned variation in grave construction, body orientation, interment types, grave goods, age, and sex in interpreting the degree of social differentiation (particularly whether hereditary social inequality exists). Among the lines of evidence we consider to be indicative of ascribed status include the presence of richly adorned burials, that such burials occur in low frequency, that they would cluster together spatially, that grave

goods would include items of rank and symbolism, and that all age groups should be represented. Interpretations are forged with the recognition that they are an outgrowth of preceding processual studies, and influenced by our own perceptions. Moreover, it is also acknowledged that inequality and social complexity during the Natufian need not be expressed through funerary differentiation.

REGIONAL CONTEXT AND THE NATUFIAN BURIAL ASSEMBLAGES

The emergence of settled communities and the domestication of plants and animals is a preeminent topic in archaeology, particularly for Southwest Asia where this development occurs early and in a pristine form. The Natufian cultural complex, dated between 12,800/12,500 BP and 10,500 BP, is preceded by the Geometric Kebaran in the central Levant, and followed by the earliest Neolithic settlements (Bar-Yosef and Belfer-Cohen 1991; Bar-Yosef and Valla 1991; Byrd 1994b; Henry 1989). Temporally, the Natufian is subdivided into three phases—early, late and final—based on radiocarbon dates correlated with changes in settlement and artifact characteristics (Bar-Yosef and Valla 1979; Valla 1987). Owing to its pivotal position prior to the first farming villages of the Neolithic, the Natufian cultural complex has been the focus of considerable archaeological research aimed at clarifying the causes, conditions and timing of this transition (Garrod 1958; Bar-Yosef and Valla 1991; Belfer-Cohen 1991a; Byrd 1989; Henry 1989). Over the years a variety of opinions have been offered regarding whether or not the Natufian were sedentary, and whether agriculture was practiced. Presently, the prevailing point of view is that the Natufian cultural complex represented intensive hunter-gatherers occupying key base camps for extended

periods of time each year (e.g., Bar-Yosef 1983; Byrd 1994a; Moore 1982; Perrot 1966).

Regardless of the precise interpretation of Natufian subsistence and mobility, there is widespread agreement that the Natufian of the terminal Pleistocene was unique and differed substantially from earlier, more mobile hunter-gatherer adaptations. Indeed, the definition of the Natufian includes a variety of traits that appear simultaneously for the first time including larger sites, thicker occupation deposits, considerable evidence of architecture, extensive bone tool industry, art work, and cemeteries (Bar-Yosef and Belfer-Cohen 1991; Bar-Yosef and Valla 1991; Byrd 1989). The geographical distribution of specific traits varies considerably, causing disagreement as to the assignment of particular sites to the Natufian; however, it is clear that the coastal areas and the Mediterranean forest and wet steppe on both sides of the Rift system in the south-central Levant were within the regional territory of the Natufian.

Modifications in social structure and social differentiation are predicted, given the degree and character of change discernible at Natufian settlements. On-site interment is one of the most prominent changes in social behavior at Natufian sites. The frequency, patterning, and dating of these burials indicate they are the earliest cemeteries in Southwest Asia. Over 400 intentional burials have been recovered from Natufian sites (Belfer-Cohen 1991a; Belfer-Cohen et al. 1991; Henry 1989; Hershkovitz and Gopher 1990). The majority are from a series of extensively excavated sites (including El-Wad, Ain Mallaha, Hayonim, Nahal Oren, and Shukbah) in the Mediterranean forest and coastal area of the west-central Levant. Smaller numbers of contemporaneous burials have been recovered from other sites including Azraq 18, Erq el-Ahmar, Hatoula, Kebarah,

Rakefet, and Wadi Hammeh 27 (Arensberg 1985; Fiedel 1979:111; Garrard 1991; Edwards 1991; Neuville 1951). Given the paucity of burials recovered from earlier Epi-Paleolithic sites in the Levant, the sudden onset of burying large numbers of individuals on-site suggests changes in pre-historic Levantine social organization and after-life rituals (Bar-Yosef and Belfer-Cohen 1989; Belfer-Cohen 1989).

This study focuses on the burial assemblages recovered from excavations at three sites—Ain Mallaha, Hayonim Cave and El-Wad—situated within 75 km of each other in the west-central Levant (Fig. 1). These three sites were chosen since they are the only large burial assemblages that have been fully published (Garrod and Bate 1937; Belfer-Cohen 1988a, 1988b; Bar-Yosef

1991; Perrot and Ladiray 1988). The level of reporting, however, varies considerably with the earlier El-Wad publication being considerably less detailed. Given this situation, we have focused more attention on the results from Ain Mallaha and Hayonim Cave, and treat the earlier observations and interpretations from El-Wad with much more caution.

Overlooking the Mediterranean Sea, El-Wad is one of a series of important prehistoric sites situated in Mount Carmel. The early excavations at the site by Dorothy Garrod identified seven major stratigraphic units (A-G) dating from the Middle Paleolithic to the Bronze Age (Garrod and Bate 1937; Garrod 1958). The Natufian occupation of El-Wad is situated in the cave and on the terrace and includes thick

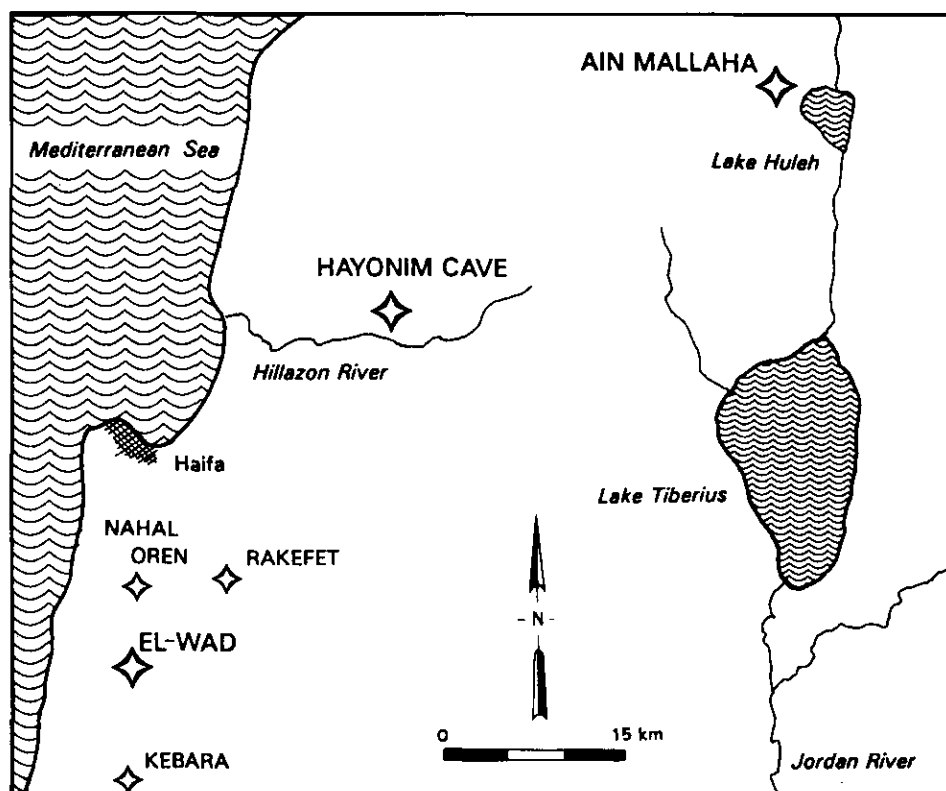


FIG. 1. Location of the three Natufian sites under consideration along with nearby Natufian sites.

occupation deposits, a series of walls and pavements, and stone basins cut into the bedrock on the terrace. Extensive early Natufian (B-2) and a late Natufian (B-1) occupation phases were discernible, and more dates on museum bone samples confirm the broad distinction between phases: B-2 Cave $11,920 \pm 660$ BP; B-2 Terrace $11,475 \pm 650$ BP; B-1 9765 ± 600 BP, all from the UCLA lab (Bar-Yosef 1981). Recent fieldwork has broadened the time range of occupation indicating the possibility of occupation very early in the Natufian and also during the final Natufian: $12,950 \pm 200$ BP (RT-1368); $12,650 \pm 110$ BP (Pta-5435); $10,740 \pm 200$ BP (Pta-1367) (Valla et al. 1986; Weinstein-Evron 1991). The precise number of individuals recovered from El-Wad is unclear: no total is given in the final report; Wright (1978:204) states there were 62 skeletons; and recently Hershkovitz and Gopher (1990:12) and Belfer-Cohen et al. (1991:413) list the total at 97 and 96, respectively. The latter tally includes 17 children (age 0–12), 42 individuals between the ages of 13 and 35, four adults over age 35, and 33 adults of indeterminate age (Belfer-Cohen et al. 1991:413–414). The adolescents and adults are comprised of 45 males, 12 females and 22 of unknown sex.

Only 45 individuals were considered sufficiently intact to be described in the final El-Wad monograph (Garrod and Bate 1937:13–19), and these are the focus of Wright's and our study. Moreover, only the most prominent skeletons in certain grave groups are described in sufficient detail to allow for rigorous analysis. There are also inconsistencies in the reporting of burial information between Garrod and Bate's (1937) monograph and Wright's (1978:208, Table 9.1) study. Where there are contradictions, we follow the original report (for example, burial 28 is wearing a headdress of gazelle phalanges and not dentalium as stated by Wright 1978:Table 9.1). Four additional assumptions of

Wright's are not followed: (1) when only one grave within a group grave was described by Garrod and Bate, then all the additional skeletons within this group were assumed to have the same body position and interment type (Wright 1978:Table 9.1); (2) when only one skeleton within a group grave was discussed by Garrod and Bates, then the remainder were interpreted as too fragmentary and hence were secondary burials (Wright 1978:207); (3) that all the artifacts within burial pits or nearby (including underlying hearths) reported by Garrod and Bate (1937) represent intentionally interred grave goods; (4) that Group grave 1 of B-2 in the cave is contemporaneous with the group graves on the terrace (Garrod and Bate [1937:19] interpret this grave as being later in date).

The 45 described burials from El-Wad include 34 from the early Natufian B-2, 3 from the late Natufian B-1, and 8 that are indeterminate or intermediate in age (Table 1). The early Natufian burials included six group burials and two single interments, while the latter two categories consist entirely of single interments.

The site of Hayonim Cave is situated in the foothills some 40 km inland and north-east of El-Wad (Fig. 1). Five primary occupation units (A-E) are recognized dating from the Middle Paleolithic into the Byzantine period (Bar-Yosef and Tchernov 1966). Early to late Natufian occupation with associated burials is documented by separate excavation projects on the terrace (Henry et al. 1981; Valla et al. 1991) and within the cave itself (Bar-Yosef 1991), although undoubtedly the two areas represent one prehistoric settlement. This study focuses on the burial samples from the fully published excavations by Ofer Bar-Yosef within the cave. In this area, the Natufian layer (B) is subdivided into five phases (I–V with I the oldest) and is associated with a series of stone structures (Bar-Yosef 1991; Bar-Yosef and Tchernov

1966). Two dates obtained from the earliest phase are $12,360 \pm 160$ BP (OxA-742) and $12,010 \pm 180$ BP (OxA-743).

The Hayonim Cave sample consists of at least 48 burials, 26 from phases I–II, 3 from phase III, 18 from phases IV–V, and one indeterminate from 16 grave features (Belfer-Cohen 1988a, 1988b) (Table 1).^{1*} This burial sample is comprised of 14 children (including 2 fetuses), 11 young adults, and 23 adults (Belfer-Cohen 1988b: 299). The adults and one young adult include 20 males and 6 females. More burials existed initially but were destroyed by a series of post-depositional processes. Hayonim Cave burials are typically situated away from contemporaneous structures.

