Investing in the Dead: A novel model for evaluating social value of mortuary practices in the Epipalaeolithic-Neolithic transition of the Southern Levant

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Dana Ashley Allan

The mortuary remains from the Epipalaeolithic and early Neolithic of the Southern Levant have been the focus of considerable academic interest among archaeologists for nearly a century. The burials – and particularly those burials decorated with beads – have been used as evidence for uncovering the origins of the Neolithic Package; sedentism, incipient religious practices, agriculture, and social stratification. The often-restrictive focus on the social status of the deceased, however, fails to consider the nuanced roles that mortuary behaviours may play within a social context. This project aims to reassess the mortuary remains of the Southern Levantine Epipalaeolithic-Neolithic transition by considering the changing social investment in mortuary practices within these periods.

To complete these aims, this project begins by presenting an updated assemblage as the current synthesis of published mortuary remains from the Epipalaeolithic and Pre-Pottery Neolithic A of the Southern Levant. Using traditional analytical methods, this assemblage is re-evaluated to assess long-standing conclusions about this mortuary record. This project then utilises a novel method – the Performative Currency Model – to uncover the relative social value of diverse mortuary practices and identify trends in social investment in the mortuary realm of these communities.

The results presented in this thesis demonstrate a change in the relationship between the living and the dead, towards a more domestic, intimate, and personal connection with the dead through time. This shift is evidenced by increasing Performative Currency investment in physical interaction with, and domestic localization of, the dead. In broader context, this trend mirrors an increasingly close and domestic world amongst the living, suggesting an overarching shift in worldview in the Epipalaeolithic-Neolithic transition.

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Excavating a Late Epipalaeolithic burial at Eynan (Photo courtesy of Enora Antoine).

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Acknowledgements and Dedication

Completing a PhD is a massive undertaking, and the success of this project would not have been possible without the support of several wonderful people. I hope this thesis makes them proud.

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Finally, I would like to thank my partner, Sam, who has supported both me and my sanity during this project. Thank you for believing in me when I needed it most, and for loving me through my best and worst days.

Dedication: This thesis is dedicated to my ten-year-old self, and any other kid with a dream. Keep reaching for the stars, and never stop playing in the dirt.

1 Introduction

1.1 The Dead of the Epipalaeolithic-Neolithic Transition

"Eleven human burials were found in this layer, and of these seven at least had every appearance of being contemporary with the microlithic hearths. In addition, a large number of human bones were found scattered throughout the deposit." (Garrod, 1932 pp. 258).

When Dorothy Garrod published these words in 1932, she was describing the first Epipalaeolithic mortuary remains to be excavated in the Southern Levant. This paper would go on to describe a total of 51 individuals from Shukbah and el-Wad caves, and touch on the incredible diversity of mortuary remains documented within the archaeological entity Garrod would call the Natufian. Today, more than 500 individuals from the Natufian (Late Epipalaeolithic) are known from the Southern Levant, amounting to the largest burial assemblage of any pre-Neolithic period within the region. It has been nearly a century since Garrod's first excavations at Shukbah (Garrod, 1932; Garrod and Bate, 1942), and the burial remains from this diverse and enigmatic archaeological entity continue to draw the interest of researchers and students alike.

Contrasted with the paucity of burials in earlier periods, the abundance of burials of the Late Epipalaeolithic warrants attention. The shift in both burial frequency and diversity at the onset of the Natufian appears to be abrupt, with burial areas of over 100 individuals appearing where previously only one or two individuals could be expected to be identified. Similarly, the evidence for abundant architecture, broad-spectrum subsistence, and increasingly sedentary settlement patterns in the Natufian are also frequently reported, diverging substantially from long-term patterns in the region (Belfer-Cohen, 1991b; Bar-Yosef, 1998). More recently, however, increasing academic interest in the Early & Middle phases of the Epipalaeolithic has demonstrated some areas of continuity. Rather than an abrupt departure from Epipalaeolithic lifeways, as was previously thought, recent evidence summarised by Maher, Richter, and Stock (2012) highlights that the Natufian represents a dramatic intensification of behaviours already taking root in these earlier phases.

When contrasted with the Pre-Pottery Neolithic of the Southern Levant, the Natufian is often interpreted as an avenue through which to explore the origins of Neolithic lifeways and the adoption of the Neolithic package (e.g. Bar-Yosef and Valla, 1990). Strong continuity in many aspects of material culture between the Natufian and the earliest phase of the Neolithic, the Pre-Pottery Neolithic A (PPNA), is well established within the archaeological literature (*ibid*.). However, the settlements within the PPNA are larger and more densely occupied, which suggests an increased social pressure within these communities (Bar-Yosef, 1989; Belfer-Cohen and Goring-Morris, 2010). It is unsurprising, then, that the Natufian is frequently compared to the PPNA in social and mortuary archaeological explorations, contrasting these complex hunter-gatherer communities to the world's first agricultural settlements.

1.1.1 When and Where

The Southern Levant (Fig. 1.1) is a region of Southwest Asia which today includes the countries of Israel, Palestine, Jordan, and Lebanon, as well as regions of Syria. The area is situated at the crossroads between Africa, Europe, and Asia, making it archaeologically important from the earliest phases of hominin migration out of Africa. The Southern Levant is part of the region known as the Fertile Crescent - along with the Northern Levant, Anatolia, the Euphrates and Tigris Basin, and the Zagros – the area believed to be the earliest establishment of Neolithic agricultural practices in the world.

The Epipalaeolithic begins ca. 23,000 cal. BP (Maher, Richter and Stock, 2012), at the end of the Upper Palaeolithic in the region. This period is generally divided into three phases: the Early Epipalaeolithic (ca. 23,000-17,500 cal. BP; *ibid*.), the Middle Epipalaeolithic (ca. 17,500-15,000 cal. BP; *ibid*.), and the Late Epipalaeolithic (ca. 15,000-11,500 cal. BP; Stutz, 2004; Grosman, 2013). The Pre-Pottery Neolithic A is a short archaeological period, dating from ca. 11,500-10,500 cal. BP (Stutz, 2004; Edwards, 2016). Figure 1.2 shows these periods and some of their key sites.

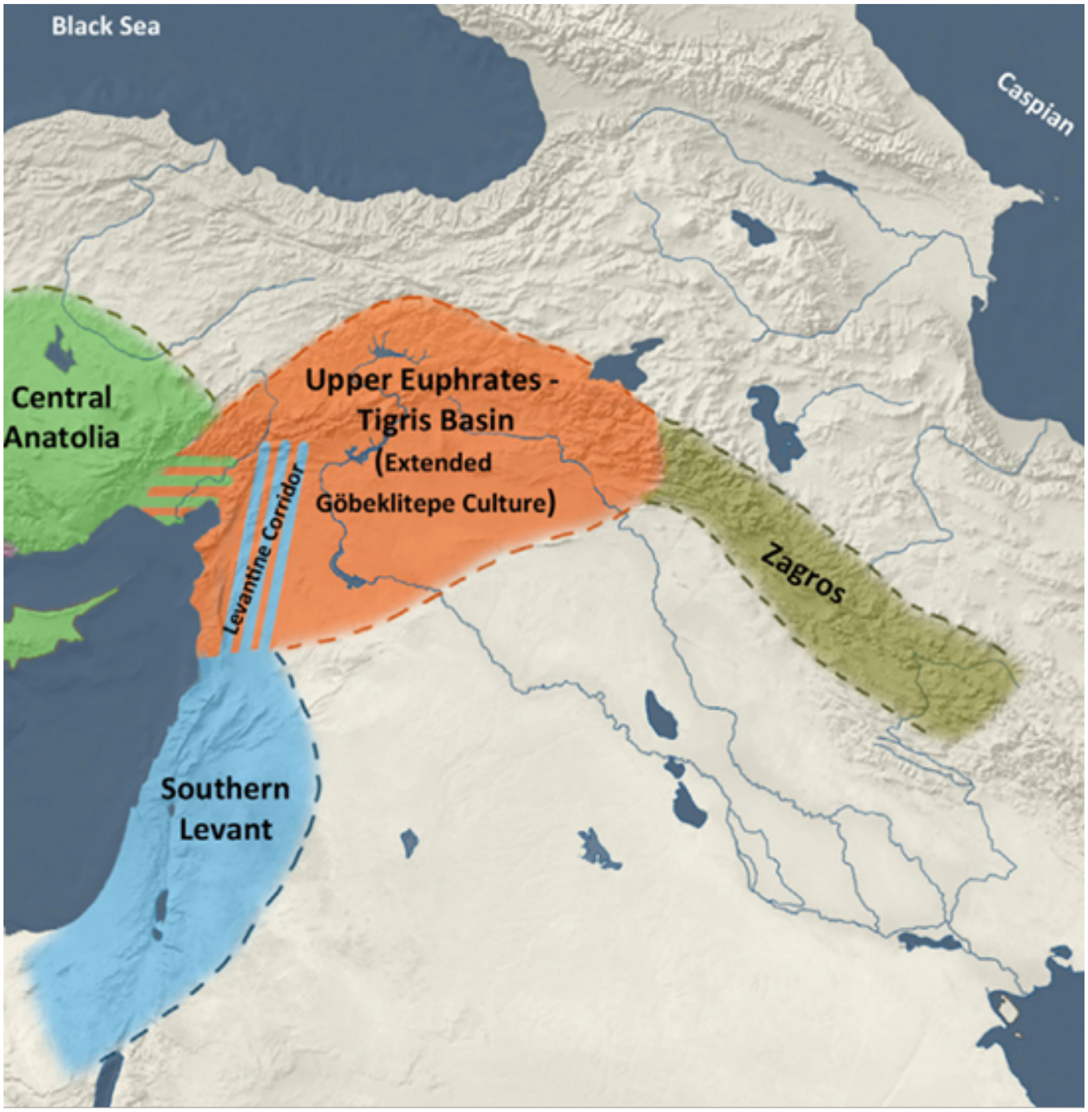

Figure 1.1: Map of the Fertile Crescent demonstrating the regions within the Fertile Crescent. Adapted from Ozdogan (2022) ©Dr. Mehmet Ozdogan.

Within the Southern Levant, certain archaeological entities are used as chronological labels due to the abundance of sites within these entities known from these periods. The term Early Epipalaeolithic is often used synonymously with the Kebaran, and the Middle Epipalaeolithic is often synonymous with the Geometric Kebaran (Maher, Richter, and Stock 2012). Late Epipalaeolithic is used interchangeably with Natufian in the region (Belfer-Cohen, 1991b; Bar-Yosef, 1998). It should be noted, however, that some contemporary archaeological entities are identified within these periods. Wherever used within this thesis, the entity labels – Natufian, Geometric Kebaran, and Kebaran – are used to denote a period, rather than an archaeological entity.

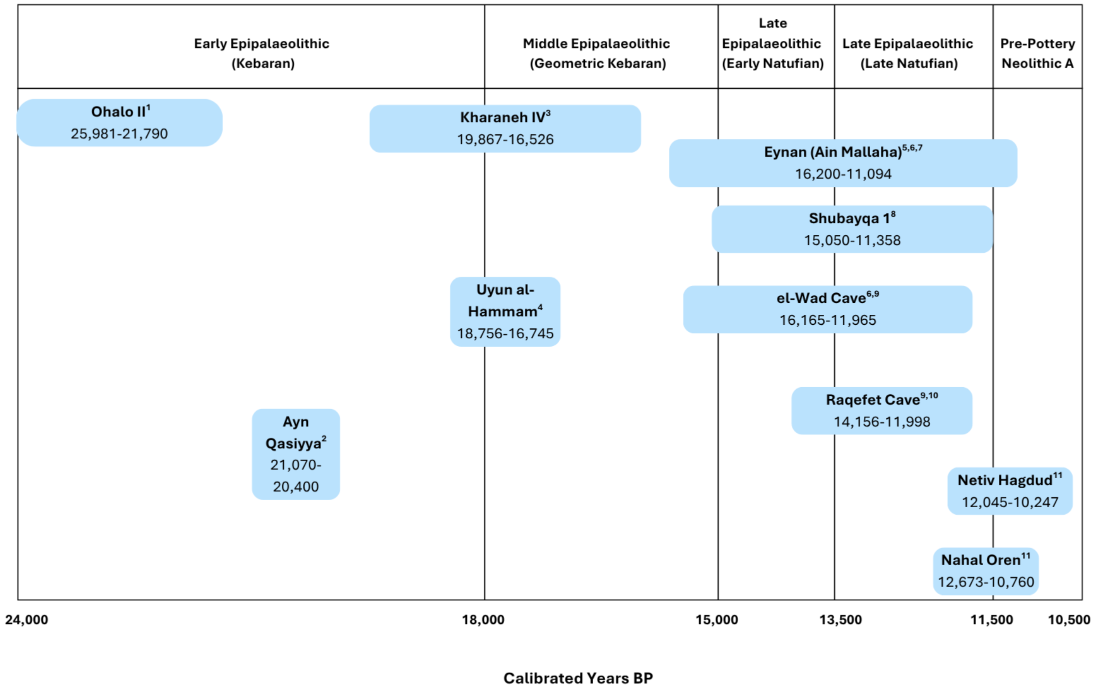

Figure 1.2: Periods of the Epipalaeolithic-Neolithic Transition in the Southern Levant, along with some key sites and their calibrated date ranges.[1](Nadel, Carmi, and Segal, 1995); [2](Richter et al., 2010); [3](Richter et al., 2013); [4](Maher et al., 2011); [5](Valla et al., 2004); [6](Weinstein-Evron 1991); [7](Valla et al.*, 2007); [8](Richter* et al.*, 2017); [9](Barzilai* et al.*, 2017); [10](Lengyel, Nadel, and Bocquentin, 2013); [11](Goring-Morris, 1991).*

1.2 Defining Key Terms

Much of the terminology used in mortuary archaeology, and certainly archaeology more broadly, has multiple definitions in both academic and colloquial use. It is necessary, therefore, to ensure clear definitions are provided to allow for comparative works and discussions within the field. Before discussing the specifics of this research, I will define some key terms used throughout this work.

Everywhere it is used *mortuary* refers to any behaviour or material culture which is primarily associated with the dead or death. A more specific term, *funerary*, refers only to material culture or behaviours relating to the formalised disposal of, and/or remembrance of, the dead. All funerary behaviours are mortuary in nature, but mortuary behaviours need not necessarily be funerary.

Following Pettitt, *burial* as an action is here defined as "The creation of an artificial place for the purposes of containing a corpse" (2011, pp. 9). When used as a noun, the term is used to refer to the artificial place of deposition, which contains the body. Where used, *cemetery* refers to "...places given over in the main or entirely to the dead, with little or no evidence of settlement" (Pettitt 2011, pp. 10). Though the term cemetery is often widely applied to Epipalaeolithic and PPNA sites, I have opted to reserve the term only for sites which are labelled as 'cemetery sites' within the broader epipalaeolithic literature, though the use of this term is nuanced and will be discussed further in section 2.2.1.

Deposition is here used to describe the primary instance of burial, placing the body within a grave. Therefore, *pre-depositional practices* refer to any death-focused practice that occurs before the primary burial. *Peri-depositional practices* refer to practices occurring during the process of burial. *Post-depositional practices* refer to any death-related practice that occurs after the primary burial is complete and may include the creation of a secondary burial deposition.

1.3 Investing in the Dead – Project Overview

1.3.1 Research Aim

This research aims to reevaluate the mortuary remains of the Southern Levantine Epipalaeolithic-Neolithic transition by moving beyond questions of social stratification to appreciate the social value of behaviours and practices within human communities. This includes the incorporation of theoretical frameworks from performance theory and economic analogy to understand the social factors that influenced the creation of these mortuary remains.

1.3.2 Research Objectives

Within this larger aim, there are several research objectives:

1. To prepare an updated synthesis of published burials from the Epipalaeolithic and Pre-Pottery Neolithic A of the Southern Levant.
2. To assess the degree to which these mortuary assemblages can be considered complete and representative by testing common population estimation methods and comparing these results to known assemblage demographics.
3. To reevaluate the validity of prior conclusions of mortuary studies in light of evidence published since the most recent synthesis.
4. To develop a novel methodology for exploring the relative social investment in mortuary behaviours within these assemblages.
5. Apply the novel model developed from objective 4 to the mortuary assemblage created by objective 1 to evaluate the ways that the choice of mortuary treatment may be influenced by the social value of that behaviour.

1.3.3 Chapter Overview

Chapter 2 provides a thorough summary of the present state of knowledge on the archaeological record of the Epipalaeolithic and Pre-Pottery Neolithic A of the Southern Levant. Additionally, this chapter will present a brief discussion of the popular research questions and methodologies within mortuary archaeology and highlight the knowledge gaps presented by their limitations.

An overview of the burial assemblage utilised in this thesis is presented in Chapter 3. This chapter also includes individual summaries of the archaeological records of key sites within this assemblage, and some individual burials are highlighted. Full details for each burial in the assemblage are also presented in Appendix A. This chapter, alongside Appendix A, addresses objective 1.

In order to understand the make-up of these burial assemblages, an assessment of completeness and representativeness of these samples is necessary. Chapter 4 includes a case study of several Natufian sites to evaluate population estimate methods and compare the mortuary assemblages from these sample sites against expected values for complete or representative samples to demonstrate the low burial frequency and intentionally selected burial demographics present within these sites. This chapter addresses objective 2.

Chapter 5 presents the results of an updated Traditional Burial Analysis, allowing for the comparison of my results to the existing literature that has been documented. These results will be used to discuss the popular research questions described briefly in Chapter 2 and discuss the validity of mortuary evidence for answering these types of research questions. This chapter addresses objective 3.

My novel methodology, the Performative Currency Model, is described and utilised in Chapter 6. The results of this method provide new lines of evidence to better understand the social worlds from which these mortuary remains originate. Furthermore, this chapter demonstrates the validity of the Performative Currency Model, and highlights avenues for optimizing and improving the model through future research. This chapter addresses objectives 4 and 5.

Finally, Chapter 7 presents a wholistic discussion interpreting results from all preceding chapters to develop an integrative understanding of the social value of burial within these Epipalaeolithic and PPNA communities and providing an explanation for the shifting investments in mortuary practices through time.

2 Literature Review

2.1 The Archaeology of the Epipalaeolithic and Early Neolithic of the Southern Levant – An Overview

The research presented in this work focuses on the Epipalaeolithic and Pre-Pottery Neolithic A (PPNA) of the Southern Levant (Fig. 2.1). These periods are generally accepted to date from the end of the Upper Palaeolithic (ca. 23,000 cal. BP; Maher, Richter and Stock, 2012) until the start of the Pre-Pottery Neolithic B (ca. 10,500 cal. BP; Edwards, 2016). The Epipalaeolithic – the period spanning from the end of the Upper Palaeolithic until the start of the PPNA (ca. 11,500 cal. BP) - is generally divided into three main phases: the Early Epipalaeolithic, the Middle Epipalaeolithic, and the Late Epipalaeolithic (Stutz, 2004; Maher, Richter and Stock, 2012). Regionally, these periods have varying names based on the dominant lithic assemblage types identified in those periods. For the Southern Levant, these periods are generally known as the Kebaran, Geometric Kebaran, and Natufian, respectively (Maher, Richter and Stock, 2012).

The Pre-Pottery Neolithic of the Southern Levant is also divided into three periods, known as the Pre-Pottery Neolithic A, B, and C (Bar-Yosef, 1989; Belfer-Cohen and Goring-Morris, 2010; Edwards, 2016). These periods are generally divided on the basis of differing lithic tool types and on architectural features which progress from simple rounded buildings to complex and subdivided rectilinear structures (Belfer-Cohen and Goring-Morris, 2010; Finlayson, 2013; Edwards, 2016). Due to the substantial differences in settlement patterns, mortuary remains, architectural features, and subsistence, the PPNB and PPNC have been excluded from the study presented in the following chapters; however, a brief description of the PPNB has been provided below.

2.2 The Epipalaeolithic

2.2.1 The Late Epipalaeolithic (Natufian)

The Late Epipalaeolithic of the Southern Levant – known as the Natufian – was the first archaeological entity within the Epipalaeolithic to be described in the region. Dorothy Garrod, through her early-20th-century work at el-Wad and Shukbah Cave, recognised the unique features of the microlithic-dominated assemblages as representing the then-unknown Mesolithic of the region's chronology (Garrod, 1932; Garrod and Bate, 1937b). She named these lithic assemblages 'Natufian', beginning nearly a century of sustained archaeological inquiry into these assemblages and the sites they come from. Through the years, el-Wad would be excavated numerous times, but Garrod and her colleagues would come to base much of their interpretations about the Natufian on the evidence from the early el-Wad excavations.

One of Garrod's key interpretations was that the Natufian period represented the earliest agricultural stage in the Southern Levant (Garrod, 1932). She made this assessment largely on the number of sickle blades and hafts identified among the el-Wad and Shukbah tool assemblages. In part, this interpretation was also impacted by the region's poorly understood chronology. In her first paper on the Natufian, Garrod (*ibid*.) asserts that the Natufian must considerably predate the Early Bronze Age, based on the stratigraphy and lack of pottery, but it also must postdate the Palaeolithic, based on the microlithic and faunal forms found at the site. At this time, very little archaeological evidence was known between the Palaeolithic and Early Bronze Age. However, Mesolithic and Neolithic sites from other regions, such as Western Europe, certainly would have been known to Garrod, and her expectation of Neolithic forms between the Palaeolithic and the EBA may have influenced the interpretation of the Natufian as agricultural.

Though this initial claim is no longer supported, Garrod's (1932) interpretation of agricultural practices within the Natufian has inspired one of the dominant questions of Natufian research: to what extent can the origins of Neolithic agriculture be identified in

Figure 2.1: Map of the Southern Levant including all sites included in the assemblage presented in this study. Blue triangles mark Early & Middle Epipalaeolithic sites. Red circles mark Late Epipalaeolithic (Natufian) sites. Green diamonds mark Pre-Pottery Neolithic sites.

the remains of the Epipaleolithic? Sickle blades from Hatoula, Abu Hureyra, and Mureybet have been subjected to microwear analysis to demonstrate the various uses of these blades for harvesting wild and cultivated plants (Anderson-Gerfaud, 1983; Anderson, 1994), suggesting that Natufian sickle blades need not necessarily have been used for cultivated plants. Studies on phytoliths and plant remains have identified a wide range of plants used for food, fuel, and other resources (Nadel *et al.*, 2013; Valla *et al.*, 2017; Arranz-Otaegui *et al.*, 2018; Liu *et al.*, 2018). Phytolith studies have also potentially identified patterns of cultivation among key plant species in the Epipalaeolithic, though largely this evidence comes from sites in the Euphrates Valley region like Abu Hureyra (Hillman *et al.*, 2001). Domestication of plants is a lengthy process, and the morphological changes involved in it occur late in the process, suggesting that the appearance of domesticated plant types within the archaeological record is preceded by a period of cultivation (*ibid*.).

The identification of the earliest Neolithic in the region, helped substantially by the excavation of Jericho by Kathleen Kenyon (Kenyon and Holland, 1981; see below), prompted a reconsideration of the term 'Mesolithic' to describe the Natufian and related microlithic assemblages of the region. While Garrod would eventually suggest the interpretation that the Natufian had "…no traceable roots in the past" (1957; page 225), Neuville (Valla, 1999; Goring-Morris and Belfer-Cohen, 2016) and later Perrot (1966) argued for the strong continuity of Natufian assemblages with Upper Palaeolithic assemblages in the region. Perrot (*ibid*.) proposed the term Epipalaeolithic to describe the region as a better term than Mesolithic, to honour and recognise the similarities with the Upper Palaeolithic. The acceptance of Perrot's term served to sever the Natufian from the Neolithic, solidifying a divide which would form the second major question of Natufian research – to what extent, if any, are the Natufian and Neolithic related in the Southern Levant?

Today, the Natufian is well documented at dozens of sites across the Southern Levant and perhaps from sites throughout Anatolia, the Tigris basin, the Zagros, and the Negev (Valla, 1999; Goring-Morris and Belfer-Cohen, 2016; see discussion below, The Core and the Periphery). There is incredible diversity in the archaeological remains of these sites, though some general similarities can be identified as characteristic features of the Natufian archaeological entity. Understanding these common features and where exceptions to the rules may be found is essential to creating the foundation of the study presented in this work.

All Natufian sites can be characterised by the presence of a microlithic toolkit dominating the chipped stone assemblage; most notably lunates (Bar-Yosef, 1998; Grosman, 2013). Helwan retouch (Fig. 2.2) – a distinctive type of bifacial backing – on the lunates is considered a hallmark of Natufian toolkits, while other types of unidirectional and bifacial retouch are known in varying proportions throughout the Natufian (*ibid*.). The proportion of Helwan retouch within a lithic assemblage is frequently used to divide the Early Natufian from the Late Natufian (*ibid*.). Other tool types common to Natufian sites are sickle blades, trapezes, awls or piercers, and microburins (Fig. 2.2; Bar-Yosef, 1991, 1998). Ground stone tools are also considered a characteristic feature of Natufian tool assemblages, though there is considerable variation in type, form, and quantity between sites. Bowls, mortars of varying sizes, pestles, cup-marked stones, querns, and grinding slabs have all been recorded throughout the Southern Levant (Belfer-Cohen and Hovers Erella, 2005; Rosenberg, 2013; Dubreuil *et al.*, 2019). Most commonly, these items are made of locally available basalt, and thus the availability of this resource is likely to impact the quantity of items found at a site (Belfer-Cohen and Hovers Erella, 2005).

Bone tools are frequently identified at Natufian sites, though the distribution of these items is highly varied and patchy, which makes it difficult to use these tools as an identifying feature of a Natufian site (Bar-Yosef, 1998). Sometimes, these bone tools are parts of composite items, such as sickle hafts, designed to be combined with stone items to form larger tools, though bone scrapers and other single-material tools are known (Henry, 1989; Bar-Yosef, 1998). Sometimes, bone tools are also items of artistic expression, such as the zoomorphic sickle haft from el-Wad cave (Garrod, 1932; Fig. 2.3a) or the incised bone spatula-like item from Hayonim Cave (Belfer-Cohen, 1988; Grosman and Belfer-Cohen, 2022; Fig. 2.3b), though these items are rare across the Natufian.

Beyond tool assemblages, most Natufian sites have evidence of permanent stone-built architecture. The normative pattern includes rounded semi-subterranean structures, built of a few courses of stones and interpreted as being topped with a perishable roof structure (Bar-Yosef, 1998; Nadel, 2003, 2004). These structures are, on average, about 3m in diameter and made of undressed stones against the earthen walls of the pit (Nadel, 2003, 2004).

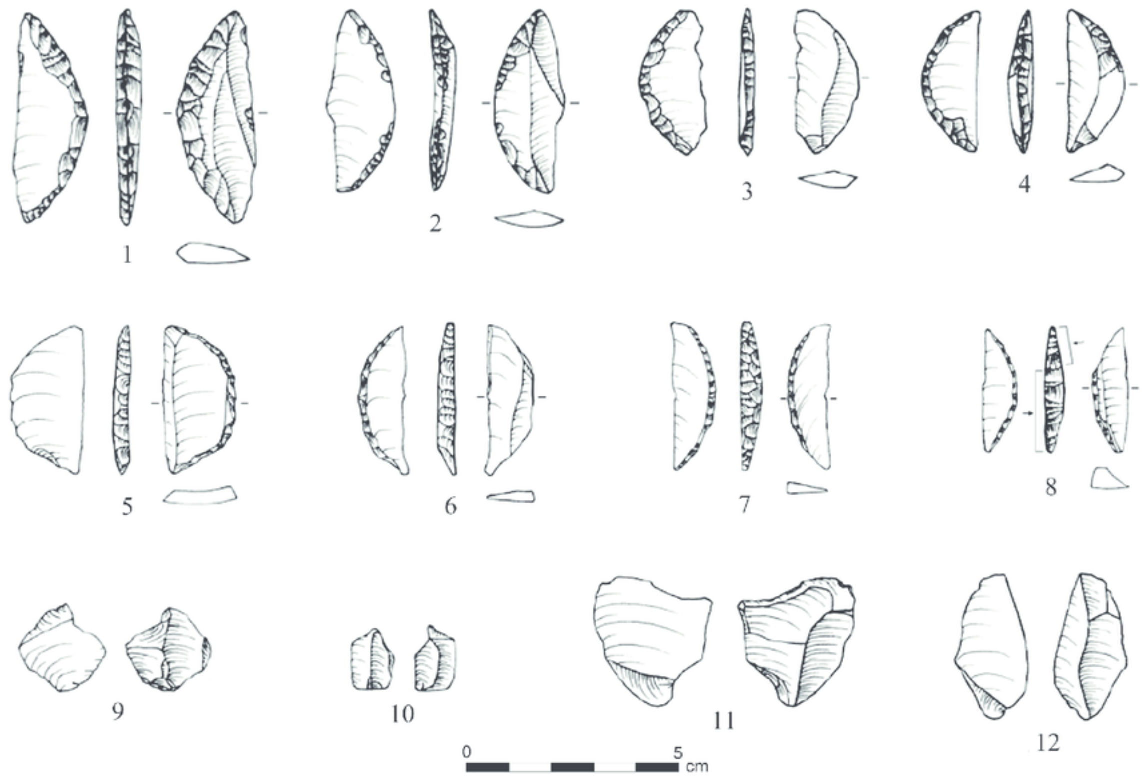

Figure 2.2: 1) Helwan lunate with full bifacial retouch; 2, 4) Helwan lunates with partial bifacial retouch; 3) Helwan lunate with ventral retouch; 5, 6) abrupt lunates with unidirectional retouch; 7, 8) abrupt lunates with bidirectional retouch; 9-12) microburins (Kaufman, 2015).

Structures don't have any internal divisions and generally do not include internal features beyond hearths (*ibid*.). Often, though not always, these structures are interpreted as dwellings or having domestic functions due to the mundane objects found within them. Natufian floors are rarely cleaned, resulting in large quantities of archaeological remains being found within the structures, a pattern which deviates considerably from floor surfaces in the earlier Epipalaeolithic (Nadel, 2003; Hardy-Smith and Edwards, 2004; Samuelian, Khalaily and Valla, 2006).

Figure 2.3: a) zoomorphic sickle haft, carved of bone, from el-Wad Cave (Israel Museum; Israel Antiquities Authority); b) incised bone objects recovered from graves at Hayonim Cave (Grosman and Belfer-Cohen 2022)

el-Wad Cave does not conclusively have any evidence of structures or dwellings, though the cave itself may have acted as a shelter. However, the terrace of el-Wad does have evidence of a stone-built wall and stone pavement (Garrod and Bate, 1937a; Weinstein-Evron, 1998; Weinstein-Evron *et al.*, 2018). Goring-Morris (1995) believes that Garrod's initial excavation notes are sufficiently detailed to support the conclusion of dwellings at el-Wad, though if true these structures were incredibly poorly preserved at the time of their excavation and there is not enough detail to tell us what they might have looked like or what they may have been used for.

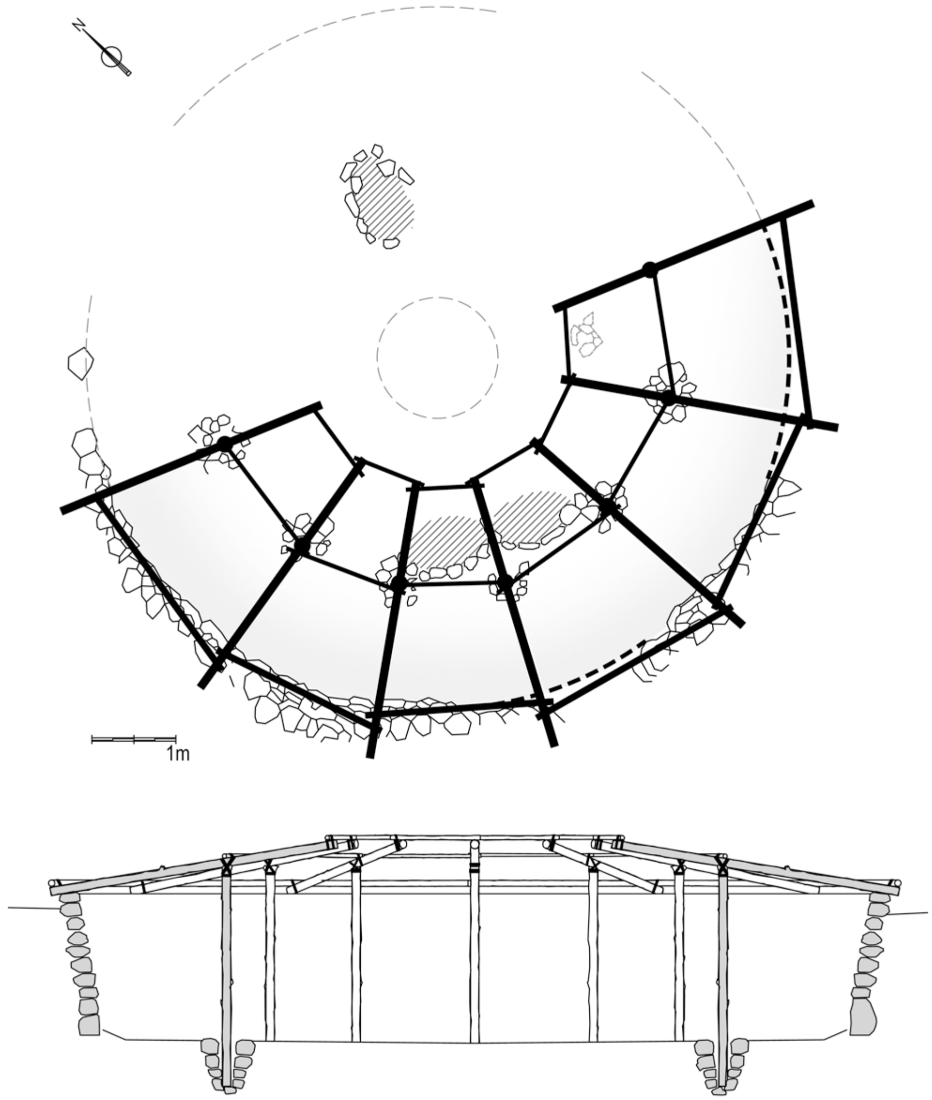

Figure 2.4: Reconstruction of Structure 51 from Eynan (Haklay and Gopher 2015)

Architectural features like the wall and pavement at el-Wad are also well attested at other Natufian sites. Shubayqa 1, for example, has well-defined structures – larger than average but otherwise similar in form to other Natufian structures – which have stone pavement within and between the structures (Richter *et al.*, 2012, 2019). Pavements like this are also known on the terrace of el-Wad (Weinstein-Evron, 1998; Weinstein-Evron *et al.*, 2018). Some architectural features, such as Area A of Nahal Ein Gev II (Grosman *et al.*, 2016) or the superimposed Building 131/51 at Eynan (Valla, 1988; Haklay and Gopher, 2015), are formed of only a semi-circular wall along one side of the structure built into the slope of the site, while the other side is open. As seen in the interpreted reconstruction of Eynan Building 51 (Fig. 2.4) might provide insight into the way these semi-circular walls were used.

These horseshoe-shaped structures measure approximately 14m in diameter and were initially interpreted as communal structures rather than dwellings due to their size (*ibid*.). Hayonim Cave also deviates somewhat from the norm, as the structures are clustered together in a honeycomb pattern within the cave, with several structures sharing walls rather than being free-standing (Bar-Yosef, 1981; Belfer-Cohen, 1988; Bar-Yosef *et al.*, 2017). These structures are also somewhat smaller than the average, at around 2m in diameter (*ibid*.).

Natufian sites often include large quantities of human remains, both within grave contexts and as isolated fragments throughout occupation layers (Bar-Yosef, 1998; Bocquentin, 2003). Not all sites have graves or clearly defined burial areas, though some have well over 50 buried individuals within excavated areas, far exceeding burial numbers in earlier prehistoric contexts in the Southern Levant (Bocquentin, 2003; Maher, Richter and Stock, 2012). At present, it is not entirely clear why some sites were used for large numbers of burials, like Eynan, while other sites have very few or no burials. This may reflect different uses of these sites, with some smaller ephemeral sites having few burials.

In the Late Natufian, some sites are described in the literature as 'cemetery sites', reflecting their primary use for the deposition of the dead, rather than as an occupation site for the living (Valla, 1995; Lengyel and Bocquentin, 2005; Grosman *et al.*, 2008). This term is primarily reserved for Hilazon Tachtit (Grosman *et al.,* 2008) and Raqefet Cave (Lengyel and Bocquentin, 2005) – a pattern which has been followed within this work – as these sites have limited occupation evidence throughout the Natufian. However, there are other sites where this term has been suggested, particularly in sites with long occupation histories such as Nahal Oren, Eynan, or Hayonim Cave (Valla, 1995). At these sites, both occupation and burial evidence are abundant, but it is not clear if these episodes are occurring concurrently or sequentially. If the burial episodes at Hayonim Cave, Eynan, or Nahal Oren occur before or after occupation of the site, or in periods of abandonment, then these burial areas may qualify as ‘cemetery sites’. Improved dating for the materials from Eynan, Nahal Oren, and Hayonim Cave may aid in determining the sequence of events at these sites.

Palaeobotanical remains are not available for all Natufian sites, though where they are available, they indicate a diverse range of plants used for food, shelter, and fuel (Garrard *et al.*, 1988; Nadel *et al.*, 2013; Power, Rosen and Nadel, 2014; Arranz-Otaegui *et al.*, 2018). There continues to be strong debate over the level of cultivation which may have been practiced by various Natufian communities, though the plants are generally species native to the local environment which could have been either harvested in the wild or managed to some degree (Garrard *et al.*, 1988; Arranz-Otaegui *et al.*, 2018; Eitam and Schoenwetter, 2020). Despite Garrod’s (1932) initial interpretation, the available evidence is insufficient to support the Natufian as having an agricultural subsistence strategy. However, plant resources were important dietary components for both daily staples and speciality foods. At Shubayqa 1, for example, residues recovered from ground stone tools have revealed evidence of the earliest known bread-type food identified in the region, a dough made of wild cereals and tubers (Arranz-Otaegui *et al.,* 2018).

Animal remains at Natufian sites indicate broad-spectrum exploitation of local fauna (Churcher, 1994; Munro, 2003; Edwards, Garrard and Yazbeck, 2017). At almost all Natufian sites, gazelle is the dominant species, making up the largest proportion of animal remains using both Minimum Number of Individuals (MNI) and Number of Identified Specimens (NISP) metrics, suggesting it is the dominant faunal food source of most sites (Munro, 2003, 2004; Yeshurun, Bar-Oz and Weinstein-Evron, 2014). Other common species include deer, wild cattle (aurochs), tortoise, birds, and fish, sometimes snakes and other small reptiles, rabbits, and foxes are identified in small numbers (*ibid*.). Several examples of canines within human burials have been identified as domesticated dogs, such as the canine in H104 at Eynan (Valla, 1975; Davies and Valla, 1978) or the canines found at Hayonim Terrace (Tchernov and Valla, 1997), indicating an newly emerging social relationship with this species compared to wild canines.

2.2.1.1 The Core and the Periphery

The Natufian archaeological entity is generally agreed to date from ca. 15,000 cal. BP to ca. 11,500 cal. BP (Stutz, 2004; Maher, Banning, and Chazan, 2011; Grosman, 2013), though refining of these dates through enhanced radiocarbon dating projects continues to be a focus of archaeological literature. However, there is a broad ongoing debate as to the geographic boundaries of the Natufian. The archaeological entity was first identified and described in the coastal Mediterranean region of the Southern Levant, and it continues to be well documented here (Belfer-Cohen and Bar-Yosef, 2000; Goring-Morris and Belfer-Cohen, 2013). This region has become known as a key area of the 'Natufian home range' or, as it is more commonly known, the Core zone (*ibid*.). The presence of the Natufian in this Core zone is uncontested within the literature, and essentially all sites within the above date range within the Core are assigned to the Natufian.

The Steppe and Arid regions of the Southern Levant, including these drier areas of Jordan, Lebanon, Syria, Israel, and Palestine, are also generally included within the Natufian geographic boundaries but are often considered to be secondary regions known as the Periphery zone (Valla, 1999; Goring-Morris and Belfer-Cohen, 2013). Historically, these areas received far less archaeological attention, perhaps contributing to their interpretation as secondary or less important regions. However, recent works, particularly in Jordan's Steppe and Arid regions, have greatly improved our understanding of these regions and call into question the use of the term Periphery to describe the settlements in these areas (Garrard, 2017; Richter, 2017).

More contentious still are the Negev and Sinai regions, which are sometimes included within the Natufian archaeological entity but are often assigned to other entities such as the Harifian (Goring-Morris, 1991; Goring-Morris and Belfer-Cohen, 2013). A similar situation occurs with sites in the Upper Euphrates Valley and Tigris Basin, with sites like Abu Hureyra and Mureybet variably assigned both to the Natufian (ex. , Cauvin, 2000) and to other Epipalaeolithic archaeological entities (ex., Moore et al., 1986) depending on which authors are writing about these layers. The site chronologies of Mureybet (Cauvin and Ibanez Estevez, 2008) and Abu Hureyra (Moore, Hillman and Legge, 2000) do not neatly align with the chronologies known from the Southern Levant Core regions, further complicating the use of the Natufian label for the Epipalaeolithic layers in the Northern Levant.

It is beyond the scope of this project to determine the suitability of the Natufian label in these contentious areas, such as the Northern Levant, Negev, and Sinai. The core of this debate is the lumper/splitter divide, where some archaeologists prefer to accept a greater degree of within-group variation by ‘lumping’ similar sites or technocomplexes into larger groups, while others prefer to recognise greater between-group diversity by ‘splitting’ sites or technocomplexes based on specific criteria. These regions certainly have epipalaeolithic materials and sites, which some lumpers will sometimes call Natufian, while splitters will sometimes assign to other archaeological entities such as the Harafian or Zazarian. This diversity in attribution makes assessments of common patterns among Natufian sites more difficult.

For the purposes of this study, the Core and Periphery zones of the Southern Levant will be used as the geographic boundary of the Natufian and thus define the scope of this study. The sites within these areas are generally agreed to be Natufian and contain lithic, faunal, architectural, and mortuary remains which fit the above-described Natufian pattern. Diversity within and between the Core and Periphery zones is extremely high, however, further problematizing the use of a single archaeological entity to describe these sites.

2.2.2 The Early & Middle Epipalaeolithic

The earliest defining feature of the Epipalaeolithic was the production of microlithic tools, produced from small blade blanks which could be hafted into composite tools (Maher, Richter, and Stock, 2012). Microlithic tools do appear within the Upper Palaeolithic as well, though the dominance of these tool types within a lithic assemblage is considered a defining feature of the Epipalaeolithic (*ibid*.). There is considerable diversity in these tool types, leading to the identification of a wide range of archaeological entities – the Kebaran, the Nebekian, the Nizzanian, the Mushabian, and more - which are variably assigned to these periods (*ibid*.). In the Southern Levant, the Early Epipalaeolithic label is generally used synonymously with the Kebaran label for Epipalaeolithic sites which date from

23,000-17,500 cal. BP and the Middle Epipalaeolithic label is used synonymously with the Geometric Kebaran label for Epipalaeolithic sites dating from 17,500-15,000 cal. BP (*ibid*.).

The Early Epipalaeolithic tool kits are generally characterised by non-geometric microliths which are narrow in form (Maher, 2007; Maher, Richter, and Stock, 2012). The sites are generally small, found in both caves and open-air settings, and generally have low artefact densities within thinner archaeological layers, suggesting an ephemeral occupation of these areas (Maher, Richter and Stock, 2012; Richter *et al.*, 2010; Nadel, 2017). Alternatively, Kharaneh IV and Jilat 6 both appear to have been large and intensely occupied sites within the Early Epipalaeolithic (Richter *et al.*, 2013; Jones *et al.*, 2016). Architectural features are rare, but a handful of sites demonstrate evidence of perishable hut structures including Ohalo II (Nadel, 2003, 2004), which has evidence of six brush huts preserved (see section 3.4.1 for full description) that are generally similar in shape and size to the structures known from the Late Epipalaeolithic suggesting long-term continuity. Two oval hut structures are also known from the Early Epipalaeolithic layers of Kharaneh IV (Ramsey *et al.*, 2018; Maher, McDonald, and Pomeroy, 2021). A series of floor surfaces within depressions of the surface at Ein Gev I have also been interpreted as evidence of perishable structures (Belfer-Cohen *et al.*, 2004; Maher and Conkey, 2019).

Middle Epipalaeolithic tool kits are also dominated by microliths, but geometric forms such as trapezes are increasingly prevalent within these assemblages (Maher, 2007; Maher, Richter and Stock, 2012). In comparison to the Early Epipalaeolithic, the Middle Epipalaeolithic sites demonstrate a greater diversity in size, geographic distribution, and occupation (*ibid*.). Kharaneh IV is also large and intensely occupied within the Middle Epipalaeolithic, interpreted as an aggregation site (Martin, Edwards and Garrard, 2010; Jones *et al.*, 2016). Other sites, however, demonstrate short occupation for task-specific purposes through their thin archaeological layers with specialised material remains (Clark *et al.*, 1988). Structures and clearly defined floor levels continue to be rare but known throughout the Middle Epipalaeolithic (Maher, Richter, and Stock, 2012).

Mobile art is generally rare within both the Early & Middle Epipalaeolithic periods, but they are not unknown. The early levels of Kharaneh IV, for example, include incised and carved bone (Fig. 2.5f and 2.5g) within the occupation layers, which Maher, Richter, and Stock (2012) suggest are similar to finds from Ohalo II, Saaide II, even to some known Upper Palaeolithic examples throughout Europe. The Middle Epipalaeolithic site of Uyun al-Hammam includes a carved bone ‘spoon’ and ‘dagger’ within two graves (Maher, 2005; Maher, Richter and Stock, 2012). Personal ornamentation, in the form of pierced marine shells, is common throughout both the Early & Middle Epipalaeolithic periods. These items are more commonly identified at large aggregation sites like Kharaneh IV, which Maher, Richter, and Stock (2012) suggest is evidence of their use as personal identity markers within a social context.

Figure 2.5: e) pierced marine shell from Kharaneh IV, f) incised bone pendant from Kharaneh IV, and g) incised bone fragments from Kharaneh IV. (Maher, Richter, and Stock 2012)

Human burials are rare but known throughout the Early & Middle Epipalaeolithic periods, with the highest number of individuals recovered from Uyun al-Hammam (Maher, 2005, 2007; Maher, Richter and Stock, 2012). Burials are generally similar between both periods; most sites with burials include only a small number of individuals, generally buried in a single primary context with some grave inclusions such as tools, animal remains, or stones (Maher, Richter, and Stock, 2012). At Kharaneh IV, an Early Epipalaeolithic skeleton excavated from Structure 2 (Appendix A: 14.03) is closely associated with the destruction of the structure (Maher *et al.,* 2021). Maher *et al*. (*ibid*.) interpreted the body as having been wrapped and placed on the floor of the structure immediately before the intentional burning of the roof structure, which was then covered in a sterile sediment, sealing off the burial. This form of close association of a human burial within an architectural feature, rather than adjacent to a structure, is not known from any other Early or Middle Epipalaeolithic site.

The ephemeral nature of many Early & Middle Epipalaeolithic sites means these periods are underrepresented in the archaeological record in comparison to the intensive occupation sites of the Late Epipalaeolithic. The evidence that is known, however, demonstrates strong continuity from the Upper Palaeolithic to the Late Epipalaeolithic and beyond, further highlighting the gradual nature of change within the region. In particular, the long-term continuity in human burial, architectural features, hunting patterns, and potentially symbolic artistic and ornamentation items, demonstrates that Childe's (1936) so-called 'Neolithic Revolution' was instead a "[…] culturally dynamic process […]" which "[…] extend[ed] over more than 10,000 years of Near Eastern prehistory." (Maher, Richter, and Stock, 2012; pp. 79).

Throughout this work, the Early and Middle Epipalaeolithic periods have been combined. In chapters 5 and 6, this is necessary due to the extremely low burial frequencies in these periods limiting their ability to be included individually within statistical analyses. However, the combining of these periods masks considerable diversity within and between these chronological periods which cannot be adequately appreciated within the methodological frameworks employed here. For a more detailed summary of the chronological changes occurring in the Early and Middle Epipalaeolithic periods, readers are directed to Maher, Richter, and Stock (2012).

2.2.3 The Pre-Pottery Neolithic

The Pre-Pottery Neolithic is the earliest phase of the Neolithic in which larger-scale permanent settlements, with evidence of agriculture and even animal domestication, are evident in the absence of any evidence of pottery use (Kenyon, 1957; Bar-Yosef, 1989; Belfer-Cohen and Goring-Morris, 2010). Though this period immediately follows the Late Epipalaeolithic (Natufian), and limited genetic evidence from Raqefet Cave might suggest population continuity in the region (Fernandez-Dominguez, 2023; Wang *et al.*, 2023), there are very few sites with evidence of occupation in both the Epipalaeolithic and Pre-Pottery Neolithic, and fewer still with evidence of somewhat continuous occupation through the transition.

The Pre-Pottery Neolithic is generally divided into three phases: the Pre-Pottery Neolithic A (PPNA), Pre-Pottery Neolithic B (PPNB), and Pre-Pottery Neolithic C (PPNC), though the PPNC is poorly understood and not always evident in archaeological assemblages. While all phases demonstrate some evidence for agricultural practices and settled communities, the archaeological remains differ considerably.

2.2.3.1 The PPNA

The PPNA of Southwest Asia is the first evidence of a ‘Neolithic lifeway’ anywhere in the world, beginning as early as 11,500 cal. BP (Stutz, 2004; Belfer-Cohen and Goring-Morris, 2010). The sites belonging to this period are generally larger than those of the Late Epipalaeolithic in the region, often with more substantial architectural features such as the tower and walls of Jericho (Kenyon, 1952, 1957; Kenyon and Holland, 1981). Evidence of animal domestication is contentious, and it's generally thought no animals except dogs had been domesticated by this period – though Smith *et al*. (2022) make a convincing case for the capture and keeping of small populations of wild sheep at Abu Hureyra during the Epipalaeolithic based on the dung evidence within the site. If true, this suggests that animals may have been maintained and controlled prior to being domesticated in the Levant.

Domestic structures of the early PPNA do not differ substantially from preceding periods in the Southern Levant (Kenyon and Holland, 1981; Bar-Yosef, 1989; Hemsley, 2008; Finlayson *et al.*, 2011). These domestic structures are small, semi-subterranean, and rounded, with limited internal structures, similar in size and shape to those known from Ohalo II, and throughout the Natufian (Bar-Yosef, 1989; Hemsley, 2008; Finlayson et al., 2011). The walls are generally made of a few courses of stones, though mud-plaster is sometimes used to secure the stones, which was a novel addition to the architectural features of this period (*ibid*.). Towards the end of the PPNA, internal structures such as benches and dividing walls become increasingly common, as the general house plan takes on a more rectangular shape (Kozlowski, 2006).

The communal structures of the PPNA are much larger than the domestic structures, though they are generally still semi-subterranean and rounded. The tower and walls of Jericho, for example, follow a rounded pattern of construction rather than being angular (Kenyon and Holland, 1981). The 'amphitheatre-like' (Mithen, 2022; pp. 162) structure of Wadi Faynan 16 is also broadly rounded and larger than the domestic structures known at the site. Beyond the Southern Levant, the Anatolian PPNA sites such as Karahan Tepe (Çelik, 2011; Karul, 2021), Gobekli Tepe (Schmidt, 2000; Banning, 2011), and Kortik Tepe (Özkaya and Coşkun, 2009; Benz *et al.*, 2015) also include rounded and semi-subterranean structures in both domestic and communal contexts.

Gazelle is generally the dominant faunal species, showing strong continuity from the Epipalaeolithic, with deer, wild boar, and wild cattle frequently identified within faunal assemblages (*ibid*.). Emmer wheat and barley are identified in large quantities at sites like Tell Aswad, Jericho, Netiv Hagdud, and Gilgal (Bar-Yosef, 1989), suggesting cultivation of these plant species at these sites. There is limited evidence of morphologically identifiable domesticates, though domestication is a long and slow process which leaves little archaeological trace in the earliest stages. As stated by Bar-Yosef (1989), extensive gathering of fruits and seeds likely continued alongside the cultivation or domestication of cereal grains.

Burials from the PPNA are generally single and primary, lacking in grave goods, demonstrating strong continuity from the Late Natufian (Bar-Yosef, 1989; Belfer-Cohen *et al.*, 1990; Croucher, 2005, 2012; Belfer-Cohen and Goring-Morris, 2010). Increasingly, cranial elements are removed from the graves of adults, and the skulls are utilised within living spaces or reburied (Croucher, 2005, 2006b, 2012). Kuijt and Goring-Morris (2002) have suggested a differentiation between adults and infants, with infants frequently buried beneath structures while adults are more commonly buried within or nearby to structures, however, the available evidence to support this claim is limited as sufficiently fine-grained spatial data is not available for several PPNA burial sites (Mithen *et al.*, 2015).

Overall, there is strong continuity between the Late Epipalaeolithic (and, indeed, the Early & Middle Epipalaeolithic) and the PPNA. Despite the limited sites with evidence for continued occupation, it appears that the PPNA develops locally in the Southern Levant from the Late Epipalaeolithic communities in the region. It is not yet clear why there appears to be a gap in our archaeological knowledge between the Epipalaeolithic and PPNA, though continued excavations and improved dating of archaeological layers may help to reveal occupations during this transitional period. Similarly, there are not many sites which appear to be continuously occupied between the PPNA and the PPNB, though re-occupation of some sites is known. It is not clear why these sites are abandoned, nor is it clear why they are later reoccupied.

2.2.3.2 The PPNB

When archaeologists discuss the ‘Neolithic package’ of characteristic traits associated with a Neolithic lifeway (Childe, 1936; Zeder, 2009) they are often discussing the traits which first clearly appear either early in the Epipalaeolithic, or later in the PPNB (Finlayson, 2013; Fig. 2.6). Settlements become densely populated, with tight clusters of rectilinear structures constructed together, sometimes with multiple levels within each structure (Kozlowski, 2006; Finlayson, 2013; Finlayson and Makarewicz, 2018). Evidence for animal domestication and intensive agricultural practices is increasingly common, suggesting an increasing reliance on food production rather than food procurement (Munro *et al.*, 2018; Stiner, Munro and Buitenhuis, 2024). Settlements also became larger, suggesting a growing population within these settled communities (Finlayson, 2013, 2020), though it is not clear to what extent this growth is a result of increasing birth rates or increasing migration.

Particularly in the Southern Levant, the PPNB sees the dramatic increase in artistic expression through the creation of carvings, figurines, wall plastering and painting (Kuijt and Chesson, 2004; Strouhal, 1973; Simmons *et al.*, 1990; Daems and Croucher, 2007; Verhoeven, 2007; Metin Büyükkarakaya *et al.*, 2024; Vurdu, 2024). These items have been seen by some, including Jacques Cauvin (Cauvin, 1972, 2000) and James Mellaart (1989) , as a reflection of an increasing reliance on spiritualism and potentially religious practices, though the interpretations of figurines as representing goddesses has been subject to considerable critique (Meskell *et al.*, 2008; Hodder, 2011; Nakamura and Meskell, 2013). It should be noted, however, that this apparently sudden explosion of artistic expression is considerably less dramatic in other regions of Southwest Asia. In Anatolia, for example, the artistic assemblage of the PPNA is rich and diverse, including considerable carvings and figurines (Peters and Schmidt, 2004; Çelik, 2011; Siddiq, Şahin and Özkaya, 2021; Mithen, Richardson and Finlayson, 2023).

PPNB burials and deposition contexts are diverse. Single primary interments with limited evidence for grave inclusions are common across all sites, with post-depositional cranial removal well attested amongst the adult remains (Kuijt and Goring-Morris, 2002; Croucher, 2012). Caches of human remains, particularly cranial remains, within and beneath structures are also common (*ibid*.). The famous plastered skulls, cranial remains with layers of plaster and pigment modelled into facial features, are found from several PPNB sites in the Southern Levant and sometimes into Anatolia and North Mesopotamia (Croucher, 2012). Though not found at every site, these plastered skulls are known throughout the PPNB and continue into the Pottery Neolithic, with examples known from Çatalhöyük and Köşk Höyük (*ibid*.).

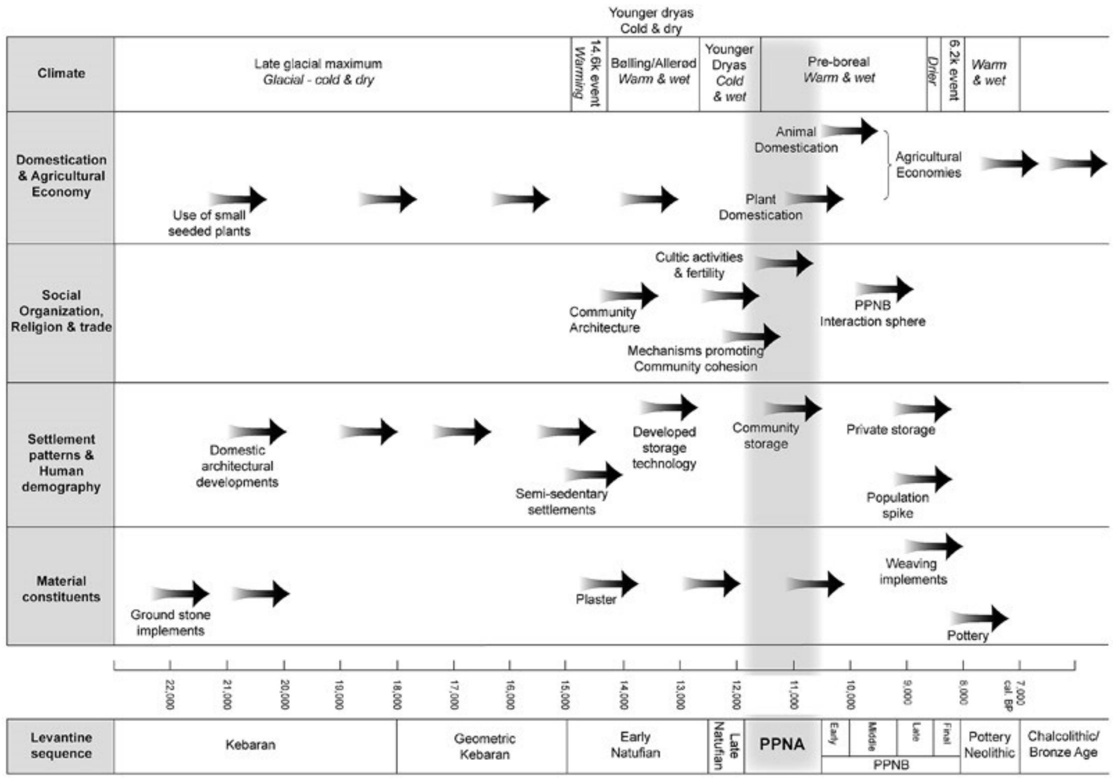

Figure 2.6: A timeline of the 'Neolithic Package'. From Finlayson (2013) as modified from Zeder (2009).

2.2.4 What's in a Name? Chronology and Archaeological Entities

The cultural-historical paradigm of early archaeology (for a detailed summary, see Webster, 2008; Shennan, 2012; Stout, 2013) was primarily focused on describing and documenting archaeological assemblages and assigning them to particular cultural entities. Similarities in archaeological remains were taken to suggest a shared cultural practice, and thus the sites were categorised and analysed together (*ibid.*). Thanks to the popularity of processual and post-processual archaeology, among other theoretical developments within the field, archaeological interpretation has been substantially enhanced and moved beyond simple categorisation. However, no paradigm is ever truly erased from our thinking; instead, older ideas may be combined with novel developments or may lurk within our biases, assumptions, or habits (Richter and Maher, 2013; Feinman and Neitzel, 2020). The everlasting presence of the cultural-historical paradigm is particularly clear in the naming of archaeological entities.

The Natufian, like many archaeological entities, was named at a time when cultural-historical archaeology dominated the literature. The name was used to describe archaeological sites in the Southern Levant which contained the characteristic microlithic tools such as Helwan lunates. Dorothy Garrod (Garrod, 1934, 1936, 1957), Dorothy Bate (Garrod and Bate, 1937a, 1937b, 1938, 1942), Sir Arthur Keith (Keith, 1932) and others working at the time spoke of the Natufian and 'Natufian Man' as though the term 'Natufian' described a population or community, the way nationality labels may be used today. Inherent to the use of the term was that the Natufian was a unique and discrete culture which could be identified clearly from the archaeological remains left behind.

Today, archaeology more broadly recognises that archaeological entities do not necessarily correspond to cultural groups with a shared cultural history or connection (Richter and Maher, 2013; Watkins, 2013; Feinman and Neitzel, 2020). Moving beyond a primary focus on lithic technology has also led to the recognition that sites may be similar in some respects but wholly different in others, further problematizing the categorisation of sites together (*ibid*.). Furthermore, in the absence of written documentation, we have no way of understanding how these communities thought about themselves or the other communities in their vicinity, meaning we do not know how they culturally identified themselves.

Despite the acknowledgements of the problems with cultural labels, archaeology continues to utilise them broadly (Feinman and Neitzel, 2020; Watkins, 2013). As has been aptly discussed by Richter and Maher (2013), this problem is at least in part due to a lack of suitable alternative terminology – we simply don't have an accepted way of categorising sites without unintentionally implying a shared 'culture' through the use of cultural-historical labels. Some authors, such as Watkins (2013), have suggested the abandonment of entity labels entirely and instead supported the – generally unpopular - use of chronological categories and labels focused on the years being discussed. However, chronological labels come with the problem of creating arbitrary boundaries and the difficulty in deciding the limits of these chronological categories. For example, if 1000-year increments are utilised, then sites at the end of that 1000-year increment are categorised with sites from the beginning of that millennium, despite being far more contemporary with the sites at the beginning of the next millennium.

As highlighted by Pirie (2004), it is also important to acknowledge the ways that we construct our archaeological narratives and how these choices impact our understanding of the past. The terminology we use to identify and categorise archaeological entities, and the criteria by which we create them, have impacts on how we understand these periods (*ibid*.). This is particularly important when considering how different sites are assigned to archaeological entities in the Epipalaeolithic of Southwest Asia. Sites assigned to the Zarzian in the Zagros, which is thought to overlap with the Early Natufian (Olszewski, 2012), will have a number of similarities and a number of differences to those sites in the Southern Levant, and which aspects of material culture are selected as the focus can suggest more or less similarities between the two entities.

The use of common labels can be, with important caveats, beneficial to archaeological interpretations by allowing for comparative work and common language when discussing sites and materials. It is, however, important to stress that these labels are intended only for the categorisation of archaeological materials into a type or pattern and not intended to suggest a cultural or ethnic identity of the people who made these archaeological remains (Richter and Maher, 2013; Feinman and Neitzel, 2020). Throughout this work, cultural and chronological labels – for example, Natufian or Late Epipalaeolithic – are used as a reflection of the common standards of archaeological literature today. These labels, however, are used merely to categorise the archaeological material at these sites together, and not to suggest or imply a cultural affinity or shared identity between these sites.

2.2.5 Packaging the Neolithic: Terminology and Transitions

The 'Neolithic Revolution' model proposed by V. Gordon Childe (1936) has, and continues to have, a substantial impact on the archaeological interpretations of the Epipalaeolithic of the Southern Levant. This model proposed the rapid adoption of agricultural practice and accompanying technological and subsistence traits, which considerably altered the lifeways of the people living at this crucial point in human history (*ibid*.). Traits and behaviours such as the use of pottery, animal domestication, sedentary living, storage systems, and long-distance trade of nonessential items were all considered to accompany agricultural lifeways, becoming known as the 'Neolithic Package' (Zeder, 2009; Finlayson, 2013). Some authors, particularly Cauvin (1972, 1989, 2000), have viewed the transition to agriculture as a transition of mind and belief as much as of technology and subsistence. Novel conceptualisations of death, life, and the afterlife are often viewed within the Neolithic Package model, and integral to *becoming* Neolithic (Cauvin, 2000; Mithen, 2019).

The revolutionary speed of agricultural adoption suggested by Childe (1936) is overwhelmingly unsupported by the current knowledge of the archaeological record. The adoption of agriculture is known to be a slow, dynamic process which spans thousands of years, with independent centres of plant domestication arising throughout the Fertile Crescent (Finlayson, 2013). The current state of archaeological knowledge also seemingly demonstrates that agricultural practices were abandoned and readopted in some locations, further problematizing the use of the term 'revolution' within this context. Similarly, the adoption of other aspects of the Neolithic Package arise in a slow, patchy, and non-linear fashion, and are not adopted at the same time (Finlayson, 2013; Zeder, 2009). Acknowledging the nuance of this transition, the use of Childe's (1936) 'Neolithic Revolution' term has largely fallen out of fashion, replaced by the term Neolithization.

Neolithization as a concept describes the lengthy, slow, and dynamic process of *becoming* Neolithic; that is, the adoption of the traits included in the Neolithic Package. Furthermore, it acknowledges that the adoption of both agriculture and the accompanying traits is a multi-step process, and that the 'Neolithic Package' is not adopted wholesale into the region. However, like the Neolithic Revolution model before it, Neolithization is largely only a valuable term in hindsight, as it fails to account for the lived experiences of individuals and communities living during the Epipalaeolithic-Neolithic transition. It is only through hindsight that we can determine the impact of the adoption of one trait – say, cultivation of barley – on the future. Individuals living at the time had no intention of adopting agriculture or *becoming* Neolithic; they began cultivating barley without the knowledge of what was to come.

Whether the Neolithic can be considered a discrete ‘cultural’ or archaeological entity at all is up for debate (Croucher, 2012; Finlayson, 2013; Finlayson and Makarewicz, 2013; Richter and Maher, 2013). It is beyond the scope of this work to review the totality of evidence for continuity and discontinuity between the Epipalaeolithic and Neolithic, though the brief above summaries suggest strong continuity in several traits between these periods. At the minimum, it should be clear that the boundary separating the Epipalaeolithic from the Neolithic is particularly blurred, and though a date has been established within the literature (ca. 11,500 cal. BP; Stutz, 2004), it is important to emphasise that this date is an arbitrary one assigned by archaeologists. Throughout this work, I have favoured the term Epipalaeolithic-Neolithic Transition to combine both the Late Epipalaeolithic and the Pre-Pottery Neolithic A for the purposes of discussion (Watkins, 2023). In many ways, these periods are differentiated from both the earlier Epipalaeolithic periods and from the later PPNB and Pottery Neolithic periods, suggesting that the change in lifeways from the hunter-gatherers of the Epipalaeolithic to the sedentary farmers of the Neolithic occurs throughout this period.

2.3 Mortuary Remains in Social Archaeology

Mortuary remains in the form of burials and the skeletons they contain have been a focus of academic interest and public fascination since the early days of archaeological research. The crowds of visitors clamouring every day for a view of the mummies at the British Museum demonstrate the ongoing desire of the general public to learn from and interact with the dead. Croucher *et al.* (2020) have suggested that this fascination stems from a desire to understand life and death in the past and present and to contemplate mortality in a safe and sanitised way, as archaeological death is less emotionally overwhelming than the death of a loved one. Academically, the focus on mortuary evidence is diverse. A focus on the skeletal remains may be utilised to track diseases in the past through palaeopathological assessments. Migration and mobility may be tracked through isotopic analysis or aDNA samples taken from the bones (Santana *et al.*, 2021; Lazaridis *et al.*, 2022; Wang *et al.*, 2023). Technological advancements may be traced through the appearance of metal objects within grave contexts or through novel mortuary architecture created to house the remains.