The open-air Natufian site of Ain Mallaha lies in the Huleh Basin of the upper Jordan Valley, less than 20 km northeast of Hayonim Cave (Fig. 1). This extensive site contains thick occupation deposits and substantial stone architecture in the form of round domestic structures, and has been interpreted as a permanent Natufian settlement (Perrot 1966:477). The excavations by Jean Perrot have identified four geological units (Beds I–IV, with IV the oldest), with four Natufian occupation phases termed *Ancienne* (Early), *Moyenne* (Middle), *Recente* (Late), and *Finale* (Final). These occupation phases span a considerable period of time from the early Natufian into the final Natufian (Perrot and Ladiray 1988; Valla 1991). Radiocarbon dates include $11,310 \pm 880$ (Ly-1661) and $11,740 \pm 570$ (Ly-1661) from Level III, and $11,590 \pm 540$ (Ly-1600) from Level IV.

The remains of 105 individuals were recovered (Belfer-Cohen et al. 1991:412), and 93 individuals from 55 grave features are reported in detail in the final publication (Perrot and Ladiray 1988:9–11). Although superimposed through several building

and occupation phases, the graves were not dug into occupied house floors, but were excavated after abandonment of the structures (Perrot and Ladiray 1988; yet see Valla 1981).

The Ain Mallaha burial sample reported by Perrot consists of 93 individuals with 27 from Ain Mallaha Early, 8 from Ain Mallaha Middle, 36 from Ain Mallaha Late, and 22 from Ain Mallaha Final.² These include 17 children, 21 young adults, 47 adults and 8 indeterminate. This sample includes 18 males and 17 females (see also Belfer-Cohen et al. 1991 and Herskovitz and Gopher 1990).

This study examines 186 Natufian burials from these three sites (comprising 9 main occupation horizons) that are reported in sufficient detail to be analyzed. These include 93 individuals from four occupation horizons at Ain Mallaha (Early, Middle, Late and Final), 48 individuals from three occupation horizons at Hayonim Cave (phase I–II, III, and IV–V), and 45 individuals from two occupation horizons and indeterminate/intermediate contexts at El-Wad (B-1 and B-2). These burial assemblages cover most of the occupation span of the Natufian from the early phase, through the late phase and into the final Natufian. Although the precise duration of each occupation horizon is difficult to determine with certainty, the chronological resolution is fine enough to conduct analysis of diachronic change on the intra-site and inter-site level. A major focus of the analysis entails contrasting the 87 burials from the early Natufian occupation horizons (Ain Mallaha Early, Hayonim Cave I–II, and El-Wad B-2) with the 90 burials from the subsequent Natufian occupation horizons (Ain Mallaha Middle, Late, and Final, Hayonim Cave III and IV–V, and El-Wad B-1).

METHODOLOGY

Archaeology frequently suffers from the

* See Notes section at end of paper for all footnotes.

TABLE 1
Natufian Burial Sample Summary by Stratigraphic Unit

Graves	Ind ^a	Age ^b	Sex	Burial type and comments	Catalog numbers
Ain Mallaha Early (<i>n</i> = 27)					
Cemetery A	11	6 a, 4 ya, 1 c	1 f, 4 m	Graveyard of single-primary burials	6a, 6b, 8, 16, 17, 18, 19, 20, 21, 22, 23
Cemetery B	12	6 a, 2 ya, 4 c	5 f, 3 m	Graveyard of single-primary burials	87-93, 95, 97, 98, 104, 105
Single burials	4	2 a, 2 c	1 m	Isolated single-primary burials	2, 43, 96, 102
Ain Mallaha Middle (<i>n</i> = 8)					
Grave 1	2	2 a	2 m	Associated sing-prim burials in house fill	15, 37
Grave 26	2	2 ya	?	Associated sing-prim burials in house fill	64, 70
Grave 62	4	3 a, 1 ya	2 m	Associated sing-prim burials in house fill	80, 81, 82, 83
Ain Mallaha Late (<i>n</i> = 36)					
Grave 18	2	1 a, 1 ya	1 m	Group-primary; 2 burial episodes	34, 35
Grave 21	2	1 a	1 f	Group-primary; 21 burial episode	50, 60
Grave 23	2	1 a, 1 ya	1 f	Group-primary; 22 burial episodes	52, 58
Grave 64	2	?	?	Group-primary; 21 burial episodes	78, 79
Grave 9	8	2 a, 2 ya, 4 c	1 f	Group-secondary; 2 burial episodes	24, 28, 29, 30, 32, 33, 2 no number
Grave 10	5	4 a, 1 c	1 f, 1 m	Group-secondary; 1 burial episode	1, 25, 26, 27, 31
Grave 20	4	2 ya, 2 c	1 f	Group-secondary; 1 burial episode	55, 56, 57, 59
Grave 24	4	1 a, 2 ya, 1 c	1 f	Group-second (#68, 69) and -indet	67, 68, 69, 71
Group	2	1 a, 1 ya	?	Group-primary (#10) and -indet (#11)	10, 11
Single/indet	5	2 a, 1 c	?	Isolated single or indeterminate burials	13, 53, 54, 72, 86
Ain Mallaha Final (<i>n</i> = 22)					
Single burials	14	10 a, 4 ya	5 f, 4 m	Isolated sing-prim & sing-second burials	4, 5, 7, 9, 12, 51, 61-63, 66, 77, 84, 101, 103
Single/indet	8	4 a, 1 c	?	Indeterminate single burials	14, 36, 38, 65, 75, 85, 99, 100
Hayonim Cave I-II (<i>n</i> = 26)					
Grave 1	2	2 a	1 f, 1 m	Group-prim (#1) & -second (#2); 1 burial	1, 2
Grave 2	1	1 c	?	Indeterminate; badly eroded	3
Grave 4	2	2 a	1 f, 1 m	Group-secondary	5, 5a
Grave 6a	6	1 a, 1 ya, 4 c	1 m	Group-primary; 21 burial episode	12, 15, 16, 21, 22, 23
Grave 7	4	2 ya, 2 c	1 f, 1 m	Group-primary; 1 burial episode	9, 11, 13, 13a

Grave 8	6	1 a, 2 ya, 3 c	3 m	Group-prim & -second (#14, 17a, 24)	14, 17, 17a, 18, 19, 24
Grave 9	4	3 a, 1 ya	3 m	Group-primary; 2 burial episodes	20, 25, 26, 27
Grave 13	1	1 ya	1 m	Isolated single-primary burial	33
Hayonim Cave III (n = 3)					
Grave 3	3	1 a, 1 ya, 1 c	1 m	Group-prim (#4) & -second; ?1 burial	4, 4a, 4b
Hayonim Cave IV-V (n = 18)					
Grave 5	3	3 a	2 m	Group-secondary; ?1 burial episode	6, 7, 7a
Grave 6b	2	1 a, 1 y	1 f, 1 m	Group-primary; 1 burial episode	8, 10
Grave 10	1	1 a	1 m	Isolated single-primary burial	28
Grave 11	3	1 a, 2 ya	1 f, 1 m	Group-prim (#29) & -second; ?1 burial	29, 29a, 30
Grave 12	3	2 a, 1 c	2 m	Group-secondary; ?1 burial episode	32, 34, 35
Grave 14	4	3 a, 1 c	?	Group-secondary; ?1 burial episode	36, 36a, 36b, 36c
Grave 15	1	1 a	1 f	Isolated single-primary burial	37
Grave 16	1	1 a	1 m	Isolated single-primary burial	39
Hayonim Cave Indet (n = 1)					
Grave 6	1	1 c	?	Group-indet (probably primary)	23a
El-Wad B-2 (n = 34)					
Group 1	10	3 a, 1 ya, 6 c	1 f, 3 m	Group-primary; ?multiple burial episodes	1, 2, 3, 4, 5, 6, 7, 8, 9, 10
Group 2	2	?	?	Group-?primary	41, 43
Group 3	3	2 a, 1 c	1 m	Group-indet	23, 23a, 23b
Group 4	5	1 a	1 m	Group-indet	25, 25a, 25b, 25c, 26
Group 5	5	1 c	?	Group-indet	28, 28a, 28b, 28c, 28d
Group 6	7	?	?	Group-indet	57, 57a, 57b, 57c, 57d, 57e, 57f
Single burials	2	2 a	1 f, 1 m	Isolated single-primary burials	15, 56
El-Wad B-1 (n = 3)					
Single burials	3	3 a	2 f	Isolated single-primary burials	17, 21, 27
El-Wad Indet (n = 8)					
Single burials	8	6 a, 2 c	2 f, 2 m	Isolated single-primary burials	12, 13a, 13b', 18, 19, 59, 60, 62
Totals	186	86 a, 34 ya, 40 c	29 f, 46 m		

^a Ind = number of individuals.

^b a, adult; ya, young adult; c, child or infant.

^c El Wad report has two number 13s.

lack of a standardized, consistent body of terminology. In this section, we define the four burial variables used in this analysis and discuss their characteristics and range of variation in the Natufian. These variables include interment type, grave construction, body orientation, and grave goods.

Interment Type

Interment type is defined as the product of two variables which broadly define four types of Natufian burials. The first variable refers to the number of individuals in a grave feature and is defined as single or group (two or more individuals) burial. The second variable refers to skeletal completeness and articulation, and is defined as either primary (relatively complete and articulated) or secondary (relatively incomplete and disarticulated) (note that classification of secondary burial varies considerably between scholars [Hershkovitz and Gopher 1990:18–19]). These variables combine to form four basic interment types: single-primary, single-secondary, group-primary, and group-secondary. Although all types are represented in the Natufian, investigators have recognized for some time that earlier interments are predominantly group while later interments are mostly single (Bar-Yosef and Goren 1973; Henry 1983; Wright 1978). We take the analysis a step further by integrating the primary–secondary distinction and discussing more complex trends.

There is also a fifth interment type of which there is one example (from Ain Mallaha Early). This consists of multiple primary burials of single individuals in distinct, juxtaposed pits (much like a modern cemetery), and this is called a “group graveyard” in this analysis. A distinct term is assigned to differentiate it from other group burials and single-primary burials which are not found in cemetery-like spatial patterns but are more broadly distrib-

uted. We will illustrate that this example is distinct in form and meaning from other Natufian interment types, particularly because it occurs in early Natufian context where single burials are infrequent.

Grave Construction

Grave construction is defined as the product of the structural components which constitute the burial pit, a reflection of the time and energy expended in preparing the burial. Natufian grave construction varies from simple, unmodified earthen pits to more elaborate pits with stone-linings, stone marker circles around the top, and large stone cobbles, blocks, or slabs placed on or near the deceased (Fiedel 1979:111; Belfer-Cohen 1988b). These features vary independently so that any number of combinations (or the complete lack of features) can occur. Differential time and energy involved in grave construction at each site is discussed in the analysis of intra-assemblage variation in burial treatment. We consider changing patterns of grave construction in terms of both ideological and socioeconomic change in the analysis of temporal trends in burial treatment.

Body Orientation

Body orientation is defined as the product of two independent variables, the positioning of the body and the placement of the body in the grave. The most common Natufian body positions are flexed, semi-flexed (or loosely flexed), and extended. Body placement refers to whether the individual rests on its back, side, or face-down. Thus, with a few exceptions, there are three body positions and three body placements, amounting to a total of nine possible combinations (e.g., flexed-back, semi-flexed-back, extended-back, and so forth). Luckily, not all of these are represented in our sample and certain combinations are far more common than others.

Rare instances of exceptional body orientation include an example or two of individuals in a seated position.

Several examples of patterned differences in body orientation between contemporaneous Natufian burial groups require explanation. Contrasting intra-assemblage patterns are commonly interpreted from a cultural perspective such that variation is viewed as reflecting differences in group identity. We examine the evidence of subgrouping on the intra-community level using patterned body position data.