Social archaeology focuses primarily on the social lives of the people living in the past, studied through the remains they left behind in the archaeological record. Death is a major event within the social life of an individual and a community, and burial remains provide a unique avenue through which to evaluate this social event. Throughout the history of social archaeology, mortuary remains have been used to evaluate different aspects of the ancient and historic social world. Here, I will briefly review some of the main avenues. Importantly, though discussed separately here for simplicity and clarity, these elements of mortuary studies are not mutually exclusive and are often interrelated in practice.

2.3.1 Burials and Cultural Change

2.3.1.1 A Brief History of Cultural-History and Neoevolutionary Approaches

The so-called 'cultural-historical' approach of functionalist archaeology – an approach heavily favoured by authors such as V. Gordon Childe (Childe, 1936; Greene, 1999) – sought to identify cultural groups in the past by categorizing the archaeological remains left behind. This archaeological paradigm held that groups of people naturally developed traditional or normative practices which they passed down to the next generation, resulting in consistent and predictable remains (Webster, 2008; Shennan, 2012; Stout, 2013). Stone tool types, burial patterns, pottery styles, and all manner of archaeological remains could be categorized in such a way that revealed the cultural tradition from which these objects came. Burial traditions were thought to be a relatively conservative aspect of a cultural practice making them resistant to cultural change and ideally suited to tracking cultures through time (*ibid*.).

Initially, this approach in archaeology held that cultural traditions would be maintained and preserved as long as new ideas were not introduced into the population from outside – that is, without contact with other societies, culture would not change (Webster, 2008; Chapman, 2013). This led to the suggestion that all similarities in culture were due to some form of contact, either through migration, trade, or invasion (*ibid*.). Ultimately, it was determined that cultural change occurred within stable communities as well, in the absence of major migration or trade, leaving archaeologists to explain a method of cultural change that did not involve the physical movement of people (*ibid*.).

At the same time, there was a growing desire to improve the scientific value of archaeological interpretation, by integrating principles and practices from traditional science streams to explain archaeological evidence. The application of Darwinian Evolutionary Theory to cultural change produced a range of Neoevolutionary models to explain the process by which new cultural traits appeared within a community, and thus within the archaeological record. These theories have been thoroughly described elsewhere (Service, 1962; Barton and Clark, 1997; Palavestra and Porcic, 2008; Shennan, 2012; Chapman, 2013) but it is valuable to consider how they have impacted our understanding of archaeology in general, and mortuary practices in particular.

Under Neoevolutionary theories burial practices, like other cultural traditions, are viewed as functional social behaviours with a cost and benefit to the actor, and on which selections pressures can act (Service, 1962; Barton and Clark, 1997; Palavestra and Porcic, 2008; Shennan, 2012). Behaviours with increased benefits to the actor – for example, reducing illness by removing decaying corpses from the living areas – are more likely to be taught to future generations and therefore will increase in prevalence until they become a cultural norm (*ibid*.). This model works in much the same way that natural selection works on selecting for genes with higher benefits and selecting against genes with higher costs to the individual. Unlike genetic inheritance, however, behaviours and practices can be passed from any individual within a community to any other individual, through direct teaching or observation, and thus the possible behavioural variations are high within communities (*ibid*.).

Neoevolutionary theories discuss changes in behaviour, and ultimately changes in culture, in the way that a biologist may discuss the adaptation of a limb or other physical feature (Service, 1962; Shennan, 2012). Within a behaviour like burial, as an example, a particular trait such as the addition of more grave goods, may incur additional social benefits for the actor by establishing them as a wealthy and generous individual (*ibid*.). This social benefit would render the addition of grave goods a valuable action, and thus this actor may teach it directly to their offspring. Other individuals in the group may also learn this behaviour through observation and attempt to copy the behaviour (*ibid*.). Eventually, grave goods are added to every grave, and the presence of these grave goods becomes a cultural characteristic which can be tracked in the archaeological record. The culture without grave goods essentially 'evolves' into the culture with grave goods.

The critiques of Neoevolutionary theory have been diverse but ultimately can be boiled down to two main questions on the applicability of these models; 1) is all human behaviour inherently functional and optimized? and 2) does a culture 'evolve' to become another? (Boone and Smith, 1998; Bamforth, 2002; Palavestra and Porcic, 2008). Neoevolutionary theories frequently do not provide a clear pathway of how a behaviour or cultural trait confers benefits to the individual actor through either survival or reproductive success (*ibid*.). Furthermore, we are likely to be able to think of behaviours or actions we take in our own day-to-day lives which don't appear to have a specific function in terms of success; it is not clear that all behaviours within a cultural tradition have functions on which cultural selection can act.

2.3.1.2 Cultural Change in the Epipalaeolithic-Neolithic Transition

In the Epipalaeolithic-Neolithic transition of the Southern Levant, Neoevolutionary interpretations continue to be common. Whether explicitly or implicitly suggested, there is the assumption that the Natufian in some way 'evolves' from the Early & Middle Epipalaeolithic communities, and in some way 'evolves' into the Pre-Pottery Neolithic. Biological continuity in the region is supported by the limited available aDNA evidence (Fernandez-Dominguez, 2023; Wang *et al.*, 2023), but there is little evidence to suggest settlement continuity. Given the current knowledge of archaeological remains in the Southern Levant, there appears to be a lack of known sites between the end of the Natufian and the beginning of the PPNA, resulting in a gap in our archaeological record.

There is little evidence for linear change or adoption of cultural traits throughout the Epipalaeolithic and early Neolithic periods (see above, Fig. 2.6). Features such as the size and general shape of houses appears remarkably consistent throughout these periods, until the very end of the PPNA when rectilinear structures begin to appear (Nadel, 2003;

Hemsley, 2008). Lithics, on the other hand, are noticeably different between each period, with projectile points rapidly replacing microlithics at the end of the Epipalaeolithic (Bar-Yosef, 1989; Belfer-Cohen and Goring-Morris, 2010). This does not demonstrate that these periods represent different cultures along an evolutionary line, however, it is merely a reflection of the use of lithics in defining these cultural entities in the first place.

Among the mortuary evidence, patterns have been suggested. Kuijt (1996) for example highlights that the Late Natufian mortuary practices are characterized by some evidence of cranial removal, a dominance of single interments, and an absence of grave inclusions. These same characteristics are also present in the PPNA, though cranial removal is more common, and burials are increasingly associated with architectural features (*ibid*.). But architectural associations are also common in the Early Natufian, along with a small but noticeable proportion of decorated graves, and the frequent burial of single individuals (Belfer-Cohen, 1991a; Bocquentin, 2003; Grosman and Belfer-Cohen, 2022). Furthermore, not all sites within these periods have the same burial patterns as their contemporaries. In general, burial traits do not appear to 'evolve' linearly or consistently. Instead, they appear, disappear, and change in a messy and diverse mosaic of mortuary behaviour. It is also imperative to explore whether these observations made by Kuijt (1996) and Bocquentin (2003) continue to be supported by the archaeological evidence which has been excavated in the decades since their publications.

2.3.2 Burials and Beliefs About Life and Death

When reading on the archaeology of belief and death, one will inevitably come across terms such as *religion*, *spirituality*, and *ritual*, among many others. While some authors have endeavoured to provide clear definitions when using these terms, many publications take for granted that all readers will assume the same definition of these highly nuanced terms. I will begin here with a brief description of how I intend these terms to be understood throughout my work.

The vast literature on the anthropology of religion demonstrates the lack of a clear or consistent definition for the terms *religious* or *spiritual*. The term *religion* is generally said to categorize a set of structured beliefs which govern both worldview and daily life, as well as dictate social norms and practices in special circumstances, though there are an abundance of other definitions across and within academic fields (see Eller, 2021and the references therein). The above generalised definition carries with it the assumptions of a centrally organized religious power, either through spiritual leaders or social structures such as churches. Though it is difficult to identify religion archaeologically, particularly in the absence of writing, the standardisation and consistency of practices may point to central organization of belief systems.

Spirituality is sometimes considered as an element of religion – the beliefs and related practices, rather than the structure and form – though spirituality is sometimes discussed (Bartolini, MacKian, and Pile, 2018). Oftentimes, the term spirituality is used as a sort of stepping-stone to describe behaviours or actions which are more sacred than the mundane but not organized or structured enough to qualify under the definition of religion being utilized. In this way, the term spirituality is incredibly broad, but often of little practical use within comparative archaeological works.

The term *ritual* is vastly broader still. In many of popular definitions within the archaeological literature, ritual is said to consist of actions or behaviours which are formalized, repetitive, and often symbolic in nature (see Verhoeven, 2012 and the references therein). In archaeological practice, however, it is often difficult to differentiate material traces of repetitive mundane behaviours from repetitive ritualistic ones. Like spirituality, ritual has historically been employed loosely, and it has been used to explain the material culture which is otherwise difficult to situate within mundane daily life.

The relationship between death and the spiritual or religious world is a concept with which we are all familiar, regardless of our own beliefs. It is not surprising, then, that mortuary remains are taken as evidence of cosmological beliefs about life, death, and the afterlife, particularly within prehistoric periods where these beliefs are difficult to interpret. Archaeology has traditionally relied on ethnographic examples and anthropological discourse to provide interpretations and hypotheses about beliefs and practice in the past

(Hageman and Hill, 2016a; Hill and Hageman, 2016b), though there is increasing effort to better incorporate proxies for belief from within the archaeological record.

In his detailed summary of the history and development of burial as a funerary practice, Pettitt (2011) discusses the various ways that animals and early hominids managed death. Corpse abandonment and caching, behaviours which appear to substantially predate burial (*ibid*.), can both be seen as behaviours intended to remove the deceased from the living community. Funerary caching may also take on an element of creating a place of remembrance through the repeated use of a cave or other cache location (*ibid*.). Early examples of funerary deposits, simple pits with the body placed inside, could also be seen through the lens of a desire to remove the decaying corpse from site, though they are often interpreted as having more significance within the living community. As burials become increasingly elaborate, however, they are ubiquitously viewed through the lens of cultural or spiritual significance.

The concept of ancestors within ethnographic and archaeological literature is a popular topic when discussing beliefs about the dead. As summarised by Hageman and Hill (2016), American and European scholars have been fascinated by concepts of worship of ancestors – spirits of the dead who become almost deified under certain culturally-constrained conditions. The definition of who is, and who isn't, an ancestor varies considerably between communities, but a simple overarching definition holds that ancestors are certain deceased individuals who have direct living relatives, and who have been transformed into ancestors through rituals and other avenues supported by the living (Fortes, 1965; Hageman and Hill, 2016). In some communities, however, ancestors may also have been childless individuals, as is the case for the Lugbara of Uganda (Middleton, 1960; Hageman and Hill, 2016).

Archaeologically, ancestor worship is suggested as an explanation for a range of mortuary and non-mortuary behaviours, including the megalithic tombs of Neolithic Europe (Barrett, 1990; Hill and Hageman, 2016) or even megalithic monuments such as Stonehenge (Parker Pearson, 2000). Human remains, specifically bone, are seen as important relics or symbols of ancestor worship within a variety of ethnographic communities, though Hill and Hageman (2016) point out that human remains are not necessary for the worship of ancestors within several communities.

Unfortunately, the term *ancestor worship* is often employed in archaeological contexts with no clear definition for what the authors intend the term to describe. Throughout this work I have utilized the above definitions by Fortes (1965) and Hageman and Hill (2016), where ancestor worship is not simply the commemoration or memorialisation of recently deceased loved ones, but rather implies a collective, structured practice of ritualised veneration of deified dead. It should be noted, however, that many authors have utilised the term in archaeological literature on the Epipalaeolithic-Neolithic transition of the Southern Levant to describe commemoration of the deceased in all manners.

2.3.2.1 Life and Death in the Epipalaeolithic-Neolithic Transition

As mentioned above (section 2.2.4), elements of belief and spiritualism are often integrated into Neolithic Package models, with some authors like Mithen (2019) or Cauvin (1972, 1989, 2000) suggesting that the adoption of agricultural lifeways was accompanied by a cognitive shift allowing for the development of novel concepts like spiritualism or even religion. It has been argued that the mortuary remains from the Late Epipalaeolithic and Pre-Pottery Neolithic, along with the growing evidence for artistic expression in these periods, is evidence of increasing spiritual or religious practice dominated by an understanding of death, life, and an afterlife (Cauvin, 1972, 1989, 2000; Peters and Schmidt, 2004; Meskell *et al.*, 2008; Mithen, 2019, 2022; Siddiq, Şahin and Özkaya, 2021).

Figure 2.7: a) Plastered skull from Beisamoun (Photo © Israel Museum, Jerusalem, by David Harris); b) Plastered skull from Kfar HaHoresh (Photo © The Israel Museum, Jerusalem).

The most prominent feature of the early Neolithic that is interpreted within this novel conception of death is the plastered skulls known from several PPNB sites throughout the Southern and Northern Levant (Strouhal, 1973; Simmons *et al.*, 1990; Croucher, 2006b, 2012; Bocquentin, Kodas and Ortiz, 2016). These skulls, like those seen in Fig.2.7, are decorated with layers of plaster and pigment, and sometimes shells and stones, to model facial features. Sometimes mandibles are included, and sometimes jaws are modelled with plaster underneath the skull. These skulls are known from various sites and have been recovered from a variety of contexts, including within domestic structures, communal or shrine-like structures, and even sometimes within other burials (Croucher, 2012).

Plastered skulls have been interpreted as symbols of ancestor worship within these Pre-Pottery Neolithic communities. Kuijt and Goring-Morris (2002) have suggested that these items, along with other burial practices in PPNB, stem from a desire to create community integration and connection during a phase of increasing social pressure within the establishment of the Neolithic. Kuijt (1996) has also argued for a similar motivation behind the earlier examples of cranial removal as known from the Natufian and PPNA, suggesting an increasing desire to maintain cohesion within these communities.

Cauvin (2000) felt that it was the symbolic world of early Neolithic art which better demonstrated the shift in belief and spiritualism in the process of Neolithization, suggesting the appearance of figurative representations of females and bulls within the Levantine Neolithic was evidence of an emergent cult of worship for a *mother goddess* figure. The Epipalaeolithic is particularly limited in anthropomorphic representations, with zoomorphic or geometric designs being more commonly identified, suggesting the PPNA figurines represent a substantial departure from the representational art of the Epipalaeolithic.

Within much of the discussion surrounding belief and burials in the Epipalaeolithic, the evidence being cited comes from the PPNA or later or originates in the Upper Palaeolithic. Theories and interpretations from preceding or succeeding periods are projected forward or backwards, respectively, onto the Epipalaeolithic, often with little critical discussion of how these interpretations fit within the archaeological record of the time. Decorated Natufian burials are sometimes interpreted as demonstrating group affiliations (Baysal, 2019; Grosman and Belfer-Cohen, 2022) in part because this interpretation is generally accepted within the Upper Palaeolithic. Conversely, decorated Natufian burials are sometimes interpreted as demonstrating high status among these individuals (Grosman, Munro and Belfer-Cohen, 2008; Baysal, 2019) in part because rich, high-status graves are commonly interpreted from later in the Neolithic.

In fact, the Epipalaeolithic as a whole, and the Natufian more specifically, is rarely considered within its own right (Maher, 2010). Almost all studies situate the Natufian largely in contrast to either the earlier Epipalaeolithic or to the Pre-Pottery Neolithic, without thoroughly considering the remains as they are. Comparisons of this nature are valuable and important within the archaeological literature, and they have been incorporated throughout this study, but these comparisons should not be used to blindly attribute interpretations without adequate consideration of the material culture as it is.

2.3.3 Burials and Sedentism

Sedentism is a difficult topic in prehistoric archaeology, in part due to the lack of a clear definition of the term (Edwards, 1989; Boyd, 2006; Valla, 2018). It is common sense to define a sedentary community as one which stays in one place long-term, but in practice, there is little clarity of what staying in place looks like or how long 'long-term' actually is. For example, if part of a community stays at a base camp while others migrate between task camps regularly, is this community sedentary? Is one season, one year, or one generation the minimum length of occupation for a community to be sedentary? When sedentism is clear, for example in urban contexts, this lack of definition is minimally impactful. However, when sedentism is contested, as it is for the Late Epipalaeolithic of the Southern Levant, our lack of understanding of sedentism presents a conceptual difficulty.

Boyd (2006) highlights several characteristics which can be seen as evidence of increased sedentism within the archaeological record: stone architecture, heavy-duty material culture, storage pits, cemeteries, commensal animals, multi-seasonal hunting, and thick archaeological layers. He argues that these lines of evidence, while individually limited in utility, can be combined to support the presence of long-term, sedentary occupation of a site. Importantly, Boyd (*ibid.*) also points out that sedentism as a concept may be too narrow a focus when exploring the transition from the Epipalaeolithic to the Neolithic. Instead, he encourages a focus on the construction of a site and the construction of *place* within these periods.

The presence of numerous burials within a defined area is, alone, insufficient evidence of sedentism, as burials may be clustered together for a variety of reasons. For example, large numbers of burials clustered closely together are frequently a feature of battlefield archaeology; in this case, the burials are a reflection of large numbers of deaths occurring on the spot in a short period rather than over a long occupation of the site. In combination with other indicators of sedentism, however, a high number of burials in a clustered or defined area may help support interpretations of sedentism within the past. The use of burials as evidence for sedentism, then, is a very limited aspect of mortuary study.

The debate regarding Natufian sedentism is likely to continue as long as there is discourse on the definition and identifiable characteristics of sedentism as a whole. As highlighted by Boyd (2006), it may be time to consider moving away from discussing sedentism as a feature of a community or culture and instead broadening our interpretations to discuss relationships within the landscape and changing patterns of land use within these periods. Exploring how individuals and communities created *places* and interacted with their environment may be more useful in developing a deeper understanding of the social worlds of these communities within the Epipalaeolithic-Neolithic transition of the Southern Levant.

2.3.4 Burials and Social Differentiation

It is essential to highlight the difference between social differentiation and social stratification. At its most basic, social differentiation defines the state in which a group or community can be subdivided into smaller groups or communities based on one or more characteristics, sometimes known as horizontal differentiation (Olszewski, 1991b). This characteristic could be biological, for example, child and adult, male and female, or a social category – hunter and gatherer. Differentiation only suggests that these subgroups exist and are acknowledged as categories but does not inherently suggest an inequality between groups. Stratification, on the other hand, requires that these subgroups be unequal in some way – in terms of resource access, social value, or ritual knowledge, for example – and that this inequality can be ranked, sometimes called vertical differentiation (Olszewski, 1991b). In the modern West, we are very accustomed to thinking of stratification in terms of economic or socioeconomic classes but ranked categories of social value also substantially impact the complexity of our stratified societies.

Ranking of social categories, such as sex, or socioeconomic classes in a strict a manner results in a hierarchy. When discussing social complexity, most authors are referring to a society with clear hierarchical differentiations, though this is not the only form of complexity that exists. When social categories exist which can be ranked in a variety of ways, at different times, or be related to each other in non-ranked or complex ways, this social organisation can be described as a heterarchy (Crumley, 1995). Heterarchies are socially complex, as there are numerous aspects and conditions which influence how groups or social categories interact with and relate to one another. However, the diversity in these social interactions often leaves diverse and nuanced material traces, which is difficult to interpret archaeologically.

Numerous archaeologists and anthropologists have sought to evaluate the evidence for hierarchical social differentiation in the past using the mortuary remains in the archaeological and ethnographic records. In his seminal paper, Binford (1971) proposed that differences in mortuary remains should not be attributed to beliefs or cultural traditions, as had been the common interpretation of the cultural-history approach. Instead, he suggested that differing mortuary treatments were a reflection of social differentiation or stratification among different classes or groups within a community (*ibid*.). He relied on ethnographic evidence, not archaeological remains, but his results allowed him to conclude that a more complex community will likely have a more diverse mortuary practice repertoire, reflecting the various statuses or roles within the living community (*ibid*.).

At the same time, Saxe (1970) arrived at a similar conclusion. His thesis, which reviewed three ethnographic case studies, demonstrated support for the idea that social roles in life dictate mortuary treatment in death (*ibid*.). Saxe also proposed eight hypotheses which were to be tested against the archaeological record, which would help to evaluate the validity of the position taken by himself and Binford (Saxe, 1970; Binford, 1971). His hypothesis eight is of particular interest in studies on the Epipalaeolithic of the Southern Levant, as it suggests that communities with defined and restricted burial areas – or cemeteries – are likely to contain one or more corporate groups with differential access to restricted crucial resources (Saxe, 1970). Following reanalysis by Goldstein (1981), this hypothesis would become known as the Saxe/Goldstein hypothesis. In the same volume on mortuary archaeology, Peebles (1971) and Larson (1971) determined that differential distribution of grave goods, both in terms of quantity and quality of grave goods, likely reflected differential or even ranked societies among the Moundville and Etowah burials, respectively.

Tainter (1975) analysed 93 ethnographic sample communities to evaluate the energy expenditure in mortuary practices in relation to social stratification. His work sought to deviate from the focus on grave goods and include a more well-rounded understanding of the mortuary practice as a whole (*ibid*.). His results demonstrated that energy expenditure in mortuary practice does generally increase with a higher ranked status of the deceased (*ibid*.). Importantly, his results also highlighted that grave goods are unlikely to be, on their own, accurate measures of status, as only 5% of his case studies used grave goods as signifiers of social status or rank (*ibid*.).

Critiques of these studies were widespread, however. Hodder (1980) utilised the case study of mortuary practices within the Mesakin Nuba of Sudan to demonstrate that mortuary behaviour may instead serve to mask or eliminate evidence of social rank and inequality. Instead of reflecting a reality, mortuary remains may reflect a societal ideal. Similarly, Parker Pearson (1982) discussed the ways that mortuary remains may be manipulated by the living to redefine or renegotiate social status and rank among the living. In this way, mortuary remains may be a reflection of living social status, rather than the status of the deceased. These critiques, as part of the wider critiques on Processual archaeology, do not outright reject the possibility of mortuary remains as a reflection of social status or rank. Instead, they highlight the nuance and diversity in mortuary practices and encourage interpretations which account for these varying possibilities.

Tainter's (1975) work, specifically, deserves further discussion and critique. His review of energy expenditure remains a valuable contribution to anthropological discourse on mortuary practices, but the reliance on ethnographic samples limits the method's utility in archaeology. Vast amounts of experimental archaeological data are essential to estimate energy expenditure in the absence of ethnographic or written records, and though experimental archaeology is a growing field, there remains insufficient data to accurately estimate energy expenditure in absolute terms. Furthermore, as suggested by Chapman (2013) , energy expenditure as a reflection of economic or resource 'wealth' may be too narrow an interpretive scope to fully reflect the way that energy, time, and resources are invested in a mortuary practice (see below for further discussion).

The above papers have been cited considerably throughout mortuary archaeological studies, and the ideas and assumptions discussed within them have formed the basis of numerous studies on social stratification in the past. Unfortunately, there has been little discussion focused on the difficulties of using ethnographic evidence to inform archaeological interpretation. One consistent issue present, though rarely acknowledged, in the literature is the fact that without an ethnographic record, we have no way of accurately determining which behaviours or items were high value, and therefore which items or behaviours would be expected to be associated with high-value or high-ranked individuals. We cannot be certain that burial was always a privilege reserved for people or circumstances of high value, and burial instead may have been reserved for individuals who were not valued enough to receive a preferred (though archaeologically invisible) mortuary treatment (Pettitt, 2018).

Within the Neolithic of the Southern Levant, there is similar disagreement. Some authors, such as Kuijt (1996), have suggested that the post-depositional manipulation and fragmentation of remains was part of a process to venerate and honour the dead, while others, such as Mastin (1964), have suggested that these behaviours would not have been honourable or for veneration. Without written accounts of Neolithic life, we have no way of knowing how these communities felt about the manipulation and disarticulation of their dead, and whether it was a preferred treatment reserved for the most valuable, a punishment reserved for the least valuable, or any other possible use of the treatment. It may, as has been suggested for the Upper Palaeolithic, be associated with a particular manner or type of death, rather than a type of individual (Pettitt, 2018).

Another considerable drawback to many of the assessments of stratification within Palaeolithic and Epipalaeolithic communities is the treatment of stratification as a binary. It is acknowledged, of course, that there are levels of stratification in society, as we are aware of the nuance and complexity of our modern social stratification. However, archaeological communities are often considered to be either stratified or they are not, leaving archaeologists to conclude that a community must have been relatively egalitarian if evidence for clear economic ranks cannot be found. This conclusion is flawed; social or spiritual ranks which do not impact differential resource access may leave little trace in the archaeological record.

Furthermore, archaeologists often assume that a similar distribution of resources or goods between males and females is evidence of a relatively egalitarian society, rather than evidence of stratification in which sex is not a determining characteristic. We, as archaeologists, must be aware of the way our preconceived notions about sex and gender may impact our thinking of the past and explore alternative interpretations which allow for other views of gender and status.

2.3.4.1 Social Status in the Epipalaeolithic-Neolithic Transition

It is generally agreed that economic and social stratification increases in intensity during the Neolithic period, as the transition to agriculture creates surplus resources which can be controlled and restricted (Schurr and Schoeninger, 1995; Grindell, 1998; Kuijt and Goring-Morris, 2002). This differential access to resources ultimately results in ranked societies, which are controlled and regulated by an elite or powerful group. Archaeological materials which are often said to reflect this stratification – i.e. large and ornate houses, abundant material goods, or surplus food remains, among others – are frequently identified within the Pre-Pottery and early Pottery Neolithic periods (Kuijt and Goring-Morris, 2002; Hodder, 2011; Croucher, 2012).

As it has for the origins of agriculture and sedentism, the Late Epipalaeolithic (Natufian) has also been seen as a potential period for the origins of Neolithic social organisation. Under Binford's (1971) hypothesis, the Natufian could be expected to be a complex society with numerous roles and statuses, as evidenced by the immense diversity in mortuary remains. Wright (1978) sought to explore the mortuary remains of el-Wad Cave to determine if social differentiation could be seen among the burials. Based on his results, he suggested there were several distinct groups, identified by the differing mortuary treatments, which Wright(*ibid*.) suggested was the result of distinct groups or classes of individuals receiving differential treatments. Wright (*ibid*.) proposed that the Natufian, in particular the Natufian community of el-Wad, was one of a ranked society with differential mortuary treatments of these ranks.

Wright's work has been heavily critiqued. Belfer-Cohen (1995) highlighted the methodological errors made by Wright, including misidentification of remains and the omission of other individuals. When she corrected for Wright's mistakes, his results could no longer be supported as boundaries of these clearly defined groups had blurred considerably (*ibid*.). Boyd (2001) similarly highlighted the flaws behind Wright's interpretations but also discusses the concerns of assuming that mortuary remains are inherently reflective of social status. He highlights that positioning mortuary practices as an avenue for social status representation acts to divorce these practices from their wider social and cultural context, thereby limiting our understanding of these communities and their beliefs and perspectives of death (*ibid*.).

Boyd's (2001) position is a popular one in theory, but rarely popular in practice, amongst the archaeologists working in the region. While it is broadly accepted that a restrictive focus on social stratification is too narrow a scope to fully understand mortuary practices in the Late Epipalaeolithic (Natufian), most archaeologists in the region have shifted focus rather than expanding it. Decorated burials and special graves continue to be a primary focus of the literature, but group or personal identity has taken the place of issues of social stratification (Grosman, Munro and Belfer-Cohen, 2008; Nadel *et al.*, 2013; Grosman and Belfer-Cohen, 2022).

The results from Grosman and Belfer-Cohen (2022) highlight the possibility that personal ornamentation in the burials at Hayonim Cave may have served as a group identity marker, differentiating the Hayonim Cave group from other contemporary Natufian communities through special items like the cross-hatched incised bones sometimes found within Hayonim Cave graves. The presence of these items at other sites is, to Grosman and Belfer-Cohen (2022), evidence of social interaction between communities. Interestingly, their discussion highlights that decorated graves are rare, and most individuals did not receive any grave inclusions, but they make no effort to discuss possible reasons why some, but not all, individuals would receive group identity markers.

Special or unique burials are commonly still assigned a high-value status or high social rank. The so-called 'Shaman' of Hilazon Tachtit is undoubtedly a unique burial (Grosman, Munro and Belfer-Cohen, 2008), with a quantity and variety of grave inclusions otherwise unknown within the Natufian burial assemblage (see section 3.5.5 for a detailed description of the 'Shaman' burial). However, these inclusions have led to the burial being labelled with the misappropriated title of 'Shaman', as Grosman, Munro, and Belfer-Cohen (2008) interpret the woman as having held a particular social rank within her community. However, even if we suppose the grave goods relate to the identity of the individual within the grave, as has been suggested, there is no necessary reason to suggest that this identity was ranked within her social community.

As with Boyd's (2006) views on sedentism, the binary identification of egalitarian/stratified societies may be reductive and narrow as a concept within archaeology, as we recognise that heterarchies can involve inequality without rigid social hierarchy (Crumley, 1995). Instead, it may be more valuable to consider the ways the social relationships were created, modified, maintained, or dissolved within these communities, and what these patterns of relationships may indicate about the social worlds from which these mortuary remains come. Olszewski (1991) states that all human communities are socially complex as an inherent nature of human relationships, but that not all human communities have social complexity as determined by ranked status or identity. Perhaps, then, it is time to prioritise an understanding of the socially complex web of human relationships between people, and even between the living and the dead.

2.3.5 Limitations of Mortuary Remains

It is my opinion that – despite encouragement to the contrary – the archaeology of mortuary remains, particularly in the ancient Southern Levant, continues to be limited by a restrictive and often reductive focus on grave inclusions or 'special' burials. John Robb (2013) and Karina Croucher (2006a, 2018), among others, have called for the field to change how mortuary practices are understood and interpreted, but few steps have been taken to reflect these changes within ongoing studies.

As has been suggested above, the focus on grave inclusions as the primary important aspect of mortuary treatment is too narrow a scope. This privileging of a single mortuary element masks the complexity and diversity present in mortuary treatments of the Southern Levantine Epipalaeolithic and Neolithic. Mortuary studies must attempt to consider the full breadth of a mortuary practice and consider not just each element independently but also the practice as a whole.

Part of this holistic approach to mortuary practices must include a consideration of the practitioners. As the archaeological adage goes, *the dead do not bury themselves*, rather, it is the living who are – often entirely – responsible for the creation of mortuary remains. Approaches must recognise the agency, beliefs, and priorities of the living actors to best understand the processes involved and the decisions behind a mortuary practice. A grave is not a collection of objects and actions belonging to the deceased. Rather, it is a collection of objects and actions associated with the deceased through the choices and actions of a living community.

A further aspect which must be considered in the understanding of Epipalaeolithic and Neolithic mortuary practices is the choice not to bury the majority of the dead. This fact – the existence of an overwhelming number of non-buried individuals not present in the burial assemblages – is readily acknowledged within the literature but rarely integrated into interpretations and discussions of the assemblages as a whole. Outside of the Southern Levantine Epipalaeolithic, exploration of the non-buried dead is growing more rapidly. The Invisible Dead Project (Bradbury and Philip, 2017a), for example, evaluated these unburied dead from Britain and the Levant from the Neolithic to the Roman period.

Throughout this work, I aim to highlight the value in exploring existing and future Epipalaeolithic and Neolithic mortuary data within a different interpretive framework. The components of this framework – performance, emotion, and individual agency – are not new. Archaeologists and other disciplines have been developing and creating these interpretive frameworks and models for many years, though their application to mortuary archaeology, individually and in combination, has been limited. It is through the use of this framework that I aim to understand the social and societal value that burial practices held, and the meanings behind these mortuary practices within their community context.

2.4 Moving Forward – Burial Archaeology Through a New Lens

2.4.1 Performance Theory

Performance theory originates largely in the study of drama and theatre, from a literary perspective, but is today applied more broadly to a range of practices centred on display and ritual. Under the model proposed by Schechner (1988) activities such as sports, play, art making, and religious practices all fall within the umbrella of performance. He highlights that performances will all share four key traits: “1) a special ordering of time; 2) a special value attached to objects; 3) non-productivity in terms of goods; 4) rules” (*ibid.* pp. 6). Using these traits, mortuary practices – which can be considered a type of ritual – certainly fall within the umbrella of performance.

Though the archaeological study of theatre certainly exists, particularly from the classical period onwards, performance theory is here applied to other performances in the archaeological record. This interpretive framework invites us to analyse performative behaviours as one would assess a theatrical production. Who was the intended audience of the performance? What did the audience experience during the performance? What was the desired outcome or result of the performance, for the actors and for the audience? In ritual contexts, as in some other types of performances, it can also be beneficial to consider the degree of audience participation in the performance, and the impact this participation may have had on the performance, the audience, and the actors involved.

Hodder (2006) takes a somewhat broader view of performance in his description of spectacle at Neolithic Çatalhöyük. He identifies any behaviour involving “[…] a showing and a looking” (*ibid.* pp. 82) as spectacles and therefore considered as a performance. His definition is impacted by the difficulty in distinguishing daily, mundane tasks of Çatalhöyük from specialized ritual activities due to the nature of the ritual activities at the site (*ibid.*). While this definition is broad, and therefore difficult to rigorously apply archaeologically, it does raise valuable questions about the nature of human behaviour today and in the past. Certainly, an intentional 'showing' of behaviour to an observer engaged in 'looking' could be said to be performative in nature.

Performance theory highlights the need not only to document a performance itself but also to understand the context – social and physical – in which that performance is situated. In modern theatre, the social context of a play can easily impact whether the words said by the actors are interpreted as sincere or sarcastic by the audience. Similarly, the social context of a ritual performance is particularly valuable to understanding the intended function of a ritual, and the ultimate outcome. Furthermore, it is important to consider that like all performances, the real outcome of a ritual performance may not align with the intended outcome; this too depends on the social context in which the performance and the audience are situated.

When applied to mortuary archaeology, performance theory has the potential to encourage novel considerations of the actions and people involved in a mortuary practice. Evidence can be sought to identify who may have been in the audience to such a performance, what types of things they may have experienced during this mortuary performance, and what the outcomes for the community may have been as the result of this mortuary performance.

Though not explicitly mentioned, elements of performance theory can be seen in the analysis of the so-called 'Shaman' burial of Hilazon Tachtit (Grosman, Munro and Belfer-Cohen, 2008). This burial, undoubtedly unique amongst the known mortuary assemblage of the Late Natufian, has been published in detail including evidence of the mortuary remains and their context within the broader site (see section 3.5.5 for a detailed description of the burial). Munro and Grosman (2010) discuss the use of large quantities of animal remains for a funerary feast, suggesting that the mortuary performance included numerous individuals. They also suggest that the burial itself would have been attended by the entire group and likely served as a unifying force to maintain group cohesion (*ibid*.).

Hayden (2017) is critical of this view, suggesting that the cave itself is too small to have allowed community access. Instead, he argues that the burial activity was attended only by a select group – a secret society within the community utilizing the site – and thus the burial activity served to distance the deceased from her community rather than to be socially integrative (*ibid*.). The available evidence is inconclusive, and it is difficult to confidently agree with either Munro and Grosman (2010) or Hayden (2017) in their view of the purpose of the 'Shaman' burial. However, it is clear that an understanding of the process of the burial – the performance – and the access to the burial – the audience – is valuable in discussions of the motivations behind a mortuary practice.

Performance theory within archaeology prompts us to consider the ways that a behaviour may be performed, from the perspective of an actor and the audience. Improving our understanding of the mortuary practices of the Southern Levantine Epipalaeolithic-Neolithic transition would benefit from broader focus on the performative context – identifying who would have been privy to the mortuary practices and how these behaviours would be impacted both the actors and the audience. Consideration for the sights, sounds, and smells which may have been involved in the performance of mortuary treatments would provide depth and context to our understandings of funerary practices within these periods.

2.4.2 Actors in Action

All performances, from large-scale theatrical productions to the mundane spectacles described by Hodder (2006) involve actors who complete the actions involved in the performance. These actions may be predetermined – through scripts or tight cultural norms – or may be more flexible and varied. Exploration of the actors within a particular performance requires an understanding of agency and choice within human behaviour.

In mortuary archaeology, there is a tendency to privilege and prioritise the agency of the deceased individual within the grave. Questions about their identity, choices, and relationships are central to much of the literature published – for example The 'Shaman' of Hilazon Tachtit (Grosman, Munro and Belfer-Cohen, 2008), the Viking Warrior Woman of Birka (Price *et al.*, 2019), or The 'Red Lady' of Paviland (Sommer, 2007) among many others. This focus is unsurprising, as the skeleton in front of us is bound to arouse attention. However, the dead are rarely the primary actor in their mortuary performances – after all, the dead don't bury themselves – and thus the agency and choices of the living actors are of primary importance to understanding a mortuary performance in the archaeological record.

Agency, as an archaeological concept, is one for which a clear definition is nearly impossible to pin down within the literature. Various authors and schools of thought utilise the term to mean vastly different things, with wide ranging implications within archaeological and anthropological interpretations (see Robb 2010 for a thorough discussion on agency in archaeology). Under the post-processualist view, agency was viewed as a "[…] dialectic between structure and action […]" (Robb, 2010, pp. 495) in which individuals free will and intention was both constrained and supported by social structures, and structures which are, in turn, shaped and created by the action of individuals. Agency theory, then, invites archaeologists to consider how individuals may act within the constraints of a social world, and how that social world is created and changed by the actions of the individuals within it.

In the context of a mortuary performance, agency theory encourages us to consider not only the choice and desires of the deceased and the living who bury them, but also the social constraints and restrictions which form and limit these choices and desires. It is valuable to consider the social pressures and norms which may exist, the values which these communities hold, and the ways in which these social factors interact with the personal decisions and choices made by individuals within these communities.

2.4.3 Continuing Bonds – Grief and Emotion

Emotion as a focus of study is complicated even in the modern world, as there is no universally objective way to study the subjective experiences of individuals. Combine this issue with human subjects who have been dead for thousands of years, and it's not surprising to see why archaeology has routinely shied away from properly exploring the emotions of peoples in the past. That is not to say that archaeology does not deal with emotions. In fact, the emotional states of past people are regularly part of archaeological interpretation. However, these emotional states are assumed, with little critical evaluation of the reasons behind our assumptions.

Prehistoric archaeological literature has a tendency to imply, intentionally or otherwise, that ancient humans behaved like robots; external stimuli provoked one of a set of possible predetermined reactions. This point of view, dominant in the Processual paradigm of archaeological theory, continues to linger throughout the literature. Settlement locations are determined by access to resources, migration patterns by climate change, and burial practices by social pressures. Under this paradigm, a particular behaviour or range of behaviours is inevitable.

But as Tarlow (2000, pp. 718) points out in her argument for emotion in archaeology, people in the past "[…] were complex, feeling, and thinking humans and not automata responding to situations in predetermined ways." It would be a mistake to assume that all human behaviour follows predetermined or optimal patterns in the past, as this is rarely the case for our own behaviour in the present. Every day we all make decisions about our actions and behaviours based on sadness, joy, peer pressure, hunger, boredom, and a near-infinite range of other emotional and social factors. This emotive complexity is human – it is '[…] central to human experience" (Tarlow *ibid*. pp. 718) - and is therefore essential to understanding the lives and communities of the past.

While it is vital and necessary to remember that individuals in the past had complex and powerful emotions, it is equally necessary to remember that these emotions may have looked nothing like our own. As Tarlow (2000) highlights, emotions are not inevitable and universal; they are culturally created and defined. This further problematizes the common emotive assumptions made in archaeological interpretations – we assume an emotive state because it is the one that makes sense to us. Our emotions, or the emotions we understand as 'normal' become projected onto the past with little evidence to support it. It is vital that integrating the study of emotions in the past into archaeological interpretation involve a critical understanding of why an emotion is, or is not, likely based on the archaeological evidence available.

Death, as a major event within a community, is frequently highly emotive. These emotions are culturally regulated; there are often normative patterns within communities which dictate which emotions are appropriate – or not – during the period surrounding a death. Those who have experienced the death of a loved one will know firsthand the range of emotions which can be felt by the various individuals impacted by the death. Within psychology numerous models, interpretive frameworks, and therapeutic practices have been developed to help us understand and manage emotions that death may create or amplify. It is interesting, then, that little effort has been made to integrate these psychological principals into archaeological practice through interdisciplinary collaborative projects.

This trend of assuming, rather than exploring, emotional responses to death and dying is prevalent in the archaeology of the Epipalaeolithic and the Early Neolithic. However, the situation is slowly improving with some work being done to integrate psychological principals into archaeological interpretations. Some recent work (Büster *et al.*, 2018; Booth *et al.*, 2023) for example highlights both the value of applying psychology to the archaeological record and utilizing archaeology to improve our understanding of death and dying in the present day.

Continuing bonds theory can be described an aspect of attachment theory which a relationship between the bereaved and the deceased continues in a meaningful way to the bereaved (Field, Gao and Paderna, 2005; Root and Exline, 2014). It demonstrates that in some circumstances, the maintenance of a continuing relationship or bond with the dead can help to support an individual through grief after the death of a loved one (*ibid*.). These relationships take on a wide range of possible forms, including the experience of both two-way reciprocal connections – for example, communicating with the dead or seeking advice and support from the dead – or unidirectional relationships – keeping or displaying personal items or photographs, or seeking to behave in a way aligning with the values of the deceased in life (*ibid*.).

Croucher (2018) has suggested that a desire to maintain a relationship with the dead may be the motivation behind the creation of plastered skulls within the Neolithic of the

Southern and Northern Levant. Rather than being examples of elite individuals or high-status ancestors, these skulls may better be understood as individuals with whom the living community sought an ongoing relationship after death (*ibid*.). Incorporating narrative archaeological interpretations and exploring the way emotive responses may impact mortuary performances within the Epipalaeolithic-Neolithic transition has the potential to unlock a more human-centric view of these communities within the archaeological past.

2.4.4 Economics and Social Value

We live in an economically focused society, and communicate with an economically focused language, and therefore it is unsurprising that social archaeology makes use of economic models and analogies to discuss the relationships of people, things, and time within the past. How time is 'spent' or how energy is 'expended' in the past are often the subject of archaeological literature, and these analogies equating time, energy, and resources to money can help us to think through the interpretations of the lifeways of people in the past.

Within mortuary archaeology, these economic analogies are often used with a reference to grave goods and social status (as discussed above). Grave goods, particularly jewellery and other items we assume to be high value, are taken as evidence to demonstrate wealth within a community (Byrd and Monahan, 1995; Nørtoft, 2022). It is assumed that an individual with surplus survival resources would be able to leverage these resources – through trade or social support – to acquire desirable non-survival resources (*ibid*.). However, as discussed above, Tainter's (1975) results demonstrate that the connection between personal ornamentation and social or economic wealth is not as simple as we may expect.

It is important, here to discuss the varying definitions of *value* as seen in the archaeological literature. Broadly speaking, value may describe either the economic or material cost associated with an item or behaviour, or it may describe the intangible quality, appreciation, or esteem of an object or behaviour (Crook, 2019). Importantly, these are not mutually exclusive definitions; the material value of an object or behaviour is generally linked to the esteem value, and vice versa, though this link is nuanced and not causal (Darvill, 1995; Crook, 2019). When discussing social value throughout this work, I am referring to the overall way that a community valued – both in terms of material and esteem value – an object or behaviour, in so far as proxies of this value can be identified archaeologically.

Identifying social value in archaeological contexts is difficult. It is common in archaeological literature to assume that material value is linked in some way to the supply or demand of the material culture being discussed; that is, the rarer a material, or the more difficult an object would be to make or obtain, the more valuable it must have been (Crook, 2019). However, there are many objects or items for which our understanding of trade, procurement, and manufacture are limited, which makes it difficult to assess material value. Esteem value, which relies more heavily on individual and community perception of objects or behaviours, is much more difficult to identify archaeologically as thoughts and opinions do not preserve (Darvill, 1995), though proxies such as investment of time, complexity of behaviour, or frequency of behaviour, may in some cases help to indicate objects or behaviours of high esteem value.

Tainter (1975) was able to clearly demonstrate, using ethnographic samples, that there is generally a correlation between economic or resource-based wealth and energy expenditure in a mortuary practice. This means that individuals who were able to acquire larger amounts of valuable items – however broadly defined – were able to command the use of additional resources and manpower in the creation of their mortuary treatments (*ibid*.). Within the prehistoric archaeological record, however, we are generally unable to determine with accuracy how much manpower or resources, in absolute terms, were invested into a mortuary practice. Furthermore, while Tainter's (1975) work shows that this generalized pattern does exist within his sampled communities, it does not seek to explain the instances where energy expenditure does not align with economic wealth, nor does he differentiate between personal, household, and community wealth. As highlighted by Chapman (2013), it is perhaps more valuable to shift the focus from energy expenditure to a focus on social value, a more relative metric. I propose taking this concept of social value a step further by considering the way that value can manifest within human communities.

In our modern capitalistic society, we tend to think of something's price as reflective of its cost – that is, we assume that there is a direct correlation between the material value of the object and its constituents, with the material value placed on the object as a whole - but this is a simplistic view. In the most basic sense, the material value of an item relates to a combination of the cost of manufacturing and selling the item, and a markup to ensure that the seller and manufacturer earn a profit (Turvey, 1971). But the markup which can be placed on an item is often impacted by the esteem value of that item in the community; how important the item is to the specific buyer or the broader purchasing public. If an item is priced higher than it is valued, it can be said to be overpriced, and sales may decrease (*ibid*.). On the other hand, essential items – for example, medicine in for-profit medical systems – can be priced exploitatively high and the public will continue to pay for them because they are an essential item for survival (*ibid*.). Additionally, we know that in our modern capitalistic society choices about spending are more nuanced than a simple correlation of access to wealth. Just because a person has sufficient wealth to make a purchase does not necessarily mean they will make that purchase. These concepts of social value are important to modern capitalistic economic principles and therefore should be applied to Stone Age Economics practices.

I am not, of course, suggesting that we reflect capitalism on the past. Instead, I suggest that it is simplistic to view the investment in a mortuary practice as reflective only of the availability of resources to the individual or community engaging in the practice. A higher investment in time, resources, or energy into a burial is not a straightforward reflection of higher access to those resources, it is also a nuanced reflection of the social value (both esteem and material) which this investment garners for the dead and the living. Simply put, people do not invest great amounts of time, and energy into non-survival behaviours without any benefit but these benefits may include a wide range of things such as enjoyment, social prestige, spiritual help, reciprocal aid, relational support, or economic benefit. It is precisely this benefit that social archaeology of mortuary remains should seek to identify, in order to better understand the motivations behind mortuary practices, and in particular why these practices change.

Investment patterns in the modern world help to reveal what is socially valuable – though of course our modern understanding of social value is heavily influenced by the impact of material value. It may, therefore, be necessary to explore the patterns of how energy, time, and resources are invested into mortuary practices through time or between sites to better understand their complex and changing value within the social landscapes from which these burial remains arise. Exploring how individuals and communities choose to invest in mortuary practices has the potential to better understand the values and desires of these communities in a social context.

2.5 Investing in the Dead

From the review of the existing literature, it is clear that two substantial knowledge gaps exist which need to be filled in order to better understand the social world of the Epipalaeolithic and early Neolithic of the Southern Levant. First, the last complete inventory of Late Epipalaeolithic (Natufian) burials was created by Bocquentin (2003) more than twenty years ago. This corpus, while incredibly valuable, is no longer complete as it is missing the evidence which has been excavated since. Furthermore, this synthesis includes only the Late Epipalaeolithic (Natufian) remains and could benefit from being contextualised with the inclusion of Early & Middle Epipalaeolithic and Pre-Pottery Neolithic A (PPNA) materials. In the work presented in this thesis, this gap has been addressed through the creation of an updated database of Epipalaeolithic and PPNA burials from across the Southern Levant.

The second knowledge gap is the lack of interpretive frameworks focused on the social world of the communities from which these burials came. Existing interpretive models have prioritised the status and identity of the dead rather than allowing for the exploration of the living community which surrounds a burial. Little effort has been made to incorporate broader anthropological and psychological knowledge of human behaviour into the archaeological inquiry of mortuary remains, masking the humanity inherent in ancient humans. Here, this knowledge gap is addressed through the creation of the Performative Currency model, an interpretive model combining concepts from performance theory, agency, emotive responses, and social value. The model provides a novel lens through which to evaluate the social lives and experiences of individuals in the past. The model is applied only to the mortuary remains of the Epipalaeolithic and Early Neolithic of the Southern Levant, though the results suggest the model has broad potential within the field of mortuary archaeology.

We begin with the first of these knowledge gaps through the description of the updated database of Epipalaeolithic and PPNA burials throughout the Southern Levant. The assemblage, presented in Chapter 3 and Appendix A, includes the individuals for whom published material is available. This database is utilised throughout the remaining chapters to explore the mortuary remains through both the traditional mortuary analytical frameworks (Chapter 5) and the Performative Currency model (Chapter 6).

3 Assemblage Overview

3.1 Introduction

Epipalaeolithic and Pre-Pottery Neolithic archaeology in Southwest Asia has historically suffered from poor or limited inter-site and regional comparisons and syntheses, except for frequent overgeneralization of patterns from larger sites. A handful of overviews, reviews, and syntheses of Natufian, Epipalaeolithic, and PPNA mortuary data have been produced over the last four decades (Belfer-Cohen, 1991b; Valla, 1999; Croucher, 2012; Maher, Richter, and Stock, 2012; Maher, Macdonald, and Pomeroy, 2021; Maher and Macdonald, 2022) with the most complete Natufian burial database created by Bocquentin (2003) for her PhD thesis. Her work combined published literature and excavation records with laboratory analysis of skeletal remains to overcome issues of poor publication standards, particularly present in the earliest Natufian excavations (*ibid*.).

Academic exploration and excavation in the Southern Levant have continued at a considerable pace over the last two decades, further expanding our corpus of Natufian burials, particularly in the Late and Final Natufian. Additionally, improved archaeological techniques and technology have allowed for a better understanding of several sites and the region as a whole. It is, therefore, imperative that the database presented by Bocquentin (2003) be expanded to include the new data available to date.

In recent years, archaeologists have become increasingly critical of adhering to rigid chronological and spatial boundaries of archaeological entities, as these strict definitions tend to obscure the reality of social, cultural, and technological change through time (Goring-Morris and Belfer-Cohen, 2013; Richter and Maher, 2013). Where change occurs gradually through incremental local development, as is the case in the Southern Levantine Epipalaeolithic-Neolithic transition, defining the beginning or end of any particular phase is increasingly difficult. Our improved understanding of this gradual and progressive change through the neolithization process supports the contextualization of Natufian mortuary data through the consideration of the Early & Middle Epipalaeolithic and PPNA mortuary data. This comparative work is essential to evaluate how mortuary practices change through time in the region.

Here, a summary of the corpus as a whole will be presented, providing an updated synthesis of Natufian, Early & Middle Epipalaeolithic, and PPNA burials throughout the Southern Levant. Individual site descriptions, including details of key burials, will be provided to ensure a clear overview of the archaeological research to date. The complete database of individuals is presented in Appendix A.

3.2 Methods

The data presented in this study (Appendix A) were collated from published articles, site monographs, excavation reports, photographs, and available databases. Where possible, multiple information sources were utilised and compared to ensure the most accurate information was recorded within this assemblage. As recording and publishing standards vary considerably through time and between excavators, the availability and reliability of the data included here vary. It was sometimes possible to standardise and account for this variability (see below), though this was not possible for every site.

3.2.1 Age at Death

Age-at-death, either in estimated years or as an age category, is a commonly published metric for osteological samples in archaeological literature. Age demographics are valuable data to explore concepts of personhood, mortuary patterns, and for questions of health and morbidity in the past. For the majority of individuals within this sample, an age at death estimate was available within the published literature, and where possible, this was corroborated using photographs or published measurements of the remains, though photographs and measurements are often insufficient to assign an age. The age categories utilised in this study are presented in Table 3.1, though it should be noted that skeletal age may not reflect age as it was understood in these communities.

Age Category	Description
Infant	Less than 2 years at death, including peri- and neo-natal individuals
Child	2-10 years at death
Adolescent	10-18 years at death, skeletally immature
Young Adult	18-25 years at death, skeletally mature individuals without clear age-related deterioration
Adult	18+ years at death, any skeletally mature individuals who are not otherwise specified as young or old adults
Older Adult	40+ years at death, skeletally mature individuals with clear age-related deterioration

Table 3.1: Age-at-death categories utilised in this study, and descriptions of each

It should be noted that age categories are not standardised in archaeology, and the age categories used can vary considerably. In subadults, for whom a year-based age-estimate is generally given, this can be corrected, and individuals can be re-classified to accommodate the brackets I have selected here. For adults, the variation in reporting is more considerable as the age-at-death estimates for adults produce considerably wider ranges. Though some studies actively utilise Young and Older Adult categories, this is not standard, and many reports combine all adults into one category. Where the original reports utilised these categories, they have been recorded. However, all adults have also been combined into a single category and analysed in this way to account for the differences in recording age-at-death between sites and excavations.

3.2.2 Sex

Sex is also a commonly reported metric in osteological samples, utilised to better understand social structure, division of labour, and potentially concepts of gender, though this line of inquiry has limited application in prehistoric contexts. Skeletally, sex is assigned on a 5-point scale following Buikstra and Ubelaker (1994) (Table 3.2), and this scale is typically considered a standard throughout the field. It is, instead, the publication of sex that can vary considerably. The 3rd category on Buikstra and Ubelaker's (1994) scale – Indeterminate – is intended to be reserved for individuals whose pelvis and cranium do not align with either male or female traits. However, indeterminate individuals are often combined with unknown individuals – skeletons that are too poorly preserved for sex to be assessed. In some publications, Probable categories (2 and 4) are underutilised as authors group them with their related sex categories, and thus these categories are likely underrepresented in this assemblage. In her publication of the Hayonim Cave graveyard, for example, Belfer-Cohen (1988) does not differentiate between unknown sex and indeterminate sex.

Sex determination is only recorded for adult individuals, even when the original publications included sexes for subadult remains. This is because the methods for determining sex osteologically are only accurate for skeletally mature individuals and cannot be considered reliable in subadult individuals (Buikstra and Ubelaker, 1994). Though possible with some accuracy in the oldest adolescents, sex determinations have not been included for any adolescent individuals to ensure consistency.

Sex Category	Description
Female	Nearly all features of the crania and pelvis score as female
Probable Female	The majority of features of the crania and/or pelvis score as female
Indeterminate	Neither the pelvis nor crania score clearly with either sex
Probable Male	The majority of features of the crania and/or pelvis score as male
Male	Nearly all features of the crania and pelvis score as male

Table 3.2: Sex categories for adult individuals as utilised in this study, after Buikstra and Ubelaker (1994)

Without direct access to the primary materials for osteological re-analysis, sex cannot be standardised across archaeological excavations and assessments. For the purposes of this study, sex has been recorded as published by the osteological team, with the understanding that the lack of access to primary materials is a limiting factor in the accuracy of sex determinations for some sites.

It is also important to remember that these skeletal categories cannot inform concepts of gender or expression within these communities. Biological sex is complicated and multifaceted, and archaeologists must be careful not to assume that skeletal sex necessarily indicates the totality of biological sex. In our modern world, gender is often, but not exclusively, related to biological sex. However, without written works of the time, it is nearly impossible to assess the conceptualisation of gender in prehistoric communities.

3.2.3 Period

Under ideal conditions, assessing mortuary or social changes through time would involve extensive dating projects of the skeletal material, allowing for burials to be placed on a timeline. However, dating throughout the Levant is generally poor, with limited reliable radiocarbon data available at most sites in this sample (Bar-Yosef and Vogel, 1987; Stutz, 2004; Grosman, 2013), very few being direct dates of skeletal material due to poor preservation of bone collagen in the Levant. Where radiocarbon data are available, many samples are old and possess extremely high standards of error, making them unreliable. Most often, burials are dated stratigraphically and assigned to a period based on the level in which the grave was found, though this is not possible for all burials due to erosion or position between layers.

<table>
<tr><th colspan="2">Period</th><th>Approximate Years</th></tr>
<tr><td colspan="2">Early & Middle Epipalaeolithic</td><td>23,000-15,000 cal. BP</td></tr>
<tr><td rowspan="2">Natufian</td><td>Early</td><td>15,000-13,500 cal. BP</td></tr>
<tr><td>Late</td><td>13,500-11,500 cal. BP</td></tr>
<tr><td colspan="2">Pre-Pottery Neolithic A</td><td>11,500-10,500 cal. BP</td></tr>
</table>

Table 3.3: Periods included in this study and the approximate calibrated BP associated with each period, after Stutz (2004), Maher, Richter, and Stock (2012), Grosman (2013)

Three broad periods are present in this assemblage (Table 3.3): the Early & Middle Epipalaeolithic (ca. 23,000-15,000 cal. BP; Maher, Richter and Stock, 2012), the Late Epipalaeolithic/Natufian (ca. 15,000-11,500 cal. BP; Stutz, 2004; Grosman, 2013), and the Pre-Pottery Neolithic A (ca. 11,500-10,500 cal. BP; *ibid.*). Only two sites – Jericho and Nahal Oren – have occupation layers which date to more than one of these broad periods, though the burials from each site are only known from one of the two layers. Early & Middle Epipalaeolithic sites were combined here due to extremely low numbers of burials, but can be differentiated through the archaeological materials present at the site.

Late Epipalaeolithic/Natufian sites can be further separated into sub-periods. The most common division is a two-phase system consisting of the Early Natufian (ca. 15,000-13,500 cal. BP; Stutz, 2004; Grosman, 2013) and the Late Natufian (ca. 13,500-11,500 cal. BP; *ibid*.). A three-phase system is also sometimes utilised, resulting in an Early, Late, and Final Natufian phase (Valla *et al.*, 2001, 2010). However, the Final Natufian is poorly understood, and some researchers consider the Final Natufian to be part of the Late Natufian (Grossman, *pers. comm.*). The Final Natufian is only consistently discussed at Eynan (Valla *et al.*, 2001, 2010), and it is unclear whether the phenomenon is restricted to Eynan or if Final Natufian remains are evident within the Late Natufian layers of other sites. For this work, the Final Natufian has been combined with the Late Natufian to maintain consistency across published sites. Some burials, particularly those at sites with a long occupation history, could not be separated into the Early or Late phase and have instead been recorded as Unspecified Natufian.

3.2.4 Burial and Body Position

Excavation goals vary considerably between sites and across countries, resulting in incredible diversity in the way that burials are recorded, published, and discussed. Where mortuary practices are of interest, the position of the body is generally recorded, though this is not always the case. Some publications include both burial and body position, while others include only one element. Orientation of the head is inconsistently recorded, and sometimes considered an aspect of body position, though no assessment of cranial orientation within the Epipalaeolithic has identified any meaningful pattern, and thus this element is not considered here.

Initially, the position of the body was recorded as described in the initial reports and publications, and this was corroborated using images, drawings, site plans, or models, where available. However, for many burials, no body or burial position was published, and possibly was never recorded originally, and thus these data are not available for many of the burials within the assemblage.

Burial Position	Description
Extended	Legs are generally straight
Loose Flex	Legs are slightly bent, >90° angle
Flex	Describes any position where legs are bent and body is lying down, unless otherwise specified
Tight Flex	Legs are tightly bent, < 90° angle, usually with heels near or touching pelvis
Seated/Other	Seated burials are generally tightly flexed with the head towards the grave's surface and feet/pelvis towards the floor. Rarely, other burial types related to seated burials are known.

Table 3.4: Burial positions utilised in this study, and the description of each

Burial position describes the position the body was placed in the grave, generally understood through the degree of limb flexion, with a specific emphasis on the lower limbs' flexion. These categories are presented in Table 3.4. There is a level of ambiguity within these categories, as the degree of flexion is up to the excavator's interpretation. The category of flexed is likely overrepresented at the expense of tight and loose flex because these categories are not standardised within the field. Seated burials are rare but generally involve a tighter degree of flexion with the body on top of the legs and pelvis.

Body position describes the side of the body touching the base of the grave. Where reported, body position is generally accurate as there is less ambiguity as to which side the body rests on. These categories are presented in Table 3.5. Seated burials are rare but generally include the body resting on the hips and or the feet, with the head oriented to the superior aspect of the grave.

Body Position	Description
Left Side	Left side of the body rests on the surface of the grave
Right Side	Right side of the body rests on the surface of the grave
Prone	Ventral (front) side of the body rests on the surface of the grave
Supine	Dorsal (back) side of the body rests of the surface of the grave
Seated/Other	Seated burials are oriented with the head towards the grave's top and feet/pelvis towards the floor. Rarely, other burial types related to seated burials are known.

Table 3.5: Body position utilised in this study, and the description of each

3.2.5 Burial Size and Type

Burial size describes the number of individuals buried together within the same grave pit and is generally published with little ambiguity of criteria (Table 3.6). A single burial is one individual buried on their own, within their pit. Double and triple burials are two or three individuals, respectively, buried within the same pit and can be buried together or successively if the grave is reopened. Here, a multiple burial describes a pit containing four or more individuals, buried together or successively. Sometimes triple burials are not separated from multiple burials, though this can generally be corrected when looking at the number of individuals listed within a multiple burial.

Multiple burials are difficult to identify and appear to be overrepresented in earlier publications. This is because the burial areas within this region are rarely organised, resulting in many single burials clustering together, giving the appearance of a multiple burial as cuts for individual burials are rarely visible in Natufian contexts (ex., el-Wad;

Goring-Morris, 1995; Bocquentin and Noûs, 2022). Multiple burials here were only recorded where a single, well-defined pit was identified, demonstrating that all individuals were buried together intentionally, rather than coincidentally being close by. Where the mode of deposition was described, all multiple burials within this sample are considered successive, meaning the individuals were added to the pit in several distinct interments rather than being buried all at once. This level of detail, however, is not available for all multiple burials, and thus, this cannot be generalised as a rule of all multiple burials in the sample.

Burial Size	Description
Single	One body buried in its own pit
Double	Two bodies buried together in one pit
Triple	Three bodies buried together in one pit
Multiple	Four or more bodies buried together in one pit

Table 3.6: Burial size categories utilised in this study and the description of each

Burial size in Levantine sites is obscured by the lack of clearly defined grave pits for many burials. Where a skeleton is found on its own, without close associations to other skeletons, the lack of a burial pit does not prevent the identification of the burial as single. However, clustered burials, as are common in cave sites, prove more difficult. In general, graves were considered single unless convincing associations could be made with nearby burials to suggest they were buried together.

Burial types (Table 3.7) generally fit within field-standard definitions, allowing for easy comparisons between different publications. Primary burials are those found in the original context of decomposition; they are generally complete and will involve little to no intentional movement of elements. Secondary burials are those found somewhere other than the original place of decomposition – the bones, generally a curated selection, will have been moved from another burial or above-ground deposition location. Isolated fragments are those found on their own, or in small related clusters, outside of any burial context, often within occupation levels, middens, or backfill.

Burial Type	Description
Primary	The body was buried and remained in the pit, undisturbed, until excavation. Identified through near completeness, including small elements, and a high degree of articulation.
Disturbed Primary	The body was buried as it has remained in the pit, though intentional disturbance (through removal or manipulation of remains) has occurred. Identified through the general completeness of the body, including small elements, with some or most articulations present.
Secondary	After decomposing in another location, the body or parts of the body were buried (or reburied) in the location in which it was found. Usually identified through curation of bones focused on long-bones or other large elements, and a lack of articulations.
Isolated Crania	A type of secondary burial in which only the crania is reburied. Identified when a cranium, or cranium and associated elements (Mandible, cervical vertebrae) are identified in their own burial pit.
Isolated Fragments	Describes any element or part of an element found on its own, particularly when outside a clear burial context. While these may be related to disturbed primary or secondary burials, they may also come from non-buried individuals.

Table 3.7: Burial types utilised in this study and descriptions of each

Because the practice of cranial removal and disturbance appears to be common throughout the Natufian, an additional burial type must be recorded. Disturbed primary burials are here defined as those which remain in the location of their original deposition but have since been manipulated or otherwise intentionally disturbed, resulting in a loss of articulation or a removal of elements. This is most common within multiple burials where earlier individuals are moved to the side of a pit to accommodate later interments, or in the case of acephalous (headless) burials, where the crania have since been removed post-depositionally, but the rest of the body remains in a primary position.

Isolated crania appear to be a special type of secondary burial, in which the cranium – or more rarely, the cranium and associated elements – is buried without the body. As these cranial elements always lack cut marks within this assemblage, they are thought to be removed after decomposition, making the burial of these elements a secondary burial. They have been separately recorded here from other secondary burials as they appear to be a unique phenomenon.

On sites where both isolated crania and acephalous burials are known, these may represent the same individuals divided between two burials. However, assigning an isolated cranium to an acephalous burial is nearly impossible without aDNA, which is unavailable for burials within the assemblages presented here. Here, each isolated head has been treated as a unique individual, regardless of the presence of contemporary acephalous burials, as there are currently no genetic studies available with which to confidently associate the heads with a body.

3.2.6 Architectural Associations

Architectural features such as walls, pavements, and shelters are commonly reported at sites throughout the Late Epipalaeolithic and PPNA, though they are sometimes identified within the Early & Middle Epipalaeolithic as well. Burials generally occur in these same occupation areas, and thus, burials are frequently found in close association with these structures. The archaeological record in most sites is not sufficiently fine-grained to determine the chronological relationship between burials and the architectural features they are associated with, particularly where the burial is located under the floor of a structure and could predate the structure or have been placed during a phase of repair.

Architectural Association	Description
No known association	Burial is not described as being associated with any architectural feature and is not associated on maps or site plans.
Beneath Structure or Feature	Burial is found beneath a structure or architectural feature, placed either before construction, during repair, or after abandonment in a phase of deconstruction of the structure.
Within Structure or Feature	Burial is located within a structure or architectural feature. Describes when the burial is placed on the floor of a structure or built into the wall or feature. Burial may be placed during construction, during a phase of repair, or at the time of abandonment of a structure.
Nearby Structure or Feature	Burial is located adjacent to a structure or feature. Describes a burial placed between structures, just outside of structures, or on top of structures or features.

Table 3.8: Architectural association categories utilised in this study and the description of each

To account for these coarse-grained archaeological data, a spatial association between burials and architecture is often favoured over a chronological one. These associations are presented in Table 3.8. Where a structure or architectural feature is superimposed on top of a burial, the burial is recorded as Beneath. Burials located directly on top of a pavement, structure, living floor, or wall, or burials built into the wall or structure, are recorded as Within. Burials directly outside or on top of structures or features are considered Nearby. Publication of burials described as Nearby to a structure or feature often lacks evidence of the stratigraphic association to determine if the burial was placed before construction, during the structure's use, or after its abandonment. For this reason, the Nearby category cannot be used to make any determinations about the chronological associations of a burial with a structure or feature.

In many cases, excavation reports and articles include an assessment of associated architectural features, and this has been used to make these determinations. Where available, site plans, images, and matrices have also been used to make determinations or corroborate written associations. It should be noted that the recording and discussion of architectural features has varied considerably and is far more prominent now than in earlier excavations, and thus these associations may be underrepresenting the real relationship between these burials and these structures. It is also important to note that there has yet to be any established standard for a minimum proximity required for an association to be made, and thus, burials within these categories will vary in regard to their distance from the associated structures or features.