Grave Goods

Grave goods are defined as artifacts recovered in burial context that are not part of the grave construction (i.e. stone slabs, cobbles, blocks, etc.). Some researchers (e.g., Wright 1978) use the term "grave furniture" to refer to both grave goods (i.e. personal ornamentation) and grave construction features (i.e. limestone blocks). We separate the two, however, because they appear to occur independently and also have potentially different meanings and symbolism. It is important to keep in mind that the record is biased against perishable grave goods—they may well have been present but no traces have been recovered from Natufian sites. In addition, there is the problem of interpreting whether objects within the burial pit are directly associated with the burial as grave goods or represent part of the fill of the pit. This is particularly difficult for Natufian sites, since most pits are cut into cultural deposits and the fill is typically rich in trash. We adopt a relatively narrow definition of grave goods. Unless an object is complete and in direct contact with the burial, it is generally considered not to be associated.

Natufian grave goods are dominated by objects of personal ornamentation and include dentalium shell beads, a variety of bone beads and pendants, perforated

teeth, and several unique items (Fiedel 1979; Belfer-Cohen 1988b). The dentalium, bone beads, bone pendants, and perforated teeth are found in all three sites and other early Natufian burial assemblages as well. These items represent the non-perishable aspect of Natufian mortuary goods and have been interpreted as representing prestige or status-laden goods (Wright 1978; Henry 1989). We discuss several aspects of these purported prestige goods. We consider their nature and relative frequency, their distribution by age and sex, and their spatial and temporal distribution.

Ideally, grave goods can be categorized according to their primary systemic function such as utilitarian, ritual, or ornamental (recognizing that objects can serve multiple functions). In practice, this determination is not always self-evident and the investigator must at times make an educated guess. An object's primary systemic function provides insight into the relationship between the grave good and the rest of the material culture, and this can lead to intuitive interpretations and generate additional ideas for testing. We explore the relative values of these grave goods, and develop a simple grave good typology which considers the interaction of two costs: raw material acquisition and production technique (following Kenoyer 1991 and Peregrine 1991). Raw material acquisition takes into account such factors as extraction costs, transportation costs and availability of a resource. Production technique entails both the relative level of skill required to produce an object, and the amount of time and energy needed. Using these variables, we generate a four-fold cost classification to assist in our interpretation of grave goods patterning (see Table 6).

Robust interpretation of the context of grave goods within burials requires consideration of the formation processes that contribute to the archaeological record

(e.g., Schiffer 1987). Interpreting whether objects in the fill of Natufian graves were intentionally interred with the burials is often quite difficult, since grave pits were typically dug into earlier occupation deposits and their fill can then contain extensive occupation debris. Later disturbances—notably the reopening of group graves to inter another individual, later construction activities, and bioturbation—further damage contextual associations. Generally, a single bead or other artifact recovered within the fill of a grave pit cannot be considered a priori associated with an interment (particularly since these artifacts are found in other contexts as well).

RESULTS

The results are presented in two parts. First, intra-assemblage variation and patterning with respect to interment type, grave construction, body orientation and grave goods are presented. Intra-assemblage data are derived from individual occupation horizons at each site, and are interpreted as reflecting intra-community variation and patterning in the burial treatment of individuals during the time span in question. Possible correlations between these variables and the sex and age of individuals are also discussed. These results are then used to address the question of incipient social inequality and social complexity. Second, change through time in burial treatment with respect to these four main variables is discussed. These temporal trends are interpreted with respect to changes in Natufian social structure, lifeways and ideology from early to late Natufian times.

Intra-assemblage Burial Variation and Patterning

There are six stratigraphic units from the three sites that contain a significant number of contemporaneous burials (more

than 15 burials per occupation horizon) suitable for synchronic intra-site analysis. These include the initial early Natufian occupation horizons of Ain Mallaha Early (27), Hayonim Cave I-II (26), and El-Wad B-2 (34), and the later Natufian occupation horizons of Ain Mallaha Late (36), Ain Mallaha Final (22), and Hayonim Cave IV-V (18) (Table 1). This sample accounts for 88% of the total burial sample under consideration (163 of 186 individuals). Burials from other contexts for which there are fewer individuals, eight or less (12% of the total), are not as rigorously examined (they will, however, be referred to on occasion). Grave groups are abbreviated by the letter "G."

Interment type. Table 2 summarizes interment type data for all the occupation horizons. The vast majority of individuals in each occupation horizon were interred in group graves (80.1%) rather than single graves (19.9%). Some single burials, however, are present in every occupation horizon. Ain Mallaha Final and El-Wad B-1 are the only occupation horizons where single interments dominate (plus all eight El-Wad indeterminates are single burials). Primary graves are twice as frequent as secondary graves (52.2% versus 22.6%). Intra-assemblage variation at any given site with respect to interment types is minimal and there are only a few instances of markedly different interments (usually single graves). There are distinct differences between occupation horizons, particularly related to the group burial theme. As will be discussed later, group-primary burials dominate earlier occupation horizons, while group-secondary burials are more common in later occupation horizons. The 23 individuals from Cemeteries A and B from Ain Mallaha Early are classified as group-graveyard burials, a distinctive interment type analogous to a modern cemetery with multiple individuals buried in distinct pits in close spatial association, presumably over some period

TABLE 2
Natufian Burial Interment type by Occupation Horizon

Occupation horizon	S-P	S-S	S-?	G-P	G-S	G-G	G-?	Ind.	Total
Ain Mallaha Early	3	0	0	0	0	23 ^a	0	1	27
Ain Mallaha Middle	0	0	0	8 ^b	0	0	0	0	8
Ain Mallaha Late	0	0	0	9	19	0	3	5	36
Ain Mallaha Final	6	1	7	0	0	0	0	8	22
Hayonim Cave I-II	1	0	0	17	6	0	1	1	26
Hayonim Cave III	0	0	0	1	2	0	0	0	3
Hayonim Cave IV-V	3	0	0	3	12	0	0	0	18
Hayonim Cave Ind.	0	0	0	0	0	0	1	0	1
El-Wad B-2	0	2	0	12	0	0	20	0	34
El-Wad B-1	3	0	0	0	0	0	0	0	3
El-Wad Ind.	8	0	0	0	0	0	0	0	8
Total	24	3	7	50	39	23	25	15	186

Note. S-P, single primary; S-S, single secondary; S-?, single indeterminate; G-P, group primary; G-S, group secondary; G-G, group graveyard; G-?, group indeterminate; Ind., indeterminate for both variables.

^a Two cemeteries of 11 and 12 individuals.

^b Three sets of closely associated burials in house fill.

of time rather than all at once (Fig. 2). We consider these group-graveyard burials to be most similar to group-primary burials, and often combine them with other group burial types when contrasting group and single burials.

When the details of individual group burials are examined, it is clear that there are no standardized practices (see Table 1). For example, there are group-primary burials consisting of multiple individuals probably buried in a single episode (Ain Mallaha Late G21 and G64; Hayonim Cave I-II G7; and Hayonim Cave IV-V G6b) as well as graves which were probably reopened to admit other primary burials (Ain Mallaha Late G18; El-Wad B-2 G1; and Hayonim Cave I-II G9). It is not apparent that group-secondary burials were reopened to admit additional individuals (Hayonim Cave I-II G4, Hayonim Cave IV-V G5 & G14; Ain Mallaha Late G10 and G20). Finally, there are a number of group interments which contain both primary and secondary remains, and the number of burial episodes may vary (Hayonim Cave I-II G1 and G8; Hayonim Cave IV-V G3).

The composition of group burials varies

considerably with no evidence of age or sex restriction. The most common age composition of group graves is a mixed group where individuals of all ages, including infants, occur together (e.g., Ain Mallaha Late G9, G10, G20 and G24; Hayonim Cave I-II G6a, G7, and G8; Hayonim Cave III G3; Hayonim Cave IV-V G12, G14; and many of the graves at El-Wad B-2) (Figs. 3 and 4). Also, several group graves contain both sexes, where they can be determined (Ain Mallaha Late G10; Hayonim Cave I-II G1, G4, G7; Hayonim Cave IV-V G6b, G11; and El-Wad B-2 G1). Cemeteries A and B of Ain Mallaha Early both contain infants, children, adolescents and adults of both sexes. Another common type of group grave (both primary and secondary) consists of two individuals, most often one adult male and one adult female that may represent a paired couple (Hayonim Cave IV-V G1, G4 and G6a; Ain Mallaha Late G18).

If higher status individuals were buried in a distinctive manner, then atypical interment examples within one occupation horizon may be high status burials. With respect to interment type, single-primary burials are atypical at all occupation hori-

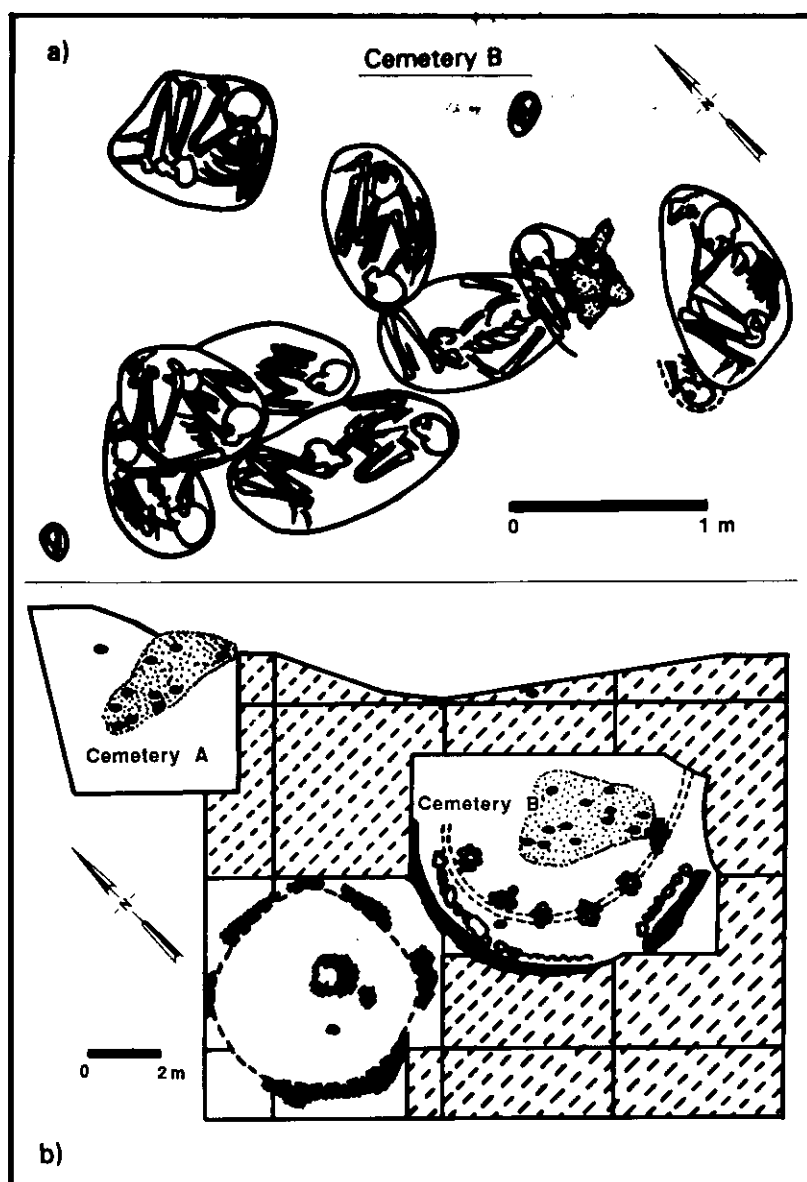


FIG. 2. Group graveyards of Ain Mallaha Early showing (a) close-up of single primary burials in close spatial association within Cemetery B; (b) relationship of Cemetery A and B (burials represented by ovals) (after Perrot and Ladiray 1988:14,24).

zons except Ain Mallaha Final, El-Wad B-1 and El-Wad Indeterminate where only single interments are present (Table 2). There is no statistical correlation between atypical interment types and higher occurrences of grave goods. When the occupation horizons without group burials are ex-

cluded, individuals interred with grave goods occur in only slightly higher frequencies in single burials (22.2%, 2 of 9) than in group burials (14.6%, 20 of 137). The former does include a young male adult with the highest frequency of grave goods from Hayonim Cave I-II (#33, G13),

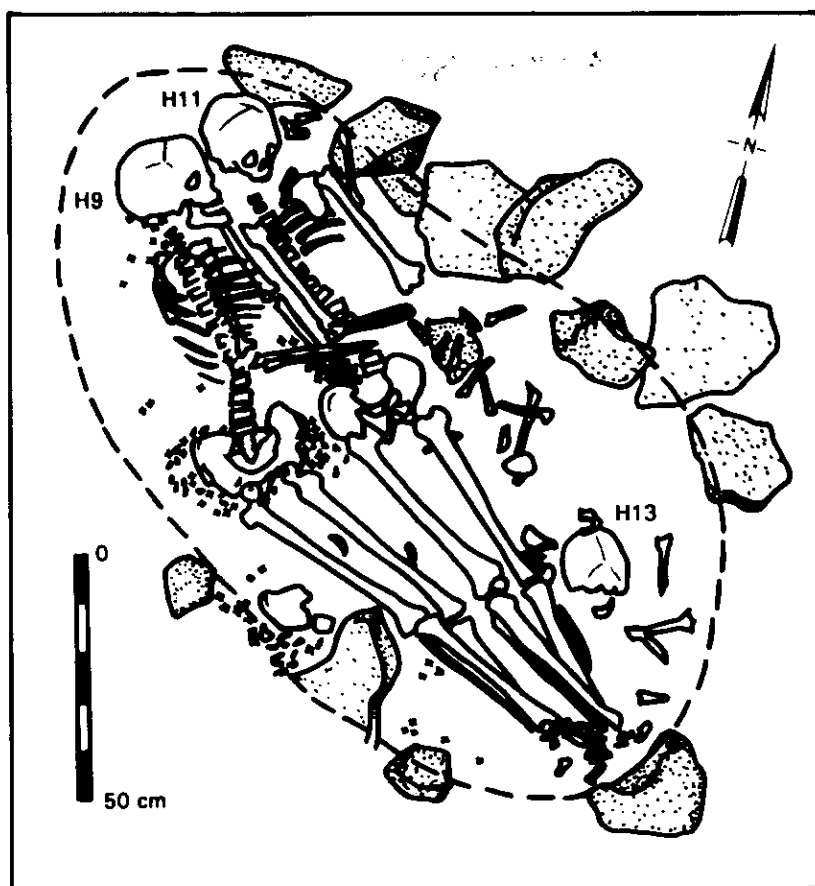


FIG. 3. Hayonim Cave I-II Grave 7 showing a group-primary grave of four individuals: a young adult female with grave goods including a necklace, belt, and bracelet or two of dentalium and bone pendants (H-9), a young adult male without grave goods (H-11), a young child (H-13), and a fetus (not shown) (after Belfer-Cohen 1988a: Fig. VI-I).

and an infant with high quantities of dentalium from Ain Mallaha Early (#43). Thus, status distinctions are not clearly discernible with respect to interment types.

In summary, the relative diversity in interment patterns from site to site suggest that a standardized regional interment tradition did not exist. Natufian group burials exhibit wide age and sex profiles, and they either represent different groups of closely related individuals (from the same descent group or extended family), or all individuals from the community that died within a certain time frame (and thus the group

graves were sequentially utilized). Based on several lines of evidence (most to be presented later), we argue that individuals from one group burial were related. Therefore, a major source of interment variability is due to the differences in the life/death history of individuals from particular family or descent groups. The degree of annual mobility and an individual's location at the time of death also may have been a significant factor affecting the character of group burials, particularly with regards to the number of secondary burials present. Of course, it is conceivable that these different group graves do not represent par-

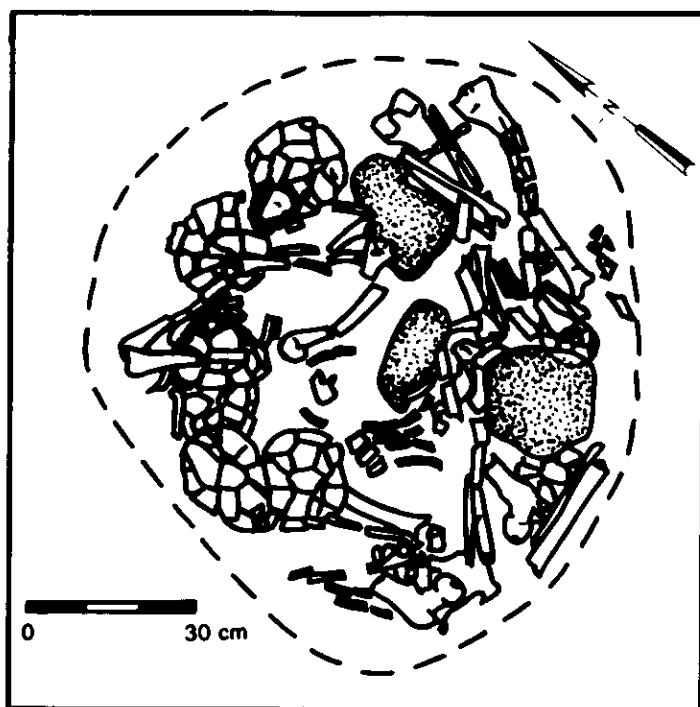


FIG. 4. Ain Mallaha Late Grave 9 showing a group-secondary burial of eight individuals. Note semicircle of crania and stone cobbles (stippled) in grave fill (after Perrot and Ladiray 1988:57).

ticular kin-groups within a community, but rather only one grave was used at any one time for the entire community.

Grave construction. Grave construction is a reflection of the total time and energy expended in preparing the burial pit. Thus, it is possible to distinguish more elaborate from more simple grave construction and arrange these along a continuum of time and energy input. The difficulty is in deciding how much variability reflects a significant difference in the status of the deceased. One simple measure is a comparison of the number of elaborate to simple graves. If elaborate graves do represent higher status, then there should be far fewer examples of this treatment (Peebles and Kus 1977).

Table 3 summarizes Natufian grave construction by occupation horizon. An effort was made to explicitly portray the range of variability in grave construction. It should be recognized that the later and more care-

ful excavations of Ofer Bar-Yosef provide more detail than the earlier excavations by Dorothy Garrod, and these difference effect our interpretations. The majority of individuals for which grave construction can be determined (95 of 153, 62.1%) are buried in simple, unmodified pits with no additional grave elaboration. If one includes individuals from burials with one additional component (large stone cobbles/blocks or stone slabs on the skeleton), then relatively simple grave construction characterizes 92.2% (141 of 153) of the sample. Hence, most burials lack significant grave elaboration. Patterning in these relatively simple burials is discernible between occupation horizons, however, with large blocks and cobbles common at Ain Mallaha Late and El-Wad B-2, and stone slabs frequent at Ain Mallaha Late.

Ten individuals from Hayonim Cave are interred in four more elaborate graves (I-II G1 and G4; IV-V G11 and G5). Eight indi-

TABLE 3
Natufian Burial Grave Construction Features by Occupation Horizon

Grave construction features	AM-E	AM-M	AM-L	AM-F	HI-II	H-III	HIV-V	H-?	EW-B2	EW-B1	EW-?	Total
Simple earthen burial pit	18	0	0	6	14 (3)	0	9 (4)	0	22 (7)	0	5	74
Simple earthen burial pit with noncultural stones, cobbles & slabs in fill	3	2	2 (1)	2	7 (2)	0	2 (1)	0	3 (1)	0	0	21
Large cobbles and/or blocks on or around skeleton	2	3	14 (5)	0	0	0	0	0	9 (2)	0	2	30
Stone slab on skeleton	1	1	11 (2)	0	0	3 (1)	0	0	0	1?	1?	18
Stone slab-lined pit, stone slab covering grave feature	0	0	0	0	0	0	6 (2)	0	0	0	0	6
Stone-lined burial pit, stone circle delimiting pit	0	0	0	0	2 (1)	0	0	0	0	0	0	2
Stone slab, stone-lined pit, stone-circle marker, head on stone pile	0	0	0	0	2 (1)	0	0	0	0	0	0	2
Indeterminate	3	2	9	14	1	0	1	1	0	2	0	33
Total	27	8	36	22	26	3	18	1	34	3	8	186

Note. Totals for each category refer to the number of individuals in a given grave feature. Numbers in parentheses denote number of graves needed to account for total number of individuals. AM-E, Ain Mallaha Early; AM-M, Ain Mallaha Middle; AM-L, Ain Mallaha Late; AM-F, Ain Mallaha Final; H, Hayonim Cave; EW, El Wad; ?, Indeterminate.

viduals derive from three burial pits with two grave construction features each (combinations of a slab-lined pit, slab covering and stone-lined pit, stone circle marker), and two individuals derive from one pit (G1) with more than two construction features (slab covering, stone-lined pit, stone circle marker, and stone "pillow"). It is worth noting that there are no sex restrictions in these more elaborate features, with males and females buried together in three of the four graves.

If differential status is reflected in more elaborate and labor intensive grave construction, one might expect to observe a higher frequency of grave goods associated with the 10 individuals from these four graves. In fact, the grave goods in these burials are poor or nonexistent. They consist of two objects (a bone pendant and a fox tooth) which are probably intrusive in the two graves from Hayonim Cave IV-V, and nothing in the other two. Grave goods are actually more abundant in other burials. Thus, the relative elaboration of grave construction is not correlated with higher grave good frequency. Since all 10 individuals associated with the more elaborate grave construction are from Hayonim Cave, then this may be either a local pattern where the variability within it distinguishes certain descent groups within the community, or possibly reflects the excavator's skills and criteria.

Thus, grave construction generally entailed a low investment in time and energy. The few more elaborate grave constructions are not correlated with extensive grave goods, and hence high status is not clearly indicated. Of course, it is possible that high status and grave goods are not associated, and therefore the more elaborate graves symbolized higher status individuals. However, we interpret the extant grave construction variability to be the result of two factors: slightly different local traditions in the style of grave construction (particularly the use of stone slabs, cobbles

and blocks on skeletons at Ain Mallaha Late), and differences in interment style between subgroups within the community at Hayonim Cave (based on the presence of some slightly more elaborately constructed burials lacking associated grave goods).

Body orientation. Patterns in body orientation between spatially distinct, contemporaneous burial groups may reflect subgroupings in a given community. However, occupation horizons dominated by secondary burials (Ain Mallaha Late and Hayonim Cave IV-V) do not lend themselves to this kind of analysis because the skeletons are re-interments lacking orientation information and are often scattered and fragmentary. There are three occupation horizons, Ain Mallaha Early, Hayonim Cave I-II and El-Wad B-2, for which we can explore intra-site spatial patterns in body orientation, and each is discussed separately.

Intra-site patterns are discernible at El-Wad B-2, although the data are problematic (body orientations are reported for less than half of the skeletons in layer B-2, and some are ambiguous when available). Garrod and Bate (1937:19) note that more tightly flexed burials are associated with the earliest group burials at El-Wad B-2, (G2-6), while extended (more loosely flexed) burials are associated with subsequent burials (El-Wad B-2 G1, and later single interments). This interpretation is important for subsequent interpretations regarding differences between group graves. Unfortunately, the lack of detailed discussion precludes evaluating the strength of the association.