3.2.7 Grave Inclusions

Grave inclusions refer to any items intentionally placed within the grave pit beside the body. This can be ornaments worn on the body, tools or items placed with the body, or other decorations such as pigments or flowers. Notably, only grave inclusions which have been preserved within the archaeological record can be assessed here, but perishable grave inclusions were likely utilised. Grave inclusions are generally rare throughout this assemblage, but where they are known, they are generally published in detail. Where possible, photographs or drawings of the inclusions were used to improve the description provided here. Quantities of grave inclusions are generally published, though beads are sometimes recorded as individual items, or as part of a larger piece of jewellery or ornamentation; where available, quantities of beads are recorded in Appendix A. Some inclusions are rare or special enough to warrant individual discussion. These will be presented below in site-specific descriptions.

Figure 3.1: Site locations for all sites included in this assemblage. Blue triangles are Early & Middle Epipalaeolithic (EME) sites. Red circles are Late Epipalaeolithic (Natufian) sites. Green diamonds are Pre-Pottery Neolithic A (PPNA) sites.

3.3 Assemblage Overview

To analyse trends and draw conclusions from the data, as presented in Chapters 5 and 6, it is imperative to understand the assemblage and data available to assess. Below is an overview of the assemblage and detailed site descriptions for the mortuary data presented in this project. A total of 694 individuals were published in the available literature to date (see Appendix A). Since isolated remains are rarely quantified, they have not been recorded in all instances, and thus, this total is an underestimate of the total number of individuals recovered from these sites. These individuals come from 28 sites across the Southern Levant (Fig. 3.1), which date between ca. 23,000 cal. BP and 10,500 cal. BP. The Natufian (Late Epipalaeolithic) is the largest sample in this assemblage, accounting for 515 individuals (Table 3.9).

Early-Middle Epipalaeolithic	Late Epipalaeolithic/Natufian	Pre-Pottery Neolithic A
19	515	160

Table 3.9: Number of total individuals assigned to each broad period within this study, including isolated remains recorded as individuals

Unknown	Infant	Child	Adolescent	Young Adult	Adult	Older Adult
141	74	100	39	28	293	19

Table 3.10: Age-at-death for all ageable individuals within the total assemblage, including isolated remains recorded as individuals

Age-at-death could be determined for 79.7% (n=553) of individuals (Table 3.11). Overall, adults account for 61.5% (n=340) of ageable individuals, with subadults accounting for just 38.5% (n=213) of ageable individuals. The Natufian has the highest proportion of subadults (37.1%; n=213). Infants are particularly underrepresented in all periods, accounting for just 12.7% (n=74) of all ageable individuals (see Section 4.4.3.2 Age). Sex determination could be made for 64.7% (n=220) of all adult individuals. Amongst the sexable adults (Table 3.12), males and probable males account for 50.0% (n=110) of the assemblage while females and probable females account for 29.1% (n=64) of the assemblage. This means that overall, the corpus presented here is male-dominated and skewed towards adult individuals.

Unknown Adults	Female	Probable Female	Indeterminate	Probable Male	Male
120	59	6	43	19	91

Table 3.11: Sex for all sexable adults within the total assemblage, including isolated remains recorded as individuals

3.4 Early & Middle Epipalaeolithic Sites with Burials

The Early & Middle Epipalaeolithic (EME) spans from ca. 23,000 cal. BP to 15,000 cal. BP, with the division between them generally considered to be ca. 17,500 cal. BP (Maher, Richter and Stock, 2012). Though differences in lithics are used to differentiate the two phases, the burial record is generally homogenous (*ibid*). Here, the two periods have been combined due to extremely small sample sizes. The EME is generally characterized by small settlements occupied by small communities of hunter-gatherers for one or a few seasons (Maher, Richter and Stock, 2012; Nadel, 2017). Mobility was high, as communities moved through the landscape regularly abandoning, and sometimes reoccupying sites (Maher, Richter and Stock, 2012; Jones *et al.*, 2016; Belfer-Cohen and Goring-Morris, 2020). Some particularly large sites, such as Kharaneh IV or Jilat 6, were likely aggregation sites where members of several communities would come together temporarily before dispersing again (Jones *et al.*, 2016).

Burials from the Early & Middle Epipalaeolithic Near East are extremely rare. From the published literature, only 19 individuals from eight sites are known. This equates to one known individual for every 473.7 years throughout the whole of the Levant, attesting to the rarity of burials as a mortuary treatment in these periods. The majority of people who lived and died within the Early & Middle Epipalaeolithic must have received no mortuary treatment or received mortuary treatments which are no longer archaeologically visible. It should be noted that taphonomy and recovery of sites must also play a role in the low numbers of known EME burials, though the effects of these cannot be measured with accuracy.

Only two sites contain more than one burial – Kharaneh IV and Uyun al-Hammam with three and 10 known individuals, respectively (Maher, 2005, 2007; Maher, Richter and Stock, 2012). The other sites each contain only one known burial, though some unquantified human remains are frequently found throughout the occupation levels at larger EME sites. Full descriptions of these burials can be found in Appendix A. Only three burials - all from Uyun al-Hammam - belong to subadults, and infants are completely absent from known EME burials. Among the sexable adults, males make up the majority of known EME burials.

3.4.1 Ohalo II

Ohalo II is a particularly valuable site in Early Epipalaeolithic archaeology of the Levant due to its remarkable preservation. The site is located near the Sea of Galilee, along what was once the edge of Lake Lisan, and consists of a small base camp of several hut structures and hearths (Nadel, 2017). The site was burned to the ground before abandonment and was shortly thereafter submerged in the anaerobic conditions of the lake, and these two factors contributed to the unparalleled preservation of organic materials (Kisleva, Nadel and Carmi, 1992; Nadel, 2003; Tsatskin and Nadel, 2003). Ohalo II has yielded extensive evidence of plant resources as construction materials, food, and fuel, considerably expanding our understanding of Early Epipalaeolithic plant acquisition and reliance (*ibid*.).

Six huts made of brush material were identified at Ohalo II (*Fig. 3.3;* Nadel, 2003, 2004). These huts contained clearly defined superimposed living floors, interspersed with levels of inundation, suggesting that the lake levels presented interruptions to the occupation of the site (*ibid*.). Plant materials such as reeds made up the roofs, and a mat material was used to cover the floors (*ibid*.). Though the structures are made entirely of perishable material, there is clear continuity of building practices from Ohalo II into the Late Epipalaeolithic. The structures are semi-subterranean, rounded, and approximately 8-12 m^2 in size, consistent with the structures built throughout the Natufian and even some PPNA structures (Nadel, 2004). The extent of the structures and their repeated living floors has led excavators to believe the site was occupied on a year-round basis at least three times (Tsatskin and Nadel, 2003; Nadel, 2004)

Figure 3.2: Reconstruction of Ohalo II hut 1, from Nadel (2003)

Only one complete burial was identified at Ohalo II, that of a single adult male (Appendix A; 13.01). The burial was found a few meters away from Structure 3 (Nadel, 1994; Hershkovitz *et al.*, 1995). The skeleton was found lying on its back with its legs tightly flexed. The grave was covered with stones, effectively sealing it from the destruction of the water levels of the lake (*ibid*.). An incised bone was found near the head, but it is not conclusively considered a grave inclusion (*ibid*.). An isolated human mandible is also known from the site (H1), though it is not published in detail (Nadel, 2017). The mandible can be considered an isolated fragment in the absence of association with any other human remains.

3.4.2 Kharaneh IV

Kharaneh IV is a large site in the Azraq Basin of Jordan, which was occupied in both the Early & Middle Epipalaeolithic (Richter, *et al.*, 2013; Jones *et al.*, 2016; Ramsey *et al.*, 2018). Today, this region is arid, though archaeobotanical evidence indicates that the occupants of the site had access to some wetland resources, suggesting the environment may have been wetter than it is today (Ramsey *et al.*, 2016, 2018). Based on the artefact spread, Kharaneh IV is one of the largest epipalaeolithic sites known, rivalling even early Neolithic sites in size (Jones *et al.*, 2016; Maher *et al.*, 2016). The immense size, thickness, and artefact density of the archaeological layers have led to the suggestion that this site was used as an aggregation site for multiple hunter-gatherer communities to come together and interact periodically, as has been suggested for nearby Jilat 6 (*ibid*.). It is unclear if any stable community remained at the site long-term or how frequently these aggregations occurred. Like Ohalo II, the hut structures at Kharaneh IV are similar in size and shape to later Epipalaeolithic and PPNA structures; their association with burials is also a consistent feature of the Epipalaeolithic and early Neolithic (Maher and Conkey, 2019).

Only three burials are known from Kharaneh IV, all primary burials of adults (Maher *et al.*, 2021). One burial (Appendix A; 14.03) is of particular interest. This adult female was found within the burned remains of Structure 2 as seen in Figure 3.4 (*ibid*.). The position of the charred remains on the hut floor, as opposed to beneath the floor and among the burned material of the roof, suggests that the body was placed, fleshed, onto the floor of the hut before the structure was burned down on top of the burial (*ibid*.). The remains of the structure were then covered with sterile orange sediment, suggesting that the destruction of the structure was intentional and likely played a part in the mortuary treatment of the individual (*ibid*.). Maher (2019) has argued that this mortuary practice is evidence of an incipient form of placemaking within Epipalaeolithic sites.

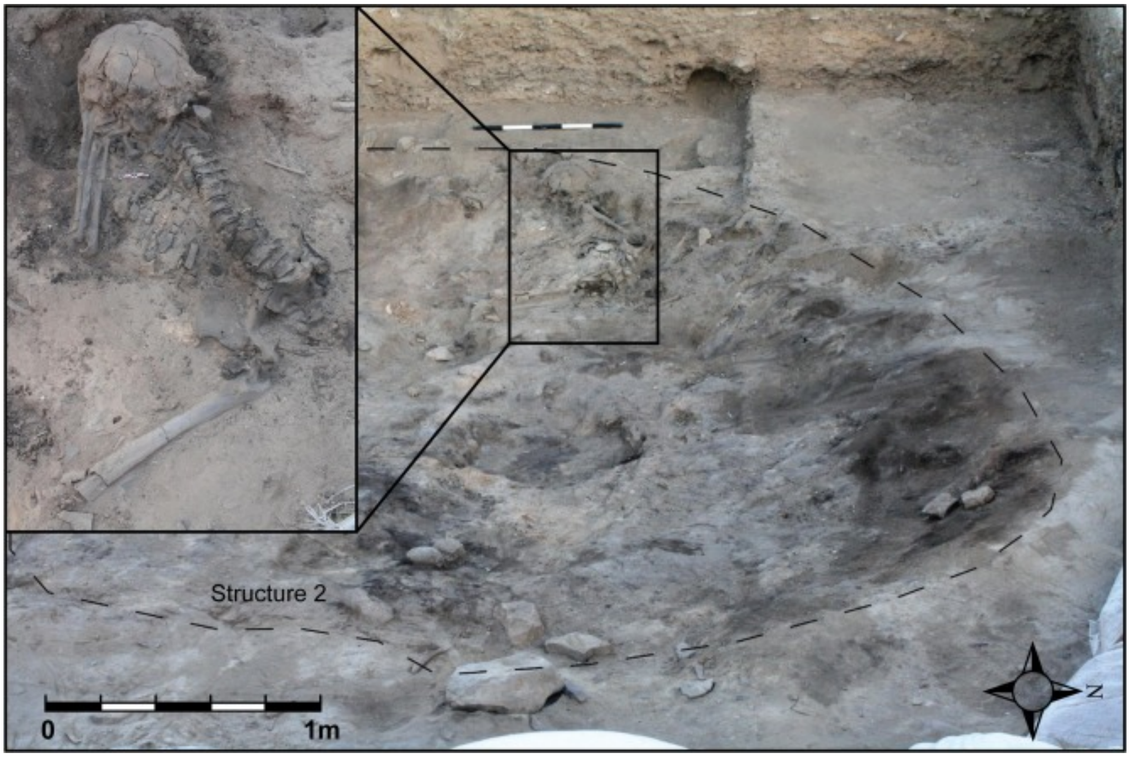

Figure 3.3: Structure 2 of Kharaneh IV with the burned skeleton magnified, from Maher et al. (2021)

3.4.3 Uyun al-Hammam

Uyun al-Hammam is a Middle Epipalaeolithic site and contains more than half of all Early-Middle Epipalaeolithic burials included in this study, making it the largest burial assemblage of the EME. Primary, secondary and disturbed primary burials are known from the site, and the manipulation of skeletal elements is well-attested. Though no infants are present, this assemblage includes children and adolescents and is the only EME site in this assemblage to include the burial of subadult individuals (Maher *et al.*, 2011; Maher, Richter and Stock, 2012). As childhood mortality would be expected to be as high as 50% in prehistoric hunter-gatherer communities (Hewlett, 1991; Pennington, 2001; Bocquentin and Nous, 2022), we can assume that their absence from mortuary remains represents a deliberate exclusion.

Uyun al-Hammam is the only EME site with evidence of a co-burial of a human and a canid, in this case a fox skeleton (Fig. 3.5; Maher *et al.*, 2011). This burial is particularly unique for the treatment afforded not only to the humans within the burial, but also to the

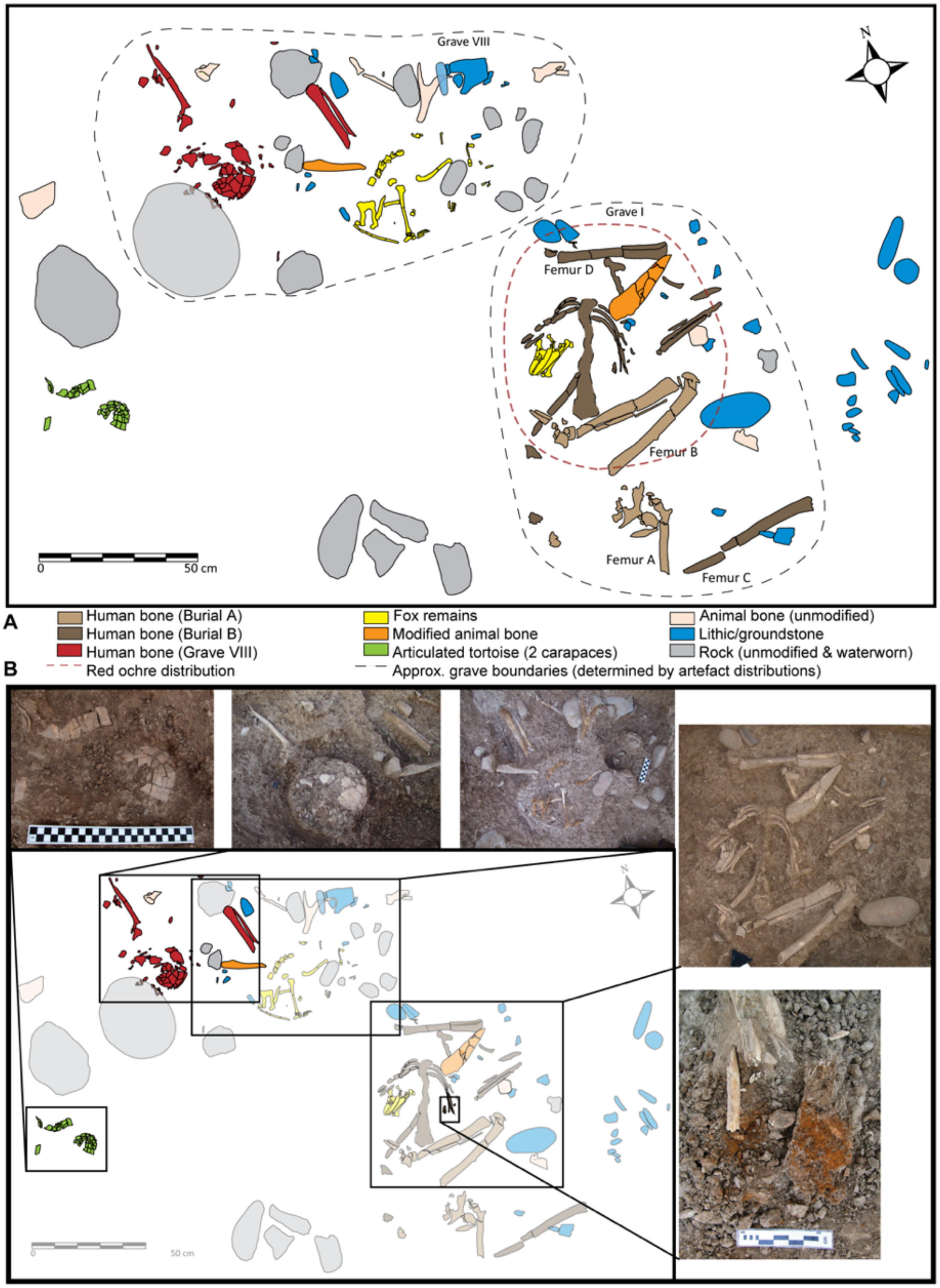

Figure 3.4: Grave I and VIII from Uyun al-Hammam with fox remains highlighted in yellow, from Maher et al. (2011)

fox. Burial 1B (Appendix A; 3.01), a disturbed adult male missing its cranium and some other elements, within Grave I rests on top of a complete fox skull and right humerus (*ibid*.). Nearby, in Grave VIII, another burial (Appendix A; 3.10) consists of a skull, cervical vertebrae, and some long bone elements, probably of a male (*ibid*.). Grave VIII also contains a complete red fox skeleton, missing only its cranium and right humerus (*ibid*.). Both the adult males and the fox remains have no duplication of elements, suggesting that these remains may belong to one adult male and one red fox, which have been moved between the grave pits. If this is the case, this is particularly interesting as it is an example of an animal receiving similar mortuary treatment to a human and may be suggestive of a social role of this fox within the Uyun al-Hammam community.

3.4.4 Other EME Sites

The Early & Middle Epipalaeolithic record of the Southern Levant includes numerous small sites and artefact scatters. The majority of these sites do not contain any known human burials, though some smaller sites with human burials have been included in this study.

Ein Gev I is a small site located just off the shores of the Sea of Galilee in Israel (Belfer-Cohen *et al.*, 2004). Originally interpreted as an Upper Palaeolithic site, the presence of microlithic tools suggests an Early Epipalaeolithic presence at the site (*ibid*.). Though it is not entirely clear whether the skeleton belongs to the Epipalaeolithic or Upper Palaeolithic occupation of the site, a radiocarbon date from associated charred animal remains of 15,700 ± 415 years BP (GrN-5576) may be more in line with a Kebaran burial (Arensburg and Bar-Yosef, 1973). The skeleton was discovered in a shallow pit flexed on its right side (*ibid*.), buried slightly to one side of the camp area, which Belfer-Cohen *et al.* (2004) have suggested may be a typical location for burials of this period. If true, this location of burials outside the main area of the camp may help to account for the infrequency of burials identified at Early Epipalaeolithic sites (*ibid*.).

Neve David is a sizable open-air site dating to the Middle Epipalaeolithic (Geometric Kebaran) located in the Mt. Carmel region of Israel (Bar-Oz, Dayan and Kaufman, 1999). The density of the artefacts within the Epipalaeolithic layer suggests somewhat intensive occupation, an interpretation also supported by the faunal assemblage, which is consistent with an intensively occupied base camp (*ibid*.). Despite the intensity of occupation suggested for the site, only two burials from Neve David have been identified, both of adults in a flexed position (Bocquentin *et al.*, 2011).

‘Ayn Qasiyya is a well-dated Early Epipalaeolithic site located in the Azraq Oasis of Jordan, an area with a considerable number of Epipalaeolithic sites and an increasingly important focus of research in the field (Richter, Stock, and Maher, 2010). One human burial is known from the site: the poorly preserved primary burial of an adult in a seated position (*ibid*.). As no burial pit was identifiable, and the soil conditions suggest soft marshy conditions at the time of deposition, the burial is interpreted as having been placed into the marsh while wrapped or bound (*ibid*). To date, no other Early Epipalaeolithic burial is known to have a comparable position.

Wadi Mataha is an Epipalaeolithic site located in Southern Jordan, containing both Middle and Late Epipalaeolithic remains (Macdonald, Chazan and Janetski, 2016). The Late Epipalaeolithic remains suggest the site was used as a task-specific camp to procure and process food resources (*ibid*.). The Middle Epipalaeolithic (Geometric Kebaran) occupation is very small but includes a human burial (Stock *et al.*, 2005; Macdonald, Chazan and Janetski, 2016). The individual – an adult – was buried in a prone position with the hands and feet positioned behind the back (Stock *et al.*, 2005), a unique position within the Middle Epipalaeolithic burial assemblage of the Southern Levant. A nearby ground stone bowl and a flint blade may be associated with this burial (*ibid*.).

3.5 Late Epipalaeolithic (Natufian) Sites with Burials

The last phase of the Epipalaeolithic is generally synonymous with the Natufian. The Natufian was first defined in the early 20th century by Dorothy Garrod (1932) , who identified the archaeological materials as an intermediary between the Palaeolithic and the Neolithic of the Southern Levant. Natufian tool kits are dominated by geometric microliths, namely lunates (Garrod, 1934; Garrod and Bate, 1937b). Though not present at all Natufian sites, stone-built architecture, substantial archaeological deposits, and abundant human remains are generally considered characteristic of Natufian occupations. Within this assemblage, there is one known individual for every 6.8 years of the Natufian period, a considerable increase in comparison to the EME. Despite this increased burial frequency, a known individual every seven years throughout the whole of the Southern Levant is still too infrequent for burial to have been the standard or normative treatment of the dead.

There is some debate as to the boundary of the Natufian range in the Levant, with some authors including Anatolia and the Upper Euphrates Valley of the Northern Levant within the Natufian home range, while others prefer a more restricted geographic boundary focused only on the Southern Levant (Valla, 1999; Goring-Morris and Belfer-Cohen, 2013). Here, only Southern Levantine and Levantine Corridor sites have been included as Natufian, with broadly contemporary sites in other regions representing local manifestations of Late Epipalaeolithic archaeological entities.

3.5.1 Azraq 18

Azraq 18 is a Natufian site located in the Azraq Basin (Jordan), which was occupied throughout the Epipalaeolithic (Bocquentin and Garrard, 2016). Unfortunately, only a small area (6 m^2) was excavated before the site's destruction, but the artefact spread of 1400 m^2 suggests the site was likely sizable (*ibid*.). No charcoal or radiocarbon datable material was recovered, but the lithic analysis of the site suggests it belongs to an Early Natufian occupation (*ibid*.). Abundant lithic and faunal remains were identified at the site, with faunal remains suggestive of a Steppe environment and adjacent wetland, which may be similar to the environmental conditions of Kharaneh IV in the Middle Epipalaeolithic.

Despite the meagre size of the excavation, a collective grave was uncovered in the trench containing 8 individuals (*ibid*.). These individuals were buried together in one multi-burial, likely consecutive burials. Five of the individuals within the pit are believed to be subadults, and the remaining three are adults (*ibid*.). Due to the extremely fragmentary nature of the five subadults, they are published only in limited detail.

Figure 3.5: Pigments on cranium 170-174 from Azraq 18 with yellow and red pigments and black banded pigments visible, from Bocquentin and Garrard (2016)

Two adult crania (Appendix A; 23.02 and 23.03) have evidence of pigments on their surfaces (Bocquentin and Garrard, 2016). One – Cranium 108 - has considerable evidence of red pigment across the cranium and the facial skeleton (*ibid*.). The other – Cranium 170-174 - has red, yellow, and black pigments in various locations across the cranium (Fig. 3.6). The black pigment is arranged in a linear crossed pattern, which may be the remains of bitumen used on the rope or basketry that was in contact with the body during decomposition (*ibid*.). Post-depositional manipulation is a part of the mortuary remains here, as all individuals in this pit have been disturbed, including the final individual to be placed into the pit, suggesting the movement of the bodies was not simply the result of interment of subsequent individuals (*ibid*.).

3.5.2 el-Wad

el-Wad cave is located in the Mount Carmel region of Israel and consists of a cave and terrace occupation (Garrod, 1934, 1936; Weinstein-Evron, 1998). The site was first excavated in the 1920s and 1930s but has been revisited many times in the past century (*ibid*.). El-Wad appears to have been occupied throughout the Natufian, with a clearly defined Early (B2) and Late (B1) Natufian layers (Garrod, 1934; Garrod and Bate, 1937a). The division between these two layers, made initially based on the size and style of lunates present in each layer, would ultimately form the basis for the 2-phase division of the Natufian at other sites throughout the region.

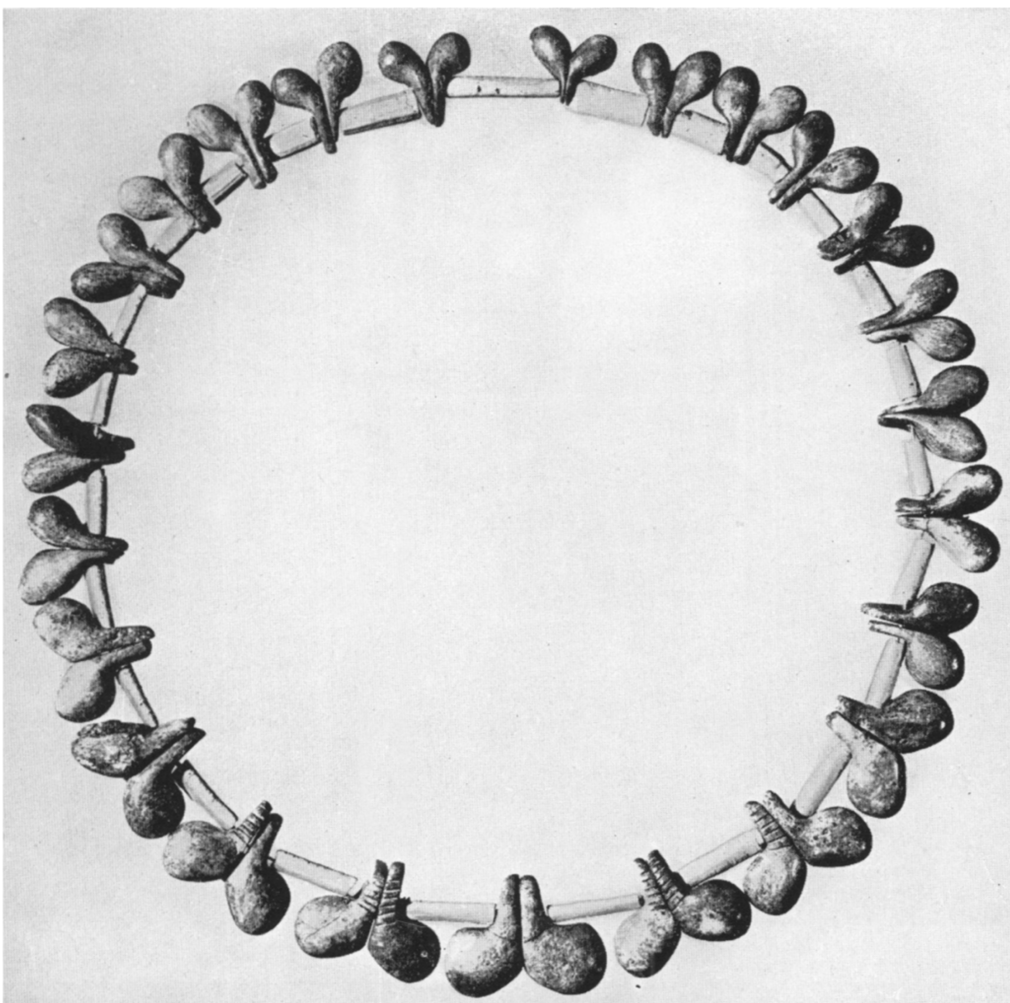

Figure 3.6: Reconstruction of the necklace found with el-Wad H23 (Appendix A; 11.26), from Garrod (1937)

el-Wad has the second-largest burial assemblage of any site in this sample, consisting of 108 known individuals from published literature. Importantly, isolated fragments –

particularly in the earliest excavations – were not well published, thus this number underrepresents the total number of individuals found at the site. Many burials are poorly published, limiting the analyses available for this site. The adult assemblage of el-Wad is male-dominated, though females are present in both layers. Subadults are also known throughout the site, though only 29.6% (n=32) of the site are subadults, which is less than would be expected (see Section 4.2.3).

The el-Wad mortuary assemblage is diverse, including examples of all burial types, burial and body positions, and burial sizes identified in this study. Grave inclusions are rare, but several examples of decorated burials are known. Though not necessarily unique mortuary treatments, two burials (Appendix Aa; 11.26 and 11.30) include a unique type of pendant only found at el-Wad (Fig. 3.7), termed *twin-type* by Dorothy Garrod (1937). These beads are also found scattered throughout the occupation layers at el-Wad (*ibid*.). Carved from the tibio-tarsus bone of a bird, these beads have a striking similarity to a bead type commonly identified in Gravettian sites of Eastern Europe, though their similarities are only in shape and not in material. Tibio-tarsus beads are known from several Natufian sites, but the *twin-type* style appears to be unique to el-Wad (see Chapter 5, Section 5.4.1.2 for discussion).

3.5.3 Eynan (Ain Mallaha)

Eynan is a large Natufian site located in the Hula Valley of Israel (Perrot, 1966, 1974; Valla *et al.*, 2017). First excavated in the 1960s, the site has been revisited many times, including ongoing excavations which were renewed in 2022. At the time of its discovery, Natufian architecture was poorly understood, and the site was extremely valuable in improving our understanding of the architectural practices throughout the Natufian. Eynan is the only site in this assemblage with a clearly defined Final Natufian layer, with occupation evidence spanning the entirety of the Natufian (Valla *et al.*, 2001; Samuelian, Khalaily and Valla, 2006). This extensive and repeated occupation makes it an ideal site to explore the changes in Natufian lifeways and mortuary practices through time. It is not clear why Eynan was abandoned at the end of the Natufian, particularly as the environment surrounding the site continued to be favourable, and a large Neolithic site – Beisamoun – was established very nearby in the PPNB.

Eynan is the largest burial assemblage within this study, with 126 numbered individuals accounting for more than ¼ of all known Natufian individuals. The early publications of the site are somewhat inconsistent, leading to some confusion about the total number of published individuals. Furthermore, isolated fragments have not consistently been published across the various excavations at Eynan and thus are underrepresented in this study. Any human remains that have been found during the renewed excavations since 2022 have not yet been published.

Like el-Wad, the Eynan burial assemblage is highly diverse, including examples of all burial types, poses, and sizes. While burials are found throughout the site, there are three known clusters, identified as Cemetery A, B, and C (Valla, 1991; Bocquentin, Murail and Sellier, 2001; Davin, 2019). Burials, including these cemetery clusters, are often but not exclusively found beneath large structures (*ibid*.). While many burials at Eynan are important and interesting, there are a handful that represent rare and unusual treatments within the Natufian that are worth considering.

Burial H104 (Appendix A; 20.93) is an older female buried beneath Building 131 (Valla, 1975). This burial belongs to the oldest phase of occupation at the site. The body is flexed on the left side with the hands beside the head. Clasped within her hands is a juvenile canine, identified as a domesticated dog based on the size of the teeth (Davies and Valla, 1978). This canine, unlike most animal remains in Natufian burial contexts, appears to be closely related to the human within the burial; rather than being an inclusion, it appears to be a part of the burial. Throughout the Natufian, there are other examples of canines buried with humans, possibly suggesting a changing social role for these animals within the communities (Valla, Le Mort and Plisson, 1991; Tchernov and Valla, 1997).

Very young subadults, including infants and perinates, are rarely given grave inclusions throughout the Natufian, however, Eynan has three infants buried with beads (Appendix A; 20.40, 20.111, and 20.112). In each case, the infants appear to have been buried wearing a belt or sash of *dentalium* beads (Davin, 2019). Amongst the adults at Eynan, belts of *Dentalium* are also known, alongside necklaces, bracelets, and sometimes headdresses (*ibid*.). Though these burials aren't necessarily unique, it is interesting to see such young children buried with beaded items, as this is only known from two other Natufian sites.

3.5.4 Hayonim Cave and Terrace

Hayonim Cave and Terrace are located in the Galilee of Israel (Henry and Leroi-Gourhan, 1976; Bar-Yosef *et al.*, 2017). Though the terrace is adjacent to the cave, it isn't clear if the cave and terrace were occupied simultaneously, and the sites are sometimes discussed independently of each other (Henry, Leroi-Gourhan and Davies, 1981; Munro, 2013). However, available radiocarbon dating of the cave and terrace deposits shows that concurrent occupation was possible (*ibid*.). Because it cannot be demonstrated conclusively either way, the sites are presented both separately and in combination here. Hayonim Cave was occupied in both the Early & Late Natufian, while Hayonim Terrace was occupied only in the Late Natufian (*ibid*.).

Hayonim Cave contains a sizable burial assemblage of 55 individuals, well-published by Belfer-Cohen (Belfer-Cohen, 1988). The cave also includes a series of small and rounded structures, in a honeycomb pattern which is unique amongst Natufian sites, many of which are associated with burials (*Fig. 3.8;* Bar-Yosef and Goren, 1973; Belfer-Cohen, 1988; Bar-Yosef *et al.*, 2017). The grave inclusions at this site, which largely consist of beads and some rare artistic items, have also been published in detail and are often compared to the grave inclusions known from el-Wad or Eynan despite some unique features among the Hayonim Cave sample (Belfer-Cohen, 1988, 1991a; Grosman and Belfer-Cohen, 2022).

The burial assemblage of Hayonim Cave is largely male-dominated, with more than twice as many males as females amongst the sexable adult individuals. All ages are represented at the site, with subadults making up 36.4% (n=20) of the assemblage. Though this is broadly consistent with the average subadult representation throughout the Natufian, it is likely an underrepresentation given the expected childhood mortality of hunter-gatherer communities. Young adult males make up a considerable proportion of the site, possibly suggesting a preference for these individuals within this burial ground (Belfer-Cohen, 1988; Grosman and Belfer-Cohen, 2022).

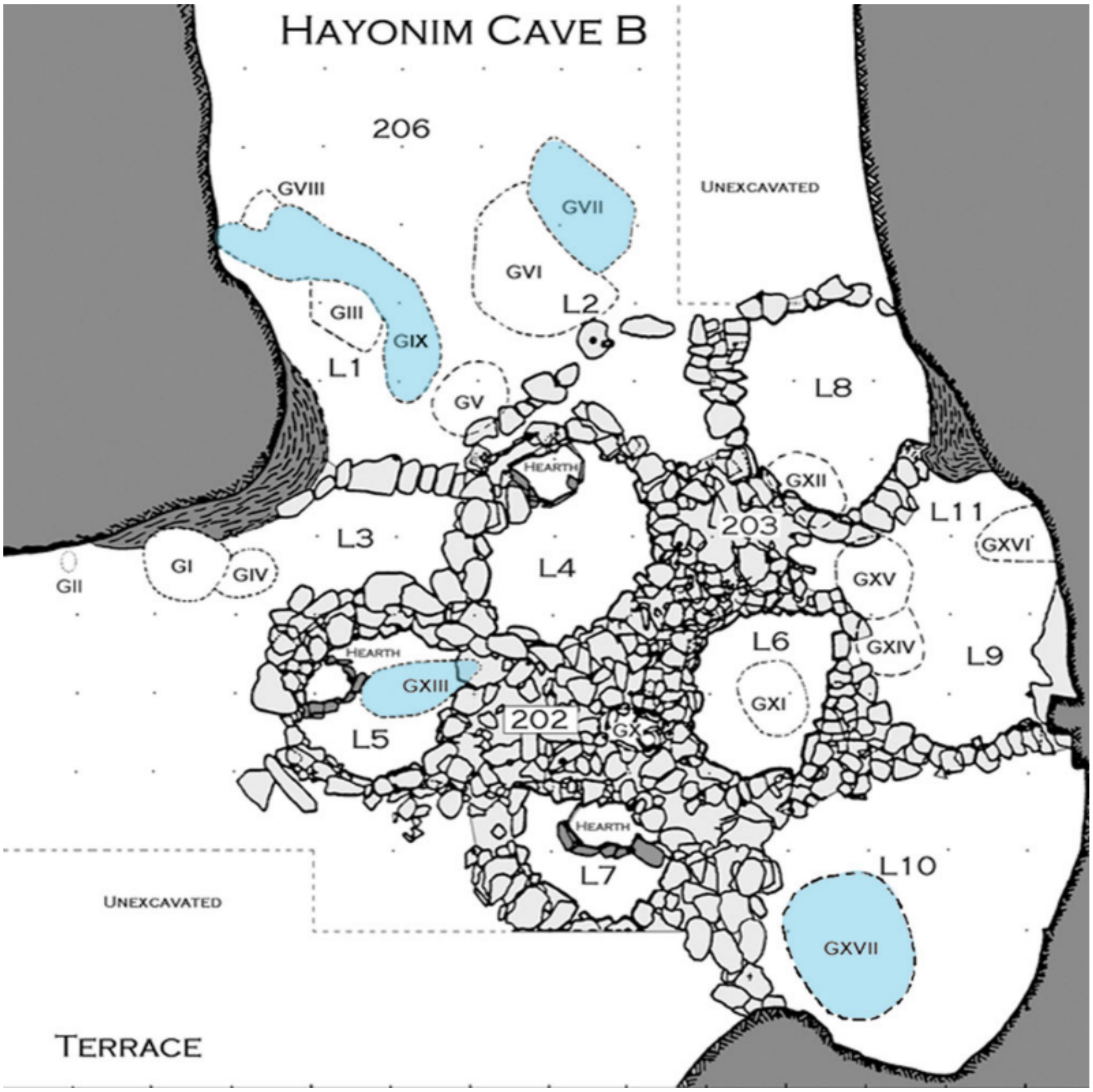

Figure 3.7: Plan of the Natufian layers within Hayonim Cave, with the graves defined by dotted lines (decorated graves are marked in light blue). From Grosman and Belfer-Cohen (2022)

Hayonim Terrace consists of a small terrace in front of the cave. Though less than 30m from the archaeological remains within the cave, Henry and Leroi-Gourhan (1976) advocated for the site to be considered a separate occupation, which they believed occurred later than the Cave. Architectural features on the terrace were poorly preserved, but some evidence of stone walls may be seen. Bedrock mortars and cup marks are well attested from the terrace (*ibid*.).

The burial assemblage of the terrace is much smaller than within the cave, amounting to only nine numbered individuals; isolated fragments are mentioned but not reported in detail. None of the adults on the terrace were able to be sexed, so comparisons with the strong male dominance of the cave are not possible. No infants are known from the terrace, and the total subadult assemblage includes only one child and one adolescent. If these sites were occupied concurrently, it can be assumed that they are part of the same site due to their proximity. Should this be the case, it's worth considering why the dead were divided between the cave and the terrace burials, and what these divisions may have meant for the community. If the sites are separate, as Henry and Leroi-Gourhan (1976) suggest, it may be suggestive of cyclical mobility or of the desirability of the region attracting various communities to return here.

3.5.5 Hilazon Tachtit

Hilazon Tachtit is a small cave site in the Western Galilee region of Israel, which appears to be occupied in the Late Natufian (Grosman and Munro, 2007; Goldgeier, Munro and Grosman, 2019). The site includes large quantities of faunal remains, two stone-built structures, three bedrock pits, and several human burials (*ibid*.). The structures, as well as the cave itself, are very small and were likely too small to support a community for occupation (*ibid*.). Grosman and Munro (2007) have argued that the site was likely not occupied at all; rather, it was a site reserved predominantly or entirely for the deposition of human remains and the associated mortuary practices. Hilazon Tachtit is here considered a cemetery site.

The majority of human remains within the cave occur within the bedrock pits, which contain the comingled remains of at least 24 individuals (Goldgeier, Munro and Grosman, 2019). No osteological analysis of these remains has been published, so no demographic information is available beyond the Minimum Number of Individuals (MNI). Four primary burials are known, three adult females and one infant or perinate buried alongside an adult female. No males are known from this site, though they may be present among the unsexed remains within the pit.

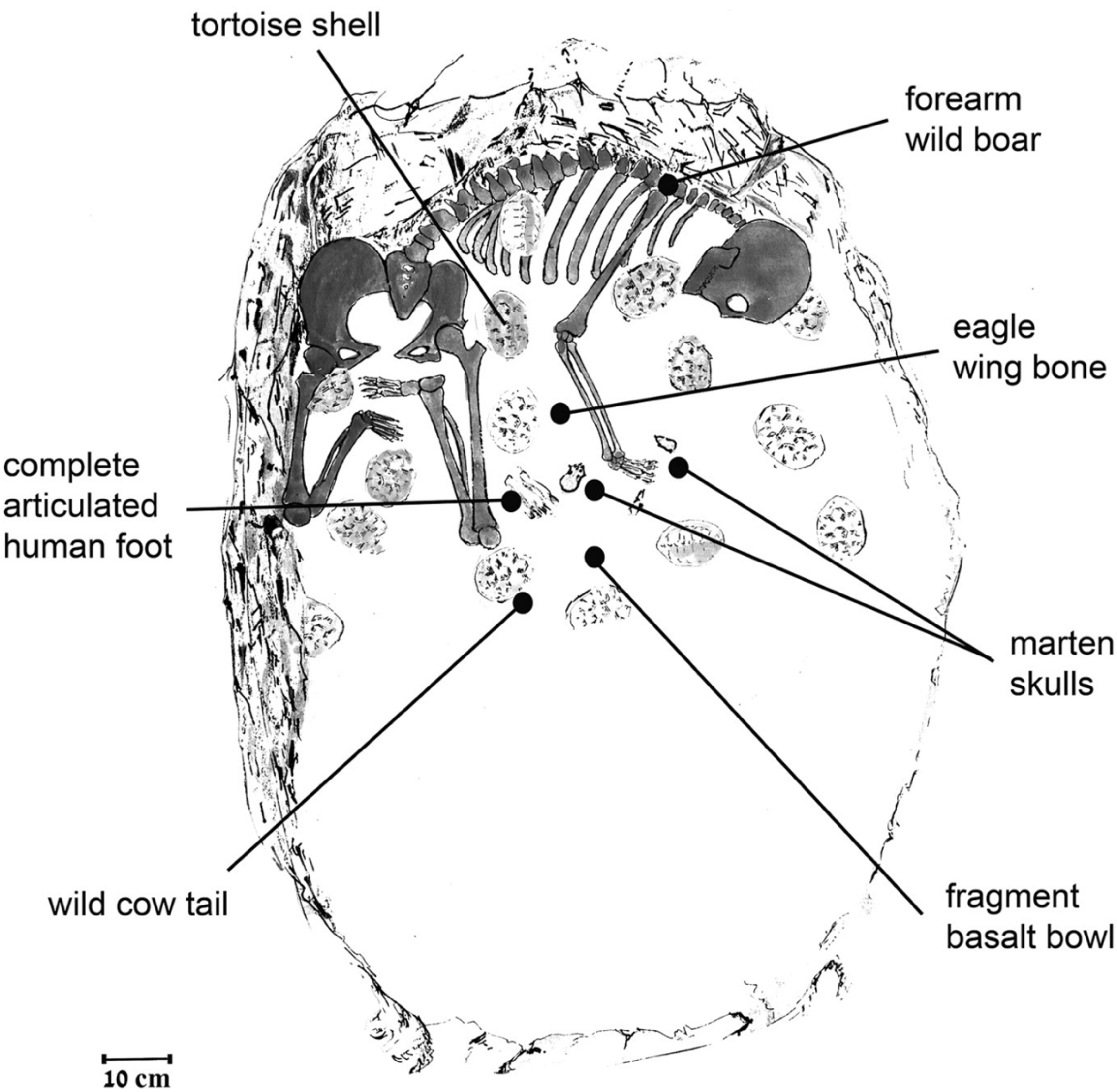

Figure 3.8: The Shaman burial of Hilazon Tachtit, from Grosman, Munro, and Belfer-Cohen (2008)

The structures, termed A and B, at the site are closely associated with all four primary burials and the abundant faunal remains. Both structures were filled with animal remains, including tortoise and auroch (Munro and Grosman, 2010; Goldgeier, Munro and Grosman, 2019). These remains are present in considerable quantities, suggesting large amounts of meat were available to be consumed within the cave (*ibid*.). It has been suggested that the faunal remains of the site are consistent with funerary feasting (*ibid*.), which may have accompanied the burial of the 'Shaman' (Grosman, Munro and Belfer-Cohen, 2008). The structures, which appear to have been built to house this feasting refuse, may have been related to the funerary practices (Munro and Grosman, 2010).

The most famous burial of Hilazon Tachtit is that of the 'Shaman' (Appendix A; 21.01). This burial is of an elderly woman found beneath structure A in a large stone-lined pit, associated with an unparalleled quantity of animal remains including more than 50 tortoise carapaces, an eagle wing, a *Panthera* paw, an articulated human foot, a basalt bowl, and flint tools, among other items (Fig. 3.9; Grosman, Munro and Belfer-Cohen, 2008). No other Natufian burial contains this quantity or variety of inclusions, and it is a particularly rich burial against the lack of decorated burials at other Late Natufian sites. The presence of abundant animal inclusions, as well as the inclusion of rare or unique animals, has led Grosman, Munro and Belfer-Cohen (2008) to suggest this grave may be evidence of Shamanism practised in the Late Natufian.

3.5.6 Nahal Ein Gev II

Nahal Ein Gev II is an open-air site near the Sea of Galilee dating to the end of the Late Natufian (Bar-Yosef and Belfer-Cohen, 2000; Grosman *et al.*, 2016). Excavations at this site are ongoing, so more data are expected to be published in the coming years. The site consists of several stone-built structures clustered together, as well as a partially encircled burial area which includes abundant human remains (Grosman *et al.*, 2016). Interestingly, some aspects of NEGII appear to more closely resemble the Final Natufian at Eynan or even some PPNA sites of the region, such as the bean shape of several structures, internal architectural features such as benches, and the abundant use of plaster within structures and burial areas (Grosman *et al.*, 2016; Grosman, Raz and Friesem, 2020; Munro, Petrillo and Grosman, 2021).

Only four individuals within the burial assemblage of NEGII have been published in detail so far, two of which are adult females. Isolated remains are known throughout the site but are not well published. One burial, Homo 2 (Appendix A; 19.01), was buried embedded within the wall of Building 3 (Grosman *et al.*, 2016). It seems the wall was taken apart for the body's placement and then rebuilt on top of it (*ibid*.). The articulation and location of the joints in the body suggest it may have been wrapped or shrouded at its deposition (*ibid*.).

3.5.7 Nahal Oren

Nahal Oren is a cave site located in the Mt. Carmel region and was originally excavated in the 1950s and early 1960s (Stekelis and Yizraely, 1963; Noy *et al.*, 1973). Much of the original excavation, particularly the burials of the site, is poorly published by today's standards, leading to difficulty in the analysis of the site. The site is not radiocarbon dated but appears to fall at the very end of the Late Natufian period based on the archaeological material present (Stekelis and Yizraely, 1963; Nadel, Noy, Liora Kolska-Horwitz, *et al.*, 1997; Nadel and Rosenberg, 2011). The site consists of a burial area, several architectural features, and abundant basalt grinding tools (Nadel, Noy, Liora Kolska-Horwitz, *et al.*, 1997; Nadel, Noy, Liora Kolska-Horwitz, *et al.*, 1997). There is also a stone-walled camp, which appears to date to the Pre-Pottery Neolithic (PPN), making Nahal Oren one of the only sites occupied in both the Natufian and the PPN. However, it is unclear if this occupation was continuous or recurrent (Noy *et al.*, 1973).

The burial assemblage of the site includes 43 numbered individuals, along with several unnumbered isolated fragments. Subadults account for 30.2% (n=13) of the assemblage. The adults of Nahal Oren are roughly balanced between the sexes. There are no recorded grave goods at Nahal Oren, however, there are abundant boulder mortars within the graveyard area, which may have served as grave markers (Crognier and Dupouy-Madre, 1974; Nadel, Noy, Liora Kolska-Horwitz, *et al.*, 1997). These mortars are large and often have a pierced bottom, preventing them from being used for functional, subsistence purposes (*ibid*.). Many theories surrounding these mortars – and similar items from other sites – exist, including their use as percussion instruments during funerary rituals, spiritual symbols for the feeding of the dead, and as grave markers to identify body locations (Rosenberg and Nadel, 2014; Eitam and Schoenwetter, 2020). Cranial removal is common within the Nahal Oren assemblage (Crognier and Dupouy-Madre, 1974; Nadel, Noy, Liora Kolska-Horwitz, *et al.*, 1997).

3.5.8 Raqefet Cave

Raqefet Cave is located in the Mount Carmel region of Israel. The site is assigned to the Late Natufian based on the archaeological materials present in the relatively homogeneous layers (Lengyel *et al.*, 2005; Lengyel, Nadel and Bocquentin, 2013). However, direct radiocarbon dating of some of the skeletal material has resulted in a handful of dates which are more consistent with the accepted date range of the Early Natufian in the region (Lengyel *et al.*, 2006; Barzilai *et al.*, 2017). Throughout this work, the burials from Raqefet Cave are assigned to the Late Natufian due to the consistency of the archaeological remains in the cave in comparison to other Late Natufian sites, but these early dates may raise questions about the timing of the transition between Early & Late Natufian lifeways in the Mt. Carmel region.

Like Hilazon Tachtit, the archaeological remains at the site are not consistent with the use of the site as an occupation area, and it is better interpreted as a Cemetery site (Lengyel and Bocquentin, 2005). It is not clear where the communities utilising this burial area would have lived, though several contemporary sites are known from the Mount Carmel region. The burial assemblage of Raqefet Cave consists of 30 individuals. All age groups are represented, from young infants to elderly adults. Very few adults were able to be sexed (n=3), but all were female. Headless burials, a common feature of Late Natufian mortuary practices, are known here (Lengyel and Bocquentin, 2005; Lengyel, Nadel and Bocquentin, 2013). Several double burials are known from the site, which have been interpreted as being concurrent burials.

Two of these double burials are of particular interest due to their unique mortuary evidence within the Natufian assemblage. The double burial of H28 (Appendix A; 6.27) and H25 (Appendix A; 6.24), and the double burial of H18 (Appendix A; 6.18) and H19 (Appendix A; 6.19) were dug into the bedrock and then plastered with a mud veneer (Nadel *et al.*, 2013). Into this mud veneer, fresh flowers were pressed, before the bodies were placed on top (*ibid*.). When the flowers decomposed, they left behind their impressions within the dried mud, and these impressions have been preserved (*ibid*.). Some plants could be identified to the genus or species level, each of which would have been in bloom in the Early & mid-summer, providing an approximate time of year for the burials (*ibid*.). The adolescent H28 also had its cranium removed after decomposition (Fig. 3.10).

While this practice of florals within the graves is unknown elsewhere in the Natufian, it should be noted that the preservation of these impressions requires very specific taphonomic conditions, and thus, the practice of using flowers in mortuary practices may have been more widespread than is evident in the archaeological record. Without the preservation of the mud veneer impressions, flowers included within burial contexts would simply decompose completely and may never be identified in the archaeological record.

Figure 3.9: a) Double burial of H25 (left) and H28 (right) as excavated, note the removed cranium from H28 (circled in red). b) Reconstruction of the burial at deposition. Modified from Nadel et al.(2013)

3.5.9 Shubayqa 1

Shubayqa 1 is located in the Azraq basin of Jordan. Two well-published, superimposed structures are known from the site, though the authors describe a series of poorly preserved structural remains along the periphery of the excavated area, suggesting further structures were probably present (Richter *et al.*, 2012, 2019). The site was occupied in both the Early & Late Natufian periods (Richter *et al.*, 2017). The publication of the human remains from Shubayqa 1 is excellent and very detailed, providing some of the best data of any Natufian burial assemblage. Isolated fragments are published in detail for this site, and many burials have 3D models available (Richter *et al.*, 2019).

The age distribution of the Shubayqa 1 burial assemblage is unique amongst Natufian sites. Subadults account for 75.0% (n=21) of the total individuals at Shubayqa 1, the majority of which are very young infants. The seven numbered adults consist mostly of isolated fragments, with only two adults buried. Though this high prevalence of very young individuals is not common across the Natufian assemblage, this age distribution likely represents a more representative sample given the high childhood mortality, which can be expected from Epipalaeolithic communities (see Chapter 4, Section 4.4.3.2 Age for discussion).

Several of the infants at this site are associated with substantial amounts of pigments, particularly red ochre. Since the infant remains are in primary position and well-preserved, Richter *et al.*(2019) have posited that the ochre was likely applied to a type of burial shroud or sac which surrounded the infant at the time of burial, allowing the ochre to stain the bones as the flesh decomposed. Had the ochre been applied after decomposition during a phase of re-opening, one would expect some damage or disturbance to the remains as infant bones are particularly fragile (*ibid*.).

3.5.10 Wadi Hammeh 27

This small site, located in the Jordan Rift Valley, has been excavated since the 1980s (Edwards, 1991, 2013). The site consists of three superimposed occupational layers of architectural remains, above a burial phase, which is the earliest occupation of the site (*ibid*.). The structures at Wadi Hammeh 27 are similar in shape and construction to those found at other Natufian sites but are considerably different in size (Edwards, 1991, 2013). These structures are much larger than any other Natufian structure by many times (*ibid*.). These structures likely served a different purpose than those known from other Natufian sites; they may have been used for more communal and social purposes than purely as dwellings (*ibid*.).

Only seven individuals are published from the site, though the authors mention 'abundant' isolated fragments throughout the occupation levels (Webb and Edwards, 2002). Six individuals are adults, though none were sexable. The seventh individual, H7 (Appendix A; 2.07), is the only subadult at the site. However, this individual is known only from a group of deciduous teeth without any associated bones (*ibid*.). This type of deposit may result from the destruction of the skeletal remains of the cranium, but may also result from the intentional caching of milk teeth, which had been lost by a living child and therefore may not be a burial at all.

3.5.11 Kebara Cave

Kebara Cave is located in the Mount Carmel range of Israel, about 15km south of el-Wad Cave, and was excavated in the 1930s by Turville-Petre (1932). Layer B of the cave contains Natufian remains, including abundant Helwan lunates, allowing the cave to be assigned to the Early Natufian (*ibid*.). In addition to the Natufian layer of the cave, Layer C is a Kebaran occupation layer which provided the type-site for the Kebaran technocomplex of the Early Epipalaeolithic. No structures are recorded from within the cave, but abundant lithics and debitage suggest this site as an occupation cave (*ibid*.; Bar-Yosef and Sillen, 1993).

As highlighted by Bar-Yosef and Sillen (1993), the excavations at Kebara in the 1930s were conducted extraordinarily quickly, resulting in somewhat poor recording of stratigraphic features and leading to difficulty interpreting the human remains of the cave. Turville-Petre (1932) identified two groups of human remains within the cave, one at the mouth of the cave and one in the rear of the chamber. The group at the mouth of the cave was originally interpreted as a multi-burial, which was compared to the burials of Chamber 1 at el-Wad Cave (Turville-Petre, 1932). The group of human remains at the rear of the cave was burned, leading to the interpretation of these remains as a cremation (*ibid*.). As no cremation practices were otherwise known from the Natufian, Turville-Petre determined these remains must have come from Layer C – the Kebaran layer – rather than belonging to the Natufian (*ibid*.).

On revaluation of the burned skeletal material, Bar-Yosef and Sillen (1993) determined that the charring of the bones was sufficient to utilise AMS dating. One sample was suitable for dating, providing a date range of 15,264-14,063 cal. BP (*ibid*.) demonstrating that these remains likely originate from the Natufian layer of the cave. The creation of these burned remains is difficult to interpret. Analysis of the 31 individuals present among the burned remains suggests that nearly all remains were burned in a dry state, after the flesh had already decomposed, with the possible exception of one individual who may have been fleshed at the time of burning (Le Mort *et al.*, 2000; Bocquentin, 2003). Furthermore, the colouration of the bone indicates a low or moderate temperature, rather than a controlled fire for the purpose of corpse disposal (*ibid*.), suggesting these remains were likely not created through an intentional cremation.

The publication of the human remains at Kebara Cave has been inconsistent, with total numbers of burned individuals ranging from 23 to 75, and total numbers of unburned individuals ranging from 17 to 40 (Bocquentin, 2003, pp. 151). Furthermore, little is known with regard to the burial position, size, or types throughout the cave, though most burials are interpreted as primary due to the presence of small elements and some anatomical connections (*ibid.*). For this study, the numbers identified by Bocquentin (2003) will be utilised.

3.5.12 Shukbah Cave

Shukbah Cave was the first site at which the Natufian lithic industry was identified, situated in the Wadi el Natuf for which the lithic industry was named (Garrod, 1932). The site was briefly excavated by Dorothy Garrod in the 1920s, though excavations were interrupted by the discovery of el-Wad Cave (Garrod, 1932; Garrod and Bate, 1942). Layer B of the site was identified as Upper (Late) Natufian based on the lithics present in the cave (*ibid*.).

Garrod and Bate (1942) only describe the seven best preserved skeletons within the Shukbah assemblage, but they describe the layer as containing several isolated human remains. As discussed by Bocquentin (2003), the archives for the site describe at least two other individuals who may have come from the Natufian levels but were not kept due to the poor preservation of the bone, as well as an individual likely from the Bronze Age layers of the cave. Keith (1932) describes a total of 45 individuals at Shukbah Cave, though it is likely he is referring to the el-Wad assemblage rather than the Shukbah Assemblage (Bocquentin, 2003).

3.5.13 Other Natufian Sites

The Natufian industry is known from several other sites throughout the Southern Levant, including small task-specific sites which do not contain any human remains. Three small sites with burial assemblages were also included in this study: Erq al Ahmar, Hof Shahaf, and Jebel es-Saaide (Saaide II).

Erq al Ahmar is a rock shelter site located in the Judean Desert (Neuville, 1951). The site was excavated in the 1930s and was published only in a limited capacity (Vallois, 1936; Neuville, 1951). The site contains no structures and few hearths, leading to the interpretation of the site as a seasonal or task-specific camp (*ibid*.). Seven individuals were identified at the site, described as mostly originating from single burials, though the preservation of the remains is poor (Vallois, 1936). Two individuals are recorded as juvenile, while the rest are believed to be adult remains (Vallois, 1936; Bocquentin, 2003).

Hof Shahaf is located near the shore of the Sea of Galilee and was excavated during 2008 as part of a salvage excavation (Marder *et al.*, 2013). The open-air site included one structure of typical Natufian construction, with a human burial located about 1.5m north of the structure (*ibid*.). The burial consists only of the upper half of the body – the torso and upper limbs – as well as a mandible (*ibid*.). The presence of the mandible with the absence of the cranium suggests that the cranium was removed post-depositionally (*ibid*). One *dentalium* bead was found on the torso (*ibid*.), though it is not clear if this was an intentional deposit or part of the fill of the grave.

Jebel es-Saaide (Saaide II) is the furthest north site included within this study, sitting at the transition point between the Southern and Northern Levant (see section 1.1.1 and Fig. 1.1). The open-air site was discovered in 1969 but never fully excavated due to the political circumstances in Lebanon at the time, resulting in a limited understanding of the site as a whole (Copeland, 1991; Horvath, 2001). The test excavations conducted in the 1990s suggested the remains of stone structures, mortars, and at least one human burial (Churcher, 1994; Garrard, 2013).

3.6 Pre-Pottery Neolithic A Sites with Burials

The Pre-Pottery Neolithic A (PPNA) of the Southern Levant is represented by 160 known individuals from five sites. Three sites – Netiv Hagdud, Wadi Faynan 16, and Jericho - form the majority of the assemblage as they are large sites with numerous burials recovered. The PPNA is relatively short-lived in comparison to the Epipalaeolithic phases, lasting only about 1000 years from 11,500 cal. BP to 10,500 cal. BP (Stutz, 2004; Grosman, 2013). This provides a burial frequency of one known individual every 6.3 years, slightly higher than the burial frequency in the Natufian. However, this frequency is still a considerable underrepresentation of the total expected deaths in the period, suggesting that the PPNA sample is far from complete.

The PPNA is generally characterised by a continuity of lifeways from the Late and Final Natufian. Structures are generally still rounded, semi-subterranean, and built with a stone base of the walls, though increasingly internal features and divisions are included (Bar-Yosef, 1989; Belfer-Cohen and Goring-Morris, 2010). Towards the end of the PPNA, structures begin to take on the rectilinear appearance common within the PPNB and PPNC (Bar-Yosef, 1989; Hemsley, 2008). Plaster is increasingly common within PPNA architecture, used for floors and walls, though it is only in the PPNB where plaster use becomes the norm (Hemsley, 2008; Grosman, Raz and Friesem, 2020).

Subsistence in the PPNA of the Southern Levant continues to exploit hunted and foraged resources, alongside some early agriculture of domesticated and pre-domesticated cereals and pulses (Henry, 1989; Munro, 2003; Asouti, 2013). Lithic and groundstone evidence indicates an increasing reliance on plant resources for a variety of uses, including food, fuel, and shelter (*ibid*.).

3.6.1 Jericho

Jericho was the first confidently identified Aceramic Neolithic site in the Southern Levant and continues to be one of the most well-known (Kenyon, 1952, 1954, 1959, 1981). The site had been occupied from the Late Epipalaeolithic, throughout the Neolithic, and beyond (*ibid*.). Due to this long occupation, many lower layers are considerably damaged by the subsequent rebuilding of the site. The site is very large, spanning about 2.5ha, and PPNA layers are up to 9m thick in some areas of the site, making it the most intensively occupied site known from the PPNA of the Southern Levant (*ibid*.). There are no known burials from the poorly preserved Epipaleolithic layers of the site, but 80 individuals are assigned to the PPNA layers (Kenyon, 1971, 1981).

The PPNA settlement of Jericho is best known for its monumental architecture, consisting of settlement walls and a sizable tower (Kenyon, 1954, 1957; 1981; Naveh, 2003). Initial interpretations of these structures were for defence, with Kenyon (1981) suggesting that the location of Jericho in a rich and diverse environment with direct access to a spring would need to be protected against nomadic communities seeking to gain control of these resources. Bar-Yosef (1986) suggested an alternative interpretation of the walls as a flood mitigation and protection device, preventing floodwaters from damaging the settlement itself. This interpretation was based on Bar-Yosef's (*ibid.*) observation of the lack of evidence suggesting large-scale interpersonal violence, such as widespread skeletal trauma or weaponry, as one might expect in battlefield archaeology.

However, the lack of evidence for widespread violence might rather suggest that these defensive features served their purpose by preventing attacks or deterring hostile groups. It is also important to note that these interpretations are not mutually exclusive, and the walls may have prevented the insurgence of both hostile communities and floodwaters. Whatever their intended purpose, these monumental building projects would have required considerable time and effort from the community, both at the time of construction and over time for maintenance and rebuilding, suggesting their importance and value to the community. It is unsurprising, then, that many burials are closely associated with these socially significant architectural features (Kenyon, 1971; 1981). The tower itself contains a collection of burials within the passage, which were interred towards the end of the life of the tower (Kenyon, 1957, 1971; 1981).

Though outside the scope of the current study, Jericho provides an excellent case study to explore the changing mortuary landscape of the PPNA-PPNB transition. Isolated skulls, which appear throughout the PPNA in the Southern Levant, are joined by the decoration of Plastered Skulls found at Jericho and other PPNB sites (Strouhal, 1973; Kenyon, 1981). This elaboration of cranial treatment complements the elaboration of cranial treatment that can be seen to occur from the Early Natufian to the PPNA.

3.6.2 Netiv Hagdud

Netiv Hagdud is a PPNA site from the Salibiya basin in the Lower Jordan Valley (Belfer-Cohen *et al.*, 1990). The site is large with thick archaeological deposits containing structures, faunal remains, and evidence of barley cultivation (*ibid*.). A total of 28 individuals are known from the site, though the preservation here is poor, and this has limited the analysis of the osteological remains (*ibid*.). Burials are generally found beneath structures or within the fill of abandoned living areas, suggesting a close relationship between architecture and burial at this site.

Cranial removal is well attested at Netiv Hagdud (*ibid*.), with more than 60% of primary burials being acephalous. Isolated crania are also well known. Children are generally complete, though two isolated crania of children are known. Among the adults, males are more frequent than females.

3.6.3 Wadi Faynan 16

Wadi Faynan 16 (WF16) is a sizable PPNA site located in Jordan, interpreted as a hunter-gatherer base camp at the onset of the Neolithic (Finlayson *et al.*, 2011). Numerous structures, many of which are interpreted as houses or dwellings, were uncovered, consisting of the typical semi-subterranean rounded shape common to the earliest Neolithic in the region (*ibid*.). Some structures, including the "amphitheatre-like" (Mithen, 2022; pp. 162) Structure O75, are large and considered communal or even ritual spaces due to their unique construction elements, such as internal gullies or benches. In addition to the unique architecture, Mithen (2022) has interpreted some of the carvings and artistic elements, alongside the abundance of bird remains at the site, as evidence of Shamanism in the earliest Neolithic, an additional misappropriation of the term Shaman within the region.

An MNI of 43 individuals are known from burials and isolated fragments at the site (Appendix A), though it is likely more individuals remain in the unexcavated areas of the site. Most of these burials are closely associated with architectural features, both in domestic and non-domestic spaces (Mithen *et al.*, 2015). Uniquely for the PPNA, many burials appear to be associated with items that could be considered grave inclusions, including bead items, which are otherwise largely absent from PPNA burial contexts. Unfortunately, Mithen *et al.*(2015) do not distinguish between items directly included with the body, items within the grave fill, and items nearby but not within the grave. This means that none of the items listed can be confidently considered as grave inclusions for the analysis presented in Chapter 5. Further publication limitations include the complete absence of sexing information for any adult skeleton and the lack of age estimates for juvenile individuals.

3.6.4 Other PPNA Sites

PPNA sites in the Southern Levant are generally larger and more intensively occupied than those of the Epipalaeolithic. However, some smaller sites or sites with limited burials are known. Hatoula and Wadi Sharara have also been included within this assemblage, in addition to the larger burial assemblages described above.

Hatoula is located in the Judean hills of Israel and appears to have been occupied in both the Late Epipalaeolithic (Natufian) and the PPNA (Le Mort, 1989; Anderson, 1994; Lechevallier and Ronen, 1996). Four individuals were recorded within the PPNA layers, all in varying states of flexion (Lechevallier *et al.*, 1989; Le Mort, 1989). No grave goods or other associated items are known from the site.

Wadi Sharara is a small PPNA site in the Wadi al Hasa Gorge in Jordan excavated by the Aegean University in the early 2010s (Sampson, 2020). The site includes several structures, primarily round in form, with the exception of Locus 3, which is rectilinear (*ibid*.). Isolated human remains were found throughout the site, with a particular concentration in Loci 1 and 7, though only five burials are reported (*ibid*.). Only one burial and none of the isolated remains come from a juvenile individual; the remaining burials and isolated remains are all adults (*ibid*.).

3.7 Summary

The total assemblage presented here includes 694 individuals from the Southern Levant, spanning 12,500 years of occupation from the earliest Epipalaeolithic to the end of the Pre-Pottery Neolithic A. Except in the Early & Middle Epipalaeolithic (EME), all age categories are represented, and all sex categories are known in each period. Sites with burials range from large settlements, small camp sites, and even cemetery locales, throughout the region.

There is exceptional diversity in the mortuary practices evidenced in the assemblage presented here. Bodies are placed in graves in numerous positions, and the graves are constructed and completed in a vast number of ways. Some burials have incredibly rich inclusions, while others are plainer. Graves are found in a variety of locations, including within occupation areas, beneath structures, and in dedicated burial areas.