Cemeteries A and B in Ain Mallaha Early are divided into two spatially distinct groups of 11 and 12 individuals respectively (see Fig. 2) (Perrot and Ladiray 1988: 15-40, Figs. 10-21). Cemetery A individuals for which body orientation can be determined are placed on their backs in flexed or semi-flexed positions with their

legs drawn up on their sides (7 of 11—some are indeterminate). In contrast, cemetery B individuals for which body position can be determined (8 of 12) are generally placed on their sides in semi-flexed or flexed positions. These differences between the two cemeteries may well represent mortuary behavior variations between two descent groups at Ain Mallaha. In terms of potential status differences between the groups, the relatively equal number of individuals from each cemetery and other data (grave goods and grave construction) suggest horizontal rather than vertical social differentiation.

There are similar but more limited trends discernible at Hayonim Cave I-II where 18 primary individuals are buried in four group graves. Group 6 contains seven primary burials, all of which appear to be in flexed positions. Group 7 contains four primary burials with two young adults in extended position and one child in a flexed position. Group 8 contains six individuals (three secondary and three primary) of which two can be positioned, both being semi-flexed. Finally, Group 9 contains four primary burials, two of which are flexed with one extended. Thus, a number of group graves from Hayonim Cave I-II contain primary burials which are internally consistent in terms of body position (with two exceptions). Again, when additional data (grave goods and grave construction) are considered, the apparent differences between the groups in terms of status are insignificant and suggest a more horizontally differentiated community with little detectable vertical differentiation. Thus, the two body orientation samples (Ain Mallaha Early and Hayonim Cave I-II) appear to indicate that community subgroups are a more important factor in determining body orientation. It is plausible that these graves were sequentially utilized by the entire community. If so, then these trends are temporal (and perhaps similar to the tendency noted at El-Wad).

Grave goods. This section examines intra-site patterning in the distribution of grave goods, and the relative cost of grave goods in terms of acquisition and production. We consider only those artifacts that lie adjacent or against a skeleton to be clearly an intentional element of the burial, and this interpretation is congruent with those of Belfer-Cohen (1988a) and Perrot and Ladiray (1988). Garrod and Bate (1937), however, typically considered many artifacts within the burial pit fill (and sometimes artifacts not even within the pit, such as the calcite human carving or hearths that underlie the burial pit) to be associated with the interment.³ Table 4 lists all burials from these three sites with possible grave goods, including those of questionable association, along with our reliability classification. Note that most of the dentalium recovered from Hayonim Cave IV-V graves and some isolated beads from burials in other occupation horizons considered are of uncertain context by the excavators and we do not consider them to be grave goods. Overall, 11.3% (21 of 186) of Natufian burials from these three sites contain clearly associated grave goods (Table 5).⁴ The early Natufian occupation horizons have the highest relative percentages of mortuary remains (22.9%, 20 of 87), while grave goods are rare during the later Natufian (1.1%, 1 of 90). Hence, the following discussion focuses primarily on the early Natufian.

Almost all the grave goods are items of personal ornamentation. Dentalium beads are the most ubiquitous grave goods, along with less frequent occurrences of bone beads, bone pendants and perforated teeth. With the exception of perforated animal teeth, these items are present at all three sites, frequently co-occurring as part of the same ornament or garment. Other well-associated items include gazelle horn cores and red ocher in burials from Ain Mallaha Late, and, a perforated hyena tooth from Hayonim Cave I-II.

TABLE 4
Natufian Burials with Possible Associated Grave Goods for Each Occupation Horizon

	Burial Reference	Description
Ain Mallaha Early		
Ind. adult	Cemetery A, #6A	At least 25 dentalium beads along with perforated gazelle phalanges as a probable necklace
Young ind. adult	Cemetery A, #6B	At least 10 dentalium beads, some perforated, as a bracelet
Female adult	Cemetery A, #19	At least 25 dentalium beads as headbands and in chest area
Male adult	Cemetery A, #23	At least 8 dentalium beads along with perforated gazelle phalanges and other perforated shells as a necklace
Infant	Single burial, #43	At least 70 dentalium beads in a waist band and necklace
Male adult	Cemetery B, #87	At least 35 dentalium beads in necklace and 2 bracelets
Child ~6	Cemetery B, #88	At least 75 long and short dentalium beads in a necklace
Male ~25	Cemetery B, #89	At least 25 dentalium beads in a necklace
Female adult	Cemetery B, #90	6 dentalium beads loose
Female ~25	Cemetery B, #91	At least 45 long and short dentalium beads as a headband, belt, necklace, and 2 bracelets; other, round beads
Female, elderly	Cemetery B, #104	Young (4–6 month) wolf/dog burial adjacent to head
Ain Mallahan Late		
Female adult	Group grave 10, #25	Gazelle horn cores on head
**Group of 5	Group grave 10	2 gazelle horn cores in fill of burial pit, red ochre in northern portion of pit
**Group of 4	Group grave 9	Red ochre in center of pit
Hayonim Cave I-II		
Female ~16–19	Group grave 7, #9	182 dentalium beads and 1 perforated hyena tooth as a necklace, along with 52 bone pendants as a belt and bracelet (or 2)
Male 20–25	Group grave 8, #17	155/164 dentalium beads, decorated garment?
Male 25	Group grave 9, #25	20 partridge tibia-tarsus beads as bracelet
Male <25	Single burial #33 (G13)	365 dentalium beads as chest garment/necklace, a belt and armband of 28 perforated fox teeth, and a bone spatula under right humerus
*Group of 7	Group grave 6a	103 dentalium beads and 8 bone pendants loose in fill
***Child ~4	Single burial #3 (G2)	1 perforated fox tooth
***Group of 2	Group grave 4	1 perforated fox tooth in general area
***Group of 10	Group grave 8/9	2 dentalium beads and 2 bone pendants loose in fill
Hayonim Cave III		
*Group of 3	Group grave 3	17 dentalium beads, 2 partridge tibia-tarsus beads in general area
Hayonim Cave IV-V		
**Male 35–45	Single burial #39 (G16)	12 dentalium beads and 1 bone pendant in fill
***Group of 3	Group grave 5	2 dentalium beads
***Male adult	Single burial #28 (G10)	2 dentalium beads and 1 boar tusk loose in fill
***Group of 3	Group grave 11	1 broken bone pendant
***Group of 3	Group grave 12	1 dentalium bead loose in fill
***Group of 4	Group grave 14	4 dentalium beads loose in fill
***Female of 45–50	Single burial #37 (G15)	2 dentalium beads loose in fill
El Wad B-2		
Adult?	Group grave 2, #41	Indeterminate number of dentalium beads and tibia-tarsus bird bone pendants as headdress, dentalium beads in fans as right armband (18) and right legband
Male adult	Group grave 3, #23	At least 100 dentalium beads and 1 bone pendant as headdress, necklace of 25 dentalium beads and 50 twin bone pendants, legband of 8 rows of dentalium beads
Male? adult	Group grave 4, #25	Unspecified number of dentalium beads in seven row headband (at least 100)
Adult	Group grave 6, #57a	At least 75 dentalium beads and at least 6 tibia-tarsus bone pendants in headdress, 37 twin bone pendants and 6 phalange beads as necklace
Young child	Group grave 5, #28	Headdress of 32 gazelle phalanges
***Female adult	Group grave 1, #3	1 turtle carapace with flake in fill above skull
***Young adult	Group grave 1, #4	Hearth situated below burial
***Young child	Group grave 1, #10	1 calcite carving of human head below pit and nearby (at base of trench)
***Young child	Group grave 1, #5	1 basalt pestle fragment directly below vertebrae, and below this a hearth with bone points, animal teeth pendants and Dama antler "skin-rubber"
***Group of 4	Group grave 6	1 vertically broken limestone mortar fragment opposite semi-circle of upper 4 interments
El-Wad Indeterminate		
***Adult	Single burial #60	1 limestone mortar fragment lying on thorax
El-Wad B-1		
**Female Adult	Single burial #17	1 twin bone pendant adhering to skull

Note. The relative confidence of the association between the grave goods and particular interments include: strongly associated (no asterisk); *probably the grave goods of a single individual in the group, scattered post-depositionally; **possible grave goods but lacking clear evidence of association; ***contextual problems with these grave goods; probably not associated with burial but either in the burial pit fill or below the burial.

TABLE 5
Natufian Burial Grave Goods with Strong Association for Each Occupation Horizon

Grave Goods	AM-E	AM-M	AM-L	AM-F	HI-II	H-III	H-IV-V	H-Ind	EW-B2	EW-B1	EW-Ind	Total
Dentalium beads	10	0	0	0	3 (4?)	1?	1?	0	4	0	0	18
Bone beads and pendants	2	0	0	0	2 (3?)	1?	1?	0	4	1?	0	9
Perforated fox teeth	0	0	0	0	1	0	0	0	0	0	0	1
Other associated material	1 dog/wolf; 1 other perforated shells	0	1 (2?) gazelle horn cores, 2? red ochre	0	1 bone spatula, 1 hyena tooth	0	0	0	0	0	0	0
Total individuals with strong association of grave goods*	11/27	0/8	1/36	0/22	4(5?)/26	1?/3	1?/18	0/1	5/34	1?/3	0/8	21(24?)/186

Note. Quantities depict ubiquity (the number of burials in which a particular artifact type occurs), not the precise number of objects in each instance. AM-E, Ain Mallaha Early; AM-M, Ain Mallaha Middle; AM-L, Ain Mallaha Late; AM-F, Ain Mallaha Final; H, Hayonim Cave; EW, El Wad; Ind, indeterminate.

* Note that these numbers are less than the total per column since many burials have grave goods from more than one category.

Of particular interest is the presence of a very young canid/wolf associated with the burial of an elderly adult female from Ain Mallaha Early (Davis and Valla 1978). A related discovery from the Late Natufian of Hayonim Terrace entails two adults associated with two adult dogs and two turtle carapaces (Valla 1990; Valla 1991:102). This is an indicator that the domestication of the dog was underway during the Natufian, and provides a unique insight into their potential status. Utilitarian objects (such as tools of bone, chipped stone and ground stone) are rare. Only a bone spatula from Hayonim Cave I-II is strongly associated with a burial. Other utilitarian objects from graves (most notably a broken pestle and broken stone mortars from El-Wad) were typically recovered within the pit fill and are not strongly associated.

A fourfold cost classification for the predominant types of grave goods is presented in Table 6. This categorization considers the relative costs of raw material acquisition and production technique (Kenoyer 1991; Peregrine 1991). Dentalium, often called tusk shell, is naturally curved, cone-shaped and pointed at the tip. It is well suited for suspension as a bead since it is naturally open at both ends. Smoothed and ribbed varieties burrow into Mediterranean Ocean and Red Sea sands in water depths up to several hundred feet (Abbot and Dance 1986:283; Morris 1973:282; Reese 1982). For Natufians to acquire these shells, they either traveled to the coast for direct procurement or traded with coastal populations. In either situation, acquisition costs (as nonlocal resources) would have been relatively high, although it is unclear whether dentalium shells were dredged up or merely collected from the beach. Native Americans in northwestern North America dredged up similar shells with long-handled rakes from boats and used them as currency (Rogers 1908:300-302).

It is typically difficult to determine

TABLE 6
Ornamental Grave Goods Cost Model for the Natufian

Production cost	Acquisition cost	
	Lower	Higher
Lower	Perforated teeth Bone Objects A (simple pendants)	Dentalium A (individual long beads)
Higher	Bone Objects B (well-shaped pendants)	Dentalium B (short cut beads and garments)

whether dentalium shells were scored and snapped to remove the pointed end for easier suspension, or whether they have broken naturally. Occasionally, the shells are perforated at one end, and sometimes at Ain Mallaha the beads were cut into very short segments. The presence of waste shell fragments at inland sites (such as Ain Mallaha) would be evidence that dentalium shells were traded unfinished, rather than as finished beads. Discarded pointed tips of dentalium or pieces broken during manufacturing (particularly when manufacturing small bead segments) would be indicators of primary production areas, although these data are currently not available. Production costs would have been low for simple long dentalium beads, while smaller cut beads and finished garments made of dentalium required higher production costs (Table 6). The garments include necklaces, bracelets, belts, arm-bands, legbands and intricate headgear.