In comparison to the Upper Palaeolithic, and even to the Early & Middle Epipalaeolithic, the mortuary assemblage of the Late Epipalaeolithic and early Neolithic is outstanding. However, a Natufian burial rate of one burial for every 6.8 years and a PPNA burial rate of one burial for every 6.3 years is far lower than would be expected in a region of this size. It is, therefore, necessary to consider the completeness and representativeness of the sample concerning the expected population from which it has been derived.

4 Population and Sample Selection

4.1 Introduction

In the nearly 100 years since Dorothy Garrod coined the term Natufian to describe an epipalaeolithic technocomplex in the Levant, archaeologists have published numerous works on the funerary practices evident at Natufian sites (Bocquentin, 2003; Grosman, Munro and Belfer-Cohen, 2008; Maher, Richter and Stock, 2012; Lengyel, Nadel and Bocquentin, 2013; Nadel *et al.*, 2013; Rosenberg and Nadel, 2014; Grosman and Belfer-Cohen, 2022). This interest is well justified, as more than 450 individuals are known from these sites, amounting to approximately 1 burial for every seven years throughout the 3000 years of Natufian settlements (Belfer-Cohen, 1991b; Bocquentin, 2003; Bocquentin and Noûs, 2022a: see Chapter 3). When compared to the Early Epipaleolithic of this region, where burials are few and far between, amounting to 1 burial every 450 years, the Natufian has a considerably higher burial frequency (Maher, Richter and Stock, 2012). However, 458 individuals are a small sample of the total number of people who must have lived and died in the Southern Levant over the span of 3000 years. It is therefore important to consider the extent to which this sample can be considered complete and representative to understand the way burial was utilised within the social sphere within the Natufian.

The degree of completeness of a sample is here defined as the proportion of a population which is included in the sample. A complete sample, therefore, would include 100% of the total population from which the sample was taken. Even in modern contexts, however, a complete burial sample is unrealistic and thus is essentially impossible in prehistoric archaeological samples. Evaluating the degree of completeness, then, serves to understand approximately how far from complete the sample is. To do this, archaeologists must first establish an estimated total population for the period under study – a task much easier said than done.

Estimating the total population of archaeological sites is difficult, particularly so for prehistoric communities. Many models have been established, with varying support from the broader archaeological community, though the use of these models requires that the model fit the community to which it is being applied. Models for both hunter-gatherer populations and sedentary agricultural populations exist, though neither perfectly fits the apparently semi-sedentary settlement pattern of the Natufian (Boyd, 2006; Samuelian, Khalaily and Valla, 2006; Valla, 2018). Most models are based on the available space of the occupation, either the total site size or the total known floor space of dwellings and shelters (Van Beek, 1982; Postgate, 1994; Birch-Chapman *et al.*, 2017). These models, therefore, require a knowledge of the total site size or complete excavation of all shelters and dwellings with clear contemporaneity, elements that are unlikely in many archaeological contexts due to constraints on excavation.

Representativeness can be understood as the degree to which the demographics of the burial sample conform to the demographics of the population from which the sample is taken. If a living population were comprised of 50% females and 50% males, for example, a sufficiently sized random burial sample would also be expected to be comprised of roughly 50% males and 50% females. Representativeness, therefore, is an estimate of the degree to which the sampling was random. Many factors are involved in sample selection for burials, including both intentional sampling – i.e. the selection criteria for which individuals are afforded a burial – and unintentional sampling – i.e. the taphonomic differences in preservation of subadult remains. Evaluating representativeness requires certain assumptions to be made about the demographics of the total population.

Importantly, it is difficult to determine the relative influence of intentional and unintentional selection factors on burial samples. Taphonomic loss of burials, unintentional disruption and destruction of graves by later occupants of a site, and even poor excavation and curation of remains can all result in a reduction of known individuals well below those which were intentionally selected at the time of deposition. The extent of this unintentional selection cannot accurately be estimated, though it should not be ignored when interpreting results.

The focus of this project is understanding the mortuary world of the Early & Middle Epipalaeolithic, Natufian, and PPNA, specifically with regard to how the choices made about mortuary practices may be reflective of broader social practices and values. It is therefore essential that we understand the degree to which our burial sample can be considered complete or representative of the population from which it came. If a burial sample is random or representative, this suggests that all members of the community had approximately equal access to burial as a mortuary treatment. Deviation from these expected values can help to uncover intentional selection or manipulation of burial demographics through the privileging or exclusion of particular community members. To properly analyse the burial samples that we have (as presented in Chapters 5 and 6), we must first establish the reliability of these samples.

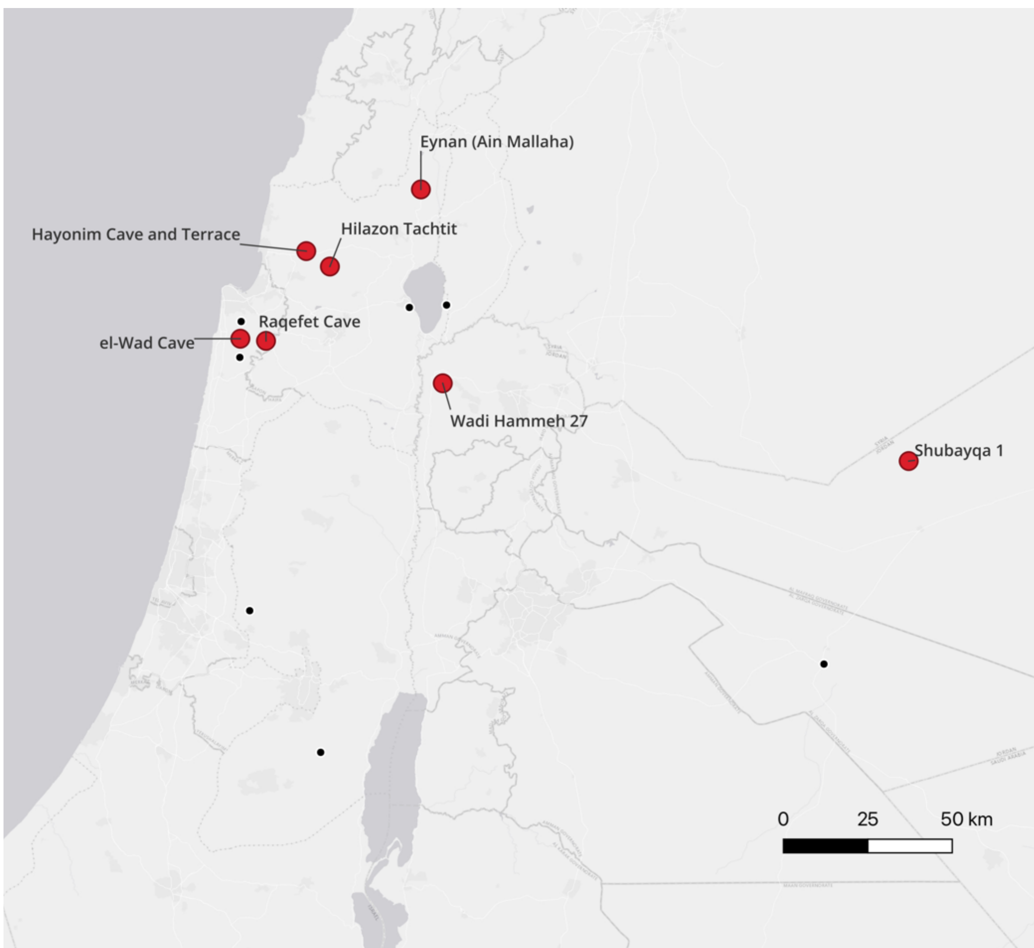

Figure 4.1: Map of the Southern Levant including Natufian sites from my assemblage. Red dots are sites used for the following case study. Black dots are other Natufian sites utilised in this work.

Here, a case study of several well-published Natufian sites (Fig. 4.1) will be presented. Estimates of population will be made using a variety of established models based on site size and the availability of domestic space. These estimates will be compared to the known burial samples to explore the completeness of the burial sample. Age and sex demographics will also be compared against assumed demographic distributions to explore the degree of representativeness of the burial sample. Though only a few case-study sites have been included here, the results are broadly applicable to other Natufian sites.

4.2 Methods

4.2.1 Methods for Estimating Site Population

Estimating populations for prehistoric settlements can be difficult, and methods utilised in the existing literature have provided very wide ranges of estimates. Each method relies on the availability of reliable data, some of which may not be available at every site considered. Furthermore, each method was designed and tested using a specific sample and may not be equally valid when applied to sites from other geographic areas or times. The most common methods applied to sites in the Near East have been based on data from settled agricultural communities, usually Neolithic or later (Van Beek, 1982; Postgate, 1994; Birch-Chapman *et al.*, 2017). Hunter-gatherer estimates have been created using global data sets, though these tend to be biased towards North American and African hunter-gatherer communities (Keeley, 1988; Zhu *et al.*, 2021). No methods have been created based on Natufian data, though one work by Byrd (2000) evaluated the applicability of Neolithic-based methods for the Natufian.

4.2.1.1 Settlement Population Density Coefficient (SPDC)

The SPDC method is perhaps the most simplistic method of estimating population, which likely explains its popularity in the literature. This method involves multiplying the site size (in hectares) by a coefficient (people per hectare) to produce an expected number of people who may have occupied that size of site (Flannery, 1972; Postgate, 1994; Byrd, 2000; Birch-Chapman *et al.*, 2017). Notably, however, this method originated using studies of traditional farming societies, and therefore, the coefficients produced need to be tested against complex hunter-gatherer communities.

In an analysis by Birch-Chapman *et al.*(2017), this method was found to be the most common method utilised in epipalaeolithic and early neolithic population estimate studies, with coefficients commonly ranging from 90-294 people per hectare for neolithic settlements. However, coefficients below 90 or above 294 are not uncommon, with Birch-Chapman *et al.*(2017) arriving at coefficients more than three times the common range in their work on Beidha. These values have primarily been determined using a housing-based method such as those described below by establishing a number of people who could reasonably be housed at each site and comparing this number to the settlement size to arrive at a people per hectare coefficient (Flannery, 1972; Postgate, 1994; Byrd, 2000; Birch-Chapman *et al.*, 2017). The accuracy of these coefficients, therefore, not only requires the similarity of settlement structure between the site in question and the site for which the coefficient was established but also relies on the applicability of the housing-based method on the original site from which the coefficient was established.

Hunter-gatherer SPDCs have been calculated from ethnographic data across a wide sample set, though these records are typically biased toward North American and African communities (Keeley, 1988; Zhu *et al.*, 2021). Population density estimates vary widely between communities; Keeley's (1988) analysis of 94 hunter-gatherer communities found a minimum density of 2.6 people per hectare and a maximum density of 5594 people per hectare, with higher densities identified in complex hunting and gathering communities with intensive storage systems and evidence of stratified social groups. The mean density for this study was 431 people per hectare (Keeley, 1988), well above the most commonly accepted SPDC values for neolithic agricultural communities (Birch-Chapman *et al.*, 2017). This discrepancy may be due to geographic differences between the sample sets used for these studies, as the environment is likely to influence settlement patterns. Since population density is expected to increase with increased plant consumption and food production (Zhu *et al.*, 2021), SPDC values for Natufian communities should be lower than those for Neolithic farming settlements.

Standardised SPDCs used in many studies (Kuijt, 2000; Birch-Chapman *et al.*, 2017) are derived from other methods, such as the housing-based methods described below and then applied to other sites with varying applicability. Though these can provide a quick and easy method to estimate a population size, they rely on the similarity of the site in question to the site from which these coefficients were originally derived. Additionally, since very broad ranges of coefficients have been established for both hunter-gatherers and agriculturalist sites (Keeley, 1988; Postgate, 1994; Birch-Chapman *et al.*, 2017), it is difficult to determine if any standardised coefficient can be reliably used in the Natufian. For comparative purposes, three standardised values will be utilised in calculations, and the resulting SPDCs from each housing-based method will be compiled to establish a suitable individualised coefficient range for each site. Here, the standardised values will be a mean-range coefficient of 90 people per hectare, reflecting the lower end of the commonly used Neolithic range (Birch-Chapman *et al.*, 2017), a high-range coefficient of 150 people per hectare reflecting a mean for the commonly accepted Neolithic range (Kramer, 1979; Birch-Chapman *et al.*, 2017), and an arbitrary low-range value of 45 people per hectare to reflect the assumed lower density of hunter-gatherers relative to agricultural communities. It should be noted that in Keeley's (1988) study, only 37% of the hunter-gather communities had coefficients less than 50 people per hectare.

4.2.1.2 Housing Unit Method (HUM)

The HUM is another simple method which involves the multiplication of the number of houses found on a site by the expected average number of occupants of each house on the site (Postgate, 1994; Banning, 2003; Birch-Chapman *et al.*, 2017). This method most commonly assumes that a nuclear family (4-6 people) is the dominant housing unit, though smaller units of 1-2 people have also been suggested (Byrd, 2000; Birch-Chapman *et al.*, 2017). Small structures, less than 10 m^2 in area, were likely home to smaller numbers of people than larger structures (Banning, 2003). For this study, standardized housing units of 2 people, 4 people, and 6 people per house will be used in this method, though these numbers are unrealistic for both unusually large structures such as at Wadi Hammeh 27 (Edwards, 1991) or unusually small structures such as at Hayonim Cave (Bar-Yosef *et al.*, 2017). Other methods, described below, will be able to consider the variation in the sizes of houses at each site.

The main limitations of the HUM lie in identifying houses and differentiating these from non-domestic structures. Many Natufian structures contain remains of both domestic and non-domestic activities, and some show evidence of reuse through time (Perrot, 1960; Edwards, 1991; Valla, 1991; Byrd, 2000; Richter *et al.*, 2019). This can make it very difficult to determine conclusively which structures were utilised for domestic purposes at any given time. Size may be a reliable indicator of domestic structures, though there is considerable variety in structure size in this sample, and larger housing units may require larger houses. In this study, all structures which contain some domestic evidence will be tentatively considered as houses in the HUM, though the methods below may help to determine if these structures should be considered as houses.

4.2.1.3 Residential Area Density Coefficient (RADC)

The RADC method is a step above the HUM by calculating the number of people who could have reasonably occupied the available houses at a site using a coefficient of the number of m^2 of living space per person. Various coefficients have been utilised in the literature, the most well-known being Naroll's (1962) Constant of $10m^2$ per person. This constant, however, has been questioned in both archaeological and ethnographic settings, including by Byrd (2000), whose analysis of epipalaeolithic and neolithic Levantine sites demonstrated that Naroll's constant is too high for this region. Cook and Heizer's (1968) work on indigenous communities in California identified a range of $1.3m^2$ to $7.7m^2$ per person, while a value of $3.3m^2$ per person was established for circular structures in indigenous British Columbia (Hayden *et al.*, 1996). Kramer (1979) established an RADC of 5 m^2 per person for the Kurdish village of Shahabad in Iran.

Birch-Chapman *et al.* (2017) differentiated between total sheltered space and total residential floor space for their work in Beidha by considering only the roofed spaces in which people would live and sleep. This method involves the removal of storage areas, animal areas, or other non-domestic space from your total sheltered space to arrive at a smaller number which more accurately reflects the space in each structure available for individuals to live (Birch-Chapman *et al.*, 2017). This method cannot easily be applied to the Natufian as the houses do not have defined internal rooms or obviously differentiated storage areas.

The amount of space required per person is likely culturally and environmentally variable. For this study, three coefficients will be used: 2 m^2 per person as the highest density, 3.3 m^2 per person as a moderate density based on the circular houses of indigenous communities in British Columbia (Hayden *et al.*, 1996), and 5 m^2 based on Kramer's (1979) work at Shahabad. All sheltered space, the entire interior area of the houses, will be considered as available domestic space here due to limitations in differentiating areas of a house in single-roomed structures.

4.2.1.4 Storage Provision Formulae (SPF)

The SPF method attempts to eliminate the biases inherent in assumptions about the number of people per house or m^2 of living space per person by calculating this number using one of three formulae based on the amount of required space for personal storage (Birch-Chapman and Jenkins, 2019; Hemsley, 2008). The three formulae account for the number of people who could occupy the available living space under no-storage, moderate-storage, and high-storage requirements (*ibid.*). It is not well understood the level of storage required for the Natufian, and this requirement may have been variable between sites and through time, so all three calculations will be calculated for this work.

- No Storage: $P=0.3944A-0.375$
- Moderate Storage: $P=0.2477A+0.339$
- High Storage: $P=0.1903A+0.3976$

Where P is the number of people, and A is the total area of residential space available on site in m^2 (Birch-Chapman and Jenkins, 2019; Hemsley, 2008).

In their work on Beidha, Birch-Chapman *et al.* (2017) consider the SPF to be the most accurate and robust method due to the empirical calculation of space required per person, rather than the assumption inherent to the RADC method. However, when the SPF was applied to phase A1 from Beidha, the resulting SPDC was 520-900 people per hectare, well above the commonly accepted coefficients for early neolithic settlements (Birch-Chapman *et al.*, 2017).

Like the above housing methods, the SPF also suffers from the lack of certainty in differentiating between houses and non-domestic structures in the archaeological record, as well as a lack of differentiation between total sheltered space and residential floor space in the Natufian.

4.2.2 Methods Used

For this study, all structures which are reasonably or tentatively considered as houses in the archaeological literature will be treated as houses in the calculations, with the understanding that this may result in an overestimation of the number of domestic structures at a site. Furthermore, caves will not be treated as available sheltered domestic space due to the difficulties in accurately estimating the extent of their use. It is worth noting, however, that the shelter caves provided from the elements could reasonably be expected to have been used as temporary or permanent shelters in at least some cases.

The results from the three housing-based methods – the HUM, RADC, and SPF – will be used to identify a site-specific SPDC range, which will also be used to calculate an estimated population. Here, the lowest resulting SPDC value and the highest SPDC value derived from all three housing-based methods will be used to represent the low-range and high-range coefficients, respectively. The average of all resulting SPDC values will be used as the mid-range coefficient.

4.2.2.1 Other Methods – Summed Probability Distribution (SPD) of ^{14}C Dates

Recently, archaeologists have attempted to expand on methods for estimating population change within the past by exploring the relationship between ^{14}C dates and the intensity of human occupation in the past. The core assumption of the Summed Probability Distribution (SPD) of ^{14}C dates is the more ^{14}C dates results from more datable materials being produced, as the result of higher numbers of humans occupying that area (Manning *et* al., 2015; Crema *et al*. 2016; Crema and Kobayahi, 2020). In this way, the changes in the summed probability distribution of these dates can indicate a change in population size or density (*ibid*.). This method was not utilised in this work for two primary reasons.

First, and most practically, this method relies on large numbers of reliable ^{14}C dates for each site or region within the study. As discussed by Crema *et al*. (2016) and Crema and Kobeyashi (2020), dates which come from non-charred remains and dates which were obtained using Accelerator Mass Spectrometry are ideal for this method as this helps to reduce bias and errors within the method. These types of frequent reliable dates are simply not available for many of the sites within the Epipalaeolithic-Neolithic transition of the Southern Levant, making this method largely unsuitable for this case-study context.

Second, as highlighted by Torfing (2015), the results of SPD of ^{14}C dates only demonstrate a change in intensity of human activity resulting in datable materials, which is used as an indirect proxy for population size. In periods of considerable economic and social change, differences in how materials and resources are acquired, stored, or processed can impact the production and preservation of datable materials without any change to population size (*ibid*.). In the case of the Late Epipalaeolithic in the Southern Levant, increasing reliance on plant resources, increasing use of plaster, increased use of storage pits, and increasing burial practices could all result in greater production of datable archaeological materials, or in better preservation of datable materials regardless of changes to population size.

4.2.3 Methods for Estimating Demographics of Populations

For each skeleton in this sample (Appendix A), sex was recorded per the publication of the osteological analysis. This was corroborated using images or measurements of skeletal elements where available (see Chapter 3, Section 3.2.2 Sex for methods of sex determination). Age was also recorded according to publications, following the standardised age categories chosen for this project (see Chapter 3, Section 3.2.1 Age-At-Death for age-category descriptions). Where publications were contradictory, the skeleton was listed as unknown unless clear images or measurements could be obtained to clarify the contention.

Unless otherwise intentionally manipulated via social structures, sex demographics are generally distributed with roughly equal proportions of males and females. This is because there are roughly equal numbers of males and females born within a community, and generally these children survive to adulthood in roughly equal proportions. There are, however, communities which deviate from this norm. Sex-specific infanticide, where children of a particular sex are killed in early infancy, has the potential to considerably alter the sex demographics of a community by ensuring higher survivorship of one sex over the other. Some communities, for example, some religious societies, have sex-specific membership, resulting in a sex distribution that deviates completely from the norm. Monastic communities, for example, are typically completely male. In the absence of any clear evidence for infanticide or sex-specific community membership within the Natufian, we can assume that the sex distribution of the Natufian population was roughly equally represented by males and females.

Importantly, the sex distribution of the burial sample is based only on evaluating skeletal sex. Skeletal sex is just one element of biological sex, which in itself is an extremely complicated and nuanced concept both scientifically and socially. Skeletal sex alone is largely unable to consider intersex individuals, nor is it sufficiently fine-grained to differentiate the many individuals whose skeletal features are intermediate between the robustness expected of males and the gracileness expected of females. Biological sex often, but not always, relates to social concepts of gender and gendered roles within a community. It is generally gender, not sex, that is the determining factor for social treatment within a society, including the selection for mortuary treatments in the past. Archaeology has limited ability to evaluate gender in prehistoric societies, and thus, assumptions are made based on our own connection of sex with gender, but it is imperative to remember that there is no reason to assume that our conceptualisation of gender is a universal human experience.

Age demographics of prehistoric communities are somewhat more difficult to establish, as many factors contribute to the life expectancy of a population. In modern and historical contexts with sufficient records, a life table can be created to determine the life expectancy at birth (e^0) and mortality curves for a community (United Nations, 1982). These tables can provide an estimate of the percentage of individuals born expected to die within a certain age category, and therefore the proportion of dead individuals expected to fall within that age category. However, the creation of a life table requires us to know the actual death rates and ages of death within a population, a situation which requires either detailed records or a complete and representative burial sample. In practice, prehistoric palaeodemography relies on model life tables, which are assumed to represent a likely survivorship for the population under study. These model life tables are generally based on ethnographic records of hunter-gatherer communities.

Hewlett (1991) synthesised demographic data from ethnographies of 33 hunter-gatherer communities, though only 12 had sufficient data to be included in calculations of childhood mortality. His work demonstrates an average of 45.5% of hunter-gatherer infants do not survive to adulthood, which Hewlett (1991) marks at age 15. Childhood mortality in individual communities ranged from 22.0% among the Efe to 56.4% among the Mbuti. Pennington (2001) similarly found a childhood mortality rate of roughly 45% among the foraging !Kung, Hazda Agta and Cuiva.

Bocquentin and Nous (2022) utilised life expectancies at birth (e^0) of 25 and 40 years to calculate the expected number of subadults in each age category, and demonstrated that overall, in their sample, infants and young children are particularly underrepresented (Fig. 4.2a). They compared the overall age distribution of these sites to the distribution expected of an e^0 of 30 years (Fig. 4.2b), further highlighting that none of the five case-study sites she presented have sufficient subadults. Based on this e^0 of 30 years, we can see that infants under 1 year of age are expected to make up more than 25% of a random burial sample, with all subadults accounting for roughly 50% of a random burial sample. These approximate proportions will be utilised as the benchmark for this study.

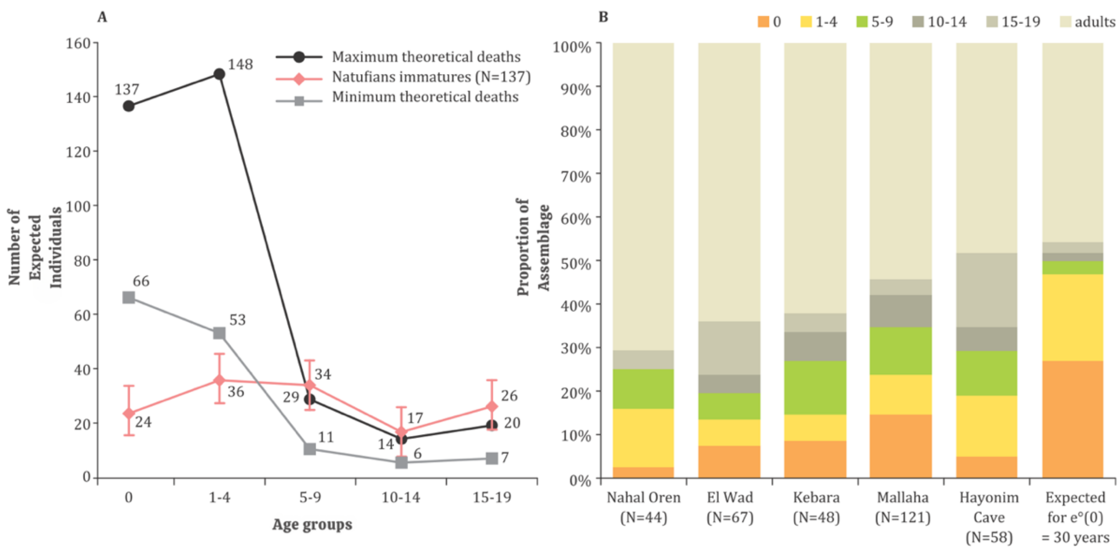

Figure 4.2: a) the distribution of Natufian subadults (with 95% confidence intervals) in comparison to the expected distribution according to hunter-gatherer mortality profiles for a life expectancy at birth ranging from 25 to 40 years. b) distribution of large Natufian sites compared to expected distribution with an e0 of 30 years (reference demographic tables after Ledermann (1969), modified from Bocquentin and Nous (2022)

4.3 Natufian Case Study Sites

Seven sites were chosen as case studies for this analysis based on the availability of necessary data within their published records. Each site has at least a partially published burial assemblage, a clear site description including architectural features where present, and radiocarbon data which help to establish the length of occupation. A detailed description of each site is presented in Chapter 3, but a brief review of the case-study sites and the relevant archaeological data is presented below.

4.3.1 Shubayqa 1

Shubayqa 1 is an open-air site in Northwestern Jordan (Fig. 4.1), situated on a mound with an artefact spread of about 2000m^2 (Richter *et al.*, 2012). Area A/B in the centre of the site has been well excavated, alongside a sondage on the northern edge of the site – known as Area C – amounting to a total of 94 m^2 excavated (Richter *et al.*, 2017). Two well-preserved structures were identified in Area A/B, superimposed on each other, each about 19 m^2 in internal space (Richter *et al.*, 2017). Area C contained poorly preserved remains of other structures, suggesting that more structures may be present in the unexcavated areas of the site (Richter *et al.*, 2019).

An MNI of 28 individuals is reported for the site, including burials as well as a considerable number of isolated fragments within the occupation layers and fills of structures (Richter et al., 2019).Isolated remains may be indicative of previous burials which had since been disturbed or destroyed, or may be indicative of a mortuary or cultural practice of curating human remains. The burials, which are mostly found within or adjacent to the structures, consist predominantly of children and infants (Table 4.1; Richter et al., 2019). Of the seven numbered adults, two are relatively complete burials; one is a probable female and one a probable male (Table 4.2; Richter et al., 2019). Radiocarbon dates throughout the site indicate a total of up to 1500 years of occupation across several phases (Richter *et al.*, 2017). The burials appear to be spread throughout the occupation phases (Richter *et al.*, 2019).

Age	Count
Unknown	0
Infant	16
Child	3
Adolescent	2
Young Adult	0
Adult	7
Older Adult	0

Table 4.1: Age at death of agable individuals from Shubayqa 1 sample (see Appendix A for complete database)

The available data for Shubayqa 1 allow for the use of all population estimation methods discussed in this work. As the two well-documented structures are superimposed, only one can be occupied at a time, and therefore only one will be used in the calculations below. It should be noted that the remains from Area C (Richter *et al.*, 2019) suggest that this count of one domestic structure is likely an underestimation of the real number of contemporary structures on site. Age demographics can easily be assessed with available data from Shubayqa 1, though sex distribution analysis is limited due to the low number of sexable adult remains.

Sex	Count
Unknown Adult	5
Female	0
Probable Female	1
Indeterminate	0
Probable Male	1
Male	0

Table 4.2: Sex of sexable adults from Shubayqa 1 sample (see Appendix A for complete database)

4.3.2 Wadi Hammeh 27

Wadi Hammeh 27 is an open-air site located in the east of the Jordan Rift Valley (Fig. 4.1; Edwards, 1991). The total spread of the site appears to be 2000 m^2, of which about 351 m^2 have been excavated (Webb and Edwards, 2002; Hardy-Smith and Edwards, 2004). Four superimposed Natufian layers have been revealed; the lower-most Phase 4 contains the burials, while Phases 3-1 each contain two superimposed structures and the associated occupation layers (Webb and Edwards, 2002). Each structure is considerably larger than expected for Natufian domestic or non-domestic structures, at about 150 m^2 of surface area (Edwards, 1991).

Seven numbered individuals were recovered from Phase 4 of the site, along with abundant undocumented isolated remains reported in the occupation layers (Table 4.3; Webb and Edwards, 2002). There isn't sufficient published data on these isolated remains to establish an MNI, so the numbered remains likely underrepresent the total number of dead present on the site. These isolated remains in occupation layers may be evidence of disturbed or destroyed burials, or material which was curated by the living and not buried. Six of the numbered individuals are adults, though none could be sexed, and the remaining numbered individual is an infant (Webb and Edwards, 2002). It should be noted, however, that this infant is represented only by isolated teeth and therefore may not, strictly speaking, be evidence of a burial (*ibid.*). Four of the numbered individuals, including three from the multiple burial, are represented only by isolated remains (*ibid.*). Reliable radiocarbon dates are limited to Phase 1 and support an Early Natufian age of the site (Edwards, 2013; Edwards *et al.*, 2019). Edwards *et al.*(2019) estimate a 500-year occupation for the site. It is worth noting that while human remains are found in all phases of the site, complete burials are only recorded in the lowermost Phase 4.

Age	Count
Infant	1
Adult	6

Table 4.3: Age at death for ageable individuals from the Wadi Hammeh 27 sample (see Appendix A for complete database)

The available data for Wadi Hammeh 27 allow for the use of all population estimation methods in this work. There are only two contemporary structures in each phase of the site, but they are considerably larger than any other structure in this sample. This may suggest larger numbers of people occupying the same house or may be suggestive of a non-domestic function for these structures, though the archaeological evidence is not conclusive. For our purposes, these structures will be treated as large domestic structures. It should be noted that the abundant unnumbered human remains throughout the occupation layers suggest these calculations are underrepresenting the total number of dead found on site. Age distribution can be assessed for Wadi Hammeh 27 as all numbered individuals have an age estimate available. Sex demographics cannot be assessed for this site as no sexable adults have been reported.

4.3.3 el-Wad

el-Wad is a large cave site located on Mt. Carmel in the Valley of the Caves (Fig. 4.1; Weinstein-Evron, 1998). The site consists of six cave chambers and an adjacent terrace, for a total site size of about 1000 m^2, though the deepest three chambers of the cave receive so little light that they are unlikely to have been utilised to the same extent as the front three chambers (Weinstein-Evron, 1998). The occupation of the site is substantial, with radiocarbon dates spanning more than 2800 years (Weinstein-Evron, 1991; Barzilai *et al.*, 2017). These dates cover all phases of the Natufian.

Age	Count
Unknown	21
Infant	6
Child	19
Adolescent	7
Young Adult	0
Adult	55
Older Adult	0

Table 4.4: Age at death of ageable individuals from the el-Wad sample (see Appendix A for complete database)

One poorly preserved structure is reported from the terrace, with an estimated interior of about 60 m^2, along with a series of incomplete walls and smaller constructions (Goring-Morris, 1995). This is a fairly large structure relative to most of the known Natufian structures, and it is closely associated with several burials on the terrace and thus may not be a domestic structure (Goring-Morris, 1995). For the purpose of the calculations presented below, this structure will be treated as a large house. Other structures likely existed in the past, based on the presence of badly preserved walls and possible post-holes present in disturbed areas of the terrace (Weinstein-Evron *et al.*, 2018). A total of 108 individuals make up the burial assemblage from this site, including burials identified in the field and isolated remains identified in the lab (Belfer-Cohen, Schepartz and Arensburg, 1991), the majority of which are adults (Table 4.4). Of the sexable adults, males dominate the el-Wad assemblage (Table 4.5). The burial assemblage includes individuals from throughout the Early & Late Natufian, though only Early Natufian structures are known, so comparisons in population between the periods cannot be assessed for this site.

With the assumption of the large terrace structure as a house, all methods discussed in this work are applicable to the el-Wad data. However, this assumption is tenuous and may impact the reliability of house-based methods. Additionally, el-Wad is a cave site, which means that parts of the cave may have been used as a roofed shelter, and thus, built structures may underestimate the amount of available living space at the site. Both age and sex demographic analyses are suitable for application to the el-Wad assemblage.

Sex	Count
Unknown Adult	4
Female	8
Probable Female	3
Indeterminate	13
Probable Male	6
Male	21

Table 4.5: Sex of sexable adults from the el-Wad sample (see Appendix A for complete database)

4.3.4 Hayonim Cave and Terrace

Hayonim Cave and Terrace are located in the Western Galilee region of Israel (Fig. 4.1; Bar-Yosef and Goren, 1973). The cave is about 1000 m^{2,} and the terrace is an additional 600 m^2 (Bar-Yosef and Goren, 1973; Henry, Leroi-Gourhan and Davis, 1981). Though separated by only 20m, it remains unclear if the sites are contemporary, or even related (Henry, Leroi-Gourhan and Davis, 1981; Munro, 2013). As the cave and terrace are usually published separately, as distinct sites, they will be treated both separately and as a combined site in this work. Approximately 350 m^2 of excavation has been completed within the cave, revealing 55 burials from 17 graves (Bar-Yosef and Goren, 1973; Grosman and Belfer-Cohen, 2022).

Age	Count
Unknown	0

Infant	4
Child	12
Adolescent	4
Young Adult	12
Adult	21
Older Adult	2

Table 4.6: Age at death of ageable individuals from the Hayonim Cave sample (see Appendix A for complete database)

The majority of these burials are adults (n=35; Table 4.6), of which five are female and 23 are male or probable males (Table 4.7; Bar-Yosef and Goren, 1973; Grosman and Belfer-Cohen, 2022). Isolated remains throughout the occupation layers have been reported, though no MNI is available (Grosman and Belfer-Cohen, 2022), suggesting further burials may have existed and since been destroyed or disturbed. It is also possible that these isolated remains represent individuals who were not buried initially and instead may have been given an alternate funerary treatment. Several built stone structures were excavated, with five fully enclosed and three defined by semi-circular walls (Bar-Yosef *et al.*, 2017). Archaeological evidence for five of these structures shows at least some mundane or domestic use and therefore could represent domestic house structures (Bar-Yosef *et al.*, 2017). However, these structures are very small, with an average interior of only 3.9 $m^{2,}$ which may be too small to effectively function as houses (Bar-Yosef *et al.*, 2017). Here, they will provisionally be treated as houses for population estimate calculations, though the resulting population estimates should be treated as tenuous.

Sex	Count
Unknown Adult	7
Female	5
Probable Female	0
Indeterminate	0
Probable Male	3
Male	20

Table 4.7: Sex of sexable adults from the Hayonim Cave sample (see Appendix A for complete database)

The cave was primarily occupied in the Early Natufian, with some evidence for ephemeral usage in the Late Natufian, though burials are present in both phases (Bar-Yosef et al., 2017). The available radiocarbon dates suggest this early occupation may have lasted for 1500 years, though the extent of the Late Natufian occupation is not known (Bar-Yosef, 1981; Bar-Yosef *et al.*, 2017). Grosman and Belfer-Cohen (2022) believe most burials belong to the Late Natufian. All methods included in this work are applicable to Hayonim Cave, though the uncertainty of the structures and the poor dating of the Late Natufian usage of the site may impact the reliability of the results.

Age	Count
Unknown	0
Infant	0
Child	1
Adolescent	1
Young Adult	0
Adult	7
Older Adult	0

Table 4.8: Age at death for ageable individuals from Hayonim Terrace (see Appendix A for complete database)

Approximately 45 m^2 of the terrace have been excavated (Henry and Leroi-Gourhan, 1976; Henry, Leroi-Gourhan and Davis, 1981). Two structures believed to be domestic have been excavated, with an average interior of 8.7 m^2 (Valla, Le Mort and Plisson, 1991). There are nine numbered burials, of which seven are adults, though none could be sexed (Table 4.8; Valla, le Mort and Plisson, 1991). An unknown number of isolated remains were found throughout the terrace layers (Valla, Le Mort and Plisson, 1991), suggesting more burials may have been present in the past, or some members of this community were subjected to alternate funerary practices which resulted in isolated remains in the living areas. There have been multiple radiocarbon dates for the terrace, spanning more than 5000 years (Hedges *et al.*, 1992). Valla (in Hedges et al., 1992) states that the dates between 11,820-11,220 BP were the most reliable, suggesting a 600-year Late Natufian occupation for the terrace. However, the proximity of the terrace to the cave, which was occupied in the Early Natufian, may suggest that some of the earlier dates are also reliable. All methods used in this work, except sex demographic analysis, are applicable to Hayonim Terrace, though the difficulty in dating the terrace accurately, combined with the uncertainty of the relationship with Hayonim Cave, should be considered.

4.3.5 Eynan (Ain Mallaha)

Eynan is an open-air site located in the northern Jordan Valley (Haklay and Gopher, 2015). The site is estimated to cover about 2000 m^2, of which approximately 250 m^2 have been excavated (Haklay and Gopher, 2015). The site was occupied throughout the Natufian, with radiocarbon dates spanning about 2200 years in both the Early & Late Natufian (Weinstein-Evron, 1991; Valla *et al.*, 2003). Of these dates, about 1200 years of occupation can be assigned to the Early Natufian, and another 1000 can be assigned to the Late Natufian (Weinstein-Evron, 1991; Valla et al., 2003). Eynan is the only site in this case study with sufficient architectural data in both the Early & Late phases to consider each phase independently.

Age	Early Natufian	Late Natufian
Unknown	8	31
Infant	7	4
Child	6	6
Adolescent	4	6
Young Adult	5	1
Adult	10	16
Older Adult	3	4

Table 4.9: Age at death for ageable individuals from Eynan, separated by phase of occupation where known (see Appendix A for complete database)

There are seven well-published structures from the Early Natufian of the site, which may have served a domestic function (Haklay and Gopher, 2015). These structures average 20.4 m^2 inside; some of them include evidence of postholes, suggesting a perishable roof may have been an element of the construction (Perrot, 1960; Valla, 1991; Haklay and Gopher, 2015). A total of 131 burials are currently published from Eynan, though excavation is ongoing, and this number will rise with future publications (Bocquentin *pers. comm.*). Of these, 20 burials could not confidently be assigned to either the Early or Late phases of the site. The Early Natufian assemblage includes 43 individuals, and the Late Natufian assemblage includes 68 individuals (Table 4.9; Table 4.10).

There are six well-published structures from the Late Natufian layers; four belonging to a Type A floor and two belonging to a Type B floor (Valla *et al.*, 2001; Samuelian, Khalaily and Valla, 2006). Type A floors include a single hearth in an organised floor, features that are indicative of a domestic use; Type B floors usually have multiple hearths and unorganised floors, which Samuelian, Khalaily and Valla (2006) suggest are likely incompatible with domestic use. These Type A structures average 13.5 m^2 inside (Valla, 1991; Samuelian, Khalaily and Valla, 2006). All methods in this study, including both age and sex demographic analysis, are suitable for the Eynan assemblage.

Sex	EN	LN
Unknown Adult	1	8
Female	3	8
Probable Female	0	0
Indeterminate	2	2
Probable Male	0	0
Male	12	3

Table 4.10: Sex of sexable adults from Eynan, separated by phase of occupation where known (see Appendix A for complete database)

4.3.6 Hilazon Tachtit

Hilazon Tachtit is a small cave site in the Western Galilee of Israel, with a main chamber of less than 50 m^2 (Grosman, 2003). The Natufian remains of the site are confined to a 30 m^2 depression in the bedrock, which has been excavated in its entirety (Grosman, 2003). The site contains at least 28 individuals, consisting of four complete and primary burials, and three mixed burial pits containing a total MNI of 24 individuals (Goldgeier, Munro and Grosman, 2019). Of the four complete burials, three are adult females and one is a fetus or neonate (Goldgeier, Munro and Grosman, 2019). No sex or age-at-death data have been published for the remains within the burial pits. Two structures were also identified, both of which contain strong evidence for ritual and funerary use, with little evidence of use as domestic features, which suggests they cannot be considered houses (Goldgeier, Munro and Grosman, 2019).

There is very little evidence throughout the site for any domestic use, instead, the focus of this site appears to have been Natufian funerary activities (Goldgeier, Munro and Grosman, 2019). Though there are limited radiocarbon dates available for this site, Grosman and Munro (2007) believe the site was used for around 400 years. As there are no house structures present on this site, only the SPDC and Cemetery Catchment calculations are applicable to Hilzaon Tachtit.

4.3.7 Raqefet Cave

Raqefet Cave is a cave site located on Mt. Carmel, Israel (Lengyel, Nadel and Bocquentin, 2013). The cave is comprised of five chambers, totalling 500 m^2, of which about 100 m^2 has been excavated and published (Lengyel, Nadel and Bocquentin, 2013). Radiocarbon dates suggest a long use of the site, spanning about 1900 years, though most dates fall within the Late Natufian (Barzilai *et al.*, 2017). Thirty burials have been recorded for this site, of which 13 were aged as adults (Table 4.11). Only three adults could be sexed, but all are sexed as female (Table 4.12).

Age	Count
Unknown	2
Infant	4
Child	7
Adolescent	4
Young Adult	0
Adult	10
Older Adult	3

Table 4.11: Age at death of ageable individuals from Raqefet Cave sample (see Appendix A for complete database)

The cave contains no built structures which could be interpreted as houses and thus is frequently considered a space primarily used for ritual and funerary purposes (Lengyel and Bocquentin, 2005; Lengyel *et al.*, 2005). It is important, however, to remember that the cave itself may have served as a domestic shelter if the site was occupied. The archaeological evidence of the site, which includes an abundance of lithic material and a considerable amount of bedrock mortars and other installations, is not conclusively domestic in nature (Lengyel *et al.*, 2005). Due to the lack of houses, only the SPDC and Cemetery Catchment methods are applicable to the data of Raqefet Cave, along with an analysis of sex and age demographics.

Sex	Count
Unknown Adult	10
Female	3
Probable Female	0
Indeterminate	0
Probable Male	0
Male	0

Table 4.12: Sex of sexable adults from Raqefet Cave sample (see Appendix A for complete database)

4.4 Results

4.4.1 Completeness

4.4.1.1 Settlement Population Density Coefficient (SPDC)

Three standardised SPDCs were used for each site: 45 people/hectare as a low-range hunter-gatherer value, 90 people/hectare as a mid-range value based on less dense early neolithic settlements, and 150 people/hectare as a high-range value based on moderately dense early neolithic settlements (Kramer, 1979; Keeley, 1988; Birch-Chapman *et al.*, 2017). These coefficients are multiplied by the size of each site (in hectares) to produce an estimate of the synchronous population able to be supported by a site of that size. The results of these calculations are found in Table 4.13.

As SPDC calculations are solely based on site size and do not consider structures or site layout, sites of equivalent sizes are estimated to have the same population. The largest sites in this sample – Shubayqa 1, Wadi Hammeh 27, and Eynan – are therefore estimated to have a synchronous population between 9 and 30 people per site (Table 4.13). Hilzaon

Tachtit, the smallest site at only 30 m^2, results in population values of less than 1 person (Table 4.13).

	Site Size (hectares)	Low-Range (45 p/ha)	Mid-Range (90 p/ha)	High-Range (150 p/ha)
Shubayqa 1	0.2	9	18	30
Wadi Hammeh 27	0.2	9	18	30
el-Wad	0.1	5	9	15
Hayonim Cave	0.1	5	9	15
Hayonim Terrace	0.06	3	5	9
Hayonim Combined	0.16	7	14	24
Eynan	0.2	9	18	30
Hilazon Tachtit	0.003	0	0	1
Raqefet Cave	0.05	2	5	8

Table 4.13: Settlement Population Density Coefficient (SPDC) calculations resulting in three estimated populations per settlement. Low-range coefficient is 45 persons/hectare, mid-range coefficient is 90 persons/hectare, and high-range coefficient is 150 persons/hectare. All results are rounded to the nearest whole person

4.4.1.2 Housing Unit Method (HUM)

Three standardized coefficients were utilised across all sites: a low-value of 2 people per house representing couples as the dominant housing unit, a mid-range value of 4 people per house representing a small nuclear family as the dominant housing unit, and a high-range value of 6 representing a larger nuclear family as the dominant housing unit (Byrd, 2000; Banning, 2003; Birch-Chapman *et al.*, 2017). These coefficients are multiplied by the number of houses (or tentative houses) present at each site. The results of these calculations are presented in Table 4.14.

Sites with higher numbers of houses naturally have higher population estimates using the HUM. The Early Natufian of Eynan and Hayonim Cave and Terrace combined result in synchronous population estimates of between 14 and 42 people due to the presence of 7 tentative houses on each site. It should be noted that this method does not consider the size of structures (Table 4.14).

An SPDC value has been calculated by dividing the resulting population estimates (Table 4.14: Per Generation Results) by the site size (Table 4.13). Most results fall within the range of standardised SPDCs presented above (Table 4.13) except for the highest value for Eynan (Early) and Hayonim Terrace, as well as the middle and highest values for Hayonim Cave and Hayonim Combined. Hilazon Tachtit and Raqefet Cave do not have any recognised houses on site and therefore have been omitted from this table.

	Houses	Per Generation Results (houses * people per house)			Resulting SPDC		
		2	4	6			
Shubayqa 1	1	2	4	6	10	20	30
Wadi Hammeh 27	2	4	8	12	20	40	60
el-Wad	1	2	4	6	20	40	60
Hayonim Cave	5	10	20	30	100	200	300
Hayonim Terrace	2	4	8	12	67	133	200
Hayonim Combined	7	14	28	42	88	175	263
Eynan (Early)	7	14	28	42	70	140	210
Eynan (Late)	4	8	16	24	40	80	120

Table 4.14: Housing Unit Method (HUM) calculations resulting in 3 population estimates per site. Low-range assumes 2 people per house, mid-range assumes 4 people per house, and high-range assumes 6 people per house. SPDC values have been calculated by dividing each population estimate by the site size presented in Table 4.1. All results have been rounded to the nearest whole person

4.4.1.3 Resident Area Density Coefficient (RADC)

Three standardized coefficients were utilised here to calculate a synchronous population estimate per site based on the available amount of sheltered living space. A high-density coefficient of 2m^2 per person, a moderate-density coefficient of 3.3m^2 per person, and a lower-density coefficient of 5m^2 per person were used. The results from these calculations are shown in Table 4.15.

The structures at Wadi Hammeh 27 are incredibly large, resulting in a very high synchronous population estimate between 60 and 150 people (Table 4.15). Estimates for Eynan (Early) are also slightly higher than expected due to the high number of reasonably large structures (Table 4.15). Hilazon Tachtit and Raqefet Cave have been omitted from this table due to a lack of houses identified on these sites.

	Houses	**Average size of house (m^2)**	**Per Generation Results ((A*B)/RADC coefficient)**			**Resulting SPDC**		
			2	**3.3**	**5**			
Shubayqa 1	1	19	10	6	4	50	30	20
Wadi Hammeh 27	2	150	150	91	60	750	455	300
el-Wad	1	60	30	18	12	300	180	120
Hayonim Cave	5	3.9	10	6	4	100	60	40
Hayonim Terrace	2	8.7	9	5	3	150	83	50
Hayonim Cave and Terrace	7	5.3	19	11	7	119	69	44
Eynan (Early)	7	20.4	71	43	29	355	215	145
Eynan (Late)	4	13.5	27	16	11	135	80	55

Table 4.15: Resident Area Density Coefficient (RADC) calculations for each site, using a high-density coefficient of 2m^2 of shelter space per person, a moderate-density coefficient of 5.5m^2 per person, and a low-density coefficient of 8.5m^2 per person. SPDC results were calculated by dividing the resulting population estimates by the site size presented in Table 1. All results have been rounded to the nearest whole person

An SPDC value was calculated for each population estimate by dividing the resulting estimate (Table 4.15: Per Generation Results) by the site size (Table 4.13) and is presented in Table 4.15. All sites, except Wadi Hammeh 27, have at least one resulting SPDC within the range of standardised SPDCs presented in Table 4.1. Shubayqa 1 results fall within the lower end of the accepted SPDC values for hunter-gatherer communities as determined by Keeley (1988). Early Natufian Eynan and el-Wad both result in SPDC values within and above the range of accepted SPDC values for Neolithic communities, while Wadi Hammeh 27 falls entirely above the accepted SPDC values (Table 4.13). This might suggest that some Natufian communities are structured more closely to Neolithic farming communities rather than hunter-gatherer communities. Hayonim Cave, Hayonim Terrace, and the two sites combined, as well as Late Natufian Eynan, result in SPDC values within the standardised SPDC range (Table 4.13).

4.4.1.4 Storage Provision Formulae (SPF)

Three population estimates were calculated using the SPF, using the equations determined by Hemsley (2008). The total residential space was calculated by multiplying the average house size (Table 4.16; Average size of House) by the number of houses at each site. The resulting total residential area was utilised in the three Storage Provision Formulae corresponding to no required storage space, moderate required storage space, and high required storage space. The results of these calculations are presented in Table 4.16.

	Houses	Average size of house (m^2)	Per Generation Results			Resulting SPDC		
			No	Mod.	High			
Shubayqa 1	1	19	7	5	4	35	25	20
Wadi Hammeh 27	2	150	118	75	58	590	375	290
el-Wad	1	60	24	16	12	240	160	120
Hayonim Cave	5	3.9	6	7	6	60	70	60
Hayonim Terrace	2	8.7	6	5	4	100	83	67
Hayonim Cave and Terrace	7	5.3	12	12	10	75	75	63
Eynan (Early)	7	20.4	54	38	30	270	190	150
Eynan (Late)	4	13.5	20	15	12	100	75	60

Table 4.16: Storage Provision Formulae (SPF) method calculations for each site, using the formulae for no required storage, moderate required storage, and high required storage. SPDC results were calculated by dividing the SPF population results by the site size presented in Table 1. Results are rounded to the nearest whole person

As with the RADC method, synchronous population estimates using the SPF will be higher for sites with larger than average structures, such as Shubayqa 1, el-Wad, and Early Eynan (Table 4.16). Hayonim Cave results in very low population estimates – just over 1 person per house – due to the very small size of these structures (Table 4.16).

SPDC values were calculated by dividing the resulting synchronous population estimates (Table 4.16: Per Generation Results) by site size (Table 4.13). Some results, particularly all Wadi Hammeh 27 and Early Natufian Eynan at no or moderate storage, are higher than all standardised SPDC values (Table 4.13). Shubayqa 1 SPDC values (Table 4.16) are all lower than the standardised SPDCs used in this study.

4.4.1.5 Individualized SPDCs

The resulting SPDC values from Tables 4.14-4.16 were combined for each site, resulting in an individual range of potential SPDCs based on the houses at each site. These ranges were then reduced to a lowest value, a highest value, and an average value, which were each multiplied by the site size to arrive at a synchronous population estimate. The results of these calculations are presented in Table 4.17.

	Site Size (hectares)	Low-Range	Average Range	High-Range
Shubayqa 1	0.2	10 p/ha	27 p/ha	50 p/ha
		2	**5**	10
Wadi Hammeh 27	0.2	20 p/ha	320 p/ha	750 p/ha
		4	64	150
el-Wad	0.1	20 p/ha	138 p/ha	300 p/ha
		2	14	30
Hayonim Cave	0.1	40 p/ha	110 p/ha	300 p/ha
		4	11	30
Hayonim Terrace	0.06	50 p/ha	104 p/ha	200 p/ha
		3	**6**	12
Hayonim Combined	0.16	44 p/ha	108 p/ha	263 p/ha
		7	17	42
Eynan (Early)	0.2	70 p/ha	194 p/ha	355 p/ha
		14	39	71
Eynan (Late)	0.2	40 p/ha	83 p/ha	135 p/ha
		8	17	27

Table 4.17: Individualised SPDC calculations per site, based on the resulting SPDC values from Tables 2, 3, and 4. The coefficient value (in the white boxes) was multiplied by the site size for each site. Results rounded to the nearest whole person

Many of these calculations resulted in extremely low synchronous population estimates, suggesting that housing-based methods may not be suitable to estimate population for these sites. Shubayqa 1, when utilising housing-based methods, results in a population estimate ranging from two to ten individuals, which is a particularly small population of just one or possibly two families (Table 4.17). Wadi Hammeh 27 results in the highest population estimate, though the structures at this site are considerably larger than any other known Natufian structure, suggesting they may not have functioned as houses at all. Furthermore, the results presented in Table 4.17 show substantial variation in estimated population size, problematizing the use of these methods to reliably estimate the population of archaeological sites.

4.4.2 Burial Frequencies

The total number of years of occupation for each site was divided by the number of known dead found in the burial assemblage of that site to identify an average number of years between each death. Additionally, these results were also calculated assuming that the known dead present at each site represent only 25% of the total number of people who died in each community. The level of 25% is an arbitrary threshold value used to compare the frequency of burial. A behaviour which occurs more than 25% of the time could be considered a norm, as even if it were not a majority it would occur regularly, but a behavior that occurs less than 25% of the time – as is the case here – must be considered as a more selective or rare behaviour. The results of these calculations are found in Table 4.18.

If we assume a burial rate of 100%, that is, every person who died is buried and all of these burials are recovered during excavation, the highest burial frequency is found at Hilazon Tachtit, representing one death every 14.3 years of occupation of the site (Table 4.18a). If a burial rate of 25% is assumed – that is, only 1 of every 4 deaths results in a burial which is recovered during excavation – Hilazon Tachtit's burial frequency would be a death every

3.6 years of occupation of the site (Table 4.18b). Wadi Hammeh 27 has the lowest burial frequency of one death every 71.4 years at 100% burial rate, and one death every 17.9 years at a 25% burial rate.

a) 100% Burial Rate Assumed

Site	Years of Occupation	Known Dead	Years/Death
Shubayqa 1	1500	28	53.6
Wadi Hammeh 27	500	7	71.4
el-Wad	2815	108	26.1
Hayonim Cave	1500	55	27.3
Hayonim Terrace	600	9	66.7
Hayonim Combined	2100	64	38.9
Eynan (Early)	1200	43	33.3
Eynan (Late)	1000	68	17.2
Hilazon Tachtit	400	28	14.3
Raqefet Cave	1900	30	61.3

b) 25% Burial Rate Assumed

Site	Years of Occupation	Total Dead (known dead/0.25)	Years/Death
Shubayqa 1	1500	112	13.4
Wadi Hammeh 27	500	28	17.9
el-Wad	2815	432	6.5
Hayonim Cave	1500	220	6.8
Hayonim Terrace	600	36	16.7
Hayonim Combined	2100	256	8.2
Eynan (Early)	1200	172	8.3
Eynan (Late)	1000	272	4.4
Hilazon Tachtit	400	112	3.6
Raqefet Cave	1900	120	15.8

Table 4.18: a) Years per death of each burial assemblage, assuming the known dead represent 100% of the dead in each community; b) Years per death of each burial assemblage, assuming the known dead represent 25% of the total dead in each community. All results are rounded to the nearest tenth of a year

It is notable that with 100% burial rates, all sites are expected to see a death less than every ten years (Table 4.18a). With a 25% burial rate, deaths are still not expected to occur every year within these communities (Table 4.18b).

4.4.3 Representativeness

4.4.3.1 Sex

Amongst the adults with known sex determinations, only Shubayqa 1 and Late Natufian el-Wad have an approximately equal proportion of males and females, which would be required to consider them representative (Table 4.19). Shubayqa 1, however, only has two sexable adults, and thus it is difficult to conclude the actual sex distribution of the burial assemblage at the site.

	Females (Combined)		**Indeterminate**		**Males**	
	n	%	*n*	%	*n*	%
Shubayqa 1	1	50.0%	0	-	1	50.0%
Wadi Hammeh 27	0	-	0	-	0	-
El-Wad (Early)	4	16.7%	6	25.0%	14	58.3%
El-Wad (Late)	5	50.0%	0	-	5	50.0%
Hayonim Cave	5	17.9%	0	-	23	82.1%
Hayonim Terrace	0	-	7	100.0%	0	-
Eynan (Early)	3	27.3%	0	-	8	72.2%
Eynan (Late)	8	61.5%	2	18.2%	3	27.3%
Hilazon Tachtit	3	100.0%	0	-	0	-
Raqefet Cave	3	100.0%	0	-	0	-

Table 4.19: Sex distribution of sexable adults at each case study site, and percentage of sexable adults per sex category. Note, Female includes probable females, Male includes probable males

This suggests that at all other sites, the burial sample is not random, as it deviates from the expected sex demographics of the population. Raqefet Cave, Hilazon Tachtit, and Late Natufian Eynan are all female-dominated, which deviates not only from the expected sex demographics but also from the overall assemblage demographic, which is generally skewed male (see Chapter 3, Section 3.3 Assemblage Overview). It is important to note, however, that both Raqefet Cave and Hilazon Tachtit have very low numbers of sexable adults, and this may impact the demographics of these assemblages.

4.4.3.2 Age

When considered as a whole, subadults are underrepresented in the Natufian relative to the expected infant and child mortality yielded by an estimated e^0 of 30 years. Wadi Hammeh 27 has only one individual which could be aged as a subadult, accounting for just 14.3% of the burial sample from this site, suggesting a very low degree of representativeness within this sample (Table 4.20). Importantly, however, the Wadi Hammeh 27 sample is small compared to many other sites in these case studies, and further excavations at the site might reveal more burials. At the other end of the spectrum, the burial sample of Shubayqa 1 consists of 75.0% (n=21) subadults, many of whom are infants and young children. In terms of age, this burial sample could be considered representative, as this proportion of subadults is within the range expected of an e^0 of 30 years.

The subadult proportions of both phases of Eynan, el-Wad (Late), and Raqefet Cave warrant a closer look. At Eynan and el-Wad, subadults make up slightly less than half of the sample, and subadults are slightly over half of the ageable sample at Raqefet Cave (Table 4.20). This is an underrepresentation of the expected rates, but all ages, including young infants, are present. Though these site samples cannot be considered truly representative in terms of age demographics, they are close enough to suggest that age was likely a small factor in the selection criteria for burial, and perhaps was not as limiting as it would have been at sites like Wadi Hammeh 27 or Hilazon Tachtit where subadults were rarely buried. The lack of consistency in age-related selection throughout the Natufian sites presented here suggests that each site or community likely held their own beliefs about death and burial, rather than subscribing to any type of shared Natufian ideology.

	Subadults		Adults	
	n	*%*	*n*	*%*
Shubayqa 1	21	75.0%	7	25.0%
Wadi Hammeh 27	1	14.3%	6	85.7%
El-Wad (Early)	13	35.1%	24	64.9%
El-Wad (Late)	9	45.0%	11	55.0%
Hayonim Cave	20	36.4%	35	63.3%
Hayonim Terrace	2	22.2%	7	77.8%
Eynan (Early)	16	47.1%	18	52.9%
Eynan (Late)	17	44.7%	21	55.3%
Hilazon Tachtit	1	25.0%	3	75.0%
Raqefet Cave	15	53.6%	13	46.4%

Table 4.20: Age distribution of ageable individuals at case study sites, and proportion of ageable sample belonging to that age category (see Appendix A for complete database)

It is not enough to look just at the total subadult proportion, however. At all sites presented here, except Shubayqa 1 and Hilazon Tachtit, infants are roughly as frequent as adolescents. This pattern deviates considerably from expected patterns based on life expectancies (see Fig. 4.2a), where infants should be the most frequent age category in a random burial sample. Infants are often underrepresented throughout archaeological assemblages, both due to the taphonomic fragility of infant remains (Guy, Masset and Baud, 1997), and due to common selective patterns, which make infants less likely to be buried in the same manner as older members of a community (Guy, Masset and Baud, 1997; Bocquentin and Noûs, 2022).

4.5 Discussion

4.5.1 Population Estimates

Estimating the population size of a prehistoric site can be extremely difficult, and a multitude of methods should be employed to ensure the best chance of identifying a reliable estimate. Using the most common method, the Settlement Population Density Coefficient, and relying on SPDCs established previously, most sites were likely capable of supporting a viable population, except for Hilazon Tachtit and the possible exception of Hayonim Terrace and Raqefet Cave (Table 4.13). Low population estimates for Hilazon Tachtit and Raqefet Cave support the hypothesis that these sites do not represent occupation sites, but are rather cemeteries, devoted mostly or entirely to the funerary practices of a community or group of communities located elsewhere (Lengyel and Bocquentin, 2005; Lengyel, Nadel and Bocquentin, 2013; Goldgeier, Munro and Grosman, 2019). As neither Raqefet Cave nor Hilazon Tachtit contained any structures which could tentatively or conclusively be considered houses, only standardised SPDC results are available for interpretations here.

When comparing the three housing-based methods, HUM shows the least agreement with the other two methods, which are both based on the availability of residential space. For Hayonim Cave and Terrace, Early Natufian Eynan, Wadi Hammeh 27, and el-Wad, the HUM results are noticeably lower than results from either the RADC or SPF, which are generally close. This would suggest that, if these structures are houses, the housing unit was larger than 2-6 people per house, possibly suggesting extended families living together. These sites all have structures over the Natufian average of 10 m^2 (Byrd, 2000). At Hayonim Terrace, only the HUM of 6 people per house is inconsistent with the results from the RADC and SPF methods, suggesting the housing unit at Hayonim Terrace was likely around 2-4 people. At Hayonim Cave, the HUM results in noticeably higher population estimates than either the RADC or SPF, suggesting these structures were – at most – able to support 2 people each, with the lowest-density RADC resulting in less than 1 person per house. While it is possible these structures were intended to house only 1-2 people at a time, it is also possible that these structures were simply not houses and served an alternate function. The results from all three housing-based methods result in relatively consistent results for Shubayqa 1 and Late Natufian Eynan. This would suggest the housing units at these sites were approximately 2-6 people per house.

The range of resulting SPDCs in Table 4.15 is large, and the housing-based methods for many sites have resulted in SPDCs higher than those commonly accepted for the Neolithic (Birch-Chapman *et al.*, 2017), particularly at Wadi Hammeh 27. While this could mean that the accepted SPDCs for the Neolithic are too low to accurately reflect the Natufian, it is more likely that the housing-based methods are poorly suited to Natufian settlements. It is unlikely, though not impossible, that semi-sedentary or mobile communities without full agricultural subsistence would reach or exceed the population density of agricultural communities as settlement density increases with food production (Zhu *et al.*, 2021), and thus we would expect resulting SPDCs to be equal to or lower than the range utilised in the standardized SPDC calculations in all methods. However, the results from Shubayqa 1, Late Natufian Eynan, and Hayonim Terrace suggest that housing-based methods are applicable at these sites, and thus, the applicability of housing-based methods may not be consistent across all Natufian sites. Shubayqa 1's low resulting SPDC values may, in part, be due to the low number of excavated houses. As there is evidence for more houses yet to be excavated on site (Richter *et al.*, 2012), these low population estimates may increase above the results presented here.

Shubayqa 1 is the only site in this sample with individualised SPDC results entirely falling below the range of Neolithic settlements. This suggests that settlement patterns, and thus population density, in the Natufian were closer to those of settled Neolithic communities than they were to hunter-gatherer communities. Given the range of evidence for early plant cultivation in the Natufian, this is unsurprising, as Zhu *et al.*(2021) determined that population density is expected to increase as communities become increasingly reliant on food production and plant resources.

Cave sites, such as el-Wad or Hayonim Cave, may show poor reliability with housing-based methods when exploring structures alone, as the cave itself may have served as a domestic structure, either temporarily or permanently. It is difficult to estimate how much of a cave, if any, may have served as a domestic shelter without clearly delineated structures to help identify floor space. Other factors, such as the amount of sunlight in the cave and required space for storage or other activities, would likely influence the amount of cave that could be used for living space. At el-Wad, it is possible that the front three chambers, which receive the most sunlight (Weinstein-Evron, 1998), could have been used for at least some form of domestic shelter, but the extent of this use cannot be adequately estimated. At Hayonim, the cave may also have provided some shelter from the elements. However, if this were the case, the presence of structures too small to serve domestic purposes built within the cave would need to be explained, as there would be little need to shelter non-domestic activities if the cave was already providing such shelter. Much of the material from the cave, which includes beads, abundant animal bones, and decorated and incised bones, is compatible with an interpretation of funerary and feasting activities at the site, focused on a mortuary rather than domestic purpose (Belfer-Cohen, 1988, 1991a; Grosman and Belfer-Cohen, 2022). Even when combined with Hayonim Terrace, the site complex is unlikely to have been able to support the required population of 211 people (Table 4.18). This further supports the hypothesis that Hayonim Cave – and possibly Hayonim Terrace – served primarily as a funerary or cemetery site (Belfer-Cohen, 1988; Grosman and Belfer-Cohen, 2022).

The structures at Wadi Hammeh 27 are questionable in being identified as houses, due to their extremely large size of 150 m^2 each (Edwards, 1991). It is possible that the housing units of this site were very large extended families, and therefore, houses were meant to be occupied by these large groups. The estimate of 150 people (Table 4.15 and Table 4.17) at the site would suggest that each shelter was able to support a housing unit of 75 people, which is an unrealistically large housing unit. An alternate suggestion, one which is much more likely, is that only part of these structures was meant to house people, while the remainder of each structure was used for other activities. This would mean that these shelters were houses, in a sense, but were not entirely houses, and therefore, the number of people expected per house based on the RADC and SPF methods would be lower. The SPF population estimate for high required storage results in approximately 29 people per household, which, while still higher than would be expected, is much more reasonable than 75, supporting the idea that high percentages of these structures may have been devoted to storage or other activities.

It is often said that the Early Natufian was characterised by more intensive occupation than the Late Natufian (Belfer-Cohen, 1991b; Belfer-Cohen and Goring-Morris, 2020). In this sample, only Eynan has sufficient published data to explore this theory. Eynan appears to be more densely populated in the Early Natufian than it was in the Late Natufian and was therefore able to support a bigger population. In the Late Natufian, Eynan saw a decrease in the amount and size of structures built on site, and likely a reduction in the size of the population that this site could support. While this is only one site, it does support the idea that the Late Natufian was characterised by a decrease in intensity of occupation. It should be noted, however, that the higher number of burials is found in the Late Natufian of Eynan relative to the Early Natufian, suggesting that a lower occupation intensity may not have resulted in lower burial rates.

4.5.2 Completeness

Hilazon Tachtit has the highest burial frequency of any case study site presented here, with a burial every 14.3 years at a burial rate of 100%, or a burial every 3.6 years at a burial rate of 25% (Table 4.18). Notably, Hilazon Tachtit itself is a very small site lacking sufficient space for a community, or the archaeological evidence suggestive of consistent occupation (Grosman, Munro and Belfer-Cohen, 2008; Dubreuil *et al.*, 2019; Goldgeier, Munro and Grosman, 2019). We must assume, therefore, that the community of people who buried their dead within the cave lived elsewhere. We cannot know for sure what the synchronous population of this community would have been, but we can assume that death would have occurred considerably more frequently than every 14.3 years, particularly given the high childhood mortality rate assumed for the Natufian. This demonstrates that the sample of 28 individuals recovered from the site is far from a complete sample and likely represents less than 25% of the population associated with the site during its use. As Hilazon Tachtit was not occupied consistently, however, it is entirely possible that this associated community had other burial locations throughout the landscape, which were also in use at the same time.

All other sites have lower burial frequencies than Hilazon Tachtit, suggesting an even lower degree of completeness for these site samples. Wadi Hammeh 27 has a particularly low burial frequency of one burial every 17.9 years at a 25% burial rate. Deaths within any prehistoric community must have been more frequent than occurring only once in nearly two decades, suggesting that the burials at Wadi Hammeh 27 are an overwhelmingly small proportion of the number of individuals who lived and died at the site. This is also supported by the location of these burials in the first phase of occupation at Wadi Hammeh 27, suggesting that during the occupation of the site, permanent burials were not being created (Edwards, 1991, 2013; Webb and Edwards, 2002). Though the site is reported to have considerable numbers of isolated remains throughout the occupation layers, possibly suggesting some additional burials which were later destroyed in future occupation construction.

Because mobility in the Natufian is not yet well understood, it is possible that some sites in the region were utilised by more than one group or community during the Natufian. Santana *et al.* (2021) utilised strontium isotopic analysis to demonstrate that mobility was reasonably high in the Natufian, particularly at Eynan. Their results, however, differ from conclusions previously drawn by Shewan (2004), which suggested low mobility throughout the Natufian. The results suggesting aggregation in the Jordan Valley, however, may suggest that some population at these sites remained stable, while other individuals were more mobile, which may lead to these contradicting strontium results of both highly mobile and minimally mobile individuals (Santana *et al.*, 2021). To date, there have been limited studies on the genetic relatedness of individuals buried at the same site (Smith, 1973), and none have explored the relatedness of individuals buried at different sites. Bocquentin (2003) determined that the osteological features of the Natufian dead seem to indicate a single population throughout the southern Levant, and high degrees of homogeneity may suggest frequent interaction or connection between groups.

This, taken together with the results presented here, suggests that some sites may include burials from more than one community, and some communities may have been buried at more than one site. Furthermore, individuals may have ‘belonged’ to more than one community; for example, a birth community may be different from a ‘marriage’ community in populations where exogamy is practised. Raqefet Cave and el-Wad, for example, were both utilised throughout the Late Natufian and are less than 15km apart (Weinstein-Evron, 1991; Lengyel *et al.*, 2005; Lengyel, Nadel and Bocquentin, 2013) and thus could have been simultaneously used by the same or nearby communities. It is beyond the scope of this work to confirm relationships between sites, though further studies on interaction spheres – and if it were to become available, aDNA – may prove valuable in exploring the relationship between contemporary sites.

Most sites in this sample have isolated human remains reported throughout the occupation layers, however, the available published material does not allow for an accurate MNI estimate for these isolated remains. For these sites, it is clear that the numbered individuals, the known dead, underrepresent the number of individuals found at the site. This makes estimating burial frequencies difficult, as without an MNI for the isolated remains, it cannot be known how many unnumbered individuals were found on each site. Further research into the assemblages of each site would benefit from a review of the isolated materials to establish an MNI and therefore an updated number of dead present.

Notably, we are only able to accurately count the number of permanent burials on each site – those burials which were not removed or destroyed after they were deposited. As secondary burials are found throughout the Natufian, we assume that at least some of the people who were initially buried were later removed from their burial pits. Some of these remains were redeposited in secondary contexts, while others may have been curated and maintained by the living communities. Both Raqefet Cave and Hayonim Cave have burials which no longer contain the cranium (Belfer-Cohen, 1988; Lengyel and Bocquentin, 2005; Nadel *et al.*, 2013; Grosman and Belfer-Cohen, 2022), as is seen in PPN sites with plastered skulls (Kenyon, 1971; Strouhal, 1973; Simmons *et al.*, 1990) and may suggest these skulls were being utilised or curated in some way after deposition.

These results indicate that permanent intramural burial rates within Natufian communities must have been below 25% of the total number of dead, indicating that most individuals were not chosen for burial. The process for this selection likely differed between sites and through time, but it is worth considering the types of selection that may have occurred at the various sites. The first step in considering this selection process is to understand the representativeness of the burial samples.

4.5.3 Representativeness

When both sex and age demographics are considered, only one site within these case studies meets the criteria to be considered as a possible random sample: Shubayqa 1. Within this burial sample, subadults make up three-quarters of all known individuals, with a particularly high proportion of very young children and infants. This age distribution does generally align with that expected from an e^0 of 30 years. The sexable adult sample, though regrettably small, is balanced between males and females, which aligns with the expectations for a random sample of a population with normal sex distributions. Taken together, these suggest all age and sex categories had a roughly equal chance of receiving burial as a mortuary treatment at Shubayqa 1.

No other site sample meets the criteria to be considered a random sample. This suggests that age and/or sex likely played at least some role in the selection for burial as a mortuary treatment at all other sites presented here. While archaeology will likely never be able to pinpoint the exact selection criteria for burial in prehistoric communities, the relative degree of representativeness of these case study sites can help to better understand the potential criteria that may have been utilised.

Hayonim Cave has strong evidence for both age- and sex-specific criteria for burial within the demographics of the burial sample. Subadults at the site represent just 36.4% of the known burial sample. This is far below the expected 65% based on an e^0 of 30 years, with infants being particularly underrepresented at the site. Among the adult members of the burial sample, young adults are particularly well represented. In fact, 66.7% (n=12) of all published young adults from the entire Natufian period were identified at Hayonim Cave. The adult burial sample here is also heavily male-dominated, with more than 4 males identified for every female. This together supports previous results that suggest young adult males were the demographic most likely to receive burial within the Hayonim Cave community, or perhaps that the cave site was dedicated primarily to the burial of these young adult males, with other community members being buried elsewhere (Belfer-Cohen, 1988; Bocquentin, 2003; Grosman and Belfer-Cohen, 2022).

The burial samples from Wadi Hammeh 27, Hayonim Terrace, and Hilazon Tachtit are all clearly dominated by adults, though these samples are all smaller than the other sample case studies presented here. Hilazon Tachtit, in particular, is difficult to interpret as the majority of individuals recovered from the site have no published demographic data and therefore cannot be included within these analyses. Sex determinations could not be made for any adults at Wadi Hammeh 27, and all adults at Hayonim Terrace were sexed as indeterminate. Hilazon Tachtit and Raqefet Cave both appear to be female-dominated, as no identifiable males were reported from either site. However, the majority of individuals from both sites were unable to be sexed, so caution should be taken when interpreting the demographics of these sites.

The criteria for burial selection at el-Wad appear to change between the Early & Late Natufian levels of the site. Subadults make up a larger proportion of the Late Natufian burial sample at the site than in the Early Natufian. Similarly, females make up a noticeably larger proportion of the burial sample within the Late Natufian of el-Wad. This may suggest that burial became more equitably afforded across the community, allowing for all age and sex categories to be buried in the Late Natufian in comparison to the priority of adult male burial within the Early Natufian of the site.

Eynan also has a shift in demographics between the Early & Late Natufian occupations of the site. The sexable adult sample of Early Natufian Eynan is male-dominated, while in the Late Natufian, the sexable adult sample is female-skewed. This may suggest that the criteria required for burial changed in between these occupations, or that the role of females within the community shifted to meet the criteria which had previously restricted them from being buried. The age distribution remains relatively consistent, with subadults underrepresented across both periods, suggesting that age was likely a consistent factor in burial selection at Eynan.

4.6 Conclusion

The results of these case studies demonstrate three general conclusions:

1. The sample available for the Epipalaeolithic-Neolithic transition in the Southern Levant is far from complete, accounting for far less than 25% of the total number of people who must have lived and died in the region.

2. The sample available for the Epipalaeolithic-Neolithic transition in the Southern Levant cannot be considered a representative or random sample, with the possible exception of the assemblage of Shubayqa 1.

3. Estimating populations from archaeological evidence is fraught with difficulty and requires a considerable number of assumptions to be made to compensate for the lack of fine-grained detail in the archaeological record, meaning that several 'standard' estimation methods will not be suitable to the Epipalaeolithic archaeological contexts presented here.

Low completeness means that the sample comprises only a small proportion of the total population. This suggests three alternate – but not by any means mutually exclusive – processes may have impacted our sample. First, burial may have been intentionally restricted to certain members of society, allowing for only a select group of individuals to have been buried at all, while others received non-burial treatments. This may also have involved the creation of non-permanent burials, in which an individual was initially buried with the intention of removing or destroying the burial later, which would also be archaeologically invisible. Secondly, this may suggest disproportionate or non-random taphonomic restrictions which have negatively impacted some of the remains. Infant bones, for example, are considerably more susceptible to environmental destruction than adult bones are due to their fragile and soft nature (White *et al.*, 2012). It may be that young children were buried in higher frequencies than we are aware of, but some of these burials have since been destroyed by the elements. Finally, it is possible that, as archaeologists, we have unintentionally masked the true distribution of burials through our choice of excavation areas. It is possible that burial areas for certain demographic groups were located within the settlement itself, while others were located elsewhere, and as excavation generally focuses on settlements, we may have simply missed these alternate burial areas.

When considering Natufian mortuary practices - and the practices of the broader Epipalaeolithic-Neolithic transition – presented in the subsequent chapters, it is important to remember that our sample is reflective only of a small percentage of all individuals, and therefore only a small percentage of the mortuary treatments which may have been practised at the time. Archaeological visibility plays a considerable role in the understanding of mortuary practices in prehistory, and we must be cautious not to assume that the visible remains reflect the totality of practices throughout time.

5 Traditional Burial Analysis

5.1 Introduction

Burial archaeology has traditionally held two main goals in prehistoric contexts – to describe elaborate burial practices and to identify elite burials and elements of social hierarchy within mortuary remains. The latter of these goals is based largely on the assumption that social organisation and stratification will directly impact the treatment of the dead, and be evident through the inclusion of grave goods, position of the body within the grave, or location of the grave within a site, among other elements. These types of analyses are common (Mastin, 1964; Belfer-Cohen, 1988; Nadel *et al.*, 1997; Bocquentin, 2003; Davin, 2019), which has biased the literature towards the publication of data within this analytical framework, resulting in a relatively standardized Traditional Burial Analysis method utilised broadly across both historic and prehistoric archaeological sites.

The Epipalaeolithic-Neolithic transition of the Near East is no exception to the dominance of Traditional Burial Analysis or its goals. The position of the Epipalaeolithic – and in particular the Natufian – as the period immediately preceding the Neolithic has led to the search for the origins of Neolithic social structures among the Natufian dead (Bar-Yosef, 1998; Aurenche *et al.*, 2001; Maher, Richter and Stock, 2012). The primary focus of much of the literature has been the richly decorated individuals known from a handful of Natufian sites (Wright, 1978; Belfer-Cohen, 1988; Grosman, Munro and Belfer-Cohen, 2008; Davin, 2019; Grosman and Belfer-Cohen, 2022), with less attention focused on the majority of burials which appear simpler. Recently, Bocquentin, Kodas, and Ortiz (2016) have encouraged a focus on cranial removal as a practice, utilising the spread of this practice to trace the interaction between human groups and the dissemination of ideas and practices throughout the region.

It is essential to begin with a brief review of the established results and interpretations published on Epipalaeolithic and Early Neolithic mortuary practices to date (see Chapter 2 for a detailed history of Natufian research). This sets the stage for the Traditional Burial

Analysis of the updated corpus of Epipalaeolithic and Neolithic mortuary data, allowing for the re-evaluation of these results and interpretations. The results of this analysis are presented here.

5.1.1 Interpreting Epipalaeolithic Mortuary Data

Mortuary remains of the Southern Levantine Epipalaeolithic have been known since the first Natufian sites were excavated almost 100 years ago. Since then, numerous reviews and syntheses have attempted to clarify the funerary practices of the Natufian (Belfer-Cohen, 1991b; Boyd, 1999; Valla, 1999) and compare these with those of the Early & Middle Epipalaeolithic (Maher, 2007; Maher, Richter and Stock, 2012) and the Pre-Pottery Neolithic A (Belfer-Cohen and Goring-Morris, 2010, 2020; Goring-Morris and Belfer-Cohen, 2016). To date, the most complete synthesis is Bocquentin's (2003) PhD thesis, which combined published data with osteological reassessment to clarify questionable sites and establish a whole view of the Natufian mortuary remains. In doing so, she was able to evaluate the applicability of existing hypotheses and interpretations to the evidence available (*ibid*.).

By the early 2000s, it was very clear that Natufian burials were extremely diverse, with some authors even suggesting it would be impossible to speak of Natufian mortuary practices as a whole (Byrd and Monahan, 1995; Bar-Yosef, 1998; Valla, 1999). Though cautious not to overgeneralize in establishing a 'normative' practice, Bocquentin (2003) was able to identify several trends and patterns which enabled her to interpret common features of Natufian mortuary practices, broadly speaking. She argued that her data was consistent with Natufian mortuary remains expressing evidence of territorial attachment, group and personal identities, and group structure (*ibid*). These suggestions are not novel to her work, however, and have been discussed in varying detail throughout the history of Natufian research.

The presence of numerous intramural burials at Natufian sites in comparison to the paucity of Early & Middle Epipalaeolithic burials has long been suggested as evidence for increased sedentism in the period (Rosenberg, 1998; Boyd, 2006; Yeshurun, Bar-Oz and

Weinstein-Evron, 2014). These burials tend to be located within occupation areas, closely associated with structures or shelters, and often occur in an alternating sequence with the creation of living floors (Bocquentin, 2003; Nadel, 2003; Richter *et al.*, 2019). At several sites, burials are the first evidence of Natufian occupation, prior to any occupation as a living space, which several authors have attributed to the use of burials in the creation of a place known as Foundation Burials (See section 5.4.1.1 for a discussion of Foundation Burials). Evaluation of Early & Middle Epipalaeolithic sites have also demonstrated the connection between placemaking and mortuary practices (Nadel, 2003, 2004; Maher, 2019; Maher and Conkey, 2019; Maher *et al.*, 2021), suggesting this behavior in the Natufian may have developed as part of a long and gradual elaboration of existing practices. Here, territorial attachment can be re-evaluated with the updated database through grave location and architectural associations.

Grave inclusions are the hallmark evidence used for the expression of personal and group identity. Ornamental items, such as beads, are known throughout the occupation remains of the Natufian and are present in several burials. Davin (2019) assessed the beads found in Eynan funerary contexts and demonstrated the unique composition and construction of these beads, which differ from those at Hayonim and el-Wad. Beyond beads, other inclusions and associated items also have patterns which can be used to differentiate between sites – for example, Nahal Oren has a particularly high frequency of pierced-bottom mortars which are located within burial contexts (Nadel *et al.*, 1997; Rosenberg and Nadel, 2014). These differences between sites have been emphasised as evidence of expressing group identity and differentiating communities from one another (Belfer-Cohen, 1995; Bar-Yosef, 1998).

As beads and ornamental items are unequally dispersed among the burials at most Natufian sites, archaeologists have tended to view these as a prestige item afforded only to high-status individuals (Garrod, 1937; Wright, 1978; Bar-Yosef Mayer and Porat, 2008; though see Grindel 1998 for a contrary view). Wright (1978) attempted to demonstrate how the inequality of decorated burials and differential burial practices at el-Wad may be evidence of social inequality of incipient class hierarchies. This analysis, however, has been fiercely critiqued on methodological grounds and interpretive power (Belfer-Cohen, 1995; Boyd, 2001), and most authors agree that there is insufficient evidence to claim systematic social inequality in the Natufian (Bocquentin, 2003). In general, it has been agreed that the most prominent trend in bead distribution is their frequent association with young adults and males, possibly suggesting that these identities may have carried a certain privilege in life (Belfer-Cohen, 1988; Bocquentin, 2003; Grosman and Belfer-Cohen, 2022).

Group structure has also been explored through demographic differences in burial, often between sexes. The relative lack of female adults throughout the Natufian has been suggested to reflect the lower status of females within Natufian communities (Smith, 1973; Grosman and Belfer-Cohen, 2022). Bocquentin (2003) demonstrated that burials tend to be clustered or grouped by sex, further supporting a society with sex-based social divisions, though she does not claim this relates specifically to a low status of any sex.

The differences between the Early & Late Natufian mortuary practices are of key interest in much of the archaeological literature and were a common theme in Bocquentin's (*ibid*) work. Burials of the Late Natufian are generally suggested to be more standardised than in the Early Natufian, with less diversity in burial type, pose, or location (Bocquentin, 2003; Lengyel and Bocquentin, 2005). Additionally, they are described as relatively simpler, with considerably less ornamental items and inclusions than in the Early Natufian (Byrd and Monahan, 1995; Lengyel and Bocquentin, 2005). Increased mobility in the Late Natufian is often discussed as a reason behind the relatively higher proportion of LN burials found outside occupation sites (Grosman and Munro, 2007; Bocquentin and Noûs, 2022). Bocquentin's (2003) data were unable to support the hypothesis of substantially increased mobility in the Late Natufian, though she does suggest that the Late Natufian consists of more interaction and connection between groups, which may be the result of increased mobility of at least some of the community members.

5.2 Methods

5.2.1 Traditional Burial Analysis Framework

Traditional Burial Analysis focuses on assessing the readily visible elements of a burial and comparing them against known demographics of the individuals within the graves to assess the reasons behind the unequal distribution of these elements. Visible elements of a burial generally include the grave inclusions, the position of the body within the grave, and the location of the grave itself within the settlement or cemetery, though it can sometimes include other elements such as burial type. Since this type of analysis is the most common analysis in mortuary archaeology, these data are generally available for the majority of published burials within this sample, to varying degrees of completeness.

When engaging in Traditional Burial Analysis at a regional scale, such as this project, the analysis relies on the publication of required data from previous and ongoing excavations, and/or access to abundant primary materials. Once a burial has been removed from the ground, much of the primary data on the burial itself is gone, and archaeologists must rely on images and written records of the excavation process to review and reanalyse these data. Demographic information about the skeleton is generally assessed in the lab after excavation, and if properly curated and cared for, skeletons may be available for reassessment later.

For the purposes of this project, reassessment of the primary skeletal materials was not considered a priority, as this work had been completed by Bocquentin (2003) for her PhD thesis, which included a reassessment of the majority of skeletal material available at that time. Bocquentin (*ibid*) was able to correct for the disparate osteological standards present in the earliest excavations from the early 20th century, particularly at el-Wad. Osteological analysis for ageing and sexing of skeletal remains has been relatively consistent over the past 20 years, and a reassessment of the recently excavated and published material was not considered necessary.

5.2.2 Materials and Sample Selection

Of the 694 individuals identified within the total Epipalaeolithic and Early Neolithic assemblage presented in Chapter 3, 496 individuals can be considered buried in either primary or secondary contexts (Table 5.1). This is known as the Total Burial Sample. The remaining individuals, totalling 198 individuals, consist of isolated fragments, poorly documented individuals, or individuals for which no burial type could be assigned based on the limited available data. These isolated fragments will be considered separately (see section 5.3.8).

	EME		EN		LN		Unspecified Natufian**		PPNA	
	n	%	n	%	n	%	n	%	n	%
All Individuals	19	2.7%	215	31.0%	241	34.7%	59	8.5%	160	23.1%
Buried Individuals	18	3.6%	140	28.2%	188	37.9%	19	3.8%	131	26.4%

*Table 5.1: Total number of individuals and total buried individuals from each period under stud; EME is the Early & Middle Epipalaeolithic. EN is the Early Natufian, LN is the Late Natufian, and PPNA is the Pre-Pottery Neolithic A. N is the number of individuals, and % is the percentage of individuals within the sample. **Unknown Natufian refers to individuals from Natufian sites which could not be dated to either the Early or Late Natufian*

Those individuals listed as Unspecified Natufian (Table 5.1) represent the remains which were excavated from Natufian sites but could not be confidently assigned to either the Early or Late Natufian. Most commonly, this is due to unclear stratigraphic position between archaeological layers or poor recording at the time of excavation. Where the Natufian is considered as a singular entity, these individuals are included in the Natufian sample. Where the two-phase system is used, separating the Natufian into Early & Late phases, the Unspecified Natufian individuals have been excluded to avoid uncertainty issues. Without the Unspecified Natufian, the burial sample consists of 478 individuals – this is known as the Dated Burial Sample. This Dated Burial Sample is utilised for all analyses in this chapter unless otherwise specified. Statistical significance in all analyses is defined using an alpha level of 0.05.

5.2.3 Burial Demographics

As discussed in Chapter 3 (section 3.2), the data presented in this study (Appendix A) were collated from published articles, site monographs, excavation reports, photographs, and available databases. Where possible, multiple information sources were utilised and compared to ensure the most accurate information was recorded within this assemblage. As recording and publishing standards vary considerably through time and between excavators, the availability and reliability of the data included here vary. It was sometimes possible to standardise and account for this variability (see below), though this was not possible for every site.

5.2.3.1 Age at Death

For the majority of individuals, an age at death estimate was available within the published literature, and where possible, this was corroborated through the use of photographs or published measurements of the remains. For the purposes of this study, infants are those under 2 years at death, including fetuses and perinates. Children are those who died between the ages of 2 and 10 years. Adolescents are subadults who are older than 10 but not yet skeletally mature, up to about 18 years. Young adults are skeletally mature but show little to no signs of age-related deterioration, usually under 25 years. Adults are skeletally mature, older than 25 years. Older adults are generally accepted to be older than 40 years, and may show signs of advanced age-related deterioration.

It should be noted that age categories are not standardised in archaeology, and the age brackets used can vary considerably. In subadults, for whom a year-based age-estimate is generally given, this can be corrected, and individuals can be re-classified to accommodate the brackets I have selected here. For adults, the variation in reporting is more considerable as the age-at-death estimates for adults produce considerably wider ranges. Though some studies actively utilise Young and Older Adult categories, this is not standard, and many reports combine all adults into one category. Where the original reports utilised these categories, they have been recorded. However, all adults have also been combined into a single category and analyzed in this way to account for the differences in recording age-at-death between sites and excavations.

5.2.3.2 Sex

Sex is assigned on a 5-point scale following Buikstra and Ubelaker (1994), and these categories are typically considered standard throughout the field. However, the use of the 3rd category – Indeterminate – varies between excavations and is not universally differentiated from 'Unknown'. Categories 2 and 4 – those listed as 'Probable' are also underutilised, particularly in older excavations before sex-determination osteological methods were standardized and thus may be underrepresented in this study. Where applicable, the probable categories are combined with the related sex category to explore claims of binary sex differences, though it should be noted that probable males and females may not, in fact, belong well to that sex category. It is also important to remember that these biological categories cannot inform concepts of gender or expression within these communities.

Sex determination is only recorded for adult individuals, even when the original publications included sexes for subadult remains. This is because the methods for determining sex osteologically are only accurate for skeletally mature individuals and cannot be considered reliable in subadult individuals (Buikstra and Ubelaker, 1994). Though possible with some accuracy in the oldest adolescents, sex determinations have not been included for any adolescent individuals to ensure consistency.

5.2.3.3 Period

Dating throughout the Levant is generally poor, with limited reliable radiocarbon data available at most sites in this sample (Stutz, 2004). Where radiocarbon data are available, many samples are old and possess extremely high standards of error, making them unreliable. Human remains are rarely dated directly, though where available these dates have been included in the table (Appendix A). Most often, burials are dated stratigraphically and assigned to a period based on the level in which the grave was found, though this is not possible for all burials due to erosion or position between layers.

Initially, burials were assigned to a broad category by site. These consist of Early-Middle Epipalaeolithic (ca. 24,000-15,000 cal. BP; Maher, Richter and Stock, 2012), Late Epipalaeolithic/Natufian (ca. 15,000-11,500 cal. BP; Stutz, 2004; Grosman, 2018), and Pre-Pottery Neolithic A (ca. 11,500-10,000 cal. BP; *ibid.*). Where further categorization is possible, the Late Epipalaeolithic category was divided into Early Natufian (ca. 15,000-13,500 cal. BP; *ibid.*) and Late Natufian (ca. 13,500-11,500 cal. BP; *ibid.*). Some burials from Natufian sites could not be confidently assigned to either Early or Late Natufian and are therefore recorded as 'Unknown Natufian'. Further subdivision of these Natufian categories was possible for some sites, resulting in Early Natufian, Late Natufian, and Final Natufian, along with transitional categories between them. However, this categorization resulted in samples which were too small and unreliable to be of analytical value. Furthermore, the category of Final Natufian is debated and many authors choose to retain the Late Natufian assignment for these sites and burials. To enable proper analysis and reduce the impact of unreliable dating, the 4-category method (as presented in Table 5.1) was chosen.

5.2.3.4 Burial and Body Position

Excavation goals vary considerably between sites and across countries, resulting in incredible diversity in the way that burials are recorded, published, and discussed. The position of the body within the grave was recorded as described in the original publication. These were corroborated with images, drawings, or site plans where these were available. However, for many burials, no body or burial position was published, and possibly was never recorded originally, and thus these data are not available for many of the burials within the assemblage.

Body position describes the side of the body touching the base of the grave, while burial position describes the way the body was posed within the burial. Though most excavators differentiate between degrees of flexion as presented here, the category of flexed is likely overrepresented at the expense of tight and loose flex due to the fact that these categories are not standardized within the field.

5.2.3.5 Burial Size and Type

Burial sizes are generally published according to standardized definitions. A single burial is one individual buried on its own, within their own pit. Double and triple burials are two or three individuals, respectively, buried within the same pit and can be buried together or successively if the grave is re-opened. Here, a multiple burial describes a pit containing four or more individuals, buried together or successively. Sometimes triple burials are not separated from multiple burials, though this can easily be corrected when looking at the number of individuals listed within a multiple burial.

Multiple burials are difficult to identify and appear to be overrepresented in earlier publications. This is because the burial areas within this region are rarely organized, resulting in many single burials clustering together, giving the appearance of a multiple burial (Mastin, 1964; Weinstein-Evron, 1998; Bocquentin, 2003). Multiple burials here were only recorded where a single, well-defined pit was identified demonstrating that all individuals were buried together intentionally, rather than coincidentally being close by. Where mode of deposition was described, all multiple burials within this sample are considered successive, meaning the individuals were added to the pit in several distinct interments rather than being buried all at once. This level of detail, however, is not available for all multiple burials and thus this cannot be generalized as a rule of all multiple burials in the sample.

Burial types are generally assigned based on field-standard definitions. Primary burials are those found in the original context of decomposition - the body has not been moved or intentionally disturbed since the original burial event (Duday, Le Mort and Tillier, 2014). Secondary burials are those found in a context other than that of original decomposition – the bones (usually the long bones or other large elements) have been moved from another burial or above-ground decomposition and buried together (*ibid*.). These are usually identified by a lack of anatomical position, and a selection for large elements with the loss of small elements. Isolated fragments are those which are found alone or in very small, related clusters outside any known burial context, most commonly within occupation levels (*ibid*.).

Disturbed primary burials are here defined as those which remain in the location of their original deposition but have since been manipulated or otherwise intentionally disturbed resulting in a loss of articulation or a removal of elements. This is most common within multiple burials where earlier individuals are moved to the side of a pit to accommodate later interments, or in the case of acephalous (headless) burials where the crania have since been removed post-depositionally, but the rest of the body remains in a primary position. Isolated crania appear to be a special type of secondary burial, in which the cranium – or more rarely, the cranium and associated elements – is buried without the body. As these cranial elements almost always lack cut marks (though see Kanjou et al., 2015), they are thought to be removed after decomposition, making the burial of these elements a secondary burial. They have been separately recorded here from other secondary burials as they appear to be a unique phenomenon.

On sites with both isolated crania and acephalous burials, it is possible that these may represent the same individuals divided between two burials. However, assigning an isolated crania to an acephalous burial is nearly impossible without aDNA. Here, each isolated head has been treated as a unique individual, regardless of the presence of contemporary acephalous burials, as there are currently no genetic studies available with which to confidently associate the heads with a body.

5.2.3.6 Architectural Associations

Most sites within this sample have some type of architectural feature within the occupation area. As burial areas are rarely differentiated from occupation areas, the burials are sometimes associated with these features. The archaeological record in most sites is not sufficiently fine-grained to determine the chronological relationship between burials and the architectural features they are associated with. Instead, a spatial association is recorded where available. Burials are recorded as below an architectural feature when they are positioned underneath a floor or wall of a structure and may have been placed before or during the initial construction, or during a phase of repair for the structure. Burials are listed as being within an architectural feature when they are recorded as being placed on a floor, within a floor, or within the built wall of a structure. Generally, but not always, these are believed to have been placed during the lifecycle of the structure, and in some cases may mark the end of the use of a structure (Maher *et al.*, 2021). Burials are listed as being nearby to an architectural feature when they are found between structures or are otherwise listed as being associated with a structure but not within or below them.

In many cases, excavation reports and articles include an assessment of associated architectural features, and this has been used to make these determinations. Where available, site plans, images, and matrices have also been used to make determinations or corroborate written associations. It should be noted that the recording and discussion of architectural features has varied considerably and is far more prominent now than in earlier excavations, and thus these associations may be underrepresenting the real relationship between these burials and these structures.

5.2.4 Study Limitations

Synthesizing nearly 100 years of available data on Epipalaeolithic and Neolithic mortuary practices involves several inherent limitations. The accessibility of legacy data, particularly those from excavations conducted in the 1930s and 40s, is a limiting factor. Fieldwork projects have also varied considerably in standards of excavation, recording, and publishing, resulting in highly variable levels of detail available between sites and sometimes within the same site. Archaeologists from different countries have differing standards of publication as well, with some areas prioritizing overall site monographs while others publish small samples within various journal articles.

Through time, methods of analysis have improved dramatically, allowing for more consistent and accurate data recording. Methods of analysis for skeletal sex and age, radiocarbon dating, archaeobotanical and archaeological palynology, have all been developed or greatly improved since the 1920s, allowing for improved data available for later excavations than was available for earlier sites. While some material has been reassessed since (see Bocquentin 2003), much of the material cannot be reassessed and therefore we are limited to the available published data.

There is a strong literature bias towards sites within the Mediterranean zone, particularly in Israel and Palestine. This is due to a number of factors including increased financial and academic resources devoted to these areas, periods of political instability in parts of the region, and the variety in language of publication of excavations throughout Southwest Asia. Many excavations in Syria, Jordan, and Lebanon have resulted from rescue efforts during construction, a feature which limits the timeline available for excavation and can considerably impact the goals of excavation and publication.

The Epipalaeolithic and Neolithic of the Levant is an area of archaeological research which continues to include fierce debates on definitions and boundaries of archaeological entities (Goring-Morris, 1991; Belfer-Cohen and Goring-Morris, 2010; Goring-Morris and Belfer-Cohen, 2013; Richter and Maher, 2013). Some sites, such as Abu Hureyra (D. Olszewski, 1991a; Moore, 1991; Molleson and Arnold-Forster, 2015) and Mureybet (Marechal, 1991; Willcox, 2008), are inconsistently assigned to the Natufian or to another contemporary archaeological entity, and this disagreement can impact their applicability to be included or excluded in studies like this one. Furthermore, there is disagreement on when the Natufian begins and ends, impacting the beginning and end of the Neolithic and Epipalaeolithic, respectively. This subjectivity in the way these regions are discussed results in considerable variation in the generalizations which can be made about the burial remains in the region.

These limitations are not to say that studies like this one are not worthwhile. In fact, reconsidering published data and synthesizing knowledge is an essential aspect of advancing our understanding of archaeological materials. The standardization of legacy data – as far as is possible – allows for the comparison between disparate archaeological excavations, ensuring that these data can be considered together more easily. Additionally, these syntheses highlight areas of recording and publication which are limiting our understanding of archaeology, allowing us to advocate for improved standards across the field.

5.3 Results

5.3.1 Age-at-Death (Table 5.2)

Age at death is well reported among the burial sample, as 82.8% (n=396) of the dated burial sample could be assigned to an age category (Table 5.2; see section 5.2.3.1 for description of age categories). Subadults, the combined category which includes all skeletally immature individuals, are most frequent in the Late Epipalaeolithic (Natufian), particularly in the Early Natufian. However, subadults are underrepresented in all periods in comparison to the number of known adults (see Section 4.2.3 for discussion on the expected rate of subadults). Infants in particular are extremely underrepresented given that we can expect about 50% of children to die before the age of 15 in the populations presented here (Hewlett, 1991; Pennington, 2001; Bocquentin and Noûs, 2022).

Modal age at death differs significantly between periods as determined by a one-way ANOVA ($p=0.002$). A post hoc Tamhane T2 test determined that modal age of the Early & Middle Epipalaeolithic (EME) is significantly different from the Early Natufian ($p<0.001$), the Late Natufian ($p<0.001$) and the PPNA ($p<0.001$). The EME burial sample is dominated by adults and the majority of the subadults which are present in the sample are adolescents. The two Natufian subphases, and the PPNA, have stronger representation of infants and young children.

	EME		EN		LN		PPNA	
	n	%	n	%	n	%	n	%
Infant	0	0.0%	20	15.5%	15	10.8%	19	17.3%
Child	1	5.6%	31	24.0%	28	20.1%	14	12.7%
Adolescent	2	11.1%	10	7.8%	10	7.2%	1	0.9%
Subadults (Combined)	3	16.7%	61	47.3%	53	38.1%	34	30.9%
Young Adult	0	0.0%	18	14.0%	3	2.2%	6	5.5%
Adult	15	83.3%	43	33.3%	75	54.0%	68	61.8%
Older Adult	0	0.0%	7	5.4%	8	5.8%	2	1.8%
Unknown	0	-	11	-	49	-	22	-

Table 5.2: Age at death for the Dated Burial Sample. Subadults (Combined) includes all skeletally immature individuals. N is the number of individuals, and % is the percentage of aged individuals within that period

As shown in Chapter 4 (Section 4.2.3) childhood mortality would be expected to be consistently high across all periods under study, and there is little reason to expect infant and child mortality to vary considerably between the EME and Natufian samples. This would suggest that the significant difference in subadult representation among the burial samples is reflective of a shift in the demographics selected for burial within the Late Epipalaeolithic (Natufian) communities in comparison to preceding periods.

5.3.2 Sex (Table 5.3)

Sex determinations were only included for skeletally mature individuals. Of the 245 adults in the Dated Burial Sample, 66.9% (n=164) could be assigned to one of 5 sex categories (Table 5.3; see section 5.2.3.2 for description of sex categories). Males and probable males dominate the Early & Middle Epipalaeolithic (60.0%; n=9) and the Early Natufian (76.7%; n= 46). The later periods within this study are more balanced between the sexes, with the Late Natufian having a slightly higher proportion of females (43.7%; n=28) and the Pre-Pottery Neolithic A having a slightly higher proportion of males (50%; n=11).

	EME		EN		LN		PPNA	
	n	%	n	%	n	%	n	%
Female	3	20.0%	9	15.0%	26	40.6%	7	31.8%
Probable Female	1	6.7%	1	1.7%	2	3.1%	1	4.5%
Indeterminate	2	13.3%	4	6.7%	14	21.9%	3	13.6%
Probable Male	4	26.7%	4	6.7%	4	6.3%	3	13.6%
Male	5	33.3%	42	70.0%	18	28.1%	8	36.4%
Unknown Adult	0	-	8	-	22	-	51	-

Table 5.3: Sex for adult individuals of the dated burial sample. N is the number of individuals, and % is the percentage of sexable adults within that period

Modal sex differs significantly between periods ($p<0.001$). A post hoc Tamhane T2 test demonstrate that the modal sex of the Late Natufian differs significantly from the EME sample ($p=0.031$), the Early Natufian ($p<0.001$), and from the PPNA ($p=0.001$). The PPNA sample also differs significantly from the EME ($p<0.001$) and from the Early Natufian ($p<0.001$). Even if all Indeterminate individuals within the Late Natufian were male (which would be extremely unlikely by chance alone), the proportion of females in the Late Natufian would be higher than in any other period. It is likely that this reflects a shift in the criteria used to select an individual for burial upon their death. It is important to remember, however, that these categories can only reflect skeletal sex. We cannot determine how peoples in the Epipalaeolithic or Neolithic conceptualised sex or gender, nor can we be sure how – if at all – that these concepts of sex and gender directly related to choices about mortuary treatment.

5.3.3 Burial Pose (Tables 5.4; 5.5; 5.6)

The position of the body within a grave is frequently reported in mortuary archaeological publications within the Levantine Epipalaeolithic and early Neolithic, though there is considerable variation in the way these data are presented and published. The Late Natufian has a considerably higher proportion of unknown burial poses than other periods, in part due to the frequent disturbance and disarticulation of bodies in secondary and disturbed primary contexts (see section 5.2.3.5).

Burial position describes the shape the body takes within the grave, generally either extended or flexed though some other positions occur in low numbers. The burial positions of each period are presented in Table 5.4, with 43.5% (n=208) of all burials within the dated burial sample being assigned a known burial position. Extended burials, common throughout the Palaeolithic and much of the Epipalaeolithic, decrease substantially from the Late Natufian (15.2% of Late Natufian burials; n=10) in favor of increasing flexed burials. By the PPNA, seated and other burial positions increased alongside flexed burials.

	EME		EN		LN		PPNA	
	n	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Extended	6	46.2%	18	29.0%	10	15.2%	1	1.5%
Loose Flex	4	30.8%	10	16.1%	3	4.5%	7	10.4%
Flex	2	15.4%	18	29.0%	37	56.1%	45	67.2%
Tight Flex	0	0.0%	16	25.8%	15	22.7%	11	16.4%
Seated/ Other	1	7.7%	0	0.0%	1	1.5%	3	4.5%
Unknown	5	-	78	-	122	-	65	-

Table 5.4: Burial positions of Dated Burial Sample. N is the number of individuals, and % is the percentage of known positions within the period. See section 5.2.3.4 for a description of burial positions

	EME		EN		LN		PPNA	
	n	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Left	0	0.0%	16	26.7%	10	17.9%	21	35.0%
Right	2	20.0%	14	23.3%	19	33.9%	22	36.7%
Prone	1	10.0%	4	6.7%	2	3.6%	0	0.0%
Supine	6	60.0%	26	43.3%	21	37.5%	10	16.7%
Seated/ Other	1	10.0%	0	0.0%	4	7.1%	7	11.7%
Unknown	8	-	80	-	132	-	72	-

Table 5.5: Body positions of Dated Burial Sample. N is the number of individuals, and % is the percentage of known body positions within the period. See section 5.2.3.4 for a description of body positions

Body position here refers to the plane on which the body is resting; most commonly the side, front or back of the body, though seated and other unusual body positions are known. The body positions for each period are presented in Table 5.5, with 38.9% (n=186) of all burials from the dated burial sample assigned to a known body position. Where bodies are placed on their sides, there is generally no strong preference for one side or the other, with the exception of the very small sample of side burials in the Early & Middle Epipalaeolithic.

When body and burial position are combined to form a burial pose, it is clear that Extended-Supine burials and Flexed-Side burials make up the majority of the known positions (Table 5.6). Only 37.4% (n=179) of the burials within this sample have both a body and burial position to be combined into a burial pose. Extended-Supine burials are most commonly identified within the earlier periods of this assemblage, with only one example known from the PPNA sample. While Flexed-Side burials took over as the dominant burial pose of the Late Natufian, in the PPNA, seated and other burial poses became increasingly common.

	EME		EN		LN		PPNA	
	n	%	n	%	n	%	n	%
Extended Supine	5	50.0%	12	24.0%	8	15.1%	1	1.5%
Flexed Side	2	20.0%	26	52.0%	28	52.8%	45	68.2%
Other Known Pose	3	30.0%	12	24.0%	17	32.1%	20	30.2%

Table 5.6: Known burial pose – the combination of burial position and body position – for the dated burial sample. n is the number of individuals, and % is the percentage of known burial poses within the period

In contrast, an ANOVA test demonstrates that there is no significant difference between group differences in modal burial pose across the assemblage. However, Wald H0 tests demonstrate that there is a significant difference in the proportion of extended supine burials between the Early Natufian and PPNA samples ($p<0.001$). No other proportional differences are significant. This suggests that the frequency of extended supine burials is significantly lower from the Late Natufian onwards than in the preceding periods in this study.

When considering the Dated Burial Sample as one unit, extended supine burials are more commonly associated with males than with females (Table 5.7), where 72.7% (n=8) of extended-supine burials which could be sexed contained male skeletons. This is higher than the average proportion of males within the Dated Burial Sample, though males dominate the EME and EN samples, which may explain their association with extended-supine burials, as this burial pose is largely known from these earlier periods. These results should be considered with caution, however, as the sample of individuals with a known burial pose and a known sex is small, representing only 16.5% (n=79) of all buried individuals in the dated burial assemblage. There are no significant differences in burial pose between sex categories.

	Female		P. Female		Indeterminate		P. Male		Male	
	n	%	n	%	n	%	n	%	n	%
Extended Supine	2	7.7%	0	0.0%	1	8.3%	2	22.2%	6	19.4%
Flexed Side	18	69.2%	1	100.0%	5	41.7%	4	44.4%	16	51.6%
Other Known Pose	6	23.1%	0	0.0%	6	50.0%	3	33.3%	9	29.0%

Table 5.7: Burial pose by sex for the Dated Burial Sample. N is the number of individuals, and % is the proportion of that burial pose within the sex category

In general, there is no burial pose associated with one age group. Burial poses are distributed roughly as expected by the general demographics of the Dated Burial Sample (Table 5.8). Infants are generally underrepresented in the Other Known Pose category, as only 1.8% (n=1) of all Other Known Pose burials belong to infants. However, this is likely due to logistical limitations preventing the placement of an infant in a seated or reclined position due to their small body size. Only 36.0% (n=137) of individuals within the Dated Burial Sample have both a known burial pose and a known age, leading to a small sample size. There are no significant differences in burial pose between age categories.

	Infant		Child		Adolescent		Young Adult		Adult		Older Adult	
	n	%	n	%	n	%	n	%	n	%	n	%
Extended Supine	4	23.5%	4	19.0%	1	16.7%	1	11.1%	16	16.3%	0	0.0%
Flexed Side	12	70.6%	10	47.6%	2	33.3%	4	44.4%	57	58.2%	5	45.5%
Other Known Pose	1	5.9%	17	33.3%	3	50.0%	4	44.4%	25	25.5%	6	54.5%

Table 5.8: Burial pose by age for the Dated Burial Sample. N is the number of individuals, and % is the proportion of that burial pose within the age category

5.3.4 Burial Size (Table 5.9)

Burial size refers to the number of individuals interred, either concurrently or successively, within the same grave or burial pit. Unfortunately, clearly defined grave pits are rarely identified in Levantine Epipalaeolithic and early Neolithic sites, which has resulted in some ambiguity in how burial size is determined and reported (see section 5.2.3.5 for discussion on burial size determination). Single burials, graves containing only one individual, are the most common burial size in all periods under study (Table 5.9).

	EME		EN		LN		PPNA	
	n	%	n	%	n	%	n	%
Single	15	83.3%	77	55.8%	73	42.9%	68	70.8%
Double	0	0.0%	13	9.4%	20	11.8%	11	11.5%
Triple	0	0.0%	9	6.5%	16	9.4%	4	4.2%
Multiple	3	16.7%	39	28.3%	61	35.9%	13	13.5%
Unknown	0	-	2	-	18	-	36	-

Table 5.9: Burial sizes for the dated burial sample. N is the number of individuals, and % is the percentage of known burial sizes for each period. See section 5.2.3.5 for a description of burial size categories

An ANOVA determined there is an overall significant difference in mean burial size between the periods presented here ($p<0.001$). A pairwise comparison using a Tamhane T2 test, however, determined that there is no significant difference in burial size between the Early and Late Natufian. Despite commonly cited claims that the Late Natufian sees an increase in multiple burials (Bocquentin, 2003; Lengyel and Bocquentin, 2005), these data do not support a shift in multiple burials within the Natufian. The PPNA, however, differs significantly in mean burial size from both the Early Natufian ($p<0.001$) and the Late Natufian ($p<0.001$).

5.3.5 Burial Type (Table 5.10)

Most individuals for whom a burial type is known received primary internment throughout the Epipalaeolithic and Early Neolithic, though the disturbance of these primary burials increases through time (Table 5.10; see section 5.2.3.5 for description of burial types). Secondary burials are also twice as frequent in the Late Natufian than in the Early Natufian, suggesting an increase in the post-depositional practices. Isolated crania – a unique type of secondary burial, particularly important to post-depositional practices - are rare but known from the Early & Late Natufian and became a common burial type in the PPNA.

	EME		EN		LN		PPNA	
	n	%	n	%	n	%	n	%
Primary	13	72.2%	114	81.4%	100	53.2%	58	43.9%
Disturbed Primary	1	5.6%	10	7.1%	49	26.1%	35	26.5%
Secondary	4	22.2%	9	6.4%	32	17.0%	6	4.5%
Isolated Crania	0	0.0%	7	5.0%	7	3.7%	33	25.0%

Table 5.10: Burial types by period within the dated burial sample. N is the number of individuals, and % is the percentage of known burial types within that period. See section 5.2.3.5 for a description of each burial type

An ANOVA to compare the modal burial type between periods demonstrates a significant overall difference ($p<0.001$). A post hoc Tamhane T2 test demonstrates that the modal burial type of the PPNA is significantly different from all other periods within this study ($p<0.001$ for all comparisons). This is due to the considerable portion of isolated crania and disturbed primary burials relative to other periods within this assemblage. Isolated crania represent a type of secondary burial in which only the cranium – or, less commonly, the cranium and associated elements such as mandible and cervical vertebrae – is reburied on its own or within another burial. This type of secondary treatment of the head is considered a characteristic feature of the Early Neolithic of the Near East (Croucher, 2012).

5.3.6 Architectural Associations (Table 5.11)

Architectural remains of varying descriptions are commonly identified at Epipalaeolithic and Early Neolithic sites throughout the Levant. Until the PPNB, there is little evidence for clear differentiation between different types of structures, and it is therefore difficult to determine if these structures were for domestic, communal, or other usage. Though less common in the EME, burials throughout the periods of study are frequently associated with some type of architectural remains, including structures, walls, or pavements (Table 5.11).

	EME		**EN**		**LN**		**PPNA**	
	n	**%**	**n**	**%**	**n**	**%**	**n**	**%**
No known association	14	77.8%	62	44.3%	104	55.3%	36	27.3%
Within architectural feature	1	5.6%	7	5.0%	4	2.1%	25	18.9%
Below architectural feature	2	11.1%	34	24.3%	25	13.3%	17	12.9%
Nearby architectural feature	1	5.6%	37	26.4%	55	29.3%	54	40.9%

Table 5.11: Architectural associations of burials within each period. N is the number of individuals, and % is the percentage of all burials within each period assigned to that architectural association

By the PPNA, more than three-quarters (76.0%; n=86) of all burials in the sample are clearly associated with an architectural feature. The PPNA also has the highest proportion of burials identified as within a structure or feature (26.5%; n=30) of any period under study. Close association of burials with architectural features is commonly considered to be characteristic of early Neolithic mortuary practices in the Near East (Croucher, 2005, 2012), though these data clearly demonstrate that this association begins before the Neolithic.

ANOVA results suggest a significant difference in modal architectural associations between periods ($p<0.001$). A Tamhane T2 test shows that the modal architectural associations of the EME differ significantly from the Early Natufian ($p=0.004$), the Late Natufian ($p=0.034$) and the PPNA ($p<0.001$). The PPNA is also significantly different from the LN ($p=0.004$). These results may be reflective of differing patterns in settlement structure and occupation patterns. The Early & Middle Epipalaeolithic is characterised by high degrees of mobility, including short-term occupation of sites with limited building of clear structures, which may explain the infrequent association of burials with the few structures known from the period. Similarly, the Late Natufian is also characterised by a reduction in the construction of large permanent structures, and possibly a return to a more mobile occupation pattern, which may explain the reduction in architectural associations compared to the more sedentary sites of the Early Natufian and PPNA.

5.3.7 Grave Inclusions (Table 5.12)

As discussed in Chapter 2, grave inclusions are often explored in a binary manner, comparing the frequency of ‘decorated’ burials against ‘undecorated’ burials. Table 5.12 presents the number of individuals buried with grave inclusions, as well as the percentage of burials with inclusions for each period within this study. Importantly, these numbers are only able to provide information on preserved grave inclusions, such as beads of shell or bone, but cannot tell us about perishable inclusions which may have been present, such as wood or, in most cases, flowers. Therefore, the frequency of inclusions presented here is likely to be an underestimate of the total number of individuals provided with inclusions.

	EME		EN		LN		Unspecified Natufian		PPNA	
	n	%	n	%	n	%	n	%	n	%
Individuals with Inclusions	10	55.6%	35	25.0%	15	8.0%	2	10.5%	5	3.8%
Individuals without Inclusions	8	44.4%	105	75.0%	173	92.0%	17	89.5%	126	96.2%

Table 5.12: Number of individuals in each period identified as having been buried with grave inclusions and those buried without grave inclusions within the Total Burial Sample

There is a clear decline in grave inclusions through time as presented by these results. Though the overall number of burials is small, the majority of individuals in the Early & Middle Epipalaeolithic are buried with some type of inclusion. In the PPNA, grave inclusions are almost entirely absent from the assemblage, with only a handful of individuals having any clearly identifiable grave inclusions (though see section 3.6.3 for a discussion on Wadi Faynan 16). An ANOVA test was conducted to compare the modal inclusions of the periods, and the results indicated a significant difference ($p<0.001$). A post hoc pairwise comparison using a Tamhane T2 test demonstrated that the Early & Middle Epipalaeolithic is significantly different in modal grave inclusions from both the Late Natufian ($p=0.014$) and the PPNA ($p=0.002$). The Early Natufian is significantly different from the Late Natufian ($p<0.001$) and the PPNA ($p<0.001$). The Late Natufian and the PPNA are also significantly different ($p=0.009$). These results indicate a significant difference in grave inclusion distribution between the earlier periods and the later periods within this study.

Though frequently discussed as a single unit, grave inclusions are a broad a diverse category of archaeological materials, including personal ornamentation, stones, tools, and even artistic items. It is therefore necessary to consider each category of inclusion individually.

5.3.7.1 Beads and Ornamentation

Beads and personal ornamentation items are the most commonly identified grave inclusions in the Natufian and are therefore the best studied. In this assemblage, 10.1% (n=35) of all Natufian buried individuals were recorded with clearly associated beads (Table 5.13) – this excludes those burials for which beads were identified in the fill of the grave but could not confidently be attributed to the skeleton. In the Early & Middle Epipalaeolithic and the PPNA, beads within the graves are extremely rare; one gazelle phalanx bead is known from the EME and one stone bead from the PPNA. In this assemblage, 94.6% of all beaded burials are from Natufian contexts, demonstrating their unique importance within Natufian mortuary practices. Importantly, though, beads are not evenly distributed throughout the Natufian; they are far more common in the Early Natufian and appear to be restricted to certain sites (see section 3.3).

	EME		EN		LN		Unspecified Natufian		PPNA	
	n	%	n	%	n	%	n	%	n	%
Beaded Individuals	1	5.6%	26	18.7%	7	3.7%	2	10.5%	1	0.8%
Non-beaded Individuals	17	94.4%	113	81.3%	182	96.3%	17	89.5%	130	99.2%

Table 5.13: Number of individuals in each period identified as having been buried with beads and not having been buried with beads within the Total Burial Sample

In the Early Natufian, 18.6% (n=26) of all burials included at least one bead type. Adults are more commonly associated with beads than subadults, though all age categories have at least one example of beads within the burial (Table 5.14). A total of 11.5% (n=7) of Early Natufian subadults and 23.7% (n=16) of Early Natufian adults are considered beaded burials. Young adults are the age group most commonly associated with beads, with 38.5% (n=5) of all Early Natufian young adults being found with beads. In contrast, infants under 2 are the least likely to be associated with beads, as only one infant from Early Natufian Eynan is known to be beaded. Despite low numbers of females associated with beads, there isn't a clear bias in sex distribution of beads due to the overall low number of females in the Early Natufian. Decorated females account for 40.0% (n=4) of all known buried females in the EN, while decorated males account for 26.1% (n=12) of all known buried males from the EN. No Early Natufian young adult females are known to be decorated.

	Infants and Young Children	Adolescents	Young Adults		Adults and Older Adults	
			Females	Males	Females	Males
Dentalium Beads	5	1		4	3	6
Other Shell Beads	1			2		2
Gazelle Phalanx Beads	3	1		3	2	3
Tibio-Tarsus Beads	2			1		2
Canine Teeth Beads		1		1		
Total individuals*	6	1		5	4	7

*Table 5.14: Early Natufian bead types found in burial contexts, by age and sex, where known. *Total individuals based on some individuals including multiple bead types*

	Infants and Young Children	Adolescents	Young Adults		Adults and Older Adults	
			Females	Males	Females	Males
Dentalium Beads	1				1	1
Other Shell Beads						
Gazelle Phalanx Beads	1				1	2
Tibio-Tarsus Beads						
Canine Teeth Beads		1				
Total individuals	1	1	0	0	2	3

*Table 5.15: Late Natufian bead types found in burial contexts, by age and sex, where known. *Total individuals based on some individuals including multiple bead types*

Beads within grave contexts decrease noticeably in the Late Natufian, as only 3.7% (n=7) of all Late Natufian burials include bead elements (Table 5.15). Beads are roughly proportionally distributed between age categories, with 3.8% (n=2) of LN subadult burials and 5.8% (n=5) of LN adult burials including beads. Males are slightly more commonly associated with beads (13.6% of LN males, n=3) compared to females (7.1% of LN females, n=2), though the overall numbers are very low. Notably, there are no known beaded young adults reported for the Late Natufian.

Beads are a diverse category of items within Natufian contexts and can be made from stone, bone, teeth, or shell. Beads of *Dentalium* and those carved from gazelle phalanx bones are the most common within this assemblage, with stone beads only known from outside of burial contexts within the Natufian. All bead types are more common in the Early Natufian than in the Late Natufian; tibio-tarsus beads and shell beads other than *Dentalium* are absent in clear Late Natufian burial contexts.

Dentalium shell beads are known from the Early & Late Natufian and are commonly found in sites throughout the region. These beads are even found on sites at great distances from the sea (Baysal, 2019; Davin, 2019), suggesting long-distance trade routes of migratory patterns. Within burial contexts, *Dentalium* beads are found in 22 Early Natufian burials from Wadi Hammeh 27, Hayonim Cave, el-Wad, and Eynan. The latter three sites also each have one Late Natufian burial with *Dentalium* beads. Across the Natufian, *Dentalium* is found in all age groups and sex categories. However, males are more commonly associated with *Dentalium* than females are, and adults are twice as likely to have *Dentalium* inclusions as subadults.

5.3.7.2 Tools and Worked Items

Tools and worked items as grave inclusions are found throughout the Epipalaeolithic and are rare but known from the Pre-Pottery Neolithic A (Table 5.16). Unlike beads, which show a considerable decline in the Late Natufian, tools are present throughout the Natufian phases, declining in the PPNA. The most common tools found in association with burials are flint tools, ground stone elements, and bone tools. In general, these tools don’t differ considerably from the items found elsewhere in occupation levels, though they are sometimes broken either intentionally or accidentally before deposition.

	EME		**EN**		**LN**		**Unspecified Natufian**		**PPNA**	
	n	%	n	%	n	%	n	%	n	%
Individuals with Tools	8	44.4%	11	7.9%	16	8.5%	0	0%	2	1.5%
Individuals without Tools	10	55.6%	128	92.1%	173	91.5%	19	100%	129	98.5%

Table 5.16: Individuals by period, which include tools and worked items within the burial context, compared to individuals without these inclusions

	Flint Tools	**Ground Stone Tools**	**Bone Tools**
Subadults (n=6)	1	4	2
Adults (n=31)	10	19	10

Table 5.17: Tools by broad age category for the total burial sample

Table 5.17 shows the tool distribution by age for the total burial sample. Only 15.2% (n=7) of all tool burials of known ages belong to subadults, despite subadults accounting for 33.4% (n=134) of the total burial sample. This suggests that adults were more likely to be interred with these items than subadults were. This may relate to the use of these items in life, as infants and young children would be unlikely to actively engage with these tools regularly.

Tools as a complete category are roughly distributed as expected by the overall sex distribution of the total burial sample (Table 5.18), though females are slightly more likely to receive ground stone tools or bone tools as opposed to flint tools. This difference is not substantial, however and is more likely related to the small sample size of burials with tool inclusions. If a division of labour by sex did exist in the Epipalaeolithic, it does not appear to be clearly represented among the grave goods of the period.

	Flint Tools	Ground Stone Tools	Bone Tools
Females and Probable Females (n=10)	2	7	3
Indeterminate (n=3)	1	2	0
Males and Probable Males (n=17)	7	10	6

Table 5.18: Tools by sex category for the total burial sample

5.3.7.3 Animal Remains

Animal remains as a clear grave inclusion are rare within this sample (Table 5.19), though animal remains are frequently found in association with graves in more ambiguous contexts. Only animal remains which appeared to be placed directly on or with the body are considered grave inclusions. Most commonly, this includes long bones of medium or large-sized mammals, gazelle horn corns, canids, or tortoise carapaces.

	EME		EN		LN		Unspecified Natufian		PPNA	
	n	%	n	%	n	%	n	%	n	%
Individuals with Animals	4	22.2%	3	2.2%	5	2.6%	0	0%	0	0%
Individuals without Animals	14	77.8%	136	97.8%	184	97.4%	19	100%	131	100%

Table 5.19: Individuals by period, which include animal remains which are neither bone beads nor worked bone within the burial context, compared to individuals without these inclusions

On the whole, females are far more commonly associated with animal remains than males are (Table 5.20). Females account for 29.1% (n=57) of the total burial sample, but 68.8% (n=11) of the sexable skeletons with animal remains belong to females. One female grave, that of the ‘Shaman’ of Hilazon Tachtit, contains a wide range of animal remains, including dozens of tortoise carapaces (for full description see section 3.5.5). The connection between the woman and the animal remains is the reason for the term used to describe the burial and suggests that this woman may have had a particular relationship with animals within her community. Animal remains are largely restricted to adult individuals (Table 5.21). As with tools, this may be indicative of social roles of children involving little interaction with animals.

	Gazelle Horn Cores	Tortoise Carapace	Canine	Bovine	Other medium or large mammal
Females and Probable Females (n=5)	3	2	1	2	3
Indeterminate (n=2)	0	0	2	0	0
Males and Probable Males (n=3)	1	0	0	0	2

Table 5.20: Animal remains included within burial contexts by broad sex category for the total burial sample

	Gazelle Horn Cores	Tortoise Carapace	Canine	Bovine	Other medium or large mammal
Subadults (n=2)	0	0	0	0	2
Adults (n=10)	4	2	3	2	5

Table 5.21: Animal remains included within burial contexts by broad age category for the total burial sample

5.3.7.4 Stones and Constructive Elements

Stones are frequently associated with graves in the Epipalaeolithic and Pre-Pottery Neolithic, either through inclusions or constructive elements (Table 5.22). However, stones are also commonly identified in occupation areas and natural matrix in the area of many sites, making it difficult to know which stones are intentionally included within the burial and which are coincidentally associated. Here, stones are considered as a grave inclusion only when there is a clear association between the grave or skeleton and the stone; thus, stones found nearby the grave but not in direct association have been excluded.

	EME		EN		LN		Unspecified Natufian		PPNA	
	n	%	n	%	n	%	n	%	n	%
Individuals with Stones	4	22.2%	10	7.2%	17	9.0%	0	0%	2	1.5%
Individuals without Stones	14	77.8%	129	92.8%	172	91.0%	19	100%	129	98.5%

Table 5.22: Individuals with stones as grave inclusions by period, compared with individuals without these inclusions

There is no strong association of either sex to stones as inclusions and constructive elements as a whole. Females appear more likely to be associated with the stone lining of the grave pit than males (Table 5.23), though the sample size is too small for any meaningful conclusion. Similarly, subadults appear to be slightly underrepresented among the stone-associated burials (Table 5.24), though the sample size is very small overall.

	Stone Covering	Stone Lining	Stone Circle	Stone Marker	Stone Inclusions/Other
Females and Probable Females (n=10)	3	3	0	0	4
Indeterminate (n=4)	0	0	0	0	2
Males and Probable Males (n=12)	4	1	1	1	7

Table 5.23: Stones included within burial contexts by broad sex category for the total burial sample

	Stone Covering	Stone Lining	Stone Circle	Stone Marker	Stone Inclusions/Other
Subadults (n=5)	2	3	0	0	0
Adults (n=26)	7	4	1	2	14

Table 5.24: Stones included within burial contexts by broad age category for the total burial sample

5.3.7.5 Other Rare Inclusions

Grave inclusions are rare among the Epipalaeolithic and PPNA burial assemblage presented here. Artistic items, including figurines and incised items, are of particular interest as they are known in small numbers throughout the Natufian, but rarely found in burial contexts (Table 5.25). Six examples of artistic items are known from Early Natufian burial contexts, though notably more are known from both Early & Late Natufian occupation layers, suggesting that artistic items were utilised beyond a burial context. In all cases but one, artistic items are found with adult skeletons, most commonly but not exclusively young males. Most commonly, these items consist of incised bone fragments, interpreted as parts of broken bone tools.

	EME	EN	LN
Figurines or Artistic Expressions		6	
Floral Burials			5
Pigments	3	2	2
Human remains as an inclusion			1

Table 5.25: Number of individuals with rare grave inclusions by period.

Pigments are common throughout Epipalaeolithic sites (Table 5.25), most commonly red ochre pigment use within burials was likely more widespread than is currently known, as pigments applied to bodies as light powders preserve poorly. Where pigments are known, it is usually identified through considerable staining of the bones, which would be suggestive of considerable or repeated pigment exposure during decomposition (Bocquentin and Garrard, 2016; Richter *et al.*, 2019).

Burials containing evidence of florals are extremely rare in the archaeological record (Table 5.25). Their presence at Raqefet Cave is thanks to the incredible preservation of the mud-plastered veneer at the base of the graves into which the flowers were pressed (see section 3.5.8 for a detailed description of these burials). All burials at Raqefet Cave are archaeologically assigned to the Late Natufian.

The intentional inclusion of human remains within a grave pit is difficult to distinguish from accidental mixing of remains during reuse or disturbance of older graves. The only clear example of this form of inclusion within this assemblage comes from the 'Shaman' of Hilazon Tachtit (Table 5.25; see section 3.5.5 for full description), which contains a human foot amongst the myriads of other grave inclusions. As the 'Shaman' was the first evidence of human occupation at the site, and there is no evidence for repeated use of the grave, this human foot is most likely an inclusion placed in the grave at the time of deposition.

5.3.8 Isolated Fragments

Isolated fragments are those human remains found alone outside clear burial contexts. These are common throughout all Natufian and PPNA sites, though they are rarely published in any detail, which can make analysis of their distribution difficult. Where they have been described or numbered, they are included in Appendix A, but it should be emphasised that this is a considerable underrepresentation of the total known isolated fragments from almost all sites. Isolated fragments are often considered to be evidence of burials which previously existed but have since been destroyed due to repeated occupation and use of the space.

If isolated remains were the result of unintentionally destroyed burials, we would expect them to be an approximately random sample of the burials – the demographic distribution should roughly reflect that of the extant burials, though infants and young children would be expected to be slightly more commonly found as isolated fragments due to the taphonomic differences in preservation of subadult bones (Buikstra and Ubelaker, 1994). The age distribution for isolated remains which could be aged is presented in Table 5.26. In the Late Natufian, subadults are broadly speaking, equally proportionally present among the isolated remains as they are among the burials, and in the PPNA, subadults are slightly overrepresented among the isolated remains. However, in the Early Natufian, subadults are considerably underrepresented, accounting for only 15.8% (n=3) of the ageable isolated remains but 43.1% of the ageable burials.

	EME	EN		LN		PPNA	
		n	%	n	%	n	%
Infant		2	10.5%	1	3.3%	3	17.6%
Child		0		6	20.0%	2	11.8%
Adolescent		1	5.3%	3	10.0%	0	
Young Adult		0		0		0	
Adult		6	31.6%	10	33.3%	7	41.2%
Older Adult		0		2	6.7%	0	
Unknown		10	52.6%	8	26.7%	5	29.4%
Total (% of all individuals)	0	19	11.6%	30	14.0%	17	10.9%

Table 5.26: Age-at-death of isolated fragments by period. n is the number of isolated fragments, and % is the proportion of all isolated fragments in that period belonging to that age category

	EME	EN		LN		PPNA	
		n	%	n	%	n	%
Female		1	16.7%	4	33.3%	1	14.3%
Indeterminate		3	50.0%	3	25.0%	3	42.9%
Male		2	33.3%	4	33.3%	1	14.3%
Unknown Adult		0		1	8.3%	2	28.6%
Total	0	6		12		7	

Table 5.27: Sex of isolated fragments by period. n is the number of isolated fragments, and % is the proportion of all isolated fragments in that period belonging to that sex category

Very few isolated remains could be sexed, due to the limitations of osteological sexing on incomplete remains. The sex distribution for the remains which could be sexed is presented in Table 5.27. In general, the isolated remains of each period are proportionally represented between the sex categories, with a slight overrepresentation of indeterminate remains due to the fragmentary nature of the remains. Taken together with the age results, this suggests that in general isolated remains could reasonably be assumed to be a random sample of burial remains for the Late Natufian and PPNA – these remains may have come from burials which had later been destroyed by subsequent occupation activity. In the Early Natufian, however, the considerable underrepresentation of subadults warrants further consideration.

It is possible that in the Early Natufian, these isolated remains came from contexts aside from burials, for example, they may have been from individuals who were afforded a non-burial mortuary treatment, such as excarnation. They may also have been curated remains, intentionally kept in occupation contexts in the way that crania are curated in the PPNA. However, it should be noted that many Early Natufian sites were excavated many decades ago, at a point at which isolated fragments were rarely recorded or published and thus may be underrepresented as a whole.

5.4 Discussion

5.4.1 Traditional Results of Traditional Analysis

As discussed in Chapter 2 (section 2.3), mortuary remains within the Epipalaeolithic-Neolithic transition of the Southern Levant have traditionally been used as evidence to evaluate key areas of social archaeology; namely, sedentism, cultural change, social stratification, and spiritualism or belief systems. The updated synthesis of mortuary remains presented in this work warrants a reevaluation of the interpretations which have been made using traditional analytical frameworks.

5.4.1.1 Burials as Evidence of Sedentism

Sedentism in the Epipalaeolithic, particularly in the Late Epipalaeolithic (Natufian), is frequently debated due to the difficulty in identifying sedentism in the archaeological record (Henry, 1991; Boyd, 2006; Finlayson *et al.*, 2011; Valla, 2018). Settlement patterns with high mobility are assumed to dominate the earliest phases of the Epipalaeolithic, as evidenced by the low site densities and ephemeral nature of many of the known sites

(Maher, Richter and Stock, 2012; Maher *et al.*, 2016; Maher and Conkey, 2019) – though notable exceptions like Ohalo II (Nadel, 2003, 2004) and Kharaneh IV (Ramsey *et al.*, 2018; Maher *et al.*, 2021) raise questions about the ubiquity of mobility in the Early Epipalaeolithic. On the other hand, the Neolithic is assumed to be sedentary as evidenced by the large sites with thick archaeological deposits and substantial stone architecture (Finlayson *et al.*, 2011; Weissbrod *et al.*, 2017; Valla, 2018). In the Late Epipalaeolithic, however, neither sedentism nor high mobility appears to fit the settlement evidence which exists.