Dentalium acquisition costs would have been highest for inland Natufian settlements, and lowest for sites such as El-Wad that were near the coast. Although full quantitative data are available only from Hayonim Cave (data from Ain Mallaha and El-Wad are estimates), the number of dentalium shells per burial with grave goods decreases as distance from the coast increases. Individuals decorated with dentalium from Ain Mallaha Early (~45 km from the present coast) were buried typically with 20–75 beads. Individuals decorated with dentalium at Hayonim Cave I-II, half the distance to the sea, were

sometimes buried with bead quantities in the hundreds (100–365). Similar or even greater numbers of dentalium beads were interred with some individuals from El-Wad B-2. The use of small, thin dentalium beads at Ain Mallaha and larger beads at sites closer to the coast provides further support for the inference that acquisition cost (and hence the value of dentalium) increased as distance from the source increased.

Dentalium beads occur as the only grave good in almost half the sample of burials with mortuary remains, while bone beads, pendants and teeth almost always co-occur with dentalium, and typically in small quantities as accessories. In only two instances (adult male H.25 from Hayonim Cave I-II and young child H.28 from El-Wad B-2) do decorated burials have bone ornaments but lack dentalium.⁵ This pattern suggests that dentalium had more symbolic value than other grave goods at all three sites.

Grave good ornaments of bone (typically partridge and gazelle) and teeth (typically fox) may have had potentially lesser value owing to their low acquisition costs and typically low production costs. Alternatively, they may have comported different symbolic meaning. Unlike dentalium, faunal remains were locally available to all Natufians. Bone beads (made of gazelle phalanges and bird tibia-tarsus), simple pendants, and perforated teeth have relatively low production costs, while some bone pendants (such as the “twin-bone” pendants from El-Wad) are intricate

pieces of ornamentation that required higher production costs (Table 6).

With respect to overall trends in the distribution of grave goods, several points are noteworthy. First, early Natufian grave goods are quite frequent, occurring in almost one quarter of all interments. Second, grave goods are only clearly associated with individuals rather than whole groups.⁶ Third, individuals with grave goods are not clustered within particular group graves or, for Ain Mallaha Early, one group graveyard or another. There are numerous instances of group burials in which only one individual is adorned with dentalium and bone objects. These include individuals from Graves 2, 3, 4, 6, and 28 at El-Wad B-2, and Graves 6, 7, 8, and 9 at Hayonim Cave I-II. Conversely, there are no clear examples of group graves in which more than one individual was decorated. As mentioned previously, Group grave 1 from El-Wad B-2 (which lacks any individuals with credible grave goods) is considered not to be contemporaneous with the initial early Natufian group graves (2-6) from this occupation horizon. The two cemeteries from Ain Mallaha, with their multiple interments of single individuals, have no significant difference in the percentage of individuals with ornamental grave goods (cemetery A 36.4% versus cemetery B 41.7%, cemetery B also has the burial with the canid). If we are correct in interpreting that the cemeteries at Ain Mallaha and the group graves from El-Wad and Hayonim Cave are comprised of related individuals, then the observed grave good distribution is not marking descent groups with ascribed status, but marking individuals within the group.

There is no restriction as to the sex of individuals with grave goods, with both males and females equally represented (6 of each). This ratio, however, must be interpreted with respect to the sex distributions of the interred samples. The overall

male-female ratio is very high for Hayonim Cave I-II (3.3:1) and El-Wad B-2 (3.75:1) and much lower at Ain Mallaha Early (1.3:1) (Belfer-Cohen et al. 1991:414; Hershkovitz and Gopher 1990). In other words, the higher frequency of males to females with dentalium at Hayonim Cave I-II (3 to 1) and El-Wad B (1 to none), is consistent with the male-female ratio for the entire burial sample from each of these occupation horizons. However, the higher proportion of females than males (4 to 2) with grave goods at Ain Mallaha Early is greater than the complete burial sample from that phase (Perrot and Ladiray 1988). Hence, neither sex clearly has a higher frequency of grave goods, although females are represented more frequently than in the overall burial population.

Items of personal adornment are primarily associated with early Natufian young adults under 25 years old at Ain Mallaha and Hayonim Cave (unfortunately El-Wad burials lack age determinations). One older female is interred with a canid at Ain Mallaha Early, while an older male (35-45 years) from the late Natufian of Hayonim IV-V (#39, G16) also may be associated with grave goods (Table 4). Three early Natufian children, two from Ain Mallaha and one from El-Wad, also have grave goods. The young adults and children were often interred in the same group grave as older adults that lack such grave goods. For example, of the 12 individuals in cemetery B at Ain Mallaha Early, there are at least five individuals under the age of 25 with grave goods, while there are four individuals aged between 40 and 60 years old from the same cemetery that lack grave goods except for the canid interment (Fig. 5). If we are correct in asserting that the two cemeteries at Ain Mallaha are each comprised of related individuals within the community, then it seems unlikely these grave goods are indicative of ascribed group status. It appears improbable that the young, including children, would

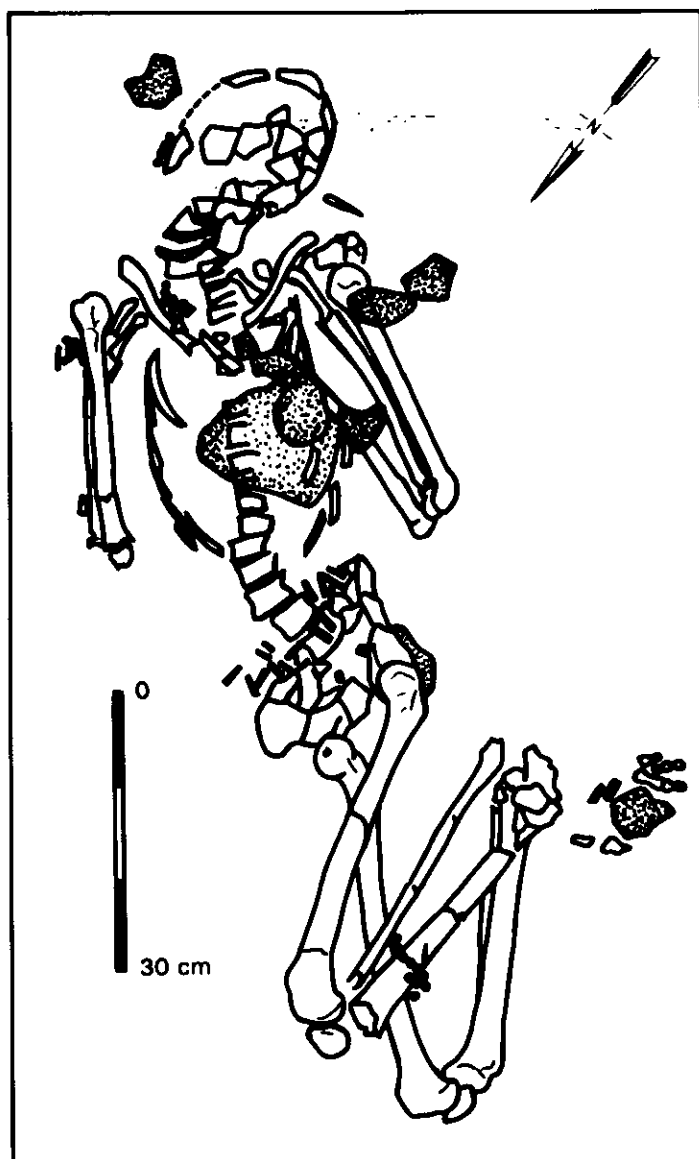


FIG. 5. Ain Mallaha Early Cemetery B Burial 91—a young adult female with dentalium headband, belt, necklace, and two bracelets. Note the stippled stones found above the body are in uncertain association with the burial (after Perrot and Ladiray 1988:31).

outrank their elders (no matter what the overall status of the group). Perhaps early Natufian cultural practices dictated that older individuals give away such items to their children as they grow old. Moreover, neither group has a significantly higher frequency of burials with grave goods or much more elaborate goods. Therefore, it

is unlikely that these items of personal adornment are marking the higher ascribed status of particular descent groups, but instead are denoting other aspects of social identity such as youth, fertility, or age-set membership.

Ain Mallaha Early, which is best suited for further examination of patterned intra-

site variation, reveals no clear patterns in the distribution of grave goods between cemetery A and B. The frequency of occurrence and the quantities of grave goods, and sex of the individuals is not significantly different between cemeteries (Table 4). Cemetery B does have one child burial with grave goods (probably with the highest frequency of goods for all the Ain Mallaha burials), and there is another child burial with a considerable number of grave goods as a single interment outside the context of either cemetery (Fig. 6). The only discernible difference between cemeteries is that gazelle phalanges beads are only associated with two adult burials from cemetery A. Although the sample is minimal, this may suggest patterned differences between subpopulations. These patterns do not indicate higher status of either group.

The character and distribution of grave goods varies between sites, and these dif-

ferences are probably the result of local burial traditions. Ain Mallaha Early has the highest percentage of burials with grave goods (40.7%) during the early Natufian, with lower frequencies from Hayonim Cave I-II (15.4%) and El-Wad B-2 (14.7%). Ain Mallaha Early has the most burials where the grave goods are exclusively dentalium (72.7% versus 25.0% from Hayonim Cave and 0% from El-Wad). Hayonim Cave I-II burials often have bone pendants and beads associated with the dentalium, while the El-Wad B-2 burials have elaborately carved twin bone beads often associated with dentalium. The presence of more burials that contain only dentalium bead grave goods at the site furthest from the sea (Ain Mallaha) further supports the inference that the value of dentalium increased as acquisition costs increased.

The location of decorative grave goods on the body and their incorporation into

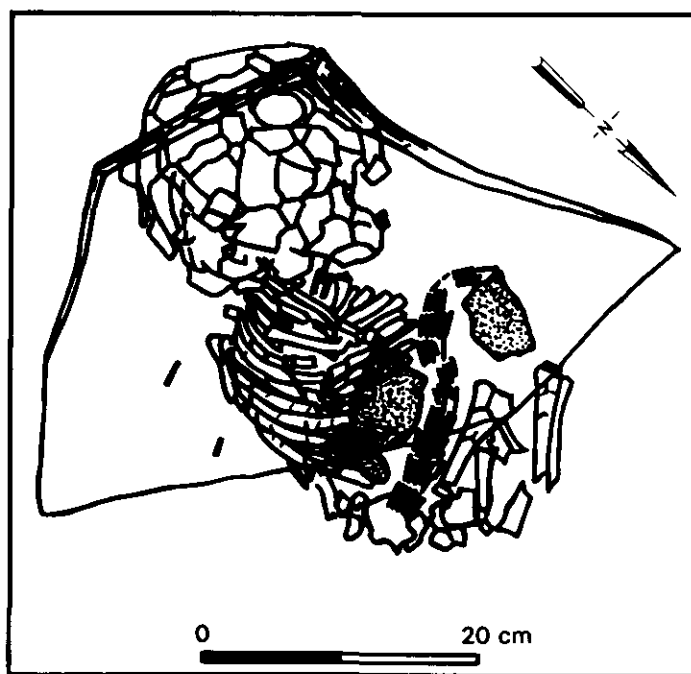


FIG. 6. Single-primary, infant burial 43 from Ain Mallaha Early with dentalium waist band and necklace. Note small stones (stippled) and large stone slab are intentionally placed over the body (after Perrot and Ladiray 1988:38).

garments is highly variable. It includes both lengths of beads suspended on string as necklaces, bracelets (and possibly on the waist and head), along with beads attached to garments as headgear, arm-bands, legbands, and possibly on the chest and the waist. These styles appear to vary somewhat on a regional basis. Dentalium headgear, typically decorated with bone beads and pendants, is most prevalent at El-Wad 2 (occurring in every decorated burial), rare at Ain Mallaha Early, and absent at Hayonim Cave I-II. Necklaces (54.5%) predominate decorated burials at Ain Mallaha Early (see Fig. 5), while the Hayonim Cave I-II assemblage is very diverse. If these garments and jewelry were marking social status or differentiation, then the visual display of symbolism differed greatly between individuals and among sites.

Thus, the salient patterns of grave good distribution for early Natufian burials are the high frequency of individuals with grave goods (almost one quarter), the wide spatial distribution of individuals with grave goods during each occupation horizon (notably one per group grave), the absence of strong sexual patterning in the presence of grave goods, an age distribution where mostly young adults have grave goods (along with a few children and one elderly adult with a canine), variation in the frequency and distribution of grave goods between sites, and the higher cost and value of dentalium as distance to the sea increased. The key lines of evidence that argue against ascribed status are the substantial number of individuals in each burial population with grave goods and the lack of spatial association of these individuals (only one per group grave, and similar frequencies from the two cemeteries at Ain Mallaha). Further grave good evidence against ascribed status include the lack of all age groups having grave goods (notably the rarity of older adults with goods), and the prevalence of items of personal adornment and the absence of any

other items that may symbolize rank. It is conceivable, however, that these group graves, as the minimal organizational unit, were not the organizational unit where such statuses were based.⁷ If they represented micro-lineages, then it is possible that ascriptive positions (such as village leader) may have cross-cut these groups.

Summary. Natufian burial practices are not remarkably elaborate nor highly standardized; they are varied in character, exhibiting intra-site and inter-site patterning. Stylistic variations in interment type and grave construction are discernible between settlements. The co-occurrence of particular grave goods, their numerical frequency, and the nature of the grave gear also exhibit regional patterning. Group burials are interpreted as representing elements of descent groups, perhaps either nuclear or extended families, and the cemeteries of Ain Mallaha Early may represent larger subgroups within the population. Interment type and grave construction exhibit relative intra-assemblage homogeneity with little evidence for correlations between these variables and sex or age. Patterning in body orientation between these units of analysis supports the interpretations for spatial segregation between intra-community subgroups. These subgroups are not differentially ranked nor stratified with respect to grave elaboration, the number of burials with grave goods, or the quantity of grave goods. Instead the distribution of grave goods reflects horizontal differentiation within the communities. No elite, higher status subgroups are discernible.

The absence of spatial congruity between interments with grave goods, particularly with respect to group graves (where only one individual per group grave has mortuary remains) is strong evidence against the differential status of small groups or classes of individuals in Natufian communities. Of course, status differences need not be revealed in burial practices. The extant patterns, however,

do not only reflect achieved status. For example, the number of artifacts do not increase with the age of the individuals and the elderly essentially lack grave goods. Natufian burial practices cannot be simply classified as to whether they reflect an ascribed or achieved status society. Instead they also portray social identities, memberships, and cultural practices for which we have no obvious direct model. One possible analog are the ethnographic hunter-gatherer societies (such as in New Guinea) in which personal status is a product of one's generosity. Thus, older successful individuals may have accumulated wealth (such as dentalium beads) and given it away to their children and younger relations during their lifetimes. Another possible analog are the Nilotic pastoralists of East Africa (i.e. the Masai). Here, young adults elaborately adorn themselves in public displays of beauty, although they own little or no real wealth (e.g. cattle). Their elders dress very plainly with almost no elaboration, although they own almost all livestock and other resources. We suggest patterning in the distribution of grave goods is generated by a series of factors including regional and local traditions in the display of items of personal adornment, age-set membership, and the role of sentimentality, particularly in the inclusion of grave goods with the burial of the very young. The distribution of grave goods appears to cross-cut kin lines. It is possible, however, that within the context of small group populations coalescing together during the early Natufian, the inclusion of items of personal adornment in burials may have functioned in part to reiterate social affiliations that cross-cut kin lines and conceivably denoting individuals holding particular roles within these newly established societies.

Temporal Patterns in Mortuary Behavior

Three diachronic trends in burial practice can be recognized from earlier to later Natufian occupation horizons. They are a

dramatic decrease in grave goods, a shift from primarily group graves to mainly single interments, and an increase in the frequency of secondary burials. Temporal patterning in grave construction and body orientation is not discernible. Our discussion of these patterns is brief and focuses on their interpretation, since these patterns have been noted previously (e.g., Garrod 1958; Perrot and Ladiray 1988; Belfer-Cohen 1988b).

Decreasing grave goods. As mentioned previously, burials with grave goods are relatively frequent in early Natufian burials (22.9%, 20 of 87), but are very rare during later Natufian occupation horizons (1.1%, 1 of 90) (Tables 4 and 5). Grave goods are definitely associated with only a single individual from the later three occupation horizons at Ain Mallaha (Middle, Late and Final), and no grave goods are clearly interred with individuals from later occupations at Hayonim Cave IV-V and El-Wad B-1.⁸ This trend is confirmed at other late Natufian sites (e.g., Garrard 1991; Garrod 1958; Neuville 1951; Stekelis and Yizraely 1963; Valla et al. 1991). The number of grave goods (beads) per burial also declines, although the sample size for the later Natufian is small. In addition, dentalium does not predominate the small number of later Natufian burials with grave goods, and the presence of gazelle horn cores and red ocher in Ain Mallaha burials represent additional aspects of later Natufian mortuary behavior.

This dramatic decline in grave goods reflects a profound shift in mortuary behavior during the Natufian. This trend is not gradual, but occurs suddenly after initial occupation during the early Natufian (for example, Group grave 1 from El-Wad B-2 is interpreted as later in time and lacks grave goods). Moreover, minimal grave goods in burials typifies subsequent early Neolithic burials throughout the region (Moore 1985). It is conceivable, although considered unlikely, that this patterning reflects a switch to perishable grave goods

not preserved in the archaeological record or a breakdown in trade networks, specifically for the acquisition of dentalium. If disrupted trade networks were the principal factor, one would predict that dentalium would decline at inland sites and locally available items such as bone ornaments and beads would continue to be used as grave goods, while coastal settlements would continue to use dentalium as grave goods. Such is not the case. Considerable quantities of dentalium in non-burial context during the late Natufian (Belfer-Cohen 1991b; Reese 1991) adds further support for the inference that a shift in burial practices, rather than a disruption of trade, occurred after initial occupation during the early Natufian. We suggest that the social motivations for burying individuals with considerable items of personal adornment were no longer present, and that new burial practices reflect changes in Natufian social interaction and symbolism.

Group burials to single interments. Garrod (1958) initially argued that early Natufian burials are predominantly group graves whereas later Natufian burials are typically single interments. El-Wad, with its small number of burials from the late Natufian, follows this pattern (Garrod and Bate 1937). Natufian burials from late Natufian occupation horizons at Nahal Oren and Shukbah are also predominantly single interments (e.g., Henry 1973; Stekelis and Yizraely 1963; Wright 1978). Individual burials also dominate the early Neolithic mortuary patterns. The more recent field research at Ain Mallaha and Hayonim Cave (Belfer-Cohen 1988b; Perrot and Ladiray 1988), however, has revealed a more varied situation (Table 2), and the shift to single graves may occur later within the Natufian than does the decline in grave goods. For example, initially at Ain Mallaha, the group burial theme is uniquely expressed by two spatially discrete group graveyards of single interments in close proximity. The small sample from Ain Mallaha Middle is also comprised of single

interments in close spatial association (in abandoned house fill). Group graves predominate subsequent Ain Mallaha Late, while Ain Mallaha Final only includes single interments. Furthermore, single interments are rare throughout the occupation of Hayonim Cave. The factors accounting for the persistence of group graves at Hayonim Cave are uncertain, but may represent temporal or local variation.

The impetus for the shift from group to single burials may reflect the growing importance of individuals possibly at the expense of the group. During the early Neolithic, there is considerable evidence to indicate emphasis on individuals and descent relationships. Prominent aspects of early Neolithic mortuary practices are burial below the floors of houses (typically while the building is still occupied), the removal of skulls after interment, and the occasional decorating of these skulls during the Pre-Pottery Neolithic B at such sites as Jericho and Ain Ghazal (Rollefson 1983, 1986; Kenyon 1981). These burial patterns are interpreted as evidence of ancestor worship and the importance of affirming descent lines. The removal of skulls from burials at Hayonim Cave IV-V (Belfer-Cohen 1988b) and possibly at Ain Mallaha Final (Perrot and Ladiray 1988:74), may represent early development of this social custom. Certainly, the continued shift toward food-producing villages engendered additional social problems related to inheritance, and land and property ownership. An emphasis on individual disposition in late Natufian burials may reflect shifts in social and group dynamics and an increasing concern for these emerging social problems.

Increase in Secondary Interments. Overall, primary burials decline in frequency during the Natufian. Secondary burials comprise 25.0% (6 of 24) of the burials where determination can be made at Hayonim Cave I-II. This percentage of secondary burials increases to 70.6% (12 of 17) during Hayonim Cave IV-V. The El-Wad burial

assemblage, with no secondary burials present in the early phase, also appears to confirm this trends, despite the small sample from the late Natufian. The situation is more complicated at Ain Mallaha. Secondary burials are absent during Ain Mallaha Early and Middle, while they dominate the large sample from Ain Mallaha Late (Fig. 4, Table 2). There is only one secondary burial in Ain Mallaha Final (yet, 15 of 22 are indeterminate with respect to interment type).

Perrot and Ladiray (1988) suggested that the increase in secondary burials during Ain Mallaha Late was due to a population influx from other regions that brought their deceased with them. These populations apparently coalesced at Ain Mallaha due to deteriorating climatic conditions. Alternatively, the increase in secondary Natufian burials at Ain Mallaha and elsewhere may simply represent individuals who died away from camp, and whose remains were subsequently returned for reburial (Perrot 1966). Given that sex and age profiles of secondary graves at Ain Mallaha Late and Hayonim Cave IV-V reveal no patterning, it appears that secondary graves are not indicative of individuals from specialized task groups that were organized along such social divisions (such as male hunting parties). Instead, entire families appear to have been involved, implying a considerable commitment to mobility as an adaptive response to meeting subsistence needs. Higher percentages of secondary burials, therefore imply increased settlement mobility, and at least periodic returns to traditional base camps. This evidence of increased mobility during the late Natufian is also supported at Ain Mallaha by other archaeological evidence such as the prevalence of more ephemeral structures (Valla 1981). It does, however, clash with the model of continued permanent sedentary base camps dominating Natufian settlement patterning in the core area (e.g., Bar-Yosef and Belfer-Cohen 1989, 1991; Henry 1989).

Summary. The key temporal developments in Natufian mortuary behavior include the dramatic decline in grave goods (particularly items of personal adornment), the shift from group to single interments, and the increase in secondary graves. The practice of adorning buried individuals with considerable quantities of grave goods was short-lived and restricted to initial occupation during the early Natufian. The replacement of group graves with single burials, on the other hand, appears to have taken place somewhat later in time. The increase in secondary burials implies a decline in settlement permanence after the early Natufian. Furthermore, these trends in Natufian burial practices represent associated modifications in *Natufian ritual and social interaction*. The abandonment of aspects of early Natufian ideology and ritual may have occurred in response to changing social and possibly environmental conditions at the end of the Pleistocene (Moore and Hillman 1992). Significantly, late Natufian mortuary practices share more in common with subsequent Neolithic burial traditions than those of the early Natufian. These tendencies include the increase in individual burials, the inclusion of minimal or no grave goods, and the removal of skulls after interment. We argue that these developments reflect a growing concern for the individual rather than the group in communities faced with novel social problems associated with ideological expressions of ownership, inheritance, and related concerns. It is also conceivable that the changes in community interrelationships mandated that social status not be indicated by the burial of considerable items of personal adornment.