Boyd (2006) has suggested that frequent burials and the creation of cemeteries can, alongside other metrics, be taken as evidence of increasingly intensive occupation of a site, as is required for sedentary lifeways. As discussed in Chapter 2, the Natufian period demonstrates a mosaic of features within Boyd's (*ibid*.) criteria, including conclusive evidence for stone-built architecture (Samuelian, Khalaily and Valla, 2006; Richter *et al.*, 2012), multi-seasonal hunting practices (Davies, 1983; Henton *et al.*, 2017), heavy duty material culture (Belfer-Cohen and Hovers Erella, 2005; Dubreuil *et al.*, 2019), and potential evidence for food storage (Liu *et al.*, 2018) and commensal species (Weissbrod *et al.*, 2017) suggesting that occupation within the Natufian periods was likely more sedentary than the seasonal mobility patterns thought to dominate the earlier Epipalaeolithic phases. The higher frequency of burials (see Chapter 3) in the Natufian may also, therefore, support the view of the Natufian communities as largely sedentary.

It has been suggested occasionally throughout the literature that the establishment of sedentary communities came along with novel conceptualisations about *place* and home (Rosenberg, 1998; Watkins, 2023; Finlayson *et al.*, 2011; Mithen, 2019). These hypothesised conceptualisations vary by publication, but usually suggest the development of territorial attachment, the creation and recognition of private space, and the desire to legitimise land claims and ties. Burial patterns have been suggested to support these developing concepts of place and home within the Epipalaeolithic.

At several sites – for example, Hayonim Cave (Belfer-Cohen, 1988; Grosman and Belfer-Cohen, 2022), Eynan (Bocquentin, 2003; Bocquentin and Noûs, 2022), and Raqefet Cave

(Lengyel and Bocquentin, 2005; Lengyel, Nadel and Bocquentin, 2013) – at least one burial appears to pre-date any other occupational activity at the site, a phenomenon generally called Foundation Burial (Molleson and Arnold-Forster, 2015). It is not clear, generally, what the timeline of these depositions is; that is, we do not know how much time passed between the burial and the next activity known at the site. However, their deposition prior to the establishment of the site suggests that these individuals had lived and possibly died elsewhere. We cannot know for sure how far away the other sites were, but likely, they were nearby, as most examples of foundation burials are primary. The movement of a whole and fleshed body across vast distances would have been an incredibly cumbersome task, making it parsimonious to assume the bodies were moved only as far as was necessary. It is also parsimonious to assume that large sites in close proximity were not likely to be occupied contemporaneously, as the availability of resources was likely to limit the number of people who could reasonably be supported in a particular region.

The placement of a burial prior to the establishment of a site may suggest that the burial itself played a role in the creation of the site, as has been discussed by Grosman, Munro and Belfer-Cohen (2008) for Hilazon Tachtit and Molleson and Arnold-Forster (2015) for Wadi Faynan 16. It is easy to imagine how the placement of a grave in a memorable location, or in a location which became memorable by the placement of the grave, may have prompted the creation of a settlement, particularly if there was a desire to remain close to the deceased individual. The desire to remain close to the dead may also have led to the association of burials with individual structures.

In architecture, the Natufian differs considerably from the earlier phases of the Epipalaeolithic by the presence of considerable permanent structures at many of the sites. These structures and architectural features are also more frequently associated with the dead, particularly in the Early Natufian. Burials placed before the structure are generally interpreted as a type of Foundation Burial (Grosman, Munro and Belfer-Cohen, 2008; Yeshurun, Bar-Oz and Nadel, 2013; Valla *et al.*, 2017), in which the placement of the building or feature is guided by the existence of the burial beneath it. Burials are also frequently placed within the structures, either on the floor or within phases of repair, as has been suggested for some individuals at Shubayqa 1 (Richter *et al.*, 2019) and Nahal Ein Gev II (Grosman *et al.*, 2016). These associations are not entirely novel for the Natufian, though they are more frequent. The individual within Structure 2 at Kharaneh IV, for example, is also clearly associated with the destruction of that structure (Maher *et al.*, 2021).

In the Late Natufian, burials became slightly less associated with structures compared to the Early Natufian. Interestingly, there are considerably fewer structures of a Late Natufian date than in the Early Natufian. In many cases, such as the Late Natufian burials at Hayonim Cave, the architectural associations are between Late Natufian graves and pre-existing Early Natufian structures (Bar-Yosef, 1981; Belfer-Cohen, 1988; Grosman and Belfer-Cohen, 2022). The burials are placed on top of, or within the fill of, the structure, suggesting that the desire to associate burials with structures was dynamic – burials may have played a role in the creation of a place, but they may have also continued to play a role in the settlement of a place or site long after the establishment of the location.

Within the results presented here, there is not enough evidence to conclude the degree of sedentism within these communities from the burials alone. That being said, burial data should be used in combination with other lines of evidence to identify and discuss settlement patterns within these periods. The evidence presented here does not necessarily indicate an increase in mobility in the Late Natufian, as burials continue to be frequent, and they continue to have some association with permanent stone-built architecture. However, the establishment of cemetery sites may indicate that some Late Natufian communities engaged in a higher degree of seasonal mobility than others.

5.4.1.2 Burials as Evidence of Social Differentiation

As mentioned in Chapter 2 (Section 2.3.4), the overwhelming majority of authors have found no clear evidence for social stratification within the Natufian archaeological remains. In her review of social complexity, Olszewski (1991) determined there was insufficient evidence among Natufian burials to suggest social inequalities. Furthermore, she suggested that Natufian communities would have had unsuitable conditions for the development of social inequalities and therefore could be assumed to be egalitarian (*ibid*.). Similarly, Bocquentin (2003) argued for viewing the Natufian as egalitarian, arguing that the lack of clearly identified elite burials suggested that social inequalities did not exist.

The existence of elite groups or social hierarchies is similarly not supported by the results presented here. However, these results do not exclude the possibility of social inequalities. The fact that we cannot readily identify distinguishable corporate groups within the burials does not necessarily mean that these communities were egalitarian; only that we are not able to identify evidence of the group differences among the burial remains. It is important not to automatically assume egalitarianism as the default social structure, particularly when differences are visible in the archaeological record. Differentiation – as opposed to ranked stratification – is demonstrated by the results presented here. Grave inclusions regularly differ between age categories or sexes within the same site, suggesting that these identities were, at minimum, treated differently from each other in death. Furthermore, in the Early & Middle Epipalaeolithic and the Early Natufian in particular, there is a striking difference in burial frequency between the sexes, suggesting more differential treatments. These categories of identity were, in part, an important consideration of Epipalaeolithic and PPNA funerary behaviour. Throughout the literature, this type of differentiation is broadly accepted and supported, by the possibility that this differentiation arises from a ranked or otherwise unequal status of these identities is generally dismissed without further consideration.

It is often suggested that because children also receive grave inclusions, in particular beads, that they are not treated as 'less than' the adults in their communities who also receive these inclusions (Olszewski, 1991b; Grindell, 1998). However, this conclusion only holds if we assume that any grave inclusion is of equal social importance and value to any other. At every site where children are buried with inclusions, they receive fewer inclusions than adults do and of different types; young children are almost never found with chipped stone tools, ground stone tools, or animal remains. When children do receive beads, they generally receive only *dentalium* beads, and often of a lower quantity than the adults, though this does vary between sites. Therefore, while children may receive grave inclusions sometimes, as adults do, they do not receive the same type of goods in the same quantities or frequencies that adults do.

It is, of course, likely that grave inclusions do not reflect the social status of individuals within Epipalaeolithic contexts, as was the case for 95% of communities in Tainter's (1975) ethnographic study. Instead, these items may be things that were used by or important to the deceased and their communities in life. This view better fits the results presented here, as it explains why young children may receive beads but rarely tools or animal inclusions, as they would be less likely to be involved in hunting, grinding, or knapping activities in their earlier years. Importantly, if we assume this difference to be the case, this still demonstrates that individuals could be viewed differently or have a different 'status' based on the types of activities or work they engaged in, and this status may have been equal or unequal.

It is also important to recognise that this burial assemblage is a small and likely non-representative (though see below) sample of the total number of individuals who must have lived and died during these periods. As discussed in Chapter 4, individuals may be missing from the archaeological record due to taphonomic factors or excavation limitations, but they may also have been systematically and intentionally removed or excluded from the record by being left unburied. Individuals who were not afforded a burial at all, or who were originally buried and later exhumed, are generally absent from the archaeological record, save for the isolated remains which may originate from these non-burial practices.

We can see from the results presented in this chapter and Chapter 4 that males are broadly overrepresented within this assemblage, particularly in the Early Natufian, suggesting that females were excluded from the archaeological record through their lack of burial. As females are not particularly frequent among the isolated remains, there is little to suggest a systematic exhumation of female graves; instead, it seems likely that females were less frequently buried at all and were instead treated in another manner, which remains archaeologically invisible. We have no way to know which treatment, if any, was of higher status or value within these communities, and we must be careful not to assume that burial was inherently the desirable treatment. We do not have enough evidence to suggest a ranked treatment of the sexes, but there does appear to be a broadly clear differentiation in how the sexes were normatively treated in death.

Young children are also generally underrepresented in the samples presented here. Unlike adults, however, taphonomic factors disproportionately impact the remains of young children more than older individuals, making interpretations of their low frequencies more problematic (Buikstra and Ubelaker, 1994). It is, of course, possible that, like females, infants were often subjected to non-burial treatments, rendering them archaeologically invisible. It is also possible that their remains have been poorly preserved through time, and even buried infants have been rendered less visible in the archaeological record. Importantly, these are not mutually exclusive phenomena, and the taphonomic destruction of remains was probably an important factor regardless of the treatment being afforded to these infants.

Infants and young children may also have been buried elsewhere, such as at the peripheries of occupation areas or in off-site locations. Differentiated burial locations for infants are a common pattern across a variety of communities, including ethnographic and archaeological examples (Binford 1971; Cannon and Cook 2015). If infants were buried outside central occupation areas, excavation patterns which privilege the central areas of sites would be unlikely to uncover these burials. Overall, it appears evident that at least to some extent, young children were treated differently from the older members of their communities in death.

Of course, even among the adult males – the best-represented group within these assemblages – we are still able to study only a tiny sample. Some adult males were afforded a permanent burial within central occupation areas of these sites, while many others were not. It is not clear what, if any, characteristic differentiated individuals who received burials from individuals who did not. However, this variation in treatment in death demonstrates some degree of social differentiation and an element of complexity within the Natufian burial assemblages.

5.4.1.2.1 Shubayqa 1

While it is generally possible to discuss broad regional and temporal trends in burial patterns throughout the Epipalaeolithic and PPNA periods, it is always necessary to remember that sites often have their trends or patterns which can deviate from the norm. Nowhere is that more apparent than in the demographics of the burials at Shubayqa 1. Unlike any other Natufian site, the mortuary assemblage of Shubayqa 1 is dominated by subadults (75.0%; n=21), particularly infants under the age of 2 (57.1%; n=16). Only two adults at Shubayqa 1 could be sexed, but there is one probable male and one probable female. As discussed in Chapter 4, Shubayqa 1 is the only site within this assemblage which could be said to contain a roughly representative sample of a living community.

If the burial assemblage at Shubayqa 1 is representative, it may suggest that age and sex were not important identity aspects within the selection criteria for mortuary treatment. It may be that everyone who lived and died at the site was eligible for burial, though the low overall number of individuals (n=28) suggests that just because all individuals *could* be buried does not mean that they all were. This is not to say, however, that all burials are treated identically; there are differences in treatment between adults and subadults at this site.

Subadults, particularly infants, are far more likely to be buried within or beneath an architectural feature than adults, and all infants have some type of architectural association. Adults are more frequently buried nearby to an architectural feature, commonly just outside of the perimeter of the structure, and one adult individual has no known architectural association. This suggests that even if all individuals may have been eligible for burial, burials within or beneath structural features were reserved primarily for the extremely young members of the group. Differentiation of age categories does appear to be supported within the Shubayqa 1 sample.

5.4.1.3 Burials as Evidence of Cultural Change

Historically, periods within the archaeology of the Epipalaeolithic have been differentiated solely based on lithic tool differences (Garrod, 1934, 1936; Garrod and Bate, 1937b).

Characteristic types, such as the Helwan lunate, have been identified that assign an assemblage to an archaeological period or entity. More recently, it has been demonstrated that criteria employed for categorisation should be expanded to include other elements of the archaeological record, and these results allow us to discuss how mortuary data may contribute to our understanding of the difference between these archaeologically assigned entities (Belfer-Cohen, 1991b; Bar-Yosef, 1998; Valla, 1999; Goring-Morris and Belfer-Cohen, 2013). I am not, of course, advocating for periods to be reclassified on the basis of mortuary remains alone, rather that burials must be incorporated into our definitions of characteristic traits of each period.

When viewed in isolation, most burials within this assemblage would not be considered out of place if found in another period within the EME-PPNA chronological range; that is to say that, in general, individual mortuary treatments are broadly consistent throughout the Epipalaeolithic and early Neolithic. It is, instead, the frequency or intensity of these funerary treatments that differs most substantially between periods, with a few novel developments arising. Furthermore, the frequency of burials as a whole differs considerably in the Early & Middle Epipalaeolithic in comparison to the Late Epipalaeolithic and PPNA, but is not substantially different between the phases of the Late Epipalaeolithic, or between the Late Epipalaeolithic and the PPNA.

Burials within central occupation areas of sites are present in all periods, as is the tendency to localise these burials near or within dwellings and structures. While the frequency of these architectural associations does differ between periods, there is no clear linear change which can be identified in the results presented here. There is also no significant difference in architectural associations between the phases of the Natufian, despite fewer examples of Late Natufian structures being known and excavated, which may suggest that settlement patterns were not substantially different between the Natufian phases.

Burials of all sexes and most age groups are present throughout this assemblage, however, the Early & Middle Epipalaeolithic are differentiated from both phases of the Late Epipalaeolithic in modal age-at-death of the burials. Infants under two years are absent from the Early & Middle Epipalaeolithic assemblage, and all subadult categories combined account for less than 20% of the total dead within this period. Conversely, the Late Epipalaeolithic has subadults of all ages, including perinates and neonates, and subadults make up nearly 40% of all ageable individuals in the Natufian sample. However, this trend is similarly not linear as the proportion of subadults decreases slightly in the Late Natufian compared to the Early Natufian and again decreases in the PPNA compared to the Late Natufian. However, these differences between Natufian phases and between the Natufian and PPNA are generally not statistically significant, further demonstrating a lack of clear ‘cultural evolution’ within the age-at-death of the burials.

Modal sex broadly differentiates the earlier periods from the later periods within this sample, with the division falling between the Early Natufian and Late Natufian. The earlier periods – the Early & Middle Epipalaeolithic and the Early Natufian – have sex distributions overwhelmingly dominated by males; a pattern which abruptly shifts in the Late Natufian, in which females are slightly more frequent than males, and the PPNA in which males are slightly more frequent than females. The approximate balance between the sexes in these later periods is interesting, as it may suggest a newly developed social organisation resulting from a shift in the sexes’ social roles in life, or a change in how mortuary treatments were afforded to different individuals or groups within the community.

There is only one variable within this traditional analysis study which differentiates the PPNA from all Epipalaeolithic periods in a significant manner – modal burial type. Unlike all Epipalaeolithic periods, the PPNA assemblage was not dominated by undisturbed primary burials. The frequency of isolated crania and disturbed primary burials in the PPNA assemblage is characteristic of the early Neolithic in the Southern Levant, though these burial types are known in lower frequencies in the Late Natufian as well. Primary undisturbed burials are present across all periods, though secondary burials are more frequent in the Early & Middle Epipalaeolithic and Late Natufian than in either the Early Natufian or PPNA, possibly reflecting the suggestion of higher mobility in these periods compared to the more sedentary lifeways of the Early Natufian and PPNA.

Grave inclusions also differ noticeably between the Epipalaeolithic periods and the PPNA. As a combined category, grave inclusions are well documented throughout the Early & Middle Epipalaeolithic, and the Early Natufian, and are rare but known in the Late Natufian, but are nearly completely absent in the PPNA. There are some possible inclusions from Wadi Faynan 16 (see section 3.6.3), however these associated items are too vaguely published to be confidently considered as grave inclusions, as they could be items located within the fill of a grave or nearby to the grave instead – which would more closely fit the known pattern of PPNA burials in the region. Tools, stones as inclusions, and animal remains as inclusions are well known from all phases of the Epipalaeolithic. Importantly, however, when considered as a total category, there is no significant difference between the Late Natufian and the PPNA in the proportion of grave inclusions.

Beads as grave inclusions, however, are almost entirely restricted to the Early Natufian, making their presence sufficiently characteristic of this period alone. Within the exception of the vaguely described beaded individuals from the Late Natufian of el-Wad cave, the beaded individuals of the Late Natufian are generally accompanied by small quantities of loose beads, rather than the clearly identifiable pieces of jewellery or garments which can be identified in the Early Natufian. The el-Wad burials generally do not include a reported quantity description for the beads and instead refer simply to their presence in the grave (Garrod, 1937). Beads in occupation layers, however, are known throughout all phases of the Epipalaeolithic and in the PPNA, suggesting their use in funerary contexts changed substantially between periods (Bar-Yosef Mayer and Porat, 2008; Baysal, 2019; Davin, 2019).

Burials and other funerary treatments are just one aspect of a community's behavioural repertoire and thus provide only a small part of the total material culture left behind in the archaeological record. In order to make determinations of cultural change, archaeologists must consider the totality of the material culture, rather than prioritising a single aspect of an archaeological assemblage. The burial data presented here indicate there is little difference between the burials of the Late Epipalaeolithic and the PPNA, with the exception of a clear shift in the proportion of isolated crania and the near complete absence of grave inclusions, which marks the PPNA. This suggests there is a strong continuity in mortuary practices from the Early Epipalaeolithic through to the end of the PPNA, with similar behaviours becoming more elaborate and frequent.

5.4.1.4 Burials as Evidence of Belief

The interpretation of Late Epipalaeolithic burials as evidence of a growing belief in an afterlife for the ancestors is an extremely popular stance in archaeological literature (Strouhal, 1973; Simmons *et al.*, 1990; Kuijt and Goring-Morris, 2002; Croucher, 2006b). Cranial removal, first clearly documented in the Late Natufian, is generally interpreted as resulting from the desire to create an ancestor to worship, or to create a focal item towards which worship can be directed (Kuijt, 1996; Kuijt and Goring-Morris, 2002). Following this hypothesis, the behaviour of cranial removal for ancestor worship is seen to be elaborated in the PPNA and eventually culminates in the practice of skull plastering as known from the PPNB (Strouhal, 1973; Simmons *et al.*, 1990; Croucher, 2006b, 2012). These plastered skulls are also frequently interpreted as representing ancestors within the Neolithic communities in which they are found (*ibid*.).

Within the results presented here, there is no reason to suggest ancestor worship as the default interpretation to explain cranial removal. The popularity of this interpretation doesn't arise within the data for the Epipalaeolithic at all, rather, it is the result of accepting a hypothesis about the plastered skulls of the Neolithic and extending it backwards in time. As discussed by Kuijt and Goring-Morris (2002), the creation of plastered skulls in the PPNB is often thought to reflect a desire to anonymise the dead, creating collective ancestors rather than individualised ancestors to worship, thus bolstering community cohesion in times of tension. Kuijt and Goring-Morris (*ibid*.) then go on to suggest that the cranial removal of the Late Natufian and PPNA arises from the same principle, reflecting an incipient version of the later plastering behaviour.

While it is beyond the scope of this project to discuss the evidence for this hypothesis within the PPNB, the problem remains that there is simply insufficient evidence to support it within the Epipalaeolithic or PPNA burial assemblages. Firstly, individuals of all ages are, at least occasionally, subject to cranial removal. Subadults cannot be considered ancestors in the strict biological sense, as they would not have had children before dying.

Of course, other conceptualisations of ancestors may have been in use, such as viewing the dead as spirits which could be called on for support or guidance (Hill and Hageman 2016a, 2016b). However, ethnographic reports generally indicate that these alternate ancestor concepts also privilege adult individuals (*ibid*.). Additionally, only some individuals are subjected to cranial removal, making it difficult to understand why some individuals became collective ancestors while others did not.

The hypothesis of anonymity among the ancestors is also difficult to accept. Among the PPNB remains, for example, plastered skulls are generally not consistent within the sites, suggesting that some effort was made to give them individualised features and characteristics (Strouhal, 1973; Simmons *et al.*, 1990; Croucher, 2005; Bocquentin, Kodas and Ortiz, 2016). It's not known whether these features align with features the deceased individual may have had in life, but it is clear that there was minimal effort to standardise them or mask differences between the skulls. Furthermore, the skulls are found in both collective and individual contexts, suggesting their use may have been broad (Croucher, 2006b, 2012; Bocquentin, Kodas and Ortiz, 2016). If these skulls were meant to represent collective ancestors, surely their placement within the site would have been somewhat open for the community to access, rather than being displayed or deposited within a domestic structure.

It also seems likely to assume that the identity of a skull was known even during a phase of display as an object, given the degree of pre-planning which must have been involved in the removal process. In the Late Natufian and PPNA, for example, burials are often marked with stones or tools above the cranium, interpreted as allowing for the locating of the cranium after decomposition has occurred (Noy, 1989, 1991; Rosenberg and Nadel, 2014). Not all marked graves are disturbed, however, suggesting that a selection process about which crania to retrieve must have occurred at a time after the burial was completed, rather than at the time of deposition. If the identity of the individual was known at the time of retrieval of the skull, it seems unlikely that the identity could be forgotten or ignored immediately once the skull was displayed, decorated, or curated.

I argue that the combination of children with removed crania and the context of single skull depositions within domestic structures is better explained by the desire to continue a personal relationship with a known deceased individual – i.e. to grieve or remember a person whom one was close to. In the PPNA, keeping crania within domestic structures (Kuijt, 1996; Croucher, 2006b, 2018), interpreted to be somewhat private in contrast to the communal buildings, suggests that these skulls were being used by a small group of individuals rather than being accessed by the entire community. The clustering of crania into 'skull buildings' as can be seen in the PPNB (Croucher, 2006a, 2012) may be a novel development at which time crania take on a community-focused role outside the home or may represent a localising of the dead which continue to retain family or kin group ties.

Traditional burial analysis alone is insufficient to understand the beliefs and worldview of individuals in the past, as there are many factors influencing the creation of mortuary remains. To better understand beliefs in the Epipalaeolithic and early Neolithic, burial data must be considered alongside an exploration of artistic items, personal ornamentation, settlement patterns, and interactions with the environment. This topic is revisited in Chapter 7.

5.5 Conclusions – A Typical Natufian Burial

It should be clear that there is considerable breadth in what might be considered a 'typical' Natufian burial. The data presented above demonstrates that burials have been recorded in a variety of locations, orientations, and positions, sometimes with a broad range of inclusions. These burials may be single or include any number of individuals, and they may be permanent or later disturbed or removed, either accidentally or intentionally. These burials may be closely associated with various architectural features, or may be positioned elsewhere on the site, and they may be clustered closely with other graves or found relatively isolated.

We can conclude from demographic data that age and sex were likely both factors, either directly or indirectly, in the choice of who received a burial upon their death. However, even where infants or females are underrepresented, they are not generally absent, suggesting that neither age nor sex alone would have been the sole deciding factor. Similarly, while grave inclusions are more commonly found with adult individuals, suggesting that age likely played a role in the use of these items within burial contexts, infants are sometimes found with beads and other inclusions, suggesting age alone could not have been the determining factor.

It is possible to identify some general trends in burial practices between the Early & Late Natufian. Late Natufian burials are generally less decorated, including a near complete absence of beads despite their presence in the occupation layers of these sites. Late Natufian burials sometimes occur outside central sites, and cemetery sites were created with the specific purpose of housing mortuary practices and remains. However, as in the Early Natufian, the burial practices of the Late Natufian are highly diverse, and various sites have site-specific practices which deviate from more general regional trends. It is difficult to assess why these temporal trends might have occurred, as little in the analyses presented here suggests a considerable social shift in the Late Natufian.

It has often been said that the defining feature of Natufian mortuary practices is their diversity, with a broad range of practices and features which are common enough to be considered as 'typical' behaviour. This diversity is precisely what makes the mortuary practices from this period so interesting, and yet, the common analytical framework used to assess burial data does little to explain the diversity present in the data. Traditional mortuary analysis is focused on the recipient, the skeleton within the grave, asking questions relating to their social and perhaps economic standing to have afforded them such treatment. I assert that this line of questioning is reductive and restricts us from fully appreciating the broad range of practices involved in the disposal and mourning of the dead.

Examining burial practices through the lens of the recipient can only get us so far; as the old cliche goes, the dead do not bury themselves. Rather, we must take an agency and practice approach, exploring mortuary practices through the lens of the actors creating and engaging with a burial, to properly understand how mortuary practice was embedded within, and changed with, the social world surrounding it. To do this, we must break away from the restraints of traditional burial analysis and explore burials not just as an object, but as a *performance*.

6 Performative Currency in Mortuary Archaeology

As discussed in Chapters 2 and 5, traditional methods of assessing mortuary remains have a tendency to yield traditional, and sometimes reductive results, privileging grave inclusions or grave location as markers of status and rank within archaeological communities (for example, Garrod, 1937; Wright, 1978; Grosman, Munro and Belfer-Cohen, 2008). However, mortuary practices are not limited to a simple representation of the status of the deceased; they are instead complex and diverse behaviours which require nuanced exploration and interpretations (Croucher, 2005, 2018; Robb, 2013; Bocquentin and Noûs, 2022). I suggest that exploring death and mortuary practices as a performance engaged in by living actors, rather than as a treatment afforded to the dead, offers a more realistic and holistic lens through which to interpret death and dying in the past. Here, I present a new model for exploring mortuary practices and their place within societies – the Performative Currency Model, which aims to understand diversity rather than seeking a normative mortuary type. I will utilise the Southern Levantine Epipalaeolithic-Neolithic transition as a mortuary case study, as traditional analytical models in this period have thus far yielded unsatisfactory descriptions and explanations of the diversity present.

6.1 Death as a Performance

6.1.1 Mortuary Diversity

The exploration of mortuary practices within the archaeological literature has often left much to be desired when discussing the breadth, depth, and scope of burial and non-burial practices within prehistoric contexts (Chapman, 2003, 2013; Croucher, 2005, 2018; Robb, 2013). The narrow focus is often primarily based on grave goods perceived to be high-value or elite items (Garrod, 1937; Wright, 1978; Davin, 2019) or otherwise privileges special and unique burials over the total mortuary assemblages of a site or sites (Grosman, Munro and Belfer-Cohen, 2008; Nadel *et al.*, 2013). Issues of wealth disparity and the development of social stratification have historically been a central focus for the mortuary remains of the Epipalaeolithic-Neolithic transition of the Southern Levant (Wright, 1978; Belfer-Cohen, 1995; Boyd, 2001; Bar-Yosef Mayer and Porat, 2008), where burials have often been assumed to represent a direct reflection of the life and identity of the individual within the grave. Even when social stratification is not assumed, issues of personal and group identity in egalitarian contexts continue to dominate interpretations of mortuary remains and grave goods (Bocquentin, 2003; Davin, 2019; Grosman and Belfer-Cohen, 2022).

It has been suggested by Robb (2013) that this focus on the '…already dead persons." (*ibid*.; pp. 442) within mortuary archaeology has prevented the discipline from developing an archaeology of death, as it ignores the diversity of practice and behaviour that is involved in the creation of mortuary remains, including behaviours prior to, during, and after a death occurs within a community. Establishing an archaeology of death must, therefore, begin by considering the broad range of behaviours and practices present in the mortuary archaeological record, before placing these practices within their broader social and environmental contexts *(ibid*.). Efforts to develop these nuanced descriptions of mortuary practice have been diverse (Tainter, 1975, 1978; Croucher, 2006a; Duday, Le Mort and Tillier, 2014; Bocquentin and Knüsel, 2022), though many early attempts relied heavily on ethnographic materials within relatively recent communities. To begin addressing a more nuanced mortuary archaeology, it is first necessary to understand what mortuary behaviours are and how these practices may present themselves in the archaeological record.

Mortuary practices generally – though not always - begin at death. Death is a biological phenomenon, but also a social construct, and it is important to understand the interplay between the two (Sweeting and Gilhooly, 1991; Steineck, 2003). Physiological death is today generally defined as the cessation of bodily function through the end of respiration and cardiac activity, though even this fails to account for brain death and other complex issues within the medical field (*ibid*.). Social death, however, is far more nuanced and describes the moment in which a person is considered to no longer be alive, or no longer a person, based on community and social understanding of life and sometimes even of the afterlife (Sweeting and Gilhooly, 1991). Its timing can vary considerably between, and even within, societies; it may precede, succeed, or be concurrent with physiological death (*ibid*.). When exploring mortuary treatments throughout history, it is generally, though not always, social death which occasions the beginning of mortuary treatment, though preparation in anticipation of an expected death can also be considered as a pre-mortem element of mortuary practice (*ibid*.).

Sociological evidence indicates that in many communities, an early element of mortuary treatment involves the cleansing or purifying of the body, the cleaning or purifying of the space in which the person died, or sometimes both (Kelly, 2012; Zengin, 2022). This can be a spiritual or ritual practice or could simply involve the physical washing of a body, as is a common practice in funeral homes in the western world today (*ibid*.). Often these leave little archaeological evidence behind, though the use of fire as a purifying agent has been attested in cremation even today (Prothero, 2001) , and fire remains may be visible in some archaeological contexts. Once the body and space have been cleansed, there is often a decision to make on the next steps of dealing with the body.

Burial is the most readily identifiable disposal method in the archaeological record, followed by cremation, the latter at least where depositional conditions were suitable. However, many cremations, along with a variety of other disposal practices, involve no deposition of a body or body parts in the ground, making them much less likely to be preserved archaeologically. Since we know that the number of known burials from the Epipalaeolithic and Early Neolithic is far insufficient to account for the number of individuals who must have lived (see section 4.4.1), we can assume that many individuals did not receive a depositional-based mortuary treatment, at least not one in which the deposition was permanent and preserved archaeologically.

Once a burial is selected as the method of disposal, another important element of mortuary practice is the identification, selection, or creation of a grave or burial location. A natural depression may be used, or a pit may be dug, with the body placed inside and then covered with earth to form a relatively simple burial. A simple burial pit may also be modified through lining or caping with stones, plaster, or other materials. A coffin or other mortuary container could also be considered a constructed element of a grave. Burials may also be above ground, through piling earth or stones on top of a body on the ground, or the construction of a building or other structure for the body's deposition. This means there is vast diversity in the amount of time and resources required for grave construction – the Great Pyramids of Giza are considerably more ‘costly’ than a simple earthen pit, but both are examples of a created grave or mortuary place.

If you have participated in the mortuary treatment of a loved one, you will know that much of the mortuary practices of the modern Western World centres around the pre- and peri-depositional practices – getting the body prepared for burial or cremation, and the burial or cremation itself. This may be dressing or wrapping the body, adding grave goods, depositing the body within the pit or burial container, and often, but not always, a type of funeral gathering or ritual practice. The archaeological visibility of these practices depends on several cultural and taphonomic factors, but archaeologists must be actively looking for traces to ensure they are not missed. Archaeothanatological analysis, for example, is essential for identifying tight wrappings, bindings, or the presence of a decay void in the absence of preserved organic materials, but this analysis requires sufficient photographs or drawings during the recording and excavation stages (Tiesler, 2011; Duday, Le Mort and Tillier, 2014).

Mortuary practices do not end with deposition, however, as many cultures continue to engage in long-term post-depositional practices. Commemorative activities are common throughout the modern world; for example, the Día de los Muertos in Mexico is an example of long-term, sometimes generational commemoration of the dead involving rituals and offerings (Gutierrez, Rosengren and Miller, 2015). Post-depositional practices may also include the reopening of graves to add items or materials, inter more deceased individuals, or move remains within the grave pit. It may also involve the removal of parts of a body, or the whole skeleton, from the grave. In the Epipalaeolithic-Neolithic transition of Southwest Asia, this is most clearly evidenced by the removal, and sometimes redeposition, of cranial elements after the initial decay process is completed (Croucher, 2006b; Bocquentin, Kodas and Ortiz, 2016).

It is clear that there are numerous elements which may be combined in an immeasurable number of ways to create a complete mortuary treatment. It is no wonder, then, that the diversity of mortuary treatments in the archaeological record is so high. This incredible variety of practices, particularly in the periods under study here, warrants both detailed descriptive literature and sufficient explanatory interpretations. While the former is generally available, the latter is considerably underserved by current models of mortuary archaeology, which prioritise only select elements of mortuary practice.

A model which is better suited to explore the complexity of mortuary remains from archaeological contexts must first widen its scope to consider all mortuary practices. Here, mortuary practice is defined as any behaviour or behaviours by a person or group which involves the handling, disposal, or commemoration of the dead. This definition is intentionally broad, leaving room for the incredible diversity present not only in the study sample but also across the world and through time. It is also worth remembering that while only mortuary practices which leave archaeological traces can be directly explored, it is likely that mortuary practices of the past also included archaeologically invisible actions.

6.1.2 What is Performative Currency?

Each of the aspects of mortuary practice described above requires at least some investment of time, manpower, and resources in order to complete the practice or behaviour. In the modern world, this investment could be explored through absolute metrics such as the monetary investment in goods or services, but this type of absolute measure is unsuitable for prehistoric archaeological contexts or contexts without a monetary economic system. Instead, I am proposing the use of the Performative Currency Model to evaluate the investments made in mortuary practices and treatments.

Performative Currency describes the totality of time, energy, and resources which are 'spent' on conducting or completing a particular practice or behaviour. This model is, in part, inspired by the energy expenditure methods proposed by Tainter (1975) to evaluate mortuary practices in ethnographic contexts. However, Tainter's (*ibid*.) method relied on the absolute metric of energy expenditure, making its application to archaeology problematic in the absence of experimental data. Chapman (2013) suggested that Tainter's (1975) methodology may have been more applicable with a focus on a relative metric such as social labour, which further inspired the development of the Performative Currency model.

Performative Currency is a relative measure allowing for the comparison of practices or elements of practices which are related to each other. Here, this model is utilised to understand the social value of mortuary practices, though the model is broadly applicable to any practice or performance within a social, spiritual, or even economic context. Performative currency is not, in itself, an economic model as it does not directly reference economic or subsistence benefits. However, it utilises economic terms to conceptualise the 'spending' of time, energy, and resources on behaviours for a social return on the investment in the performance or practice. Importantly, it should be stressed that high investment of Performative Currency is not intended to suggest high degrees of economic or social wealth for the deceased.

As with monetary currency in our modern world, one must be cautious in correlating high expenditure of Performative Currency with greater access to resources or wealth. Today, economic factors relate to how individuals spend their money, but cultural norms, personal values, peer pressure, and societal beliefs also play an important role. Just as owning a sports car does not necessarily indicate that a person has the financial means to afford that car, not owning one does not indicate a lack of those financial means. Similarly, the presence of elaborate mortuary practices does not necessarily indicate that an individual or group had excess performative currency available to spend, and the absence of elaborate mortuary practices does not indicate an economically or socially 'poor' individual. Instead, it is more helpful to consider that the relative investment of performative currency reflects the personal or societal value of the behaviour itself. Humans spend time, energy, and today, money, not just because they have it, but because they value the things on which they are spending.

6.1.3 Why Do We Need a New Model?

Prehistoric mortuary archaeology has been stuck in a rut for decades, focused almost exclusively on descriptive literature or seeking limited evidence for elite groups and social stratification. As a field, we appear to be conceptually aware of the flaws and limitations of treating burials as a static object or artefact within the archaeological record (Belfer-Cohen, 1995; Boyd, 2001), and yet there has been little focus on developing practice-centric models of burial or other mortuary treatments. It can be said that archaeologists have largely removed the human experience from our study of death and dying in the past (Croucher and Campbell, 2009; Croucher, 2018). Instead of investigating death and dying as processes and practices of the past, Robb (2013, pp. 422) highlights that "... we have [primarily] had an archaeology of already dead persons." Much of our current mortuary methodology arises within Processual Archaeology frameworks, which emphasise measuring, rather than exploring ideological or social contexts (Hodder, 1985; Barrett, 2012).

The application of the Performative Currency Model – and other practice- or agency-based models – ensures that the people of the past remain at the forefront of mortuary interpretations of the archaeological record. Furthermore, this model allows us the opportunity to indirectly investigate the societal values of the past and better understand the thoughts and emotions which may be behind mortuary behaviours. These essential aspects of the human experience of death and dying are regularly overlooked by traditional mortuary archaeology.

6.2 Methods

6.2.1 Sample and Sample Selection

As discussed in Chapter 3 (section 3.3), the total sample of Epipalaeolithic and Early Neolithic Southern Levantine burials available for this study is 694 individuals from 28 sites. Of these, 525 individuals can confidently be considered as belonging to primary or secondary burial contexts. A further 28 individuals were excluded from the sample due to extremely poor publication, and 19 individuals were removed due to being unable to assign them to a period (see Chapter 5), resulting in a Total Burial Sample of 478. Despite the high frequency of burials compared to the Upper Palaeolithic of the region, actual burial numbers remain well below that which would be expected during these periods, suggesting some intentional selection was occurring during the burial process (see section 4.4.3 for a discussion).

Appendix A shows the qualitative data available for each burial, allowing for detailed exploration of the individual mortuary practices involved in the creation of these burials. From a quick glance, it is clear that the detail in which these mortuary practices are recorded and published varies considerably between sites and sometimes between different excavation seasons at the same sites. Where available, images and site plans were used to corroborate described mortuary practices and ensure consistent data between burials, though many sites have not made the excavation photographs available.

6.2.2 Performative Currency Scoring System

Many studies on Epipalaeolithic and Neolithic mortuary practices are quite narrow in scope. Typically, this involves the creation of a binary presence-absence system – i.e. Decorated vs. Undecorated burials – or a focus on only one single element of a mortuary practice (Garrod, 1937; Wright, 1978; Belfer-Cohen, 1988; Nadel *et al.*, 1997). Beads and other ornamentation are a very common focus for these studies due to the perceived value and importance of ornaments within a funerary context (Baysal, 2019). While these focused studies can help make general observations about the mortuary practices of these periods, they fail to account for the considerable diversity within the mortuary practices evident in the archaeological record. Since diversity is so highly prevalent throughout the Epipalaeolithic and Neolithic funerary record, methods which deal with this diversity must be considered.

Here, a scoring system has been created to provide a quick and simple way to compare burials within a community, site, or region. This method involves completing individual scores for various elements of a funerary practice and combining them into what I have termed a Performative Currency Score, reflecting the relative effort, energy, or resources required to complete the funerary processes. Grave inclusions, including personal ornamentation, lithics, animal remains, and other items, are an important element of mortuary activity, though they should not be considered the only important element. Construction of the grave, including lining and capping of a grave pit with stones, or marking of the grave with something analogous to a tomb marker, are also features of a funerary practice which deserve consideration. Additionally, within the periods included here, manipulation of the body both before and after deposition in the form of binding of the body, pigmentation of the body or grave items, or removal of elements from the grave, is also part of the funerary process, which involves both time and energy to complete.

	Score	Criteria
Grave Size	0	Unreported grave pit
	1	Small or shallow pit
	2	Moderate pit - sufficient room for body or bodies
	3	Large pit – surplus (empty) space within the grave pit
Grave Construction	0	Unreported grave pit
	1	Minimal – clearly defined cutting, some stones marking or encircling the grave, stones used to construct the body position
	2	Moderate – pit lined with plaster, mud, or stones
	3	Considerable – pit fully lined, capped, and sealed, or other major construction elements
Grave Inclusions	0	No inclusions reported
	1	Minimal - <5 items, items of local origin, common animal remains, tools, or other mundane items
	2	Moderate – 5-15 items, including some jewellery pieces, small amounts of special fauna (non-local or rarely included faunal species) or other items

	3	Considerable - >15 items, special fauna (non-local or rarely included faunal species), artistic items, some non-local elements may appear, large items may be present
	4	Unique – grave inclusions of unparalleled quantity or quality, unlike anything else present on site
Pre- and Peri-Depositional Practices	0	None reported
	1	Minimal – ochre or other pigments placed on the body
	2	Moderate – evidence of shrouding, wrapping, or binding
	3	Considerable – evidence of defleshing, or complete plastering of the body
Post-Depositional Manipulation	0	None reported
	1	Minimal – evidence of re-opening of the grave, may include the addition of items or individuals, with little disturbance to the original body
	2	Moderate – intentional movement of elements within the grave pit
	3	Considerable – intentional removal of elements from the grave

Table 6.1: Description of Performative Currency categories and scores, as designed for the case study of the Epipalaeolithic and Early Neolithic of the Southern Levant

The scoring system is presented in Table 6.1, allowing for up to a maximum score of 16 per individual. Though this method would be applicable to a wide variety of funerary contexts throughout the archaeological record, the individual levels within each scoring category must be modified to suit the burial and mortuary norms of the period under investigation. Here, the categories have been created to reflect the known burials of the Epipalaeolithic and PPNA burial record. It is worth noting that these categories can only reflect the remains of mortuary practices which are preserved in the archaeological record – we are certainly missing elements which do not leave a material trace, or which leave only perishable remains that have not survived until today. For example, remains of floral impressions within Raqefet Cave hint towards to use of perishable materials within funerary contexts and may suggest the presence of further perishable remains in other sites that cannot be identified in the available evidence (Nadel *et al.*, 2013).

While this scoring system presents an easy method for comparing burial data between sites within the region, it cannot account for the variability in publication of mortuary remains. Unfortunately, many excavations have not prioritised the burial record of a site, leaving many gaps within the literature about the human remains and their contexts. Additionally, like with nearly all methods of social archaeology, this method is inherently subjective and requires the use of explicit standards and categorisations in order to be replicable and usable in other contexts. The definition, for example, of a partially lined grave as opposed to a fully lined grave may be different among different excavators and archaeologists, and it may not be clear how to adequately score these burials.

However, there is less subjectivity involved in a scored system than a binary presence-absence system, as the scoring method can account for small numbers of inclusions, such as a handful of beads and can differentiate this from detailed headdresses or jewellery in a way that a binary system cannot.

6.2.2.1 Grave Size

Grave size reflects the Performative Currency investment required to dig a larger-than-necessary grave pit, relative to a smaller pit. Where recorded, this information can also suggest the actual or intended interment of other people or grave inclusions within the pit. A score of 1 denotes a small or shallow pit into which the body is compressed. A score of 2 is used for pits sufficiently sized to accommodate the remains. Finally, a score of 3 denotes a large pit which includes some empty space around the remains, or space which is then filled with large grave inclusions. This method of determining size in reference to the remains within, rather than utilising absolute measurements, was chosen to acknowledge the disparity in space required for the deposition of infants and young children compared to full-grown adults.

In practice, however, grave size is generally not reported in any consistent manner throughout the Epipalaeolithic and early Neolithic of the Near East. In many cases, this is due to the complete absence of visible or clear grave boundaries during excavation and recording, believed to arise from the use of shallow graves (Bocquentin, 2003), though even when grave edges are identified, the size is often not published. Photographs were sometimes used to determine a size category, when available, though the applicability of this method is limited, particularly where photographic quality is poor. Ultimately, the score of 0 (Unreported Grave Pit) was most used within this sample, though this should not be taken as evidence for the absence of dug graves as the norm.

6.2.2.2 Grave Construction

Alongside grave size, grave construction is another often underreported element of burials within this assemblage. Construction of a grave includes both the digging of the grave pit and the use of perishable or non-perishable items to build additional elements within or around the pit. Each step of grave construction would require an investment of time and energy, alongside additional resources for extra constructive elements to be procured and used. However, as pit boundaries are rarely clear, and organic preservation of perishable materials is poor, only constructive elements utilising non-perishable materials are typically identified within the archaeological record. Most individuals within this study have a score of 0 (Unreported Grave Pit), but this may not reflect the real investment in constructing these graves.

A construction score of 1 denotes a grave with clearly defined boundaries and may include the use of small stones to mark these boundaries. A score of 2 includes the use of plaster, mud, or stones to line the inside of the pit. A score of 3 includes the use of stones to cap or seal the grave, or the use of other major constructive elements which are not described by the lower scores.

6.2.2.3 Grave Inclusions

Grave inclusion scores reflect the performative currency required to procure, manufacture, and dispose of the included items within the pit, acknowledging that large or rare items, particularly exotic items, would have a higher required investment than mundane items found throughout the occupation. Where present in the grave, inclusions are almost always reported, though the standards of this reporting vary considerably. Most commonly, inclusion type and quantity are reported, though quantities are sometimes absolute quantities and sometimes relative amounts, and, to a lesser extent, the location of these inclusions relative to the body is also reported. The most commonly identified inclusions within this assemblage are beads of bone, stone, or shell, large stones, lithic tools, and animal remains. Importantly, we have no way of assessing the types of perishable items that may have been included within burials, as we can only record and identify those items which have been preserved.

An inclusion score of 1 reflects a minimal level of inclusions, usually low quantities of mundane inclusions such as single beads or lithics. A score of 2 reflects the inclusion of moderate quantities of mostly mundane items, though some less common faunal items may also be included. A score of 3 reflects considerable inclusions; large quantities of items, including both mundane and rare items, some of which may be non-local exotics. Due to their rarity in mortuary contexts, figurines and carvings of an artistic nature within a grave belong to this category. Finally, a score of 4 is used to describe burials with grave goods that are entirely unparalleled within the known assemblage, including large quantities of rare and exotic items, including at least one item not known from any other burials.

6.2.2.4 Pre- and Peri-Depositional Practices

Pre- and Peri-Depositional practices refer to any treatment of the body which occurs as part of the mortuary process from the time of death until the completion of the initial burial or deposition. As many of these practices occur prior to burial and focus on the fleshed body, they leave minimal archaeological traces and can therefore be extremely difficult to identify. Where evidence is preserved, however, these practices reveal an often-overlooked area of considerable performative currency investment in the mortuary process. As with many of the above metrics, we should not assume that the frequency of scores of 0 reflects an absence of these practices, only a lack of evidence.

A score of 1 here reflects low levels of investment in peri-depositional practices, such as the application of ochre or other pigments to the body, evidenced by coloured staining on the bones and within the grave. A score of 2 indicates the use of binding, wrapping, or shrouding to secure the body, often evidenced through the constriction of the body in a tightly flexed position. A score of 3 indicates the use of plaster to cover the body, or the manual disarticulation and defleshing of the body.

6.2.2.5 Post-Depositional Manipulation

Post-depositional manipulation refers to any treatment of the body or grave after the completion of the burial. These treatments may extend for years after the initial burial and thus can encompass a wide range of practices with varying investment levels. Where they have been identified in this assemblage, these treatments are generally well reported, though the terminology used to define them has varied considerably. It has, therefore, been essential to utilise a combination of detailed descriptions, photographs, site plans and maps to corroborate potential instances of post-depositional practices.

A score of 1 indicates that the grave was reopened at some point after the burial, and some additional items or human remains may have been added. Importantly, at this score, there is little intentional disturbance to the original remains within the grave. In addition to the above, a score of 2 involves the intentional disturbance or movement of the remains within the grave pit, with or without the addition of further remains. A score of 3 involves the intentional removal of elements – usually, but not exclusively, cranial elements – from the grave for the purpose of use, curation, or secondary mortuary treatments.

6.2.3 Examples of Performative Currency Scoring

Under ideal circumstances, the scoring of a burial would be done during the excavation and post-excavation analysis process. The use of photos and photogrammetry models, excavation reports and context sheets, and the physical remains could be utilised in tandem to best identify the score within each Performative Currency category. As this project is a synthesis – a re-examination of all published data available to date – the scoring must be done using available published materials and data. It may, therefore, be valuable to briefly review a few examples of burials within this assemblage to demonstrate how the scoring was applied to the burial material available.

6.2.3.1 H25 and H28 of Raqefet Cave

The double burial of H25 (Appendix A 6.24) and H28 (Appendix A 6.27) of Raqefet Cave includes the primary burial of an adult of unknown sex, lying supine with the legs flexed up and to the right, and the disturbed primary burial of an adolescent, lying supine with legs flexed up to the left (Fig. 6.1). The bodies are in contact, suggesting they were likely interred together or in very close succession (Nadel *et al.*, 2013). As mentioned in Chapter 3 (section 3.5.8), the grave pit of this burial was lined with a wet mud veneer, into which flowers were pressed prior to the burial taking place, leaving behind the impressions of the roots, leaves, and petals within the grave lining (*ibid*.).

The adult, H25, has a Performative Currency Score of 5, while the adolescent, H28, has a Performative Currency Score of 8 (Table 6.2). The grave is a moderate size, large enough to comfortably fit both individuals within the pit, without having to substantially compress the bodies, but not so large as to include excessive empty space. This means the grave is given a score of Moderate (2) for grave size, which applies to both individuals.

The construction of this burial accounts for a large component of the Performative Currency Score for the individuals within the grave pit. Because the construction of the grave involves both a mud veneer lining (which is included within a score of Moderate (2)) and the additional layer of flowers pressed into this mud veneer, the construction of the grave is scored at a Considerable (3) for both individuals. Additionally, the stone placed next to the head of H25 could be considered a constructive element, perhaps a marker. This means that the adult's overall score is the combination of the size of the grave and the construction elements included in the grave.

Figure 6.1: a) Double burial of H25 (left) and H28 (right) at Raqefet Cave as excavated, b) reconstruction of the grave at the time of deposition. (Nadel et al., 2013)

	H25 (6.24)	H28 (6.27)
Grave Size	Moderate (2)	Moderate (2)
Grave Construction	Considerable (3)	Considerable (3)
Grave Inclusions	None reported (0)	None reported (0)
Pre-Depositional Treatments	None reported (0)	None reported (0)
Post-Depositional Manipulation	None reported (0)	Considerable (3)
Total Score	5	8

Table 6.2: Performative Currency score breakdowns for H25 and H28 of Raqefet Cave

In addition to the construction elements of the burial, the adolescent individual H28 has been subjected to post-depositional manipulation. The re-opening of the grave with the removal of a major skeletal element – in this case, the cranium, is scored at a Considerable (3). This means the adolescent's overall score is the combination of the constructive elements, grave size, and the post-depositional elements.

There is no evidence of grave inclusions within this burial, nor is there any reported evidence of pre-depositional treatments to the bodies, so both individuals receive no score in these categories.

6.2.3.2 The 'Shaman' of Hilazon Tachtit

The 'Shaman' (Appendix A 21.01) of Hilazon Tachtit is a primary single internment of an older adult female, lying in a flexed recumbent position, potentially indicating a semi-seated position at the time of deposition (Fig. 6.2; Grosman, Munro, and Belfer-Cohen, 2008). The burial is located beneath Structure A, which was built on top of the grave pit, and is interpreted as being constructed to house the refuse of the funerary feast associated with the deposition of the 'Shaman' (*ibid*.). This individual is one of the handful of undisturbed primary burials located in the Hilazon Tachtit Cave (*ibid*.; Goldgeier, Munro and Grosman, 2019).

The 'Shaman' has an overall Performative Currency Score of 8 (Table 6.3). The grave pit is exceptionally large in the Natufian, with considerable empty space surrounding the body, so this burial is scored at Large (3) for grave size. Stones were placed alongside and behind the body within the pit, which Grosman *et al*. (2008) interpret as being used to support the position of the body. These stones are therefore considered as a constructive element, and the burial receives a construction score of Minimal (1).

It is the Grave Inclusions of this burial which are best known, and account for half of the total Performative Currency Score. The quantity of grave goods within this burial, including more than 50 tortoise carapaces, stands out amongst the assemblage, not just from this site but throughout the Natufian, as animal remains are generally included in very small numbers. Additionally, the inclusion of rare animal parts such as an eagle wing or a *Panthera* paw is unique among Natufian graves. Basalt bowls are also relatively rare items in Natufian graves, as is the inclusion of an articulated human foot within the grave. Taken together, it is clear that the inclusions within this grave pit should be scored as Unique (4).

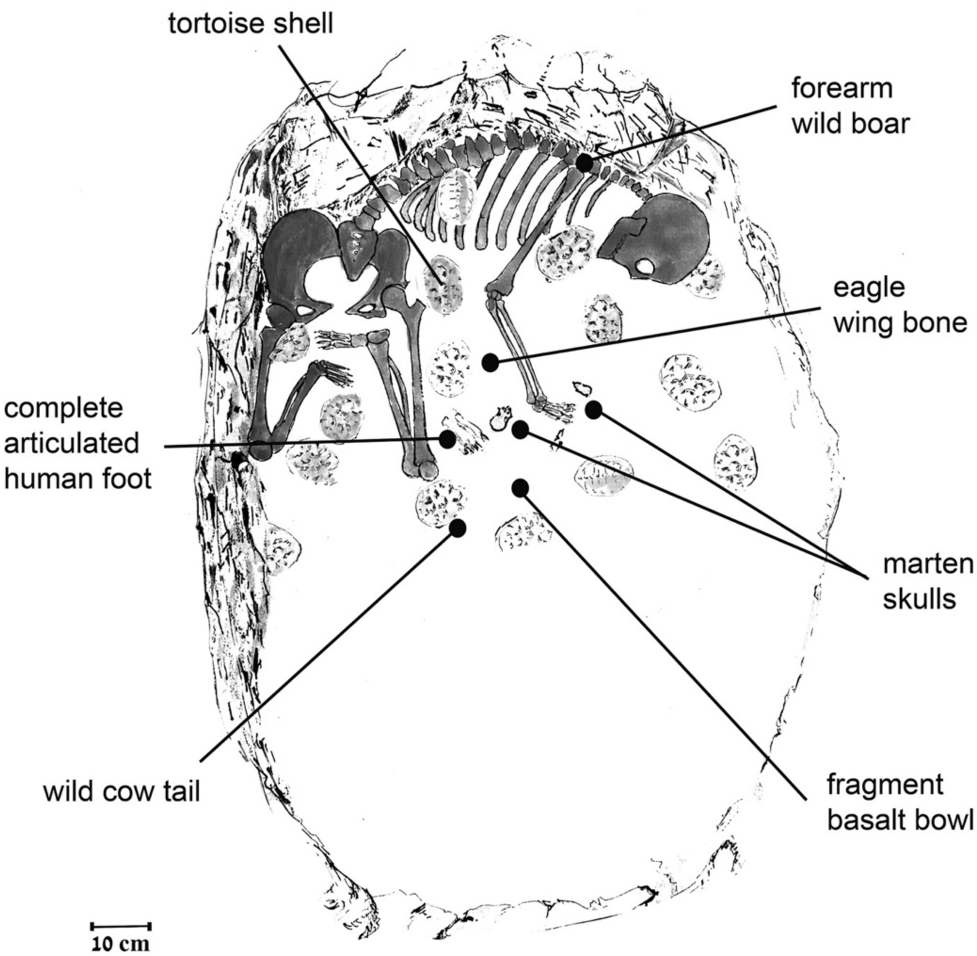

Figure 6.2: Drawing of the burial of the 'Shaman' of Hilazon Tachtit. (Grosman, Munro, and Belfer-Cohen, 2008)

	The 'Shaman' (21.01)
Grave Size	Considerable (3)
Grave Construction	Minimal (1)
Grave Inclusions	Unique (4)
Pre-Depositional Treatments	None reported (0)
Post-Depositional Manipulation	None reported (0)
Total Score	8

Table 6.3: Performative Currency Score breakdown of the 'Shaman' of Hilazon Tachtit

6.2.3.3 O36 of Wadi Faynan 16

Burial O36 (Appendix A 25.19) at Wadi Faynan 16 is a single primary burial of an adult, with no sex published (Fig. 6.3; Mithen *et al.,* 2015; 2018). The body is flexed on the right side, with heels pushed close to the pelvis. Several of the bones have evidence of black pigment staining (*ibid*.). The grave is described as being associated with a green stone bead, a serrated blade, and a possible phallic object (*ibid*.) though available publications do not differentiate items deliberately placed with the body from objects which were accidentally associated in the fill; these items, and all others from WF16, have not been considered as inclusions within this study due to the uncertainty of their intentional association with the bodies.

Figure 6.3: Burial O36 from Wadi Faynan 16 (Mithen et al.*, 2015)*

O36 has an overall Performative Currency Score of 4 (Table 6.4). The grave size is very small, with the body being compressed to fit within it – this is scored as Small (1). As seen in the photograph, there is a clear wall effect at the edge of the grave pit where the hands are located, further supporting the compact grave size. The grave pit is lined and capped with a mud veneer, which is scored as Moderate (2) for construction. The staining on the bones is suggestive of some pigment application, or possibly the inclusion of a pigment-stained perishable item, which is no longer preserved. This inclusion of pigments is scored as a Minimal (1) Pre-Depositional Treatment.

	O36 (25.19)
Grave Size	Small (1)
Grave Construction	Moderate (2)
Grave Inclusions	None reported (0)
Pre-Depositional Treatments	Minimal (1)
Post-Depositional Manipulation	None reported (0)
Total Score	4

Table 6.4: Performative Currency score breakdown for O36 of Wadi Faynan 16

6.2.4 Limitations and Assumptions

This chapter represents a preliminary use of the Performative Currency model, in its initial form, to assess the utility of this idea and method within the case study of the Epipalaeolithic-Neolithic transition of the Southern Levant. The aim of this chapter is to demonstrate that the assessment of mortuary data through a social investment lens has the potential to reveal new and interesting observations about mortuary assemblages and provide the framework which future research can refine and improve to develop a useful model. With this in mind, it is necessary to identify the limitations of this preliminary work and highlight avenues for improvement.

Inter-observer bias is an inherent problem of scoring system models, particularly where it is difficult to classify discrete categories within the scoring system. Even with the descriptions provided above, we cannot be sure that what I have scored as "Considerable Grave Inclusions", for example, would be classified in the same way by another archaeologist. Refining the score categories to be discrete as possible may help to mitigate this risk, though this proves difficult when diversity in mortuary remains is high.

The categories I have created here have been based on the available published literature on the burials of the Epipalaeolithic and PPNA within my research area. As discussed in

Chapter 3, the secondary data is limited by the choices in excavation, recording, and publishing made by the original researchers. There is, therefore, some information within these assemblages that we do not, and cannot, know. These gaps in our knowledge surely impact upon the categories created here, and the way that these categories have been deployed, but there is no way to know to what extent. Some knowledge gaps, such as the extent of use-wear on beads, could be corrected in future research (see below), though some knowledge gaps, such as the number of beads recovered from individuals' graves within the earliest el-Wad excavations, is likely entirely lost to time.

This preliminary scoring system assumes that each aspect of mortuary practice is in essence equal in investment; that is, a score of 3 in grave inclusions is equivalent to a score of 3 in post-depositional manipulation. Further research, beyond the scope of this project, is necessary to refine these scores and ensure that individual scores or categories can be weighted to reflect the true level of investment required for these categories.

6.2.4.1 Performative Currency in Future Research

The preliminary study presented in this chapter is limited in scope, serving primarily to demonstrate the potential utility of this model in mortuary archaeological studies and provide a foundation from which to conduct future research. Addressing the limitations above will be essential to develop a fully functional Performative Currency model for broader use.

To address the issue of subjectivity within all scoring system methodologies, scoring systems could be tested against a number of independent observers who each score the burials according to the provided scoring system to assess the clarity and functionality of descriptions within each category. This method would allow for an average of scores to ensure the most accurate interpretation of the available data and could help to identify categories or scores with insufficiently tight descriptions where inter-observer differences are greatest. This assessment was outside the scope of the current project but is a valuable avenue for future research.

Consideration of the archaeology of the senses would be a vital inclusion within the Performative Currency model. Just a sound, sights smells, taste, and touch can all play a role in the experience of a performance in theatre settings, so too must the senses impact the experience of a mortuary performance. Experimental archaeology, along with data from ethnography and anthropology, may help to fill in knowledge gaps about the ways that sensorial aspects of a mortuary practice would have been experienced by the audience. These sensory experiences represent an underexplored avenue for investment within the mortuary experience, the inclusion of which would serve to strengthen the utility of the Performative Currency model in future research.

6.3 Results

6.3.1 Cumulative Performative Currency

A relative Performative Currency score was calculated for all individuals within the assemblage, and the results are presented in Table 6.5 and Figure 6.4. The same calculation was made using the Total Burial sample to better understand the impact of the inclusion of isolated remains and poorly published individuals – these results are presented in Table 6.6 and Figure 6.5. This Performative Currency score is effectively a total of the scores in all of the criteria discussed above. Due to the wide variation in publication standards across time and between sites, these scores are often an underestimate of the true investment of energy and resources in mortuary practices.

Total performative currency scores are a composite score of areas of investment in energy or resources towards the grave and/or the deceased. These areas of investment include grave construction, grave inclusions and ornamentation, pre-depositional practices, and post-depositional manipulation. Each of these areas will be discussed independently below.

	EME	EN	LN	PPNA
0	2	102	115	66
1	3	15	70	24
2	3	62	15	13
3	5	19	31	52
4	4	7	6	3
5	2	5	1	2
6	0	1	1	0
7	0	4	0	0
8	0	0	2	0
9	0	0	0	0
10	0	0	0	0
MEAN	**2.63**	**1.32**	**1.01**	**1.42**

Table 6.5: Number of all individuals in each period assigned to a specific Performative Currency score

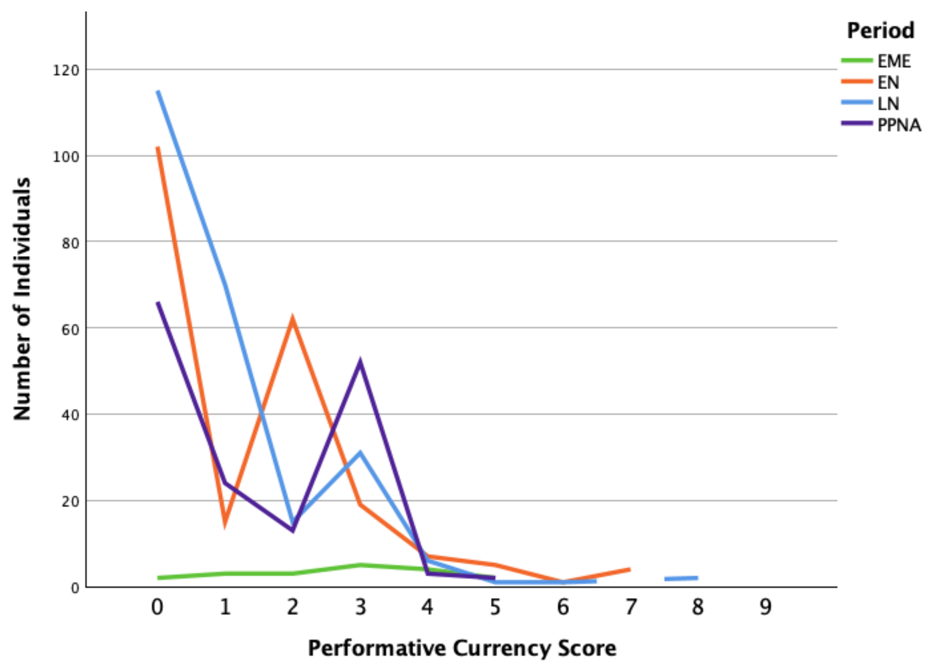

Figure 6.4: Number of individuals within each period assigned to each performative currency score, from the Total Sample

Kruskal-Wallis tests were conducted to compare the median Performative Currency score between periods for both the total assemblage and the burial sample. Among the total assemblage, the results indicate a significant difference in mean Performative Currency between periods ($p<0.001$). A post-hoc pairwise comparison using a Mann-Whitney test with Bonferroni correction indicates a significant difference in the median Performative

Currency scores of the Early & Middle Epipalaeolithic from all other periods (EN p=0.001; LN p<0.001; PPNA p=0.017). The Late Natufian is also significantly different in median Performative Currency score from the PPNA (p=0.047).

	EME	EN	LN	PPNA
0	1	65	70	47
1	3	11	65	19
2	3	29	13	9
3	5	18	30	52
4	4	7	6	3
35	2	5	1	2
6	0	1	1	0
7	0	4	0	0
8	0	0	2	0
9	0	0	0	0
10	0	0	0	0
MEAN	2.78	1.50	1.23	1.63

Table 6.6: Number of all buried individuals in each period assigned to specific Performative Currency scores

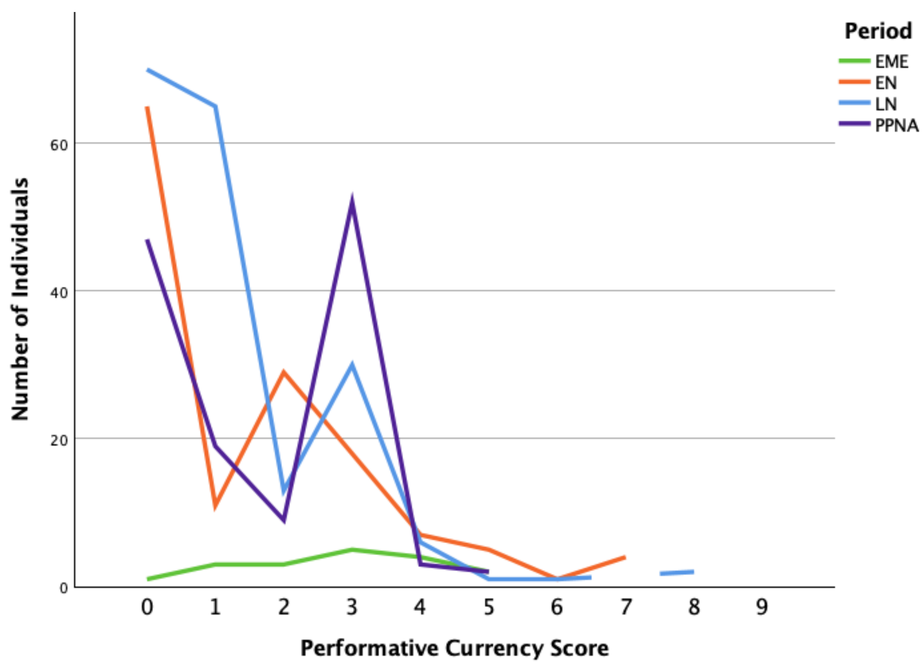

Figure 6.5: Number of individuals within each period assigned to that Performative Currency score from the Total Burial Sample

Among the buried sample, which excludes isolated remains and insufficiently published individuals, the Kruskal-Wallis results indicate a significant difference between periods (p<0.0.001). A post hoc pairwise comparison using a Mann-Whitney test with Bonferroni correction again indicates that the EME is significantly different from all other periods (EN p=0.001; LN p<0.001; PPNA p=0.021). Here, however, the Late Natufian is not significantly different from the PPNA.

	Subadults	Adults
0	79	83
1	16	34
2	22	28
3	26	72
4	4	14
5	1	9
6	0	2
7	2	2
8	1	1
9	0	0
10	0	0
MEAN	**1.20**	**1.80**

Table 6.7: Number of individuals of each broad age category assigned to each Performative Currency score from the Total Burial Sample

When all periods are combined, adults have a higher median Performative Currency Score than subadults (Table 6.7). A Mann-Whitney test was conducted to compare these median performative currency scores, and the results indicate that there is a significant difference between subadults and adults (p<0.001). This suggests that subadults, as an overall category, were treated differently from adults within the total burial sample.

Similarly, an Kruskal-Wallis test was conducted to compare the median Performative Currency Scores of females (combined with probable females), indeterminates, and males (combined with probable males) within the total burial sample (Table 6.8). The results of the Kruskal-Wallis indicate there is no significant difference in median Performative Currency Scores between the sexes. The differences between age and sex categories within each period will be discussed independently.

	Females (Combined)	Indeterminate	Males (Combined)
0	12	8	33
1	7	4	11
2	11	1	10
3	11	7	21
4	3	2	7
5	4	0	4
6	0	1	1
7	1	0	1
8	1	0	0
9	0	0	0
10	0	0	0
MEAN	**2.18**	**1.78**	**1.76**

Table 6.8: Number of adult individuals of each sex category assigned to each Performative Currency score from the Total Burial Sample

6.3.1.1 Early & Middle Epipalaeolithic

The burial sample from the Early & Middle Epipalaeolithic (EME) is exceedingly small, represented by only 18 individuals from 7 sites. Subadults overall are underrepresented, and infants and very young children are entirely absent from the burial sample in this period. The number of individuals in each age category assigned to the Performative Currency scores is presented in Table 6.9.

	Subadults	Adults
0	0	1
1	0	3
2	1	2
3	0	5
4	2	2
5	0	2
6	0	0
7	0	0
8	0	0
9	0	0
10	0	0
MEAN	**3.33**	**2.67**

Table 6.9: Number of individuals in each broad age category assigned to each Performative Currency Score from the Total Burial Sample of the Early & Middle Epipalaeolithic

Subadults in the EME have a higher mean Performative Currency score than adults. A Mann-Whitney test was conducted to compare the difference between these means, but the results indicate there is no significant difference in median Performative Currency score between the subadults and adults of the Early & Middle Epipalaeolithic.

The EME is represented by only 15 sexable adults, of which 60.0% (n=9) are assigned as either male or probable male. Males in the EME have a higher mean Performative Currency score than females (Table 6.10). A Kruskal-Wallis test was conducted to compare the Performative Currency scores between the sexes in the EME, and the results indicate no significant difference.

	Females	Indeterminates	Males
0	0	1	0
1	1	1	1
2	2	0	0
3	0	0	5
4	1	0	1
5	0	0	2
6	0	0	0
7	0	0	0
8	0	0	0
9	0	0	0
10	0	0	0
MEAN	**2.25**	**0.50**	**3.33**

Table 6.10: Number of individuals in each sex category assigned to each Performative Currency Score from the Total Burial Sample of the Early & Middle Epipalaeolithic

6.3.1.2 Early Natufian

The burial sample of the Early Natufian includes 140 individuals, of whom 129 could be assigned to an age category. The mean Performative Currency score for adults in the Early Natufian is generally higher than subadults (Table 6.11). A Mann-Whitney test was conducted to compare the median Performative Currency scores of the adults and subadults in the Early Natufian, and the results demonstrated a significant difference (p=0.011).

	Subadults	Adults
0	35	24
1	2	6
2	13	15
3	7	10
4	1	6
5	1	4
6	0	1
7	2	2
8	0	0
9	0	0
10	0	0
MEAN	**1.18**	**1.91**

Table 6.11: Number of individuals in each broad age category assigned to each Performative Currency Score from the Total Burial Sample of the Early Natufian

	Females	Indeterminates	Males
0	1	1	20
1	1	1	3
2	4	0	9
3	1	1	5
4	0	1	5
5	2	0	2
6	0	0	1
7	1	0	1
8	0	0	0
9	0	0	0
10	0	0	0
MEAN	**2.90**	**2.00**	**1.72**

Table 6.12: Number of individuals in each sex category assigned to each Performative Currency Score from the Total Burial Sample of the Early Natufian

Of the 68 adults identified in the Early Natufian, 60 could be assigned to a sex category. Females (combined with probable females) have a higher mean Performative Currency score than either Indeterminates or males (Table 6.12). A Kruskal-Wallis test was conducted to compare the median Performative Currency scores between the sexes in the Early Natufian, but the results indicate there is no significant difference. There are considerably fewer females than males within this period, and this unequal distribution between the sexes may account for the lack of significant difference here.

6.3.1.3 Late Natufian

The Late Natufian sample is the largest period within this study, including 241 total individuals, or 188 buried individuals, of which 139 could be assigned to a broad age category. Within this period, adults have only a slightly higher mean Performative Currency score compared to subadults (Table 6.13). A Mann-Whitney was conducted to compare these means and the results indicate there is no significant difference between adults and subadults.

	Subadults	Adults
0	25	41
1	10	12
2	7	6
3	9	21
4	1	3
5	0	1
6	0	1
7	0	0
8	1	1
9	0	0
10	0	0
MEAN	**1.19**	**1.37**

Table 6.13: Number of individuals in each broad age category assigned to each Performative Currency Score from the Total Burial Sample of the Late Natufian

Of the 86 adults known from the Late Natufian, 64 could be assigned to one of the broad sex categories. Females (combined with probable females) have the highest mean Performative Currency score of the sex categories (Table 6.14). A Kruskal-Wallis test was conducted to compare these medians, but the results indicate there is no significant difference in median Performative Currency score between the sexes in the Late Natufian.

	Females	Indeterminates	Males
0	10	6	11
1	4	2	5
2	5	0	1

3	6	5	4
4	2	0	1
5	0	0	0
6	0	1	0
7	0	0	0
8	1	0	0
9	0	0	0
10	0	0	0
MEAN	**1.71**	**1.64**	**1.05**

Table 6.14: Number of individuals in each sex category assigned to each Performative Currency Score from the Total Burial Sample of the Late Natufian

6.3.1.4 Pre-Pottery Neolithic A

There are 131 individuals known from the PPNA sample presented here, of which 110 could be assigned to one of the broad age categories. Adults have a notably higher mean Performative Currency score compared to subadults within the PPNA (Table 6.15). A Mann-Whitney test to compare these medians indicates that there is a significant difference in the median Performative Currency score between adults and subadults in this period (p=0.001).

	Subadults	Adults
0	19	17
1	4	13
2	1	5
3	10	36
4	0	3
5	0	2
6	0	0
7	0	0
8	0	0
9	0	0
10	0	0
MEAN	**1.06**	**2.01**

Table 6.15: Number of individuals in each broad age category assigned to each Performative Currency Score from the Total Burial Sample of the PPNA

	Females	Indeterminates	Males
0	1	0	2
1	1	0	2
2	0	1	0
3	4	1	7
4	0	1	0
5	2	0	0
6	0	0	0
7	0	0	0
8	0	0	0
9	0	0	0
10	0	0	0
MEAN	**2.88**	**3.00**	**2.09**

Table 6.16: Number of individuals in each sex category assigned to each Performative Currency Score from the Total Burial Sample of the PPNA

Only 22 of the 76 adults within the PPNA sample could be sexed, and indeterminate individuals have the highest mean Performative Currency score, though only 3 indeterminate individuals were identified (Table 6.16). Females have a higher Performative Currency score than males (Table 6.16). An Kruskal-Wallis test was conducted to compare these medians, but the results indicated there is no significant difference between the sexes in the PPNA.

6.3.2 Grave Construction

Grave construction describes the actions used to create, modify, or complete the grave itself. It should be noted that while the majority of burials within each period are scored as 'No Construction Reported' (Table 6.17), this is largely reflective of the issues in identifying clearly defined burial pits and the limited description typically given for the reporting of minimally constructed graves (Lengyel and Bocquentin, 2005). No burial within this sample met the criteria required of considerable or elaborate construction, which is known largely from the later Neolithic of the Levant.

Because stones are commonly used as both construction elements and inclusions, there is considerable variation in how stone items are reported in mortuary literature. Some archaeologists have opted to view them as grave markers and construction elements regardless of location within or on the grave, while others have differentiated between elements of the grave and elements in direct contact with the body. For this reason, stones will also be discussed as grave inclusions.

A Kruskal-Wallis test was conducted to compare the median Grave Construction scores between periods, and the results indicate there is an overall significant difference ($p<0.001$). However, the post-hoc Mann-Whitney test with Bonferroni correction demonstrates that the only significant difference is between the median Grave Construction scores of the PPNA and Early Natufian ($p<0.001$). No other periods differ significantly. The Late Natufian has the highest number of moderately constructed graves, a practice which is otherwise absent within this assemblage. The general absence of construction elements within the PPNA may reflect the frequency of burials within or beneath existing structures and domestic buildings, as graves may not have needed to be constructed if they were placed indoors and, in effect, the 'construction' was already in place via the structure.

	EME		**EN**		**LN**		**PPNA**	
	n	**%**	**n**	**%**	**n**	**%**	**n**	**%**
No construction reported	13	72.2%	105	75.0%	155	82.4%	123	93.2%
Minimal grave construction	5	27.8%	35	25.0%	29	15.4%	9	6.8%
Moderate grave construction	0	0.0%	0	0.0%	4	2.1%	0	0.0%
Considerable grave construction	0	0.0%	0	0.0%	0	0.0%	0	0.0%

Table 6.17: Number of buried individuals in each period by construction elements of the grave

	Subadults		Adults	
	n	%	n	%
No construction reported	124	82.1%	192	78.4%
Minimal grave construction	25	16.6%	51	20.8%
Moderate grave construction	2	1.3%	2	0.8%
Considerable grave construction	0	0.0%	0	0.0%

Table 6.18: Number of buried individuals within each age category by construction scores of the grave, in the Total Burial Sample

Adults are slightly more likely to receive constructed graves than subadults within the total burial sample (Table 6.18), though they receive roughly similar proportions of Moderate (2) constructed graves. A Mann-Whitney test to compare the median construction scores between adults and subadults reveals no significant difference between age categories in the total burial sample.

Females are slightly more likely to receive constructed graves in the total burial sample than either indeterminate individuals or males (Table 6.19), and females have the only constructed grave to score above a 1 among the sexable sample. A Kruskal-Wallis test to compare the median grave construction scores between the sexes in the total burial sample demonstrated no significant difference.

	Females (Combined)		Indeterminate		Males (Combined)	
	n	%	n	%	n	%
No construction reported	32	64.0%	18	78.3%	68	77.3%
Minimal grave construction	17	34.0%	5	21.7%	20	22.7%
Moderate grave construction	1	2.0%	0	0.0%	0	0.0%
Considerable grave construction	0	0.0%	0	0.0%	0	0.0%

Table 6.19 Number of buried individuals within each sex category by construction scores of the grave, in the Total Burial Sample

6.3.2.1 Early & Middle Epipalaeolithic

Within the Early & Middle Epipalaeolithic, constructive elements most commonly identified include small stones on top of or around the grave. Slightly more than a quarter of all EME burials are considered to be construction, all of which belong to adults. A Mann-Whitney test was conducted to compare the median grave construction scores between subadults and adults within the EME, and the results indicate there is no significant difference.

Grave Construction scores are roughly equally distributed between the sexes, with females having slightly more construction (50.0%; n=2) than males (33.3%; n=3) and indeterminates (0.00%; n=0), though the sample size is very small. A Kruskal-Wallis test was conducted to compare the median Grave Construction scores between the sexes in the EME, but the results indicate there is no significant difference.

6.3.2.2 Early Natufian

A quarter of all Early Natufian graves are considered constructed, most commonly including marking or encircling of the grave site with small stones. Sometimes small stones are included inside the grave as a constructed element, though this is less frequent. In the Early Natufian sample, adults are more frequently associated with construction elements (32.4%; n=22) than subadults (21.3%; n=13). A Mann-Whiteny test was conducted to compare the median Grave Construction scores of Early Natufian adults and subadults, and the results indicate a no significant difference.

There are considerably fewer females known from the Early Natufian than males, but females are slightly more frequently found within constructed graves (40.0%; n=4) compared to males (32.6%; n=15). A Kruskal-Wallis test was conducted to compare median Grave Constructions scores, and the results indicate there is no significant difference between the sex categories.

6.3.2.3 Late Natufian

Construction of graves is slightly less common in the Late Natufian than in the Early Natufian, though Moderate Construction scores arising from lining or capping of the grave pit occur in the Late Natufian. Constructive elements are roughly equally distributed between the age categories, with 20.9% (n=18) of Late Natufian adults and 24.5% (n=13) of Late Natufian subadults being identified in constructed graves. The results of a Mann-Whitney to compare the median Grave Construction scores indicate no significant difference between subadults and adults in this period.

As highlighted in Chapter 5 (Section 5.3.2), the Late Natufian is the only period in which more females have been identified than males, and it is also the period with the highest difference in proportion of constructed graves between males (4.5%; n=1) and females (35.7%; n=10). A Kruskal-Wallis test was conducted to compare the median Grave Construction score between the sexes in the Late Natufian, and the results indicate a significant difference (p=0.021). A post hoc pairwise comparison using the Mann-Whitney test with Bonferroni correction indicates a significant difference in the mean Grave Construction scores between Late Natufian males and females (p=0.020).

6.3.2.4 Pre-Pottery Neolithic A

In the Pre-Pottery Neolithic A, construction elements within graves are overall rare, with most evidence from Wadi Faynan 16 and Jericho. PPNA adults are considerably more likely to have construction elements (10.5%; n=8) than subadults (2.9%; n=1). A Mann-Whitney test was conducted to compare the median Grave Construction scores between age groups in the PPNA, and the results indicate no significant difference between subadults and adults.

Females are more than twice as frequently found within constructed graves (25.0%; n=2) as males (9.1%; n=1) in the PPNA, though the overall sexable sample size within this period is small. A Kruskal-Wallis test to compare the median Grave Construction score between the sexes demonstrates no significant difference, though this result should be treated with caution due to the low numbers of sexed individuals in this period.

6.3.3 Pre- and Peri-Depositional Practices

As discussed in section 6.1.1, the majority of pre- and peri-depositional mortuary practices known in the modern world would be archaeologically invisible, and it is therefore important to understand that our knowledge of Epipalaeolithic and Early Neolithic pre-depositional practices is limited to scant preserved evidence. Very few burials in the total assemblage presented here demonstrate any evidence of pre- or peri-depositional mortuary practices (Table 6.20). In the EME and EN, this is primarily related to the binding or wrapping of bodies prior to their deposition, or to the application of ochre to the body or within the grave. A Kruskal-Wallis test was conducted to compare the median Pre- and Peri-Deposition scores between the periods, and the results demonstrate there is no significant difference between periods.

Among the total burial sample, females are slightly more likely to receive pre-depositional treatments than males, but the difference is minimal (Table 6.21). When periods are combined, 12.0% (n=6) of all known females, and 9.1% (n=7) of all known males have a pre- and peri-depositional score of 1 or more. However, when construction elements are present, females have a higher proportion of Moderate (2) construction elements than males (Table 6.21). A Kruskal-Wallis test to compare median Pre- and Peri-Depositional Practices scores between sexes demonstrates there is no significant difference.

	EME		EN		LN		PPNA	
	n	%	n	%	n	%	n	%
None reported (0)	15	83.3%	130	92.9%	182	96.8%	121	91.7%
Minimal (1)	0	0.0%	4	2.9%	0	0.0%	4	3.0%
Moderate (2)	3	16.7%	6	4.3%	6	3.2%	7	5.3%
Considerable (3)	0	0.0%	0	0.0%	0	0.0%	0	0.0%

Table 6.20: Number of buried individuals in each period by evidence of pre-depositional mortuary practices

	Females (Combined)		Indeterminate		Males (Combined)	
	n	%	n	%	n	%
No pre-depositional treatment	44	88.0%	19	82.6%	80	90.9%
Minimal treatments	0	0.0%	0	0.0%	2	2.3%
Moderate Treatments	6	12.0%	4	17.4%	6	6.8%
Considerable Treatments	0	0.0%	0	0.0%	0	0.0%

Table 6.21: Number of individuals within each sex category assigned to each score of Pre- and Peri-Depositional practices in the Total Burial sample

Among the total burial sample, 1.4% (n=2) of all known subadults, and 10.2% (n=25) of all known adults have some evidence of pre- and peri-depositional practices (Table 6.22), making adults approximately seven times more likely to receive pre- and peri-depositional treatments compared to subadults. A Mann-Whitney test to compare the median Pre- and

Peri-Depositional Treatment scores between age categories indicates there is a significant difference in the scores between adults and subadults overall (p<0.001).

	Subadults		Adults	
	n	%	n	%
No pre-depositional treatment	149	98.7%	220	89.8%
Minimal treatments	1	0.7%	5	2.0%
Moderate Treatments	1	0.7%	20	8.2%
Considerable Treatments	0	0.0%	0	0.0%

Table 6.22: Number of individuals within each age category assigned to each score of Pre- and Peri-Depositional practices in the Total Burial sample

6.3.3.1 Early & Middle Epipalaeolithic

In the Early & Middle Epipalaeolithic, 20.0% (n=3) of adults showed some type of pre- or peri-depositional treatment evidenced within their mortuary remains, while no subadults display any evidence of these practices. The most common types of treatments in this period are evidence of binding or wrapping through the shape of the body, or the deposition of pigments on the body. A Mann-Whitney to compare the median scores, however, demonstrates no significant difference between age categories in the EME. This is likely due to the overall small sample size within this period.

As with age, only one sex category has any evidence of pre- and peri-depositional treatments in the EME, the males. A third of males (n=3) have Moderate (2) levels of pre- and peri-depositional scores, while no females or indeterminate individuals have any evidence. In this category, the EME appears to be somewhat of an outlier, as in all other periods, females receive more Pre- and Peri-Depositional treatments than males do. A Kruskal-Wallis test to compare median scores in this category, however, demonstrates no significant difference. It is likely that the small sample sizes impact this lack of significance.

6.3.3.2 Early Natufian

As with the EME, subadults in the Early Natufian continued to receive little pre- and peri-depositional investment, with only 1.6% (n=1) of subadults demonstrating evidence of this type of treatment, while 13.2% (n=9) of adults demonstrate some level of pre- and peri-depositional treatments. The most common types of treatments in this period are evidence of binding or wrapping through the shape of the body, or the deposition of pigments on the body. A Mann-Whitney test was conducted to compare the median treatment scores within this period, and the results demonstrate a significant difference in the level of Pre- and Peri-Depositional treatments between adults and subadults in the Early Natufian (p=0.013).

Early Natufian females were more likely to receive pre- and peri-depositional investment than males; 20.0% (n=2) of Early Natufian females and 10.8% (n=5) of Early Natufian males scored a 1 or more. The overall sample size of females within the Early Natufian, however, is very small. A Kruskal-Wallis test to compare the median scores in this category between the sexes of the Early Natufian demonstrates that the difference in mean scores is not significant.

6.3.3.3 Late Natufian

The Late Natufian only has evidence of Moderate (2) levels of pre- and peri-depositional treatments, most commonly binding or wrapping of the body as evidenced by the tightly compacted body positions. Overall scores are low in the Late Natufian, though adults (5.8%; n=5) do receive slightly more treatments than subadults do (1.9%; n=1). A Mann-Whitney test was conducted to compare median scores in this category between the ages of the Late Natufian but the results demonstrate there is no significant difference.

No males within the Late Natufian burial sample have any evidence of pre- or peri-depositional treatment, while indeterminate individuals (14.3%; n=2) and females (7.1%;

n=2) both have some evidence. A Kruskal-Wallis test was conducted to compare the median scores between the sexes in the Late Natufian, but the results demonstrate no significant difference.

6.3.3.4 Pre-Pottery Neolithic A

Pre- and Peri-Depositional treatments in the PPNA are only identified with adult individuals, and no subadults have any reported evidence (10.5% of adults; n=8). Evidence of binding and wrapping, and pigment applications, is both documented in low numbers in this period. A Mann-Whitney test was conducted to compare the median scores in this category between the ages in the PPNA, and the results demonstrate no significant difference between adults and subadults.

Only three adult individuals with evidence of Pre- and Peri-Depositional treatments could be sexed, of which two are female and one is indeterminate. There is no evidence of this type of treatment among male individuals. However, a Kruskal-Wallis test demonstrates no significant difference between the sexes, likely due to the very small sample sizes.

6.3.4 Post-Depositional Practices

Post-depositional manipulation would generally involve any re-opening of the grave, though it is often difficult to identify minimal manipulations due to the limited archaeological evidence that is preserved. The category of ‘Considerable Manipulation’ refers to any intentional removal of skeletal elements from the grave after decomposition, which in this assemblage is almost entirely represented by the removal of the cranium or the skull.

Post-depositional manipulation is present in all periods under study, but is particularly common during the Pre-Pottery Neolithic A, and lowest in the Early Natufian (Table 6.23). A Kruskal-Wallis test was conducted to compare median Post-Depositional Manipulation scores between periods. The results indicate a significant difference between periods ($p<0.001$). The results of the post hoc pairwise comparison using a Mann-Whitney test with Bonferroni correction indicate a significant difference between the Early Natufian and both the Late Natufian (p=0.003) and the PPNA (p<0.001). The Late Natufian is also significantly different in median Post-Depositional Manipulation scores from the PPNA (p=0.006).

	EME		EN		LN		PPNA	
	n	%	n	%	n	%	n	%
None reported	10	55.6%	115	82.1%	112	59.6%	65	49.2%
Minimal Manipulation	1	5.6%	12	8.6%	48	25.5%	12	9.1%
Moderate Manipulation	4	22.2%	0	0.0%	4	2.1%	4	3.0%
Considerable Manipulation	3	16.7%	13	9.3%	24	12.8%	51	38.6%

Table 6.23: Number of buried individuals in each period by evidence of post-depositional manipulation

In the total burial assemblage, 36.8% (n=176) of all individuals have evidence of some kind of post-depositional manipulation, indicating high levels of interaction with the body after burial. Overall, adults received slightly more post-depositional investment than subadults, as 27.8% (n=42) of all subadults and 32.7% (n=80) of all adults received a score above 0. There is, however, considerable variation in the age distribution of post-depositional investment between the periods under study, and each will be discussed independently.

Among the adult burials which could be sexed, 23.0% (n=37) have some post-depositional manipulation recorded. Females overall receive similar levels of post-depositional investment compared to males, as 22.0% (n=11) of all females and 22.7% (n=20) of males have a score above 0. Indeterminate individuals have a score above 0 in 26.1% (n=6) of cases – all of which are scored at a 3, or Considerable Manipulation. Though effective sexing of a skeleton is limited when a skeleton is incomplete, as is the case when major skeletal elements are removed or unavailable, likely influencing the high score in this category.

6.3.4.1 Acephalous Skeletons and Isolated Crania

Isolated crania belonging to infants or young children are present from the Early Natufian through to the PPNA, suggesting that all age groups could, under the right conditions, be considered for this type of mortuary treatment (Table 6.24). However, the total number of subadult isolated crania is low throughout the periods under study, suggesting that most young individuals did not receive cranial removal. In the combined Natufian subphases, adults make up just 33.3% (n=4) of the ageable isolated crania, while in the PPNA, 69.6% (n=16) of the ageable isolated crania belong to adult individuals.

Very few isolated crania could be sexed due to the fragmentary nature of these remains, resulting in sample sizes too small for any meaningful analysis (Table 6.25). From the sexable crania, however, there is no clear indication of sex biases in the selection for cranial removal, with males and females represented in roughly equal numbers. However, as males and females are not present in equal proportions among the burials overall, this equity in cranial remains is of interest.

	EN		LN		PPNA	
	n	%	n	%	n	%
Infant	2	40.0%	0	0.0%	6	26.1%
Child	2	40.0%	3	42.9%	1	4.3%
Adolescent	0	0.0%	1	14.2%	0	0.0%
Young Adult	0	0.0%	0	0.0%	1	4.3%
Adult	1	20.0%	3	42.9%	15	65.2%
Older Adult	0	0.0%	0	0.0%	0	3.0%
Unaged Crania	2		0		4	

Table 6.24: Number of isolated crania in each period by age-at-death

	EN	LN	PPNA
Female	0	1	0
Probable Female	0	0	0
Indeterminate	1	0	0
Probable Male	0	0	0
Male	0	2	1
Unknown Adult	0	0	15

Table 6.25: Number of adult isolated crania in each period by sex, where sex estimations could be made

As shown in Chapter 5 (Section 5.3.5), there are more acephalous skeletons in the Early Natufian, Late Natufian, and PPNA than isolated crania, suggesting that not all removed crania received a secondary burial. The abundance of isolated fragments throughout occupation layers of Natufian and PPNA sites may be indicative of skeletal elements which were not reburied but curated on site or disposed of in other ways, though this cannot be taken conclusively without sufficient analysis of the isolated remains found to date.

6.3.4.2 Early & Middle Epipalaeolithic

All subadults (n=3) in the Early & Middle Epipalaeolithic received a score above 0 in post-depositional manipulation, while only a third of adults had a score above 0 (n=5). This indicates a strong preference for long-term interaction with subadult remains compared to adult remains in this period. A Mann-Whitney test comparing the median Post-Depositional Manipulation scores between the age categories of the EME demonstrates a significant difference (p=0.013).

Both males and females in the Early & Middle Epipalaeolithic receive some post-depositional manipulation, though males are more likely to receive this type of treatment (44.4%; n=4) than females (25.0%; n=1). The sample of sexable individuals is small, however, and the Kruskal-Wallis test to compare median scores in this category indicates no significant difference between the sexes within the EME.

6.3.4.3 Early Natufian

As in the EME, Early Natufian subadults are more likely to receive post-depositional treatment (21.3%; n=13) than adults (16.2%; n=11), though there are considerably more non-disturbed subadults in the Early Natufian than in the Early & Middle Epipalaeolithic. A Mann-Whitney test to compare the median post-depositional treatment scores between the ages within the Early Natufian indicates there is no significant difference between adults and subadults in this period.

Males (8.7%; n=4) and females (10.0%; n=1) receive post-depositional treatments in roughly equal proportions within the Early Natufian. A Kruskal-Wallis test to compare the median scores between the sexes demonstrates there is no significant difference, suggesting that adults of all sexes could receive this type of treatment.

6.3.4.4 Late Natufian

By the Late Natufian, the gap in post-depositional manipulation between age groups decreases slightly, though subadults continue to receive slightly more post-depositional investment relative to the adults. Late Natufian subadults score above 0 in 26.4% (n=14) of burials, along with 19.8% (n=17) of adults. A Mann-Whitney test to compare the median scores in this category between the age groups demonstrates that there is no significant difference between adults and subadults in the Late Natufian.

In the Late Natufian, males receive more post-depositional (22.7%; n=5) investment than females (14.3%; n=4). All examples of post-depositional manipulation in the Late Natufian score a 3, suggesting that when graves are reopened, there is considerable investment in removing the remains and sometimes displacing and reburying them. A Kruskal-Wallis test to compare the difference between sexes within the Late Natufian demonstrates no significant difference in median Post-Depositional Treatment scores.

6.3.4.5 Pre-Pottery Neolithic A

By the earliest Neolithic, adults are nearly twice as likely to receive post-depositional manipulation compared to subadults, though all age groups receive a considerable amount of manipulation in the PPNA relative to the preceding periods. In the PPNA, 35.3% (n=12) of subadults and 61.8% (n=47) of adults have a score above 0. A Mann-Whitney test to compare the median post-depositional scores between age categories in the PPNA does demonstrate a significant difference between adults and subadults (p=0.023). This suggests that while post-depositional practices increased overall in the PPNA from the preceding periods, the focus was more on adults than it was on subadults for this type of treatment.

All sexes, including indeterminate individuals, have roughly equivalent proportions of post-depositional manipulation, all of which is scored at Considerable (3). 62.5% (n=5) of PPNA females, 66.7% (n=2) of PPNA indeterminate individuals, and 63.6% (n=7) of PPNA have evidence of post-depositional manipulation. A Kruskal-Wallis test demonstrates no difference between the sexes within the PPNA. This suggests that the broad increase of this treatment applied roughly equally to all sexes within the early Neolithic. Notably, however, we cannot be certain if these communities conceptualised sex in the same ways that we do today.

6.3.5 Grave Goods and Inclusions

Grave inclusions, sometimes referred to as grave goods, are present in all periods of study (Table 6.26), though they vary considerably in both frequency and type. Grave inclusions are proportionally most common in the Early & Middle Epipalaeolithic, where 61.1% (n=11) of burials are reported to have some type of inclusion. There is a noticeable increase in burials without inclusions in the Early Natufian, and the level of inclusions continues to decrease through the Late Natufian and into the Pre-Pottery Neolithic A, where grave inclusions are nearly absent. Each period will be individually discussed below.

	EME		EN		LN		PPNA	
	n	%	n	%	n	%	n	%
No reported inclusions	7	38.9%	101	72.1%	166	88.3%	128	97.0%
Minimal grave inclusions	9	50.0%	11	7.9%	17	9.0%	4	3.0%
Moderate grave inclusions	2	11.1%	25	17.9%	4	2.1%	0	0.8%
Considerable grave inclusions	0	0.0%	3	2.1%	0	0.0%	0	0.0%
Unparalleled grave inclusions	0	0.0%	0	0.0%	1	0.5%	0	0.0%

Table 6.26: Number of buried individuals in each period by grave inclusions

A Kruskal-Wallis test was conducted to compare median Grave Inclusion scores between periods, and the results indicated a significant difference between the groups ($p<0.001$). Post-hoc comparisons using a Mann-Whitney test with Bonferroni correction indicate a significant difference in median Grave Inclusion scores between the Early & Middle Epipalaeolithic and both the Late Natufian ($p<0.001$) and the PPNA ($p<0.001$). The Early Natufian is also significantly different from the Early & Middle Epipalaeolithic ($p=0.009$) the Late Natufian ($p<0.001$) and the PPNA ($p<0.001$). When grave inclusions are discussed as a whole, it is clear that the investment in their use and deposition broadly groups together the Early & Middle Epipalaeolithic and the Early Natufian and separates this group from the Late Natufian and the PPNA.

6.3.5.1 Early & Middle Epipalaeolithic

Early & Middle Epipalaeolithic burials are frequently associated with some inclusions, most commonly animal remains and lithic tools. These inclusions, however, are generally low in quantity and closely mirror animal remains and lithics found elsewhere on the site. Exotic or rare items are not known from Early-Middle Epipalaeolithic burials, and beads are extremely rare (see Chapter 5).

The majority of subadults (66.7%; n=2), and the majority of adults (60.0%; n=9) have Minimal (1) or Moderate (2) inclusions. No EME burials within this assemblage are known to have Considerable (3) or Unique (4) inclusions. Among the adults, males are more frequently associated with inclusions (66.6%; n=6) compared to females (50.0%; n=2). There are no significant differences between age categories or sex categories in the EME when considering median Grave Inclusion scores.

6.3.5.2 Early Natufian

In the Early Natufian, there was a higher proportion of graves without inclusions than in the EME, though the quantity of inclusions within decorated graves increases considerably. Beads and ornamentation items are frequently found in Early Natufian contexts, and generally consist of dentalium beads, bone pendants, and other beads worn as jewellery or potentially sewn onto clothing worn by the deceased. As highlighted in Chapter 5 (section 5.3.7), beads are found in occupation contexts in all periods within this sample, but their presence as an intentional grave inclusion is largely restricted to the Early Natufian.

Among the ageable Early Natufian sample, 16.4% (n=10) of subadults and 36.8% (n=25) of adults have some type of grave inclusion reported. Among both age groups, the Moderate (2) score is most common, likely due to the presence of multiple jewellery pieces within a number of Early Natufian graves. Considerable (3) inclusions are less frequent but are known, while no burials within the Early Natufian can be scored as Unique (4). A Mann-Whitney test to compare the median Grave Inclusion scores between the age categories in the Early Natufian demonstrates a significant difference in mean scores between the subadults and adults (p=0.012).

Females are more likely to be associated with grave inclusions (60.0% of females; n=6) than either males (35.8%; n=16) or indeterminate individuals (50.0%; n=2). However, due to the vastly different sample sizes between the sex categories in the Early Natufian, there is no significant difference between the sexes in mean Grave Inclusion scores.

6.3.5.3 Late Natufian

Notably, beads are far less frequent in the Late Natufian burials than in the Early Natufian, though beads are often found throughout Late Natufian occupation layers. In the Late Natufian, grave inclusions were overall rare, but where present mostly consisted of animal remains and abundant ground stone tools. Interestingly, despite the rarity of grave inclusions in this period, the Late Natufian sample includes the burial with the most investment in grave inclusions – the 'Shaman' of Hilazon Tachtit (see section 3.5.5 for a detailed description of this grave), which includes abundant animal remains, including exotics, tools, and additional human remains.

Adults are considerably more likely to be associated with grave inclusions (19.8% of adults; n=17) in this period than subadults (5.7%; n=3). All subadults are scored as Minimal (1) inclusions, while some adults are scored at Moderate (2) and one is scored at Unique (4). A Mann-Whitney test to compare median Grave Inclusion scores between the age categories in the Late Natufian indicates a significant difference between subadults and adults (p=0.019).

The distribution of grave inclusions is broadly equal across all three sex categories, with 25.0% (n=7) of females, 21.4% (n=3) of indeterminate individuals, and 27.3% (n=6) of males having some level of inclusions reported. There is no significant difference between these sex categories in the Late Natufian.

6.3.5.4 Pre-Pottery Neolithic A

Grave inclusions throughout the Early Neolithic are known to be nearly absent, and the PPNA sample presented here supports this (though see section 3.6.3 for a discussion on Wadi Faynan 16). Grave inclusions in the PPNA largely consist of individual bone or stone tools found associated with the skeletons and are generally similar to the tools found elsewhere in the site. Outside of the Southern Levant, however, this pattern differs noticeably. In Anatolia at Kortik Tepe, for example, some evidence of grave inclusions in the form of carved and painted bone plaquettes found in a handful of graves, suggesting there is incredible diversity within the broad period archaeologists group together under the PPNA umbrella.

Grave inclusions are only known from adult burials within this sample of PPNA burials, though only 5.3% (n=4) of all adults are recorded with inclusions, all of which are scored as Minimal (1). Subadults are not known to have any confidently identified inclusions. A Mann-Whitney test to compare the median cores of these age categories in the PPNA demonstrates there is a no significant difference between adults and subadults.

Only females and indeterminates are known to have grave inclusions within this sample, though only one individual in each sex category is known to have grave inclusions. This sample size is considerably too small to conclude the sex distribution of grave inclusions within the PPNA.

6.3.6 Grave Size

As discussed above, clearly defined burial cuts are rarely identifiable in Natufian contexts, and assessing the size of the grave pit is difficult. For the overwhelming majority of burials within this sample (93.1%; n=444), no grave pit is reported within the published literature. Where grave pit size is reported within the publications, there is little notable difference between periods or sites (Table 6.27). Graves are generally small or moderate in size, with only one example of a burial pit with considerable room inside (the 'Shaman' of Hilazon Tachtit, Appendix A 21.01). An Kruskal-Wallis test was conducted to compare the difference in median Grave Size score between periods, and the results indicate a significant difference (p=0.001). A post-hoc Mann-Whitney test with Bonferroni correction indicates that there is a significant difference in Grave Size between the EME and the Late Natufian (p=0.016) as well as the PPNA (p=0.026). There is also a significant difference in Grave Size between the Early and Late Natufian (p=0.046).

	EME		EN		LN		PPNA	
	n	**%**	**n**	**%**	**n**	**%**	**n**	**%**
No Reported Pit	14	77.8%	124	88.6%	181	96.8%	126	95.4%
Small Grave Pit	1	5.6%	9	6.4%	3	1.6%	5	3.8%
Moderate Grave Pit	3	16.6%	7	5.0%	3	1.6%	1	0.8%
Large Grave Pit	0	0.0%	0	0.0%	1	0.5%	0	0.0%

Table 6.27: Number of individuals assigned to each Grave Size category by period

Below, each period is examined independently. However, it should be noted that Grave Size is so substantially underreported within this sample that the utility of this category and metric within this sample is minimal. Reassessment of Grave Size within a Performative Currency model would likely require improved recording and reporting of the size of grave pits and cuts within a future excavation.

6.3.6.1 Early & Middle Epipalaeolithic

Grave size is reported in 22.2% (n=4) of burials for the Early & Middle Epipalaeolithic periods, all of which belong to adult individuals. Three graves are considered Moderate (2) in size, and one is scored as Small (1), suggesting the body needed to be compressed to fit inside. A Mann-Whitney test was conducted to compare median Grave Size score between age categories in the EME, which demonstrated no significant difference between adults and subadults in this period. Among the adults, there is also no significant difference between sexes in the mean Grave Size score.

6.3.6.2 Early Natufian

Both adults and subadults have reported grave sizes in roughly equal proportions, though subadults are more likely to be placed in Small (1) graves (8.2% of subadults; n=5), while adults are more likely to be Moderate (2) graves (7.4% of adults; n=5). A Mann-Whitney to compare the median of these Grave Size scores between Early Natufian age categories indicates there is no significant difference.

There are substantially fewer females than males in the Early Natufian, though females have a slightly higher proportion of reported grave size (30.0%; n=3) compared to males (10.9%; n=5). Males are also more frequently reported in Moderate (2) graves as opposed to females, who are more commonly identified in Small (1) graves, though the overall sample size is small. There is no significant difference between the sexes within the Early Natufian.

6.3.6.3 Late Natufian

Within the Late Natufian, very few individuals have reported grave sizes (n=7), though where reported, adults are more frequently associated with Large (3) or Moderate (2) grave pits, while subadults are more frequently associated with Small (1) grave pits. There is no significant difference in median grave size between the age categories. Only females have reported grave sizes within the Late Natufian, though only two adults have both a reported grave size and sex. For this reason, the sample size is too small to draw any conclusions about the distribution of grave sizes between sexes.

6.3.6.4 Pre-Pottery Neolithic A

The reporting of grave size in the PPNA is similarly minimal, with only six known examples. Roughly equal proportions of subadults and adults have a reported grave pit, almost all of which are scored as a Small (1). Only one adult was able to be sexed, which is a male, though this sample size is vastly too small to make any conclusions. There is no significant difference between age categories or sex categories within the PPNA.

6.3.7 Cemetery Sites of the Late Natufian

Grave location refers to a burial's proximity to a contemporaneously occupied settlement site. Most burials are known from occupied sites, though this probably represents a bias towards the identification and excavation of occupation sites. In the Late Natufian, however, cemetery sites emerge (Table 6.28). Cemetery sites are commonly sites containing numerous burials but lacking any archaeological remains, which would indicate a substantial occupation or use of the site beyond the burials. However, they can also be sites which were once occupied as settlement sites but were abandoned or abandoned at the time of the burials, as was the case for the Late Natufian layer of Hayonim Cave, and possibly the Late Natufian layer of Eynan. It is worth noting that 5 of the burials from Raqefet Cave are radiocarbon dated – directly and indirectly – to an age commonly considered to be the Early Natufian. However, all layers of Raqefet are archaeologically assigned to the Late Natufian. It is likely that this indicates an earlier start to the Late Natufian at this location (discussed in section 3.5.8).

	EME	EN	LN	PPNA
Occupation Site	19	214	184	160
Cemetery (non-occupied) Site	0	0	58	0

Table 6.28: Number of all individuals in each period by the site type

If human groups did not regularly occupy cemetery sites at the time of burial deposition, these accumulations of human remains are unlikely to come from individuals who lived and died at the site. Rather, it is likely that at least some of these bodies were moved to the cemetery sites from other locations. The movement of dead bodies across hot or hilly landscapes, common in the Southern Levant, would be no small task – a task which could be simplified considerably by moving only curated secondary elements such as bundles of long bones or skulls. It is interesting, then, that clearly identified secondary burials and isolated crania are currently unknown from cemetery sites (Table 6.29). This indicates that bodies were being brought to cemetery site locations fully fleshed and whole, involving the considerable investment of performative currency to move the deceased through the landscape prior to deposition.

	Late Natufian Occupation Sites		Late Natufian Cemetery Sites	
Primary	74	48.1%	27	46.6%
Disturbed Primary	21	13.6%	28	48.3%
Secondary	32	20.8%	0	0.0%
Isolated Fragments	20	13.0%	3	5.2%
Isolated Crania	7	4.5%	0	0.0%

Table 6.29: Burial types by occupation types for the Late Natufian sample

6.4 Discussion- Mortuary Investments during the Epipalaeolithic-Neolithic Transition

6.4.1 Children in the Burial Record

The results presented here generally indicate very minimal, if not entirely absent, differences between the funerary treatments of males and females within the periods under study. However, there are numerous examples of characteristics and features of mortuary treatment which differ significantly between subadults and adults, suggesting that throughout the Epipalaeolithic-Neolithic transition, subadults were viewed and treated differently in death than adults of their communities. This is an aspect of social differentiation by age, which implies that subadults held different social roles or statuses within their social communities – a heterarchy which included age was an aspect of the social worlds in the Epipalaeolithic-Neolithic transition. Furthermore, subadults overall received less investment in their mortuary treatment than adults did, when the assemblage is considered as a whole. While it is possible this suggests that children were valued differently than adults were within these periods, it is also likely that the death of a child and conceptualisations of childhood in relation to adulthood necessitated different mortuary treatments.

Concepts of childhood are intimately related to concepts of personhood and identity. Childhood can be viewed as a certain type or category of personhood that is reserved for young people, or it can be viewed as a distinct phase before true personhood is achieved (Thomas, 2005; LeVine, 2007; Baxter, 2008). In many cases, the experienced reality of childhood is somewhere in between these two extremes. Childhood is highly nuanced and socially constructed, meaning community-specific norms dictate much of its progress as a child ages (*ibid*.). A child may slowly acquire adult-person status through incremental changes or may suddenly achieve this status after a particular age, milestone, or rite of passage (*ibid*.).

In prehistory, the nuances of childhood and personhood are often very difficult to assess as the remains of children are often underrepresented in mortuary assemblages (Beauchesne and Agarwal 2018). Furthermore, our skeletal evidence of childhood consists of individuals who did not survive their childhood, as those who do survive will be buried as adults (*ibid*.). This limitation makes it particularly important to explore any possible evidence of the concept of childhood, particularly within the context of the Epipalaeolithic-Neolithic transition where the roles of children may be expected to have changed alongside the changing subsistence strategy (Benz *et al*., 2023). Evidence of trends in age-related treatment may suggest that subadults were generally seen as a group separate from adults, though it may also suggest that it was death within this childhood phase, rather than life as a child, that was viewed differently.

Pre- and peri-depositional treatments are rarely identifiable in the archaeological record, though where they are found, there are generally differences between adults and subadults. Within this assemblage, only two subadults, both from Shubayqa 1, have clear evidence of pre-/peri-depositional bodily treatments. This amounts to only 1.4% of all subadults in comparison to the 10.2% of adults with similar treatments. In all

Epipalaeolithic periods, adults receive more of this type of bodily treatment than subadults. This suggests that the treatment of subadults in death rarely necessitated the use of bodily preparations, while adult death sometimes did. Outside of Shubayqa 1 (which is discussed in detail below), subadults are not afforded any type of pre-/peri-depositional treatments which can be identified archaeologically. This pattern of limited preparation of the bodies of younger people has also been reported as Neolithic Çatalhöyük, where Tibbetts (2017) demonstrated that adult bodies were far more likely to be bound into tight positions requiring some level of decomposition, while very young subadults and perinatal infants were more likely to be buried quickly after death with minimal preparation of the body.

6.4.1.1 Shubayqa 1 and the Subadult Treatments

Shubayqa 1, occupied in both the Early & Late Natufian, is a key site for the discussion of Natufian subadult mortuary treatments due to the assemblage's unique age demographics. Subadults account for 75% (n=21) of the total identified individuals from the site, and more than 80% of the complete inhumations (81.8%; n=9). This reflects an age distribution closer to – and even beyond - that expected by the childhood mortality of hunter-gatherer communities, though it is unclear why only Shubayqa 1, and no other Natufian site, has this distribution.

Perhaps this site represents a centralised location for the burial of very young individuals from a number of nearby communities, resulting from a situation where the burial of most infants and young children occurs outside of their home camps and settlements. This interpretation may be strengthened by the suggestions made by Richter *et al.* (2019) for the use of ochre-coated burial shrouds or funerary sacs for several infant burials. Ochre, which is known to have some antibacterial properties, may have been used to manage the smell of bodies during transportation to the site (*ibid*.).

Fragmentation is high for all ages at the site, but there is limited evidence of intentional disturbance or post-depositional manipulation of individuals. Richter *et al.* (2019) suggest that it is unlikely that the graves of the youngest infants could have been reopened due to the fragility of infant bones, as repeated opening of the grave would likely disturb or destroy the burials. However, it is possible that the high number of isolated fragments of infant bones resulted, at least in part, from the disturbance or destruction of previous infant burials. Isolated fragments, however, need not necessarily result from destroyed burials and may represent the remains of non-burial treatments such as excarnation.

6.4.2 The Value of the Head

A central assumption of the Performative Currency Model is that people will ‘spend’ their performative currency on those behaviours which they most value. This value does not necessarily have to reflect an economic or survival value, it may also reflect social norms, personal preferences, spiritual benefits, community pressures, and more. When people invest considerable Performative Currency in a mortuary practice, it is suggested that this practice holds some type of value for the people engaging in it. It is unlikely that mortuary practices had a substantial direct impact on subsistence or survival, making it far more likely that the value of these mortuary practices was associated with personal, social, or spiritual benefits.

With this suggestion in mind, it becomes clear that there was a strong and increasing value placed on the head throughout the Epipalaeolithic and Early Neolithic. In complete primary burials, the head is frequently associated with stones as grave markers, toppers, or stone pillows. Headdresses and headbands made of beads and pendants are known from Hayonim Cave (Belfer-Cohen, 1988; Grosman and Belfer-Cohen, 2022), el-Wad (Garrod, 1937; Garrod and Bate, 1937a), and Eynan (Bocquentin, 2003; Valla and Bocquentin, 2008; Davin, 2019), suggesting the head was sometimes adorned or decorated in death. And while not conclusive for all Natufian sites, the wear on the beads from Eynan (Davin, 2019) suggests these headdresses may have adorned heads in life as well. As the head is already a vital arena for social communication, it is reasonable to assume that jewellery or hairstyles added to the head may have enhanced this communication.

Post-depositional and secondary practices also increasingly focused on the head. In disturbed primary burials where one or more elements have been removed, the cranium is by far the most removed element. Acephalous burials show great care taken not to disturb the body during the re-opening of the grave, suggesting the head was likely marked to remember the specific location for months or years after the deposition. Sometimes these removed cranial elements would receive a secondary burial, resulting in abundant isolated crania, particularly in the PPNA. Some crania, including three from Azraq 18 (Appendix A; 23.01, 23.02, and 23.03), show signs of pigment application, suggesting they may have been decorated before being reburied during a phase of grave re-opening (Bocquentin and Garrard, 2016). The caching and intentional reburial of decorated and undecorated skulls highlights the value placed on these objects; they were not simply discarded when no longer needed.

The head is also prominent in the artistic sphere. Where humans are represented in figurative or incised art of the Epipalaeolithic, they are almost always represented by just the head. Carvings of stylistic human faces are known from Eynan (Perrot, 1966), el-Wad (Garrod, 1937; Garrod and Bate, 1937a), and Nahal Ein Gev II (Grosman *et al.*, 2017), and full body representations are known only from Ain Sakhri (Boyd and Cook, 1993). Preserved artistic items continue to be rare in the PPNA, though a focus on the head can still be seen in the numerous examples of figurine heads known from PPNA assemblages (Verhoeven, 2007; Christidou, Coqueugniot and Gourichon, 2009; Belfer-Cohen and Hershman, 2010). Though the full assessment of PPNA art is outside the scope of this study, the numerous reliefs of humans with malformed or missing heads from Gobekli Tepe further highlight the focus on the head throughout the PPNA (Peters and Schmidt, 2004; Mithen, Richardson and Finlayson, 2023).

This increasing value on the head was likely part of the broad social trends which led ultimately to the 'Skull Cults' of the PPNB (Croucher, 2012). There are abundant theories which purport to explain the development of plastered skulls, but each boils down to the social, spiritual, or personal benefit gained from the investment in cranial practices. Irrespective of particular interpretations, the Performative Currency required to acquire, create, curate, use, and rebury these skulls suggests that they held immense value to the individuals and communities who produced them.

6.4.3 Interacting with the Dead

In our modern Western society, we are often averse to physical interaction with the dead, particularly after the funeral ceremonies. The death taboo (summarised in detail by Walter, 1991) has resulted in – and from – the death industry, which is designed to deal with and manage death in a safe and sanitised way, separated from the home. People increasingly die in hospitals, and the body is managed and prepared by the healthcare staff. If viewings of the deceased occur as part of the funeral, the body is generally washed, dressed, posed, and made up carefully to reduce the discomfort that may be caused by the biological reality of death. After deposition, it is assumed that our loved ones will rest peacefully and permanently, as there is generally no reason to reopen the grave. Even if the body is cremated, the cremated remains are frequently placed within an opaque urn and are rarely, if ever, directly interacted with. Our mortuary norm is one of finality of the body – long-term interaction with the dead tends to be dominated by spiritual or emotional connection rather than physical contact.

In contrast, the results presented above indicate that Epipalaeolithic and Early Neolithic communities of the Southern Levant generally valued ongoing physical interactions with the bodies of their dead. Post-depositional investment is high throughout, with more than a third of the total burial assemblage producing evidence for having received at least some such interaction. This type of interaction also broadly increases throughout the Epipalaeolithic-Neolithic transition; where sample sizes are sufficient, there is a clear trend of increasing numbers of burials scored at a Considerable (3) in post-depositional manipulation. This increase in post-deposition treatment suggests this interaction increases in value through time, and that the social benefit of interacting with the dead prompted the elaboration of this behaviour.

In light of this high-value interaction with the dead, the cemetery sites of the Late Natufian are an interesting phenomenon. These burials were placed outside of a central occupation area, which – it can be assumed – made it more difficult to engage in ongoing interaction. However, disturbed primary burials are well attested at both Hilazon Tachtit and Raqefet Cave, which are both true cemetery sites. Furthermore, the potential cemetery sites of

Late Natufian Hayonim Cave and Late Natufian Eynan also have abundant secondary burials, and some disturbed primary burials existed outside occupation areas. If a community had to go long distances to physically interact with their dead, who had been buried offsite, this further highlights the immense social value which this interaction must have held within these communities. The placement of individuals at these sites also attests to a high degree of intentionality in the placement and continued interaction with the dead buried there, as community members would have had to travel to these sites – potentially carrying bodies or tools necessary for mortuary practice – for the purpose of initial deposition and ongoing interaction with the dead.

6.5 Conclusion

The Performative Currency model provides a novel way to investigate mortuary treatment through the lens of performance and social value. The case study presented here has demonstrated the importance of re-evaluating the existing mortuary assemblages within the archaeological record and the value of considering all aspects of mortuary treatments. These results demonstrate increasing investment in post-depositional practices and long-term interaction through the Epipalaeolithic-Neolithic transition of the Southern Levant. They also demonstrate a clear difference in the level of Performative Currency investment between adults and subadults, further supporting the identification of social differentiation within these periods. Furthermore, the focus of Performative Currency investment on the head of the deceased demonstrates the early stages of the skull-focused mortuary practices, which come to dominate the PPNB mortuary record.

The novel model presented here allows for the identification of practices and behaviours which hold high social value within a community and can help to reveal social norms, thoughts, and even emotions which may otherwise be lost to time in the archaeological record. However, in order for the Performative Currency model to best improve our understanding of the social world in these ancient communities, this Performative Currency investment evidence must be properly contextualised within existing knowledge of traditional mortuary and osteological analyses, subsistence and economic information, population dynamics, and other archaeological data. The final chapter of this thesis will present a cumulative discussion, incorporating the results from all preceding chapters to present an updated and complete summary of Epipalaeolithic-Neolithic mortuary practices and what this data can reveal about the social lives of people living within these ancient communities.

7 Discussion and Conclusion

7.1 Introduction

Throughout the preceding chapters, I have presented an updated synthesis of the published Epipalaeolithic and Early Neolithic burials in the Southern Levant. Chapter 3 described the overall assemblage and provided detailed descriptions of the outstanding burials and key sites within this study. The case studies presented in Chapter 4 highlight the incomplete nature of our mortuary archaeological record and draw attention to the selection biases which may have impacted the demographics of the burial samples. Utilising the traditional analyses described in Chapter 5, I have demonstrated strong evidence for social differentiation, though no stratification, throughout the Epipalaeolithic-Neolithic transition and have argued against using ancestor worship as the default interpretation for the dead during these periods. Finally, the novel methodology used in Chapter 6 demonstrated how Performative Currency is differentially invested between subadults and adults, and how this investment is differentially distributed, prioritising certain mortuary practices over others.

It is now essential to draw connections between the phases of analysis presented in this work to best develop well-informed interpretations of the social lives and deaths within these past communities. It is necessary to explore both longitudinal trends and site-specific variations to recognise the diversity present within these mortuary assemblages. First, I will briefly summarise the available results for each period under study. Second, I will highlight the longitudinal trends evident throughout these results. Finally, I will present a thorough discussion of the social contexts, values, and motivations which underlay the investment of Performative Currency within the mortuary practices of the Epipalaeolithic-Neolithic transition of the Southern Levant.

7.2 Summary of Results

7.2.1 The Early & Middle Epipalaeolithic

The Early & Middle Epipalaeolithic is a long period, spanning from ca. 24,000 – 15,000 cal. BP (Stutz, 2004; Maher, Richter and Stock, 2012; Grosman, 2013). In the Southern Levant, the Early Epipalaeolithic is generally synonymous with the Kebaran, and the Middle Epipalaeolithic is generally synonymous with the Geometric Kebaran, though other entity labels exist within these periods (Maher, Richter and Stock, 2012). As discussed in Chapter 2, these periods are dominated by small, ephemeral sites interpreted as camps belonging to highly mobile hunter-gatherers (*ibid*.). Larger sites, such as Jilat 6 (Garrard and Byrd, 1992) and Kharaneh IV (Jones *et al.*, 2016; Ramsey *et al.*, 2016), are interpreted as seasonal aggregation sites, accounting for the thick and dense archaeological deposits identified at these sites.

Burials throughout these periods are exceptionally rare, with only one known individual for every 474 years throughout the whole (section 3.4). The Early & Middle Epipalaeolithic (EME) assemblage is dominated by adults, the majority of whom are male. Though the burial sample is small, there is overall a high level of Performative Currency investment in EME burials suggesting that the infrequent burial of an individual necessitated higher levels of time, energy, and resources, as demonstrated in Chapter 6. The Early & Middle Epipalaeolithic has a significantly higher mean Performative Currency score than any other period within this study, suggesting that while communities did not regularly invest in burial as a practice, individual burial events afforded considerable investment of physical labour.

Grave inclusions are frequent within the Early & Middle Epipalaeolithic, most commonly in the form of tools, stones, and animal remains. Beads are exceptionally rare as a grave inclusion, though they are known from occupation layers (Maher, 2007; Maher, Richter and Stock, 2012; Baysal, 2019). Architectural associations are limited, as few examples of structures are known within these periods. Single, undisturbed primary burials dominate the EME assemblage, though some secondary burials are known. This period also has the highest proportion of identifiable pre- and peri-depositional treatments within this study, of which males receive more than females. Though the sample size is too small to draw statistically significant conclusions, this pattern of higher pre- and peri-depositional practices among males is an outlier in comparison to the other periods in which females score higher in this category.

7.2.2 The Early Natufian

The Early Natufian is the first phase of the Late Epipalaeolithic, and dates from ca. 15,000 – 13,500 cal. BP (Stutz, 2004; Maher, Richter, and Stock, 2012; Grosman, 2013). The Late Epipalaeolithic is separated from the Middle Epipalaeolithic by the presence of lunates as the dominant microlithic tool, and the Early Natufian lunates have a high proportion of Helwan retouch (Chapter 2). Though continuity with the Early & Middle Epipalaeolithic is evident (Maher, Richter and Stock, 2012; Richter and Maher, 2013), the Early Natufian represents a considerable departure in occupation intensity, architectural features, and burial frequency. Within the Late Epipalaeolithic as a whole, there is approximately one burial known for every 6.8 years, representing a nearly 70-fold increase in burial frequency compared to the preceding Epipalaeolithic periods.

The Early Natufian has the highest proportion of subadult individuals of any period within this study, and the lowest proportion of females among the sexable adults. Extended supine burials are more common than in the Late Natufian, though flexed side burials are well represented in this period. Inclusions are fairly common, including beads, which are largely absent from other periods.

The Early Natufian has a low mean Performative Currency score in comparison to the EME, and adults in the Early Natufian have a significantly higher mean score than the subadults. About a quarter of the graves are constructed using stones, and nearly a third of all burials are located within or beneath an architectural feature. This period has the least investment in the post-depositional treatments of any period within this study, as only 18% of individuals have some type of identifiable post-depositional practices. Few examples of isolated crania exist within this period, but 80% (n=4) of the ageable crania within this period belong to infants and young children.

7.2.3 The Late Natufian

The Late Natufian is the second phase of the Late Epipalaeolithic, and dates from 13,500-11,500 cal. BP (Stutz, 2004; Maher, Richter, and Stock, 2012; Grosman, 2013). In comparison to the Early Natufian, the Late Natufian is dominated by very small lunates and a lower frequency of Helwan retouch. There are also fewer identified architectural features within the Late Natufian, often leading to the interpretation of the Late Natufian as less sedentary than the earlier phase (Lieberman, 1993; Valla, 1993, in comment to Lieberman, 1993).

Uniquely among the periods presented in this work, the Late Natufian has a higher frequency of female burials than males among the sexable adults, a distribution which differs significantly from that of the Early Natufian. As with the Early Natufian, there is also a fairly high frequency of subadult burials. Flexed and tightly flexed burials dominate this sample, with no clear preference for side. The Late Natufian has the highest frequency of secondary burials, which may further support the interpretation of greater mobility in this period.

The Late Natufian has the lowest mean performative currency score of any period, though all of the highest-scoring individuals (a Performative Currency score of 8) belong to this period. Adults have a slightly higher mean score than subadults, and females have a slightly higher mean than males, though both differences are insignificant, suggesting that overall, individuals tended to receive similar levels of mortuary investment in this period. Approximately 40% of all Late Natufian individuals received some kind of post-depositional treatment, occurring in roughly equal frequencies between the age and sex categories. Isolated crania are infrequent in this period, while acephalous burials are slightly more common, though there is a roughly equal balance of adults and children within both burial types.

The Late Natufian cemetery sites (discussed in Chapter 6) present a particularly interesting phenomenon. Though their existence outside of a central occupation site suggests that the bodies were moved to this location from elsewhere, there are no documented secondary burials or isolated crania within the known cemetery sites, Hilazon Tachtit and Raqefet Cave, suggesting the practice of secondary burial and use of cemetery sites were perhaps being used to fulfil different needs within these communities. These types of burials would be expected in higher frequencies as moving a whole and fleshed body is considerably more ‘costly’ than moving individual bones.

7.2.4 The Pre-Pottery Neolithic A

The Pre-Pottery Neolithic A (PPNA) of the Southern Levant is the first period of the Neolithic, beginning around 11,500 cal. BP and lasting for approximately 1000 years (Aurenche *et al.*, 2001; Stutz, 2004). As discussed in Chapter 2, PPNA settlements are larger and more densely occupied than any Epipalaeolithic site, suggesting an increasing degree of sedentism and occupational intensity. Though agricultural practices are generally well documented within this period, hunting and gathering continued to dominate subsistence strategies. The burial remains of the PPNA are often described as an incipient – and therefore, less elaborate – version of the PPNB skull-focused practices (Croucher, 2005, 2012).

Roughly a quarter of all PPNA burials belong to subadults, a considerable reduction from the Late Epipalaeolithic. Among the sexable adults, there is a roughly equal frequency of male and female burials, which differs significantly from the sex distribution of both the EME and the Early Natufian. Flexed and tightly flexed burials dominate as they do in the Late Natufian, though the frequency of seated burials is noticeably higher in the PPNA. Burials are almost always devoid of included items, with the possible exception of some items described by Mithen *et al.* (2015; 2018) from Wadi Faynan 16, which may be inclusions or accidental associations originating from the fill of graves.

The distribution of burials by burial type is the only category which completely separates the PPNA from the Epipalaeolithic as a whole. The PPNA is the only period in which undisturbed, primary burials do not account for the majority of known burials. Instead, there is a particularly high frequency of secondary burials and isolated crania.

The mean performative currency score of adults in the PPNA is significantly higher than that of subadults. In particular, adults receive significantly higher mean scores in both pre- and peri-depositional treatments, and in post-depositional treatments, suggesting a considerably greater investment in the preparation and long-term interaction within adult funerary practices. More than half of all individuals within the PPNA have some type of post-depositional treatments, however, suggesting an overall increase in the value and importance of this behaviour within these early Neolithic communities.

7.2.5 Trends and Changes

7.2.5.1 Demographics – Who was buried?

As demonstrated in Chapter 4, subadults could be expected to account for as much as 50% of the total number of dead within hunter-gatherer communities, due to the high rates of infant and child mortality (Hewlett, 1991; Pennington, 2001; Bocquentin and Nous, 2022). In particular, infants and young children should make up a considerable proportion of the dead, as these ages are extremely susceptible to disease and nutritional deficits (*ibid*.) Though subadults are considerably better represented in the Late Epipalaeolithic than in the Early & Middle Epipalaeolithic or the PPNA, these age categories are still underrepresented in all periods compared to expected death frequencies. Therefore, a general trend can be identified of the frequent or systematic exclusion of young individuals from burial treatments within these communities. This trend is not exclusive to the Epipalaeolithic-Neolithic transition of the Southern Levant, however, as it is relatively frequent in archaeological contexts to see subadults – especially infants – underrepresented within burial remains (Guy, Masset and Baud, 1997; Bocquentin and Noûs, 2022).

Age demographics demonstrate that the Early & Late Natufian periods are more similar to each other than either is to the preceding or succeeding periods. However, the sex demographics tell a different story. In both the Early & Middle Epipalaeolithic and the Early Natufian, males are buried at a considerably higher frequency than females. This shifts abruptly in the Late Natufian, where females are buried at a higher frequency than males, and in the PPNA with a roughly equal distribution of both males and females. This means that in terms of sex distribution, the Early Natufian is more closely continuous with the Early & Middle Epipalaeolithic, while the Late Natufian more closely aligns with the PPNA.

This suggests that while there is an overall increase in the frequency of burial, there is not a linear increase in the inclusiveness of burial selection criteria within these communities. Burial cannot be said to be the norm within any site under study due to the low frequency of burials, a pattern which is also present in the Bronze Age of the Levant (Bradbury and Philip, 2017b). Furthermore, burial was not afforded to all individuals equally, with the possible exception of Shubayqa 1. The fluctuations in proportions of both females and subadults indicate that the burial of these identities was not consistent throughout these periods and was subjected to site-specific and group-specific decisions about who to bury and when.

7.2.5.2 Practices and Investment – What treatments were they given?

Unlike the demographics of burials, changes in practices do appear to occasionally follow a somewhat linear transition or development, though this conclusion is somewhat limited by the lack of sufficient radiocarbon dating in the region. Flexed burials become increasingly common throughout these periods, as do seated or semi-seated burial positions, accompanied by a considerable reduction in extended supine burials, which had dominated the Early & Middle Epipalaeolithic and Early Natufian. This suggests a shift occurred at the onset of the Late Natufian, resulting in a reduced importance in extended positions within the grave.

The steady increase in disturbed primary burials and the presence of isolated crania suggest a somewhat linear adoption of the practice of long-term interaction with the dead body. Though this shift begins slowly within the Late Natufian, where both disturbed primary and isolated crania burials are more frequent than in the preceding periods, it is within the PPNA that these behaviours become particularly intense, perhaps suggestive of an increasing emphasis on the localization of human communities within their communities or houses (Watkins, 2023). The frequency of post-depositional manipulation increases steadily throughout the Natufian and into the Neolithic, suggesting an increasing value of this type of treatment.

Constructed graves broadly decrease through time, with an overall reduction in both frequency and intensity of constructive elements within burials. Likely associated with this trend, there is a general trend of increasing architectural associations for burials within these periods, though the Late Natufian has somewhat fewer architectural associations than the Early Natufian. Furthermore, the PPNA, as the period with the lowest constructive scores, also has the highest frequency of burials placed within architectural features. This likely suggests that the placement of burials within pre-existing structures negated the need to create constructed burials.

Finally, there is a clear and steady decline in the frequency of inclusions within burials in these periods. Burials are overall infrequent within the EME, but these burials commonly include inclusions such as stones, tools, animal remains, and pigments. Within the Early Natufian, burials with inclusions are also relatively common, and beads dominate this category. Inclusions overall, and beads specifically, decrease in frequency during the Late Natufian before disappearing almost entirely in the PPNA. As has been discussed (section 5.4.1.3), beads are frequently identified in occupation layers throughout all periods within this study (Bar-Yosef Mayer and Porat, 2008; Maher, Richter and Stock, 2012; Baysal, 2019). This suggests that the importance of beads as personal ornamentation items was high throughout these periods, but their value as inclusions for the deceased changed substantially in the Late Epipalaeolithic.

7.3 Social Lives and Social Deaths of the Epipalaeolithic-Neolithic Transition

7.3.1 Identity and Expression in Death

The totality of burial evidence presented in this thesis does not demonstrate any conclusive evidence for social stratification, hierarchy, or elite corporate groups within any period under study. This is not to say that these communities were entirely egalitarian – only that if emerging durable social hierarchies did exist, they are not presently evident among the burial remains that are known. Alongside Bocquentin (2003), Boyd (2001), and Belfer-Cohen (1995), my results do not support the interpretation of Natufian burial diversity as resulting from social stratification.

It must be noted, however, that while burials cannot be taken as reflective of social rank, they are somewhat reflective of identity. As identity is a highly diverse and mutable condition (Diaz-Andreu *et al.,* 2005), so too is the burial evidence diverse and complex. In all periods, and at almost all sites, there are greater numbers of adults than subadults – a pattern we would not expect in a random sample of pre-vaccine communities. In general, the low numbers of subadults, particularly infants, at nearly every site indicate some degree of intentional selection for older group members within mortuary practices. Infants may have been treated to other archaeologically invisible treatments, such as abandonment (Pettitt, 2011), or it is possible that infants were buried outside of central occupation areas, resulting in these burials being missed by typical excavation strategies.

Outside of the Late Natufian, adult males outnumber adult females among the sexable adults in these burial samples. This, too, deviates from the pattern expected of a random sample from a typical population, in which adult males and females are generally present in roughly equal numbers. As with very young subadults, females may have been buried elsewhere or subjected to non-visible treatments. This suggests that both age and sex were demographic factors impacting differential treatment in death. And while we cannot be certain, these factors likely formed part of individuals' identities in life. If these communities differentiated their deceased by age or sex, it would be parsimonious to assume these differentiations existed between living individuals.

Personal identities may encompass other elements, both intrinsic and extrinsic, which could be reflected in burial practices. Life experiences such as injuries and illness, skills and achievements, and even personal relationships can all form part of an individual's identity. At Eynan, the adults buried in Locus 240 provide an example of a situation in which both skills and relationships may have been identity factors in burial for this community (Bocquentin and Nous, 2022). Individuals within this locus had matching tooth wear – indicative of using the teeth as tools – suggesting that individuals who shared a craft specialisation were buried together (*ibid*.).