CONCLUSION

This Natufian burial study has articulated a series of synchronic and diachronic trends in Natufian mortuary behavior that can be used to address the issue of social

complexity and hereditary inequality. A key distinction entails changes in burial practices between early Natufian occupation and later Natufian occupation. Since later Natufian burials are characterized by a virtual absence of mortuary elaboration (particularly with respect to grave goods and construction techniques), our evaluation of claims for ascribed status burials focuses on the early Natufian.

Analysis of intra-community patterning and variation during the early Natufian reveals that mortuary behavior was quite variable, and not exceedingly uniform or complex. Burials are simply constructed with a low investment of energy. Grave goods are not rare, but rather occur in almost one quarter of the sample. These grave goods are items of personal adornment worn either suspended or as part of garments; there are almost no other items that may have functioned as symbols of rank (it is possible, of course, that these decorative elements fulfilled this role). No great quantities of wealth are represented. Burials with grave goods do not cluster together, but rather are well-distributed across settlements. Individuals with grave goods include members of either sex and they are almost always less than ~25 years old.

Group burials (present at Hayonim Cave I-II and El-Wad B-2) and the cemeteries at Ain Mallaha Early are considered one of the fundamental features of early Natufian mortuary practices. This burial arrangement is interpreted as reflecting the descent groups that comprised these communities (Henry 1983, 1989; Valla 1981; Wright 1978). Some differences between community subpopulations are discernible with respect to body orientation between sub-groups at Hayonim Cave I-II and Ain Mallaha Early, and the presence of different grave good types within the two cemeteries at Ain Mallaha Early. Notably, no group grave clearly has more than a single individual with grave goods, and both

cemeteries at Ain Mallaha Early have comparable frequencies of individuals with grave goods.

We interpret these burial patterns as evidence against the display of status differentiation between groups or classes of individuals within early Natufian communities. There is no burial evidence for ranked group status (*contra* Wright 1978), or for a chiefdom with hereditary elites (*contra* Henry 1989:209–210). If there was mortuary evidence for a ranked society, then we would expect that certain spatially clustered kin group graves would have either significantly higher frequencies of more elaborately constructed graves, or more individuals interred with grave goods, or at least some individuals with an order of magnitude more grave goods, and that some of these markings would cross cut all sex and age categories within this group. Since such mortuary patterns are absent, we assert there is no burial data to support previous interpretations of ascribed status during the early Natufian.

It is not adequate, however, to just state that early Natufian mortuary patterns are simply an indication of achieved status. If so, then grave good quantities should increase with age. This does not occur—some children have considerable grave goods and elderly individuals typically lack grave goods. Thus, it is not enough to classify early Natufian burial practices as representing an ascribed or achieved status society. The patterns also reflect a more complex array of ideological and cultural expressions, particularly related to horizontal rather than vertical differentiation within each settlement. Natufian mortuary behavior was complex, and was marking a variety of social identities and membership affiliations. These include the kin-group distinctions noted earlier, but many of the patterns, particularly those relating to grave goods, cross-cut kin lines and appear to correspond primarily to age-class memberships, and possibly gender

association. Some of these differences no doubt also reflect variation in personal achievement.

Of course, ascribed status may have existed but is not discernible within the burials samples studied (for example, if perishable goods were used, or status distinctions purposively hidden in death, or sample sizes are too small). Yet there is an absence of other archaeological evidence to support inferences of considerable social complexity, ascribed status, and elites in the Natufian. There is no evidence for the emergence of asymmetric economies and elite accumulation of controlled wealth—there are no larger buildings or buildings with more elaborate facilities and material culture that can be interpreted as the residence of elites. Nor is there evidence of extensive public architecture or construction that might have required hierarchical organization to mobilize labor. Indeed two of the sites under consideration are small cave and terrace sites, and one of these, El-Wad, entirely lacks stone buildings.

Regional expression in burial practices are also clearly discernible. Interment type and grave construction exhibit greater variation between sites than within occupation horizons. Although dentalium dominate mortuary remains, the prevalence of particular styles of bone and tooth beads and pendants differ considerably between settlements. The character of the accouterments and average quantity of grave goods also vary greatly between settlements. The latter appears to be heavily influenced by acquisition costs. Overall these regional trends reflect the degree of autonomy and interaction that characterized small local Natufian populations.

Why were the Natufian interpreted previously as having hereditary elites with ascribed status? Wright's (1978:213–214) argument for the presence of a ranked society was built on several assumptions that we do not endorse including that the

burial of children and infants with adults suggests ranking, that grave furniture cross-cutting sexes suggests a ranked society, and that the presence of one artifact type in a number of burials and its absence elsewhere implies ranking. For example, while Wright (1978:215) interprets the presence of one individual within a group grave as evidence of a ranked society, we argue just the opposite. As mentioned earlier, Wright also makes a number of assumptions owing to the lack of description in the original report that further weaken the resulting inferences regarding the nature of the burials. One of the most significant for interpreting status differentiation entailed the acceptance of Garrod and Bate's (1937) statement regarding what grave goods were associated with particular burials. When context and the role of formation processes are rigorously evaluated, we argue that many of the items considered grave goods by Garrod and Bate (1937) were probably part of the burial pit fill. Wright (1978:214–215) also assumed that El-Wad B-2 group burial 1 consisting of individuals 1–10 in the cave was contemporaneous with the El-Wad B-2 group graves on the terrace in arguing for social distinctions between populations within the settlement. Garrod and Bate (1937:19) suggest, however, that group grave 1 was probably younger than the group graves on the terrace (and we have endorsed this interpretation). Finally, the misidentification of a child burial with bone beads as having dentalium shell instead further weakened Wright's (1978:215,220) argument. In Wright's (1978) defense, he was simply trying as best as possible to interpret an older data set that had a number of deficiencies, and he stated that these nascent interpretations should be tested against more robust data sets that were excavated with modern techniques. We have followed his suggestions, and built upon his groundwork.

The persistence of the ascribed status in-

terpretation for the Natufian is due in large part to the uncritical acceptance of the simple equation that young children with grave goods equals ascribed status, but also the use of direct analogy with Northwest coast foragers (Henry 1989). In part, the ascribed status interpretation was a reaction against previous widespread characterizations by ethnographers that hunter-gatherers were exceptionally egalitarian, and lived in small, mobile groups (e.g., Lee and Devore 1968).⁹ Subsequent archaeological research then began to emphasize the variability in prehistoric hunter-gatherer adaptation and the widespread prevalence of greater social complexity (e.g., King 1978; Price and Brown 1985; Testart 1982). Moreover, this fixation on classifying by social scale and identifying nascent ranked societies appears to be mainly an American preoccupation, and non-American scholars interested in the Natufian have never really endorsed the Natufian ranked society interpretation (e.g., Bar-Yosef 1983; Belfer-Cohen 1988b; Perrot and Ladiray 1988; Valla 1981).

We are in agreement with the assessments that many early hunter-gatherers were more complexly organized than those surviving into the 20th Century in marginal areas. Certainly, the early Natufian cultural complex is distinctive from preceding late Pleistocene cultural complexes in the Levant and could be classified as complex hunter-gatherers or collectors (Binford 1980; Price and Brown 1985). Sites on average are larger, have thicker archaeological deposits, richer more elaborate material culture including artwork, and include stone construction facilities, walls, pavements, and storage facilities. Early Natufian sites are generally interpreted as sedentary settlements (e.g., Bar-Yosef 1981; Henry 1989; Tchernov 1984, 1991), but whether this reflects full, year-round occupation or considerably longer annual stays is not conclusively demon-

strated (Byrd 1989; Edwards 1989; Tangri and Wyncoll 1989).

Early Natufian sites also contain large numbers of burials, and this on-site interment is the earliest evidence of cemeteries in the Levant. Burial of the dead in cemeteries may have occurred off-site during the preceding Geometric Kebaran, Kebaran or Upper Paleolithic periods, although no evidence exists. Late Pleistocene burials prior to the Natufian occasionally occur, even below house floors and do include grave goods (Arensburg and Bar-Yosef 1973; Muheisen 1988). In fact, it is plausible that the crucial mortuary pattern difference between the two time periods is on-site burial.

We suggest that the sudden emergence of on-site burial in group graves during the early Natufian is a result of fundamental changes in community organization. These settlements are interpreted as the product of populations coalescing in larger numbers and residing at key base camps for longer annual stays. The impetus for these shifts remain of pivotal concern, but may be related to the intensive procurement of locally available wild resources. As a result of these distinct small groups aggregating at one settlement, novel responses to new social dynamics were necessary. These unprecedented group dynamics may be reflective of a series of issues related to social markers, social boundaries, and kin-group distinctiveness. Moreover, the need to legitimate residential rights at base camps and access to pivotal local wild resources to which they were tethered may have been a key factor in the emergence of the early Natufian mortuary behavior of spatially segregating kin-group burials (Saxe 1970; Goldstein 1980). Each of these kin-groups may have been legitimizing their rights to the area and its resources, and one's affiliation with a particular group. We are not dismissing the possibility that some descent groups had greater access to crucial resources, but

that information is not reflected in the burial patterns (particularly the distribution of grave goods). Indeed, if descent groups were legitimizing claims to resources, then these resources were probably inherently unequal. It is possible that the observed pattern in the distribution of grave goods may have served to counter balance these distinctions between small kin-groups, and reiterate affiliations between different age-sets and memberships that cross cut kin lines. Of course, other aspects of ideology and social expression are undoubtedly embedded in mortuary practices as well, including denoting individuals with particular roles within the society.

The mortuary practices developed during the early Natufian were relatively short lived, as may have been the overall adaptive strategy. Considerable diachronic change in mortuary behavior is evident after the initial early Natufian occupation. Grave goods virtually disappeared, single interments often replaced group graves, the practice of skull removal after interment was initiated, and the frequency of secondary burials increased significantly. The increase of secondary burials implies increasing Natufian settlement mobility, and a move away from early Natufian settlement organization either due to internal social pressures or possibly deteriorating environmental conditions (yet see Perrot and Ladiray 1988). Certainly mobility affects where people are likely to die, yet continued burial of individuals at certain key sites represent the persistence of a pattern that began in the early Natufian.

Other mortuary trends may well reflect changes in attitudes toward death due to alterations in cultural meaning, ideology or beliefs. The decline in mortuary goods may indicate that intra-settlement social dynamics had changed and the impetus for marking particular individuals declined in importance. It may also signify a concerted effort to emphasize similarities and

mask differences. The stronger emphasis on the individual burial, the decline of group burials, and the onset of skull removal after interment foreshadow and provide continuity with subsequent early Neolithic mortuary practices with their emphasis on ownership, inheritance, descent, family units, and burials associated with buildings.

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NOTES

¹ The burials from phases I and II as well as phases IV and V are combined in this analysis since the excavators could not always confidently differentiate between them (Belfer-Cohen 1988a).

² These totals correspond to those listed on pages 9–11, not the summary total on page 9 (Perrot and Ladiray 1988).

³ They did not, however, consider Bronze Age axes or potsherds recovered in the burial pits to be associated grave goods (Garrod and Bate 1937:14,16)!

⁴ Two other graves (1 from the early Natufian and 1 from the late Natufian) also may have had associated grave goods (see Table 5).

⁵ Note that the child burial #28 from El-Wad is not wearing a headdress of dentalium beads as stated by Wright (1978:215) when arguing for ascribed status during the Natufian. The mortuary remains consist of a headgear or cap of gazelle phalange beads (Garrod and Bate 1937:18).

⁶ Belfer-Cohen (1988b) interprets the 103 dentalium beads found in Group grave 6 in Hayonim Cave I-II as probably buried with one individual and subsequently scattered by post depositional processes.

⁷ Of course, if our interpretation that group graves represented descent groups is incorrect, then the spatial pattern inference lacks credibility.

⁸ Other grave goods possibly may have been associated with a few other burials (see Tables 4 and 5).

⁹ This position, based on ethnographic accounts of remnant hunter-gatherers, is best characterized by the *Man the Hunter* symposium (Lee and Devore 1968).