Beads and personal ornamentation may also be used to reflect a personal identity within living or mortuary contexts, though social display or personal expression (Baysal, 2019). Individuals may have worn certain beaded items to express or communicate a personal identity, which may account for the diversity in bead distribution within burials of the Late Epipalaeolithic. Furthermore, beads and other elements of personal ornamentation may be closely linked to concepts of self and bodily perception. As discussed by Malafouris (2008), objects which are of considerable importance to an individual may become seen as part of that individual, entangling material culture with personal identity and sense of self. Nowell and MacDonald (2024) have argued that beads and other personal ornaments within the Epipalaeolithic-Neolithic transition may have been as much a representation of identity as they were an extension of a person and personhood.

Group identity within these communities is often well-attested through the burial evidence presented within this thesis. The differences in the location of beads along the bodies demonstrate that individuals buried at Hayonim Cave, Eynan, and el-Wad Cave each wore beaded items reflecting group norms and patterns. At el-Wad, beads of *dentalium* and other materials are frequently found on or near the head, indicating that the beads were worn on caps or other headdresses. At Hayonim Cave, beads found near the arms, wrists, and hands seemingly indicate the use of bracelets or arm bands. At Eynan, beads are most frequently found along the body or across the neck and chest, indicating the use of belts, necklaces, or beads sewn onto clothing. While it is possible these beads were worn only in death, the use wear on beads from Eynan (Davin, 2019) demonstrates that the beads were likely worn for some time in life before their deposition. If this use wear pattern is the case at other sites, this may suggest that each of these three communities wore different beaded items, reflecting group trends of fashion and identity.

Besides beads, burial norms and patterns also demonstrate group identity. At Shubayqa 1, for example, the age demographic, which is not seen at any contemporary site in the region, may suggest a social norm of infant burial which differed from other Late Epipalaeolithic sites. It may be that Shubayqa 1 infants were afforded a unique personhood than infants from other sites, or that the action of burial held a different social value to the community at Shubayqa 1. It is possible, though difficult to demonstrate within the burial remains, that this differing identity of Shubayqa 1 infants may also have impacted differing identities for older children and adults within this community relative to contemporary Natufian communities.

Earlier in the Epipalaeolithic, Uyun al-Hammam is also somewhat different from contemporary sites due to the frequency of burials. While most other Early & Middle Epipalaeolithic burial sites have only a few individuals, Uyun al-Hammam has 10 known individuals. This suggests that burial at this site may have held a unique social value to the community here in comparison to other Early & Middle Epipalaeolithic communities in the region.

It is worth considering that group identity may also be mutable and complex within these periods and thus may not be neatly reflected in the burial practices. We do not yet fully understand the movements of people within and between these groups during the Epipalaeolithic-Neolithic transition – though available oxygen and strontium isotopic data indicates considerable movement within the Epipalaeolithic (Santana *et al.,* 2021; Fernandez-Dominguez, 2023) - nor do we understand how individuals may have identified themselves if they held multiple group affiliations. It may be that some individuals were born outside of the group in which they are buried, for example, in matrilocal or patrilocal communities, and thus may have had burials reflective of all their group identities (*ibid*.). Burial areas may have also been used by more than one community. Cemetery sites such as Raqefet Cave and Hilazon Tachtit are reasonably close to a handful of other known sites, which may have been contemporary. It is therefore possible that cemetery sites reflect a communal burial area for more than one group with distinct identities. Similarly, aggregation sites such as Kharaneh IV may have held the remains of more than one group within the same location (Maher *et al.,* 2016).

Group identity and relationships between groups are difficult to assess archaeologically, particularly in the Southern Levant, where preservation of DNA is limited. Ongoing studies are assessing the movements of people, revealing patterns of locality and migration with the region, will help to better understand group identity and affiliation with the burial assemblages of these periods. These studies also have the potential to evaluate the use of cemetery and aggregation sites, allowing us to understand the nature of group connection and relationships between contemporary communities within the region.

7.3.2 Localising Personhood in the Body

Throughout the Epipalaeolithic-Neolithic transition, there is a clear and increasing focus on the head of the deceased. At Uyun al-Hammam, some bones, including crania, were moved between graves within the site (Maher *et al.*, 2011). The cranium of a red fox was also apparently moved between grave pits, suggesting this skull-focused treatment was not entirely restricted to the humans of the site (*ibid*.). In the Early Natufian, there are a handful of isolated crania known. At Azraq 18, two of these crania, which had been moved within the pit, had staining across the bones consistent with deposition in a pigment-stained basket or shroud (Bocquentin and Garrard, 2016). As none of the other bones within this pit had similar staining, it can be assumed that the basket or shrouds were specific to the crania rather than the whole body (*ibid*.). In the Late Natufian, acephalous burials appear at some sites, involving the intentional post-depositional removal of the crania from the grave pit without disturbing the rest of the body. At Raqefet Cave, an adolescent within one of the flower-lined pits had their cranium carefully removed, leaving the mandible in place (Nadel *et al.*, 2013). By the PPNA, isolated crania are particularly well documented. At Jericho, two caches of post-depositionally removed crania are known, each organised in a careful pattern (Kenyon and Holland, 1981).

Beyond direct manipulation of the skulls, many mortuary treatments are directed toward the crania of the deceased (Fig. 7.1a,b). For example, beads are frequently found on or near the head, suggesting their use on caps or headwear, as seen with *dentalium* beads from el-Wad (Garrod, 1937) and bone pendants at Hayonim Cave (Grosman and Belfer-Cohen, 2022). Stones or sometimes groundstone tools are frequently found next to, on, or above the heads, as seen at Raqefet Cave (Nadel *et al.*, 2013; Rosenberg *et al.*, 2020) or Nahal Oren (Rosenberg and Nadel, 2014; Eitam, 2020). As pointed out by Bocquentin (2003), where identifiable, individuals buried in caves are generally oriented such that their skulls or faces point towards the cave mouth. Outside of the burial remains, heads are a common motif in Late Epipalaeolithic art, including examples from Eynan (Fig. 7.1d; Perrot, 1960), el-Wad (Garrod, 1932), and Nahal Ein Gev II (Fig. 7.1c; Grosman *et al.*, 2017).

Taken together, this evidence demonstrates that consideration and value of the body were not equally applied to all parts of the body. The head is treated with considerably more attention, time, and resources – and therefore considerably higher performative currency investment – than the rest of the body, a trend which increases in intensity through time within the periods under study here. And though it is beyond the scope of this study, the presence of plastered skulls, skull caches and so-called 'skull cults' within the archaeological record of the PPNB (Croucher, 2005; 2012) suggests that this trend of increasing skull-focused investment of performative currency extends into later phases of the Neolithic beyond this study.

I suggest that the focus of the head within the mortuary remains of the Epipalaeolithic-Neolithic transition, alongside the increasing desire to interact with the skulls after death (discussed further below), demonstrates a substantial shift in the way that humans viewed themselves and their bodily experience of personhood during these periods (Fowler, 2004). The increasing value of the head, in death and likely in life, implies that the head, rather than the whole body, was increasingly seen as the bodily location of personhood and consciousness. Modern psychology experiments demonstrate that both children and adults today generally view the self as being located behind the eyes

(Starmans and Bloom, 2012), and the evidence presented here may suggest that Epipalaeolithic and early Neolithic peoples held similar bodily perceptions. If the head was seen as the location of identity and personhood in life, the skull would become a powerful symbol of personhood and identity in death.

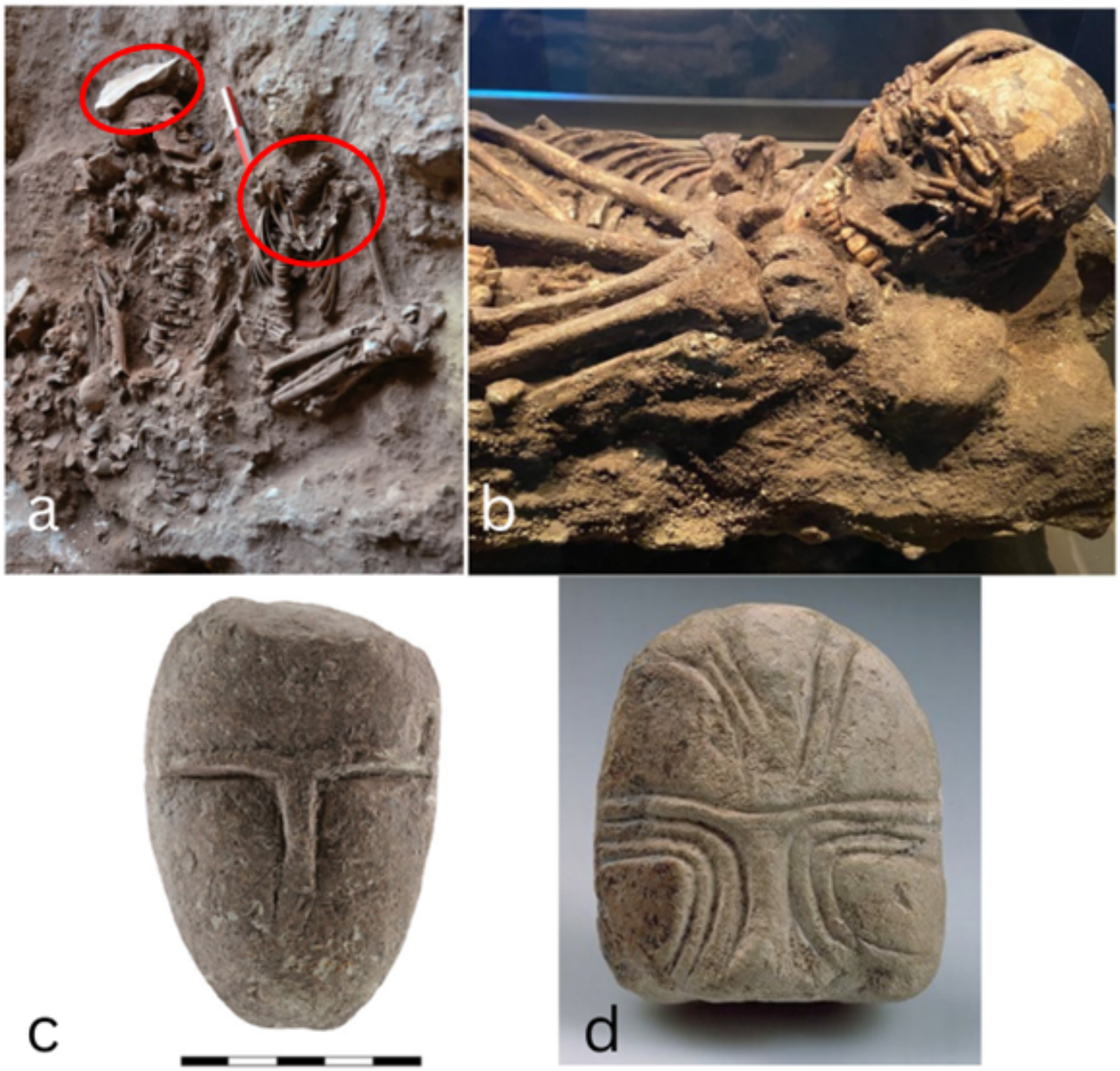

Figure 7.1: Examples of head-focused mortuary practices. a) Burial H25-H28 at Raqefet Cave, including a stone placed against the crania of H25 and the removal of the crania of H28; b) H25 from el-Wad cave, with a headdress of dentalium beads (photo by author, Israel Museum); c) carved head from Nahal Ein Gev II (Grosman et al., 2017); d) carved head from Eynan (Israel Museum)

Archaeologists like Cauvin (2000), Kuijt and Goring-Morris (2002), and Mithen (2019) , among others, have argued that the Epipalaeolithic-Neolithic transition is characterised by a transition or 'evolution' of the mind. For Kuijt and Goring-Morris (2002), this shift occurs as a response to the novel challenges presented by a sedentary agricultural existence, such as increased social pressure. For Cauvin (2000) and Mithen (2019), this mental shift is the cause of the transition to agriculture, as the cognitive changes were necessary for the development of a Neolithic lifeway. It is certainly beyond the scope of this study to determine the direction of this causality, if any existed at all, though the flourishing of art and shrine-like features in the Neolithic suggests that consideration of this potential mental shift is worthwhile.

The localisation of personhood within the head for these Epipalaeolithic and early Neolithic communities suggests a conceptualisation of the separation of body and mind – or body and spirit – which may be an important element in the belief in ancestral spirits, ghosts, and many other supernatural human entities. It, therefore, seems that the cranial evidence within these mortuary assemblages is a recognition that whatever essence makes a person a person – be it a spirit, soul, mind, or any other analogous term – in some way remains tied to the physical remains of a deceased person in a way that is accessible to the living community. It may be that the skull was seen to contain this personhood after death, or that the skull was an empty container symbolising the personhood it once held.

The crafted cranial representations of the Late Epipalaeolithic may also have served as literal or symbolic containers of personhood, which once resided in a living person. As has been suggested by Pearson and Meskell (2015) for the anthropomorphic representations at Çatalhöyük, representations of the human body often mirror the conceptualization of the physical body. This means that figurines and other anthropomorphic art may be able to stand in for human bodies or body parts in social contexts (*ibid*.), functioning as a container for the personhood it is meant to symbolize. As highlighted above, beads and other personal ornaments may have also held personhood in a similar way (Nowell and MacDonald 2024), and their absence from Late Natufian and PPNA burial contexts may reflect a desire by the living for continued interaction with the dead through interaction with personal objects seen to contain their personhood.

The perception of self as localized within the head shapes a person's interaction with the world, with other persons, and with animals within the environment who may or may not be seen as 'persons' with distinct minds or spirits. For example, it may be that the cranial treatment of the fox at Uyun al-Hammam, which mirrors the human cranial treatment, is indicative of a type of personhood given to this fox, not unlike our beloved companion animals today. We can never know for sure, but the relationship between human and non-human animals that apparently emerged throughout the Epipalaeolithic-Neolithic transition appears to hint at the unique place of dogs as companion animals within human social units.

The experience of bodily personhood within archaeological contexts is a worthy and valuable research avenue which has the potential to both answer and create interesting research questions. A future focus in this area may be to explore the relationship between the body and anthropomorphic art, both in the Epipalaeolithic and in other prehistoric contexts, to develop a broader interpretation about the experience of personhood, and ultimately what it means to be human. Integrating interdisciplinary methods of analysis and broad interpretive frameworks from fields such as sociology, anthropology, art history, and psychology would greatly strengthen archaeology's ability to explore the creation and negotiation of personhood and identity within human communities of the past.

7.3.3 The Dead as Things and People

In the Early & Middle Epipalaeolithic, it is clear that burial was a rare event necessitating considerable performative currency investment when it was performed. Given the very low number of burials at most Early & Middle Epipalaeolithic sites, it is likely that members of these communities may have lived their whole lives never seeing a burial practice take place. It is, therefore, unsurprising that when burials did occur, these rare events warranted some degree of spectacle (Hodder, 2006). As has been described by Maher *et al.* (2021), the burial within Structure 2 at Kharaneh IV involved the intentional destruction of the structure and body within by fire, which would have been highly visible to the community or communities aggregating at the site. Throughout the period, grave inclusions are frequent and these items – stones, tools, and animal remains – often mirror items found in non-burial occupation contexts (Maher, Richter and Stock, 2012). The high frequency of identifiable pre- and peri-depositional practices in comparison to the later periods within this study suggests that bodies were prepared carefully for burial within these early Epipalaeolithic phases.

Because burials are so exceptionally rare in the Early & Middle Epipalaeolithic, it is difficult to identify any common trends or overarching patterns within the cultural or social practices. That is to say, the diversity in burial practices in this period is high. If burial was so infrequent as an event that people within these communities may have never even seen a burial practice occur, it is likely that these practices would have been built around a response to the individual situation rather than reflecting strict adherence to cultural norms. It can be assumed that cultural norms would be difficult to enforce across generations within such an infrequent behaviour. It is therefore not surprising to see that this period often deviates from the general pattern, which appears in the other three periods under study throughout the results presented in this thesis.

In the Late Epipalaeolithic (Natufian), there is an apparently abrupt shift in burial frequency. What was an exceedingly rare event in Palaeolithic and earlier Epipalaeolithic communities became a practice which was relatively common. Of course, a burial frequency of one burial every 6.8 years is far from a normative behaviour (see section 3.5), but this frequency is high enough that the average person within these communities had likely witnessed a burial at some point during their life. In communities where burials were known and experienced somewhat frequently, social and cultural norms could be expected to play a bigger role in regulating the performance of these mortuary practices than they would have within the Early & Middle Epipalaeolithic.

The Early Natufian, then, is one of the first periods in human history where burial was frequent enough to be part of the average human's lifetime experience, and therefore frequent enough for the establishment of some social or cultural norms surrounding the performance. It is, however, important to stress that even if burial was becoming increasingly common, and therefore subject to some cultural norms, the behaviour itself was not the normative practice for managing the dead. The Natufian lacks evidence for any clear social structures such as corporate groups, elite classes, or central power, which would be expected for the creation and enforcement of strict social norms. This lack of institutional control likely explains the incredible diversity still visible within the emerging patterns of burial practices throughout this period.

A striking pattern of burial practice, which can be seen in the Early Natufian, is the visibility of burial as a practice. These burials are placed within central occupation areas, located near structures or hearths, or within the mouths of caves which were intensively occupied, suggesting that these burial locations were well known and potentially visible throughout the use of the site. Though it is difficult to demonstrate how visible these burials would have been after deposition was complete, there seems to have been no effort to hide or mask these burials; their location was known and understood as part of the layout of the site, as evidenced by the creation of structures above and around them.

The bodies themselves within the Early Natufian also frequently have visible elements, suggesting they were meant to be seen during deposition. Extended supine burials, where the body is laid out within their grave pit, are frequently identified, and many graves have inclusions of beads, tools, and large stones. This suggests that the body was meant to be observed within its grave during deposition, as an effort was made to create a visual experience for the audience viewing this mortuary performance. The high investment in visibility of the burial suggests that the deposition itself was socially important; that is, the action of burial rather than – or alongside - the deceased held the social value. This high value of burial, when considered alongside the low frequency of secondary burials and post-depositional manipulation, suggests a degree of finality for these burials. Within these communities, burials were intended to be the final time an individual might interact physically with their loved ones, and thus, a great deal of effort was put into this final 'goodbye'.

This pattern shifts in the Late Natufian, as visible elements of the burial begin to decrease. Grave inclusions become less frequent, and personal ornamentation within graves disappears almost entirely. Extended supine burials also decrease considerably, in favour of a growing number of flexed or tightly flexed burials with the bodies positioned on their sides. Burials are also less frequently associated with structures at the centre of occupation sites and are sometimes located entirely outside of occupation sites, as is the case at Raqefet Cave and Hilazon Tachtit. This is not to say that visibility is entirely unimportant within these burials, as some Late Natufian burials continue to be highly visual, including the ‘Shaman’ of Hilazon Tachtit (Grosman, Munro and Belfer-Cohen, 2008) and the floral grave linings known from Raqefet Cave (Nadel *et al.*, 2013), which would have been visually striking for the audience in attendance.

Alongside the general decrease in visibility, there is a growing investment in the long-term interaction with the dead in the Late Natufian, through the repeated reopening of the graves. Cranial removal – as attested by acephalous burials and isolated crania – became an intentional, if somewhat infrequent, practice within the Late Natufian. This suggests that the physical burial itself was slowly decreasing in social value, in combination with an increasing value on interacting with the dead. It is, perhaps, the dead themselves, as emerging social personae, who were gaining social value and importance during this final stage of the Epipalaeolithic.

In the PPNA, visual elements of burials are even rarer than they are during the Late Natufian. Burials are rarely decorated, and extended supine burials are nearly absent. However, unlike the Late Natufian, burials are again localised within central occupation areas and frequently found closely associated with architectural features, suggesting an increasing focus on the home site (Watkins, 2023). Post-depositional manipulation of the remains is extremely high, with about half of all individuals subject to the movement of, or removal of, remains from the primary grave pit. Caches of isolated crania and individual isolated crania are known from both Jericho and Wadi Faynan 16 (Kenyon and Holland, 1981; Croucher 2012; Mithen *et al.,* 2018), with the former involving the careful grouping and arrangement of crania. This suggests that the burial act itself was less valuable than the interaction with the dead, in a similar trend to the Late Natufian.

Furthermore, the suggestion of increasing social value of the dead themselves is supported in the Epipalaeolithic and PPNA by the frequent placement of burials within structures, both as ‘foundation’ burials at the onset of construction and ‘closing’ deposits during the abandonment of the structure. Foundation burials, as described in Chapter 5 (section 5.4.1.1), are burials deposited at the base of a structure and interpreted as being used to mark or distinguish the location of the structure in a meaningful way (Molleson and Arnold-Forster, 2015). Similarly, closing burials are placed within or on top of a structure at the time of its final abandonment or construction, interpreted as being used in some way to mark or distinguish the end of the building's use within the community, as has been suggested for Structure 2 of Kharaneh IV (Maher *et al.*, 2021). These burials suggest that the dead were intimately linked with the 'life cycle' of these structures, and their placement may have served to link the structure with the dead.

The connection between the dead and the living became increasingly close within these periods, with a transition occurring from a physical closeness to a social closeness. The dead went from being physical features of the site, through the creation of grave deposits, to being social features of the community, through the interaction with the body. It has been suggested by Watkins (2023) and Finlayson (2019) that the creation of a strong social community, involving both the living and the dead, may have been a key feature of the transition to settled Neolithic lifeways. As discussed above, the interaction which focuses on the head further supports the suggestion that this interaction was personal, interacting with the seat of bodily personhood. These practices are suggestive of the desire to create or maintain a relationship with the deceased after their death through interaction with their remains at a domestic scale.

It must be noted here that I am not suggesting these mortuary performances should be considered under the umbrella of ancestor worship, as is so often suggested to explain them (e.g. Kuijt, 1996; Kuijt and Goring-Morris, 2002). Ancestor worship, ethnographically, is a structured practice of worship which frequently focuses on centralised ancestors anonymised by ritual to form a collective (Fortes, 1965; Hageman and Hill, 2016; Hill and Hageman, 2016). The practices held within the Late Epipalaeolithic and Pre-Pottery Neolithic A do not have any clear evidence of centralised practice or a desire to anonymise the death. Rather, the relationship appears to be personal, intimate and domestic, where the identity of the deceased is known, and their remains are valued due to their social identity in life. Rather than a societal worship of the collective ancestors, the mortuary performances of the Epipalaeolithic-Neolithic transition are more indicative of a connection with one's own ancestry, and the extension of social bonds beyond death.

The emergence of a social relationship with the dead, one in which communities physically interact with remains of their dead on a somewhat regular basis, is one of the defining social features of the Epipalaeolithic-Neolithic transition. Croucher's (Croucher, 2005, 2012) reviews of mortuary data in the PPNB and PPNC throughout Southwest Asia appear to suggest that this social interaction with the dead continues to intensify through the Pre-Pottery Neolithic and perhaps into the Pottery Neolithic. However, it is beyond the scope of the current work to draw conclusions on the social relationships between the living and the dead in the later Pre-Pottery Neolithic.

Furthermore, it appears that the artistic expression throughout the Pre-Pottery Neolithic and beyond in Southwest Asia may reveal more clues about concepts of personhood in life and death in these periods. The representation of the human form through art is a phenomenon which arises in the Upper Palaeolithic in the form of the so-called Venus figurines (Pettitt, 2006; Hirst, 2018), but it is within the Pre-Pottery Neolithic of Southwest Asia that this figurative representation intensifies to become a somewhat normative practice within these communities (Kuijt and Chesson, 2004; Vurdu, 2024). Art which represents the human form, in all periods, has the potential to reveal to us how the artists and their communities thought about themselves, humanity, and people's relationships with the world around them. While considerable work has been established to explore the artistic representations of the later Neolithic, specifically at sites like Çatalhöyük (Nakamura and Meskell, 2013; Pearson and Meskell, 2015), the Late Epipalaeolithic and Pre-Pottery Neolithic figurative representations should be a focus for future research.

7.4 Conclusions

In her first publication on the Natufian of the Southern Levant, Dorothy Garrod described the remains of at least 51 individuals from both Shukbah and el-Wad Cave (Garrod, 1932). At the time of its publication, Garrod's (1932) paper was one of the first to confidently identify a Mesolithic industry within the Southern Levant, filling a gap in archaeological knowledge which at the time spanned from the Upper Palaeolithic to the Early Bronze Age. Garrod quickly began speculating about the burial practices within these periods, suggesting the frequency of stones within burials may be to "…prevent the ghost from walking" (1934 pp. 138), and suggesting that the decorated skeletons at el-Wad "…belong to individuals having a special position in the community" (1937 pp. 127). Garrod's interest in the human remains from the newly identified archaeological entity would be shared by countless archaeologists over the subsequent century, resulting in thousands of publications.

Today, the Southern Levantine Late Epipalaeolithic (Natufian) burial assemblage is known to consist of more than 500 individuals. This assemblage has been presented in this thesis, alongside the burial remains from the Early & Middle Epipalaeolithic and the Pre-Pottery Neolithic A from the region. The total published assemblage available at the time of writing, therefore, amounts to nearly 700 individuals who lived and died within the Southern Levant from the beginning of the Epipalaeolithic (ca. 23,000 cal. BP; Stutz, 2004) until the end of the PPNA (ca. 10,500 cal. BP; Aurenche et al., 2001; Stutz, 2004). Archaeological excavations and publications on the region continue, however, and it certainly will not be long until new burial remains are published. Chapter 3 and Appendix A provide a thorough description of this assemblage and the sites from which these mortuary remains come.

The case studies presented in Chapter 4 demonstrated that the known mortuary remains of the Natufian are incomplete, representing far less than a quarter of all individuals who are expected to have lived at these sites. Furthermore, only one case study site – Shubayqa 1 – can be said to have an approximately representative sample; all other sites have age and sex demographics which indicate an intentional selection for who would be buried and who would be excluded from the practice. Finally, this chapter highlighted the difficulty in developing population estimates for Epipalaeolithic communities. The models which are currently available were developed using modern hunter-gatherer ethnographic records or through the study of agricultural Neolithic communities, neither of which adequately reflects the settlement strategies of the Late Epipalaeolithic.

Traditional analytical methods for evaluating mortuary data, as presented in Chapter 5, demonstrated that social differentiation, but not social stratification, is documented in the burial record from the Early Epipalaeolithic to the PPNA, with both age and sex playing key roles in identity differentiation. The results further demonstrated that there is generally no linear evolution or intensification of burial traits within this period, highlighting that the gradual linear *neolithization* of the region is an unsuitable framework from which to understand the chronological change in the region (Finlayson, 2019; Richter, Yeomans, and Pantos, 2025). These results also demonstrated that traditional analyses alone are insufficient to make determinations of sedentism or belief systems and worldview within these periods.

Chapter 6 presented a novel model for evaluating the social value of a mortuary performance – the Performative Currency Model. The results presented by this model demonstrate the differential value of children's burials within these periods in comparison to contemporary adult burials and suggest there is a differential value on the head compared to the value of the rest of the body. These results also demonstrate that individual investment in mortuary performances is highly varied, with some burials receiving little to no investment, while others receive considerable investment in the construction, decoration, or interaction with the grave.

This chapter has provided an integrative interpretation of the social worlds of the Epipalaeolithic-Neolithic transition as seen from the mortuary remains in their archaeological contexts. I have demonstrated that the burial patterns reflect personal and group identity within these periods, which explains the immense diversity of the mortuary performances documented in the archaeological record. Importantly, I have suggested that the bodily experience of personhood is intimately associated with the head within these periods, and that this experience of personhood gradually extends beyond death with the emergence and intensification of ongoing social relationships between the living and the dead. Though these relationships are best seen among the mortuary remains of the PPNA, incipient traces of the close connection between the living and the dead certainly appear in the Epipalaeolithic.

There are still many unanswered questions about the burial practices and performances of the Epipalaeolithic-Neolithic transition in Southwest Asia. Future avenues of research may wish to focus on applying the Performative Currency Model to Epipalaeolithic and Neolithic burials from other regions in Southwest Asia, including the Northern Levant, Anatolia, and beyond. It would also be extremely valuable to employ experimental practices to consider the sensorial experience of these mortuary performances and to improve the categories within the Performative Currency model. Finally, the exploration of artistic representations of humans within these periods could be considered alongside the mortuary record to explore concepts of humanity and personhood and identify what it meant to be a person within these periods.

In summary, the results and interpretations presented in this thesis demonstrate that the Epipalaeolithic-Neolithic transition in the mortuary realm consists of a shift from the rare spectacles of hunter-gatherer burial traditions to an increasingly domestic and sedentary deposition of the dead. Elements of display in burial contexts, such as beads, decline in favour of increasing interaction with the dead within the site or burial area. Alongside this localisation of the dead within their community, there is a focus on cranial-specific treatments as the head became an increasingly valuable avenue for personal relationships and connections. These mortuary changes are situated within a social, ecological, and economic shift towards a sedentary agricultural lifeway, suggesting a substantial worldview shift in understanding of humanity and humans' relationships within the world.

8 Appendix A

Table Column	Description
Individual Code	Unique identifier assigned by author to each individual within this assemblage, to avoid confusion between duplicate codes. Each code consists of a site code and an individual number, separated by a dot.
Excavator Code	Code used in publications or excavator reports to differentiate burials and human remains. Notably, some excavator codes are duplicated within publications on the same site.
Subphase	Where applicable, subphase describes the part of the period to which this burial can be dated. Subphases are only listed for Epipalaeolithic individuals. EN – Early Natufian LN – Late Natufian FN – Final Natufian UN – Unspecified Natufian
Age and Sex	Description of demographics of the individual, where known.
Burial Pose	Description of the burial position and body position, where known.
Burial Type	Description of the category of burial, where known.
Description	Cumulative description of the burial, including all evidence described in publications or visible in photographs or images.

Performative Currency	Scores in each performative currency category. Only categories with a score above 0 are recorded. G.S. – Grave Size G.C. – Grave Construction G.I – Grave Inclusions Pr. D. – Pre- and Peri-Depositional Treatments Po. D. – Post-Depositional Treatments

Table 8.1: Descriptions of each column of Appendix A tables.

8.1 A.1 – Early & Middle Epipalaeolithic Burials

8.1.1 Uyun al-Hammam

Individual Code	Excavator Code	Subphase	Age and Sex	Burial Pose	Burial Type	Description	Performative Currency
3.01	H1	Geometric Kebaran	Adult, probable female	Loose flex	Primary	Associated with limestone pounder, flint tools, red ochre, *Bos* patella, worked horn core, and red fox skull and humerus. Multi-burial with H2 and H3. Directly dated to 18,756-16,745 cal BP.	G.I. - 2 Po.D - 2 Total: 4

3.02	H2	Geometric Kebaran	Adult, probable male	Unknown	Disturbed primary	Cranial and post-cranial non-articulated bones. Multi-burial with H1 and H3. Associated with limestone pounder, flint tools, red ochre, *Bos* patella, worked horn core, and red fox skull and humerus	G.I. - 2 Po.D.- 3 Total: 5
3.03	H3	Geometric Kebaran	Child	Unknown	Secondary	Lower limb isolated remains. Multi-burial with H1 and H2. Associated with limestone pounder, flint tools, red ochre, *Bos* patella, worked horn core, and red fox skull and humerus	G.I. - 2 Po.D.- 2 Total: 4
3.04	H4	Geometric Kebaran	Adolescent	Unknown	Secondary	Long bones aligned on a flat rock above the skull, probably within a pit.	Po.D.- 2 Total: 2
3.05	H5	Geometric Kebaran	Adult, indeterminate	Extended supine	Primary	Almost complete, though most of the pelvis is missing. An unworked cobble found directly over the	G.I.- 1 Total: 1

						missing pelvis. Two angular unworked cobbles over the face.	
3.06	H6	Geometric Kebaran	Adult, probable male	Extended supine	Primary	Fragments of basalt vessel and flint end scrapers over the pelvis. Phalanx of medium-sized mammal near the neck.	G.I. - 1 Total: 1
3.07	H7	Geometric Kebaran	Adolescent	Unknown	Secondary	Parts of cranium and long bones, accompanied by long bones of medium–sized mammal. Damaged by overlying Roman/Byzantine wall.	G.I. - 1 Po.D.- 2 Total: 2
3.08	H8	Geometric Kebaran	Adult, indeterminate	Loose flex	Primary	Lower limbs extending from trench baulk	Total: 0
3.09	H9	Geometric Kebaran	Adult, female	Extended supine	Primary	Considerable post-depositional damage. Hands and feet missing. Associated with several large rocks.	G.C.- 1 Total: 1

3.10	H10	Geometric Kebaran	Adult, probable male	Unknown	Secondary	Associated with red fox skeleton (without skull and r. humerus), red ochre, chipped stone tools, and worked bone spatula.	G.I. - 2 Po.D. -1 Total: 3

Table 8.2: All numbered individuals from Uyun al-Hammam. From Maher, 2005; Maher, 2007; Maher et al., 2011; Maher, Richter, and Stock, 2012.

8.1.2 Ein Gev I

Individual Code	Excavator Code	Subphase	Age and Sex	Burial Pose	Burial Type	Description	Performative Currency
12.01	EG1	Kebaran	Adult, female	Flexed (right side)	Primary	Associated with animal remains, including gazelle horn cores.	G.I. - 2 Total: 2

Table 8.3: All numbered individuals from Ein Gev I. From Arensburg and Bar-Yosef, 1973; Maher, Richter and Stock, 2012.

8.1.3 Ohalo II

Individual Code	Excavator Code	Subphase	Age and Sex	Burial Pose	Burial Type	Description	Performative Currency
13.01	H2	Kebaran	Adult, male	Supine, loose flex	Primary	Associated with a hammerstone between the legs, incised bone fragment, and a stone 'pillow'. Nearby isolated fragments of another human. Grave pit is small.	G.S. -1 G.C. - 1 G.I. - 1 Total: 3

Table 8.4: All numbered individuals from Ohalo II. From Hershkovitz et al, 1995; Maher, Richter and Stock, 2012.

8.1.4 Kharaneh IV

Individual Code	Excavator Code	Subphase	Age and Sex	Burial Pose	Burial Type	Description	Performative Currency
14.01	K1	Kebaran	Adult, male	Extended supine	Primary	Possibly under Structure 1. Large stone placed over torso, associated with a pair of gazelle horn cores near the head. Severe osteoarthritis.	G.C. - 1 G.I. - 1 Total: 2

14.02	K2	Kebaran	Adult, male	Extended supine	Primary	Severe osteoarthritis. Associated with isolated human tibia, gazelle horn cores, and gazelle mandibles.	G.I. - 1 Total: 1
14.03	K3	Kebaran	Adult, female	Loose flex	Primary	Body wrapped. Placed on the floor of Structure 2 prior to burning.	Pr.D.- 2 Po.D.- 1 Total: 3

Table 8.5: All numbered individuals from Kharaneh IV. From Maher, 2007; Maher et al., 2021.

8.1.5 Neve David

Individual Code	Excavator Code	Subphase	Age and Sex	Burial Pose	Burial Type	Description	Performative Currency
15.01	NV1	Geometric Kebaran	Adult, male	Flexed (right side)	Primary	Grave marked by a large stone slab between the legs and a breached mortar over the skull. Stone bowl found at pelvis. Indirectly dated to 15,372-14,285 cal BP.	G.S. - 2 G.C. - 1 G.I. - 1 Total: 4

15.02	NV2	Geometric Kebaran	Adult, sex unknown	Unknown	Unknown	Fragmentary remains	Total: 0

Table 8.6: All numbered individuals from Neve David. From Maher, 2007; Bocquentin et al., 2011; Maher, Richter and Stock, 2012; Maher et al., 2021.

8.1.6 Wadi Mataha

Individual Code	Excavator Code	Subphase	Age and Sex	Burial Pose	Burial Type	Description	Performative Currency
17.01	WM1	Geometric Kebaran	Adult, male	Extended, prone	Primary	Associated with mortar and large blade. Severe head trauma and evidence of binding of the body before burial.	G.I. - 1 Pr.D.- 2 Total: 3

Table 8.7: All numbered individuals from Wadi Mataha. From Maher, 2007; Maher, Richter, and Stock, 2012; Garrard and Yazbeck 2012.

8.1.7 Ayn Qasiyya

Individual Code	Excavator Code	Subphase	Age and Sex	Burial Pose	Burial Type	Description	Performative Currency
18.01	AQ1	Kebaran	Adult, probable male	Seated	Primary	Possibly bound at burial, decayed in a void. Indirectly dated to 21,070-20,400 cal BP.	G.S. -2 Pr.D.- 2 Total: 4

Table 8.8: All numbered individuals from Ayn Qasiyya. From Maher, Richter, and Stock, 2012; Richter et al., 2010.

8.2 A.2 – Late Epipalaeolithic (Natufian) Burials

8.2.1 Wadi Hammeh 27

Individual Code	Excavator Code	Subphase	Age and Sex	Burial Pose	Burial Type	Description	Performative Currency
2.01	H1	EN	Adult, unknown sex	Tight flex (left side)	Primary	Limestone block on thorax. Hearth at the northern end of the burial. Located inside Structure 1. Minimum indirect date 14,919-13,782 cal BP.	G.C. - 1 Total: 1
2.02	H2	EN	Adult, unknown sex	Unknown	Secondary	Multi burial (H2-6). Cranium is white coloured which does not match the dark colouration of the remaining bones in the pit. Minimum indirect date 14,919-13,782 cal BP.	Po.D.- 1 Total: 1
2.03	H3	EN	Adult, unknown sex	Tight flex	Primary	Multi burial (H2-6). 27 *dentalium* shells at neck, interpreted as necklace. Minimum indirect date 14,919-13,782 cal BP.	G.I. - 1 Po.D.- 1 Total: 2

2.04	H4	EN	Adult, unknown sex	Unknown	Isolated remains	Multi burial (H2-6). Minimum indirect date 14,919-13,782 cal BP.	Po.D.- 1 Total: 1
2.05	H5	EN	Adult, unknown sex	Unknown	Isolated teeth	Multi burial (H2-6). Minimum indirect date 14,919-13,782 cal BP.	Po.D.- 1 Total: 1
2.06	H6	EN	Adult, unknown sex	Unknown	Isolated teeth	Multi burial (H2-6). Minimum indirect date 14,919-13,782 cal BP.	Po.D.-1 Total: 1
2.07	H7	LN	Infant	Unknown	Isolated teeth		Total: 0

Table 8.9: All numbered individuals from Wadi Hammeh 27. From Webb and Edwards, 2002; Edwards, 2013.

8.2.2 Shukbah Cave

Individual Code	Excavator Code	Subphase	Age and Sex	Burial Pose	Burial Type	Description	Performative Currency
4.01	H1	LN	Child	Flexed (left side)	Primary	Body placed directly above a black hearth	Total: 0
4.02	H2	LN	Child	Unknown	Primary		Total: 0
4.03	H3	LN	Child	Unknown	Secondary	Skull stacked on top of long bones	Po.D.-2 Total: 2
4.04	H5	LN	Infant	Unknown	Primary		Total: 0
4.05	H6	LN	Child	Unknown	Primary	Triple burial, placed ‘on the knee’ of H8	Total: 0
4.06	H7	LN	Child	Unknown	Primary	Triple burial, placed ‘on the knee’ of H8	Total: 0

4.07	H8	LN	Adult, unknown sex	Seated	Primary	Triple burial, associated with large limestone blocks	G.C. - 1 Total: 1

Table 8.10: All numbered individuals from Shukbah Cave. From Garrod and Bate, 1942; Bocquentin, 2003.

8.2.3 Shubayqa 1

Individual Code	Excavator Code	Subphase	Age and Sex	Burial Pose	Burial Type	Description	Performative Currency
5.01	C20-1	LN	Adult, unknown sex	Unknown	Isolated remains	Indirectly dated to 13,406-13,112 cal BP.	Total: 0
5.02	C20-2	LN	Adolescent	Unknown	Isolated remains	Indirectly dated to 13,406-13,112 cal BP.	Total:0
5.03	C20-3	LN	Adolescent	Unknown	Isolated teeth	Indirectly dated to 13,406-13,112 cal BP.	Total: 0

5.04	C40-1	LN	Adult, unknown sex	Unknown	Isolated remains	Indirectly dated to 13,335-13,095 cal BP.	Total:0
5.05	C40-2	LN	Infant	Unknown	Isolated remains	Indirectly dated to 13,335-13,095 cal BP.	Total: 0
5.06	C36	LN	Adult, probable male	Unknown	Disturbed primary		Total: 0
5.07	C51-1	LN	Infant	Flexed (right side)	Disturbed primary	Burial is directly below a cup-marked mortar in the floor repair of Structure 2. Lump of red ochre associated with the left hand.	G.I. - 1 Total: 1
5.08	C51-2	LN	Infant	Unknown	Isolated teeth	Burial is directly below a cup-marked mortar in the floor repair of Structure 2.	Total: 0
5.09	C85	LN	Infant	Flexed (left side)	Disturbed primary		Total: 0

5.10	C96-1	LN	Child	Flexed (left side)	Primary	Body lying on top of stones placed in the small pit.	G.S. -1 G.C. - 1 Total: 2
5.11	C96-2	LN	Infant	Unknown	Isolated remains	Remains lying on top of stones placed in the pit.	G.C. - 1 Total: 1
5.12	C104	LN	Infant	Loose flex, prone	Primary	Small pit with stone cap.	G.S. -1 G.C. - 1 Total: 2
5.13	C108	LN	Infant	Flexed (left side)	Primary	Red staining on long bones, cranial bones, hyoid, and teeth. Yellow staining on the ribs. Small grave cutting with stones inside.	G.S. -1 G.C. - 1 Pr.D.- 2 Total: 4
5.14	C112	LN	Infant	Flexed (left side)	Disturbed primary		Total: 0

5.15	C25	EN	Infant	Unknown	Isolated teeth		Total: 0
5.16	C32	EN	Infant	Unknown	Isolated remains	Indirectly dated to 12,389 +-78 BP	Total: 0
5.17	C136	EN	Infant	Flexed (right side)	Primary	Red ochre staining under the cranium. Small pit with stones around it.	G.S. -1 G.C. - 1 Pr.D.- 1 Total: 3
5.18	C132-1	EN	Adult, unknown sex	Unknown	Isolated remains		Total: 0
5.19	C132-2	EN	Child	Unknown	Isolated remains		Total: 0
5.20	C189-1	EN	Infant	Flexed (left side)	Disturbed primary	Burial closely associated with Context 169. Pit is small and topped with a stone.	G.S. -1 G.C. - 1 Total: 2

5.21	C189-2	EN	Infant	Unknown	Isolated remains		Total: 0
5.22	C189-3	EN	Adult, unknown sex	Unknown	Isolated remains		Total: 0
5.23	C175-1	EN	Child	Extended, prone	Primary	Small pit with stones inside.	G.S. -1 G.C. - 1 Total: 2
5.24	C175-2	EN	Infant	Unknown	Isolated remains		Total: 0
5.25	C169	EN	Adult, probable female	Flexed (left side)	Disturbed primary	Red striations on the cranial bones. Humerus has some gnaw marks consistent with rodents. Very small grave cut.	G.S. -1 Pr.D.- 2 Total: 2

5.26	C26	EN	Adult, unknown sex	Unknown	Isolated remains		Total: 0
5.27	C157/162-1	EN	Infant	Unknown	Isolated remains		Total: 0
5.28	C157/162-2	EN	Infant	Unknown	Isolated remains		Total: 0

Table 8.11: All numbered individuals from Shubayqa 1. From Richter et al., 2017; Richter et al., 2019.

8.2.4 Raqefet Cave

Individual Code	Excavator Code	Subphase	Age and Sex	Burial Pose	Burial Type	Description	Performative Currency
6.01	H1	LN	Older adult, female	Unknown	Primary	Plant impressions found beneath body. Stones placed against the head.	G.C. - 2 Total: 2

6.02	H2	LN	Older adult, female	Seated	Primary	Grave covered with a mound of stones including a capstone above the head and chest.	G.C. - 2 Total: 2
6.03	H3	LN	Child	Unknown	Primary	Body lying on stone slabs	G.C. - 1 Total: 1
6.04	H3a	LN	Child	Unknown	Isolated remains		Total: 0
6.05	H4	LN	Adolescent	Unknown	Primary	Two wolf or fox canines included in the burial.	G.I. - 1 Total: 1
6.06	H6	LN	Child	Unknown	Primary	Overlying stones on top of the grave	G.C. - 2 Total: 2
6.07	H7	LN	Child	Unknown	Primary		Total: 0

6.08	H8	LN	Adult, unknown sex	Extended, supine	Primary		Total: 0
6.09	H9	LN	Adult, unknown sex	Supine	Primary	This burial truncates H10/13, directly overlaying the skull and vertebrae. Directly dated to 13,140-12,820 cal BP.	Total: 0
6.10	H10	LN	Child	Extended, supine	Disturbed primary	Double burial with H13, H10 is superimposed above H13.	Total: 0
6.11	H11	LN	Child	Unknown	Disturbed primary	Skull is located upside-down in the burial	Po.D.-2 Total: 2
6.12	H12	LN	Adult, unknown sex	Extended, supine	Primary		Total: 0
6.13	H13	LN	Adolescent	Extended, supine	Primary	Double burial with H10, H13 is directly below H10. Skull slightly displaced	Po.D.-2 Total: 2

6.14	H14	LN	Adult, unknown sex	Unknown	Primary		Total: 0
6.15	H15	LN	Adult, unknown sex	Extended, supine	Primary	Directly dated to 14,140-13,560 cal BP.	Total: 0
6.16	H16	LN	Infant	Tight flex	Primary		Total: 0
6.17	H17	LN	Unknown	Flexed	Disturbed primary	Body position suggests possible pillow and wrapping of the body.	G.I. - 1 Pr.D.- 2 Total: 3
6.18	H18	LN	Older adult, female	Flexed (right side)	Primary	Double burial with H19. Head was originally elevated. Grave was lined with mud veneer and flowers. Directly dated to 13,470-13,060 cal BP.	G.C. - 3 Total: 3

6.19	H19	LN	Adolescent	Flexed (supine)	Primary	Double burial with H18. Grave was lined with mud veneer and flowers. Directly dated to 13,610-13,280 cal BP.	G.C. - 3 Total: 3
6.20	H20	LN	Unknown	Extended, prone	Primary	Double burial with H24. Bodies are placed superimposed, feet-to-head.	Total: 0
6.21	H21	LN	Infant	Unknown	Primary		Total: 0
6.22	H22	LN	Infant	Flexed (right side)	Primary	Large stone placed above the head/face	G.C. - 1 Total: 1
6.23	H24	LN	Unknown	Unknown	Primary	Double burial with H20. Bodies are placed superimposed, feet-to-head.	Total: 0

6.24	H25	LN	Adult, unknown sex	Flexed, supine	Primary	Double burial with H28. Rounded grave pit was lined with mud veneer and flowers. H25 directly overlays H26, bodies positioned back-to-back with vertebral columns touching.	G.C. - 3 Total: 3
6.25	H26	LN	Adult, unknown sex	Extended, supine	Primary	Directly underlies H25, bodies positioned back-to-back with vertebral columns touching. Directly dated to 14,140-13,740 cal BP.	Total: 0
6.26	H27	LN	Adult, unknown sex	Unknown	Isolated remains	Located beneath H30.	Total: 0
6.27	H28	LN	Adolescent	Flexed, supine	Disturbed primary	Double burial with H25. Rounded grave pit was lined with mud veneer and flowers. Skull removed post-depositionally. Directly dated to 12,500-11,710 cal BP.	G.C. - 3 Po.D.-3 Total: 6

6.28	H29	LN	Child	Unknown	Isolated remains		Total: 0
6.29	H30	LN	Adult, unknown sex	Flexed	Primary		Total: 0
6.30	H31	LN	Child	Flexed (right side)	Primary	Small number of plant impressions identified below body. Associated with a stone.	G.C. - 1 Total: 1

Table 8.12: All numbered individuals from Raqefet Cave. From Bocquentin, 2003; Lengyel and Bocquentin, 2005; Lengyel et al., 2006; Nadel et al., 2008; Nadel et al., 2009; Nadel et al., 2013.

8.2.5 Nahal Oren

Individual Code	Excavator Code	Subphase	Age and Sex	Burial Pose	Burial Type	Description	Performative Currency
8.01	H1	LN	Adult, male	Unknown	Unknown		Total: 0
8.02	H2	LN	Adult, unknown sex	Unknown	Unknown		Total: 0

8.03	H3	LN	Adolescent	Unknown	Unknown		Total: 0
8.04	H4	LN	Adult, indeterminate	Unknown	Isolated cranium		Total: 0
8.05	H7	LN	Adult, female	Unknown	Primary	Stone lined pit. Grave associated with a mortar.	G.C. - 2 G.I. - 1 Total: 3
8.06	H8	LN	Adult, male	Loose flex, supine	Primary		Total: 0
8.07	H9	LN	Child	Unknown	Primary	Stone lined pit. Grave associated with mortar.	G.C. - 2 G.I. - 1 Total: 3
8.08	H9b	LN	Child	Unknown	Isolated cranium		Total: 0

8.09	H10	LN	Adult, indeterminate	Unknown	Secondary	Cranium removed post depositionally.	Po.D.-3 Total: 3
8.10	H11	LN	Child	Unknown	Secondary	Cranium removed post depositionally.	Po.D.-3 Total: 3
8.11	H13	LN	Adult, male	Unknown	Isolated cranium	Grave associated with mortar.	G.I. - 1 Total: 1
8.12	H14t	LN	Adult, indeterminate	Flexed (right side)	Primary	Grave associated with mortar.	G.I. - 1 Total: 1
8.13	H15t	LN	Adult, female	Tight flex (right side)	Primary	Head elevated on stone ‘pillow’. Grave associated with mortar.	G.I. - 1 Total: 1

8.14	H15b	LN	Infant	Unknown	Disturbed primary		Total: 0
8.15	H16	LN	Adult, female	Unknown	Primary	Stone lined pit. Grave associated with mortar.	G.C. - 2 G.I. - 1 Total: 3
8.16	H17t	LN	Adult, male	Unknown	Unknown	Grave associated with mortar.	G.I. - 1 Total: 1
8.17	H18t	LN	Adult, male	Unknown (left side)	Primary	Grave associated with mortar.	G.I. - 1 Total: 1
8.18	H20	LN	Adult, male	Tight flex (left side)	Primary		Total: 0
8.19	H20b	LN	Adolescent	Unknown	Isolated cranium		Total: 0

8.20	H21	LN	Adult, indeterminate	Flexed (left side)	Primary	Grave associated with mortar.	G.I. - 1 Total: 1
8.21	H22	LN	Adult, male	Unknown	Unknown	Stone lined pit. Grave associated with mortar.	G.C. - 2 G.I. - 1 Total: 3
8.22	H23	LN	Adult, indeterminate	Unknown	Secondary	Cranial removed post-depositionally	Po.D.-3 Total: 3
8.23	H24	LN	Adult, female	Unknown	Primary	Grave associated with mortar.	G.I. - 1 Total: 1
8.24	H25t	LN	Child	Unknown (right side)	Primary	Grave associated with mortar.	G.I. - 1 Total: 1

8.25	H26	LN	Adult, female	Unknown	Unknown	Grave associated with mortar.	GI - 1 Total: 1
8.26	H31/37	LN	Adult, male	Unknown	Unknown		Total: 0
8.27	H31b	LN	Child	Unknown	Unknown		Total: 0
8.28	H33	LN	Adult, indeterminate	Unknown	Unknown		Total: 0
8.29	H33b	LN	Child	Unknown	Isolated cranium		Total: 0
8.30	H34	LN	Adult, female	Unknown	Primary		Total: 0
8.31	H34b	LN	Child	Unknown	Isolated remains		Total: 0
8.32	H35	LN	Child	Unknown	Unknown		Total: 0

8.33	H39	LN	Adult, indeterminate	Unknown	Primary		Total: 0
8.34	H40	LN	Adult, male	Unknown	Isolated remains		Total: 0
8.35	H41	LN	Adult, indeterminate	Unknown	Isolated remains		Total: 0
8.36	H42	LN	Adult, female	Unknown	Isolated cranium		Total: 0
8.37	H42/48A	LN	Adult, female	Unknown	Disturbed primary		Total: 0
8.38	H42/48B	LN	Adult, male	Unknown	Isolated remains		Total: 0
8.39	H43	LN	Adult, male	Unknown	Primary		Total: 0

8.40	H45	LN	Child	Unknown	Unknown		Total: 0
8.41	H47	LN	Child	Unknown	Unknown		Total: 0
8.42	H48	LN	Adult, female	Unknown	Unknown		Total: 0
8.43	Hnat	LN	Adult, male	Unknown	Primary		Total: 0

Table 8.13: All numbered individuals from Nahal Oren. From Stekelis and Yizraely, 1963; Crognier and Dupouy-Madre, 1974; Nadel et al., 1997; Noy, 1989; Bocquentin, 2003.

8.2.6 Hayonim Terrace

Individual Code	Excavator Code	Subphase	Age and Sex	Burial Pose	Burial Type	Description	Performative Currency
9.01	H2	LN	Adult, indeterminate	Tight flex, supine	Disturbed primary	Large stones placed on the body. Position indicates possible binding, and decay in a void. Cranium removed.	G.C. - 1 Po.D.-3 Total: 6
9.02	H3	LN	Child	Flexed, supine	Primary	Nearby to large stone mortars.	Total: 0
9.03	H4	LN	Adolescent	Extended, prone	Primary		Total: 0
9.04	H5	LN	Adult, indeterminate	Tight flex, prone	Primary		Total: 0
9.05	H6	LN	Adult, indeterminate	Tight flex (left side)	Primary		Total: 0

9.06	H7	LN	Adult, indeterminate	Flexed, supine	Primary	Double burial with H8. Large stone on body and associated with a large hearth. Grave contains two complete canid skeletons.	G.C. - 1 G.I. - 2 Total: 3
9.07	H8	LN	Adult, indeterminate	Tight flex (right side)	Primary	Double burial with H7. Large stone on bodies and associated with a large hearth. Grave contains two complete canid skeletons.	G.C. - 1 G.I. - 2 Total: 3
9.08	H9	LN	Adult, indeterminate	Unknown	Primary		Total: 0
9.09	H10	LN	Adult, indeterminate	Unknown	Primary	Nearby to a large hearth.	Total: 0

Table 8.14: All numbered individuals from Hayonim Terrace. From Henry and Leroi-Gourhan, 1976; Henry, Leroi-Gourhan, and Davies, 1981; Valla, Le Mort, and Plisson, 1991; Bocquentin, 2003.

8.2.7 Hayonim Cave

Individual Code	Excavator Code	Subphase	Age and Sex	Burial Pose	Burial Type	Description	Performative Currency
10.01	H1	EN	Young adult, female	Flexed	Primary	Double burial with H2. Grave paved with stones.	G.C. - 2 Total: 2
10.02	H2	EN	Young adult, male	Unknown	Secondary	Double burial with H1. Grave paved with stones.	G.C. - 2 Total: 2
10.03	H3	EN	Child	Unknown	Isolated skull	Perforated fox teeth found in grave fill.	Po.D.-3 Total: 3
10.04	H4	EN	Young adult, male	Loose flex	Primary	Tripple burial with H4a and H4c.	Total: 0

10.05	H4a	EN	Adult, unknown sex	Unknown	Secondary	Triple burial with H4 and H4c. No cranial elements remain.	Po.D.-3 Total: 3
10.06	H4c	EN	Child	Unknown	Secondary	Triple burial with H4 and H4a. No cranial elements remain.	Po.D.- 3 Total: 3
10.07	H5	EN	Adult, male	Unknown	Secondary	Double burial with H5a. No cranial elements remain. Grave paved with stones.	G.C. - 2 Po.D.- 3 Total: 5
10.08	H5a	EN	Adult, female	Unknown	Secondary	Double burial with H5. No cranial elements remain. Grave paved with stones.	G.C. - 2 Po.D.-3 Total: 5
10.09	H6	LN	Adult, probable male	Unknown	Secondary	Triple burial with H7 and H7a. Mandible and some isolated axial bones only.	Po.D.-3 Total: 3

10.10	H7	LN	Adult, male	Unknown	Secondary	Triple burial with H6 and H7a. Mandible and some isolated axial bones only.	Po.D.-3 Total: 3
10.11	H7a	LN	Adult, unknown sex	Unknown	Secondary	Triple burial with H6 and H7. Mandible and some isolated axial bones only.	Po.D.-3 Total: 3
10.12	H8	EN	Young adult, male	Unknown	Primary	Multi-burial (Grave VI), probably second phase of burial.	Total: 0
10.13	H9	EN	Adolescent	Extended	Primary	Multi-burial (Grave VII). Belt and bracelets made of bone pendants and *dentalium* beads. Necklace of *dentalium* beads. Two perforated fox teeth in grave.	G.I. - 2 Total: 2
10.14	H10	EN	Adolescent	Unknown	Primary	Multi-burial (Grave VI), probably second phase of burial.	Total: 0
10.15	H11	EN	Young adult, male	Extended	Primary	Multi-burial (Grave VII)	Total: 0

10.16	H12	EN	Child	Unknown	Primary	Multi-burial (Grave VI), probably first phase of burial.	Total: 0
10.17	H13	EN	Child	Flexed	Disturbed primary	Multi-burial (Grave VII).	Total: 0
10.18	H13a	EN	Fetus	Unknown		Multi-burial (Grave VII)	Total: 0
10.19	H14	EN	Child	Unknown	Secondary	Multi-burial (grave VII/IX)	Total: 0
10.20	H15	EN	Adult, male	Unknown	Primary	Multi-burial (Grave VI), probably first phase of burial.	Total: 0
10.21	H16	EN	Infant	Unknown	Primary	Multi-burial (Grave VI), probably first phase of burial.	Total: 0

10.22	H17	EN	Young adult, male	Loose flex	Primary	Multi-burial (Grave VIII/IX). About 150 *dentalium* shell beads found near the arms, interpreted as the remains of a decorated garment)	G.I. - 2 Total: 2
10.23	H17a	EN	Infant	Unknown	Secondary	Multi-burial (Grave VIII/IX). No cranial elements remain.	Po.D.-3 Total: 3
10.24	H18	EN	Child	Unknown	Primary	Multi-burial (Grave VIII/IX)	Total: 0
10.25	H19	EN	Adult, male	Loose flex	primary	Multi-burial (Grave VIII/IX)	Total: 0
10.26	H20	EN	Adult, male	Extended	Primary	Multi-burial (Grave VIII/IX)	Total: 0
10.27	H21	EN	Child	Unknown	Primary	Multi-burial (Grave VI), probably first phase of burial.	Total: 0

10.28	H22	EN	Child	Unknown	Primary	Multi-burial (Grave VI), probably first phase of burial.	Total: 0
10.29	H23	EN	Young adult, unknown sex	Unknown	Primary	Multi-burial (Grave VI), probably first phase of burial.	Total: 0
10.30	H23a	EN	Fetus	Unknown	Unknown	Multi-burial (Grave VI), probably first phase of burial. No cranial elements remain.	Po.D.-3 Total: 3
10.31	H24	EN	Young adult, probable male	Unknown	Secondary	Multi-burial (Grave VIII/IX). No cranial elements remain.	Po.D.-3 Total: 3
10.32	H25	EN	Adult, male	Flexed	Primary	Multi-burial (Grave VIII/IX). 20 partridge tibio-tarsus beads at wrist, interpreted as a bracelet	G.I. - 2 Total: 2
10.33	H26	EN	Adolescent	Unknown	Primary	Multi-burial (Grave VIII/IX).	Total: 0

10.34	H27	EN	Adult, male	Flexed	Primary	Multi-burial (Grave VIII/IX)	Total: 0
10.35	H28	LN	Adult, male	Flexed	Disturbed primary	Cranium removed post-depositionally.	Po.D.-3 Total: 3
10.36	H29	LN	Young adult, male	Flexed	Disturbed primary	Triple burial with H29a and H30. Cranium removed post-depositionally.	Po.D.-3 Total: 3
10.37	H29a	LN	Young adult, female	Unknown	Secondary	Triple burial with H29 and H30. No cranial elements remain, mandible present in grave.	Po.D.-3 Total: 3
10.38	H30	LN	Adult, unknown sex	Unknown	Secondary	Triple burial with H29 and H29a. Only mandible present in grave.	Po.D.-3 Total: 3
10.39	H32	LN	Child	Unknown	Isolated remains	Triple burial with H34 and H35. Only teeth remain.	Total: 0

10.40	H33	EN	Young adult, male	Unknown	Primary	365 *dentalium* beads found near the neck. Belt and armlet made of perforated fox teeth. ‘Unique bone artifact’ found under the left arm.	G.I. - 3 Total: 3
10.41	H34	LN	Adult, male	Unknown	Primary	Triple burial with H32 and H35.	Total: 0
10.42	H35	LN	Adult, probable male	Unknown	Secondary	Triple burial with H32 and H34. Teeth and axial remains are present.	Total: 0
10.43	H36	LN	Adult, unknown sex	Unknown	Secondary	Multi-burial (Grave XIV). Mandible and some isolated axial bones only.	Po.D.-3 Total: 3
10.44	H36a	LN	Adult, unknown sex	Unknown	Secondary	Multi-burial (Grave XIV). Mandible and some isolated axial bones only.	Po.D.-3 Total: 3
10.45	H36b	LN	Adult, unknown sex	Unknown	Secondary	Multi-burial (Grave XIV). Mandible and some isolated axial bones only.	Po.D.-3 Total: 3

10.46	H36c	LN	Child	Unknown	Secondary	Multi-burial (Grave XIV). Only axial remains present.	Po.D.-3 Total: 3
10.47	H37	LN	Older adult, female	Seated	Disturbed primary	Cranium removed post-depositionally, mandible present in grave.	Po.D.-3 Total: 3
10.48	H39	LN	Adult, male	Flexed	Primary	12 *dentalium* beads found in the fill, close to the body.	G.I. - 1 Total: 1
10.49	H40	EN	Adult, male	Flexed (right side)	Primary	Multi-burial (Grave XVII), phase 3. Grave sealed by stones. Broken bone spatula with crosshatched/net pattern within grave.	G.C. - 2 G.I. - 2 Total: 4
10.50	H41	EN	Young adult, male	Extended, supine	Primary	Mult-burial (Grave XVII), phase 1. Moderate sized grave sealed by stones. Included a belt of bone pendants, and a dress/shift with	G.S. -2 G.C. - 2 G.I. - 2

						bone pendants along the side of the body. Broken sickle haft with crosshatched/net pattern within grave.	Total: 6
10.51	H42	EN	Adult, male	Flexed (right side)	Primary	Multi-burial (Grave XVII), phase 2. Moderate sized, stone encircled grave.	G.S. -2 G.C. - 2 Total: 4
10.52	H43	EN	Adolescent	Unknown	Isolated remains	Multi-burial (Grave XVII), phase 3. Grave sealed by stones	G.C. - 2 Total: 2
10.53	H44	EN	Child	Unknown	Isolated remains	Multi-burial (Grave XVII), phase 3. Grave sealed by stones	G.C. - 2 Total: 2
10.54	H45	EN	Child	Flexed, supine	Primary	Multi-burial (Grave XVII), phase 1. Moderate sized grave sealed by stones. 17 bone pendants found around the skull. Bone spatula,	G.S. -2 G.C. - 2 G.I. - 3

						fragments of another bone item, and tibio-tarsus beads found associated with the body.	Total: 7
10.55	H46	EN	Older adult, female	Extended, (left side)	Primary	Multi-burial (Grave XVII), phase 1. Moderate sized grave sealed by stones. Gazelle metatarsal pendants found under skull, interpreted as a headdress, and a broken bone item with a crosshatched/net design found in the grave.	G.S. -2 G.C. - 2 G.I. - 3 Total: 7

Table 8.15: All numbered individuals from Hayonim Cave. From Smith, 1973; Bar-Yosef and Goren, 1973; Belfer-Cohen, 1988; Bocquentin, 2003; Grosman and Belfer-Cohen, 2022.

8.2.8 el-Wad Cave

Individual Code	Excavator Code	Subphase	Age and Sex	Burial Pose	Burial Type	Description	Performative Currency
11.01	H1	EN	Adult, male	Extended, supine	Primary	Part of burial cluster in Chamber 1. Foot missing, replaced with chert ax. Grave includes a sickle haft and limestone blocks on head, femur, and pelvis. Nearby quern.	G.I. - 2 Total: 2

11.02	H2	EN	Adult, probable male	Extended, supine	Primary	Part of burial cluster in Chamber 1. Limestone blocks above head and pelvis.	G.C. - 1 Total: 1
11.03	H3	EN	Adult, female	Extended, supine	Primary	Part of burial cluster in Chamber 1. Includes animal bones, bone tools, and a tortoise carapace.	G.I. – 2 Total: 2
11.04	H4	EN	Adult, male	Extended, supine	Primary	Part of burial cluster in Chamber 1. Includes ground stone tools, a limestone 'pillow', and bone tools. Nearby grey hearth.	G.C. - 1 G.I. - 1 Total: 2
11.05	H5	EN	Child	Extended, supine	Primary	Part of burial cluster in Chamber 1. Deer antlers placed on chest. Grave above hearth which contains pierced teeth.	G.I. - 1 Total: 1
11.06	H6	EN	Child	Unknown	Isolated cranium	Part of burial cluster in Chamber 1.	Po.D.-3 Total: 3

11.07	H7	EN	Infant	Extended, supine	Primary	Part of burial cluster in Chamber 1.	Total: 0
11.08	H8	EN	Infant	Extended, supine	Primary	Part of burial cluster in Chamber 1.	Total: 0
11.09	H9	EN	Infant	Unknown	Isolated cranium	Part of burial cluster in Chamber 1. Isolated cranial fragments only.	Po.D.-3 Total: 3
11.10	H10	EN	Child	Extended, supine	Disturbed primary	Part of burial cluster in Chamber 1. Cranium possibly removed post-depositionally. Carved calcite head included in the burial.	G.I. - 2 Po.D.-3 Total: 5
11.11	Recess 1		Adult, unknown sex	Extended, supine	Primary	Double burial with Recess 2. Moderate sized grave pit. Burial includes pierced canine teeth and is associated with a stone slab.	G.S. –2 G.C. - 1 G.I. - 1 Total: 4

11.12	Recess 2		Adult, unknown sex	Extended, supine	Primary	Double burial with Recess 1. Moderate sized grave pit. Burial includes pierced canine teeth and is associated with a stone slab.	G.S. -2 G.C. - 1 G.I. - 1 Total: 4
11.13	H11		Adult, unknown sex	Flexed (left side)	Primary		Total: 0
11.14	H12		Adult, male	Tight flex (left side)	Primary	Associated with nearby limestone blocks.	Total: 0
11.15	H13 (Cave)	EN	Infant	Extended, supine	Primary		Total: 0
11.16	H13 (Terr.)		Adult, female	Flexed, prone	Primary	Legs folded back onto pelvis in unnatural way, possibly indicative of pre-depositional binding.	Pr.D.- 2 Total: 2
11.17	H14		Unknown	Unknown	Isolated fragments		Total: 0

11.18	H15	EN	Adult, male	Loose flex, supine	Primary	Moderate sized grave pit. Beneath stone slab. Everted clavicles possibly indicative of pre-depositional binding.	G.S. -2 G.C. - 1 Pr.D.- 2 Total: 3
11.19	H16		Child	Unknown	Isolated Cranium		Po.D.-3 Total: 3
11.20	H17	LN	Adult, female	Flexed (left side)	Primary	Burial includes ‘twin-type’ pendants.	G.I. - 1 Total: 1
11.21	H18		Adolescent	Extended (right side)	Primary		Total: 0
11.22	H19	EN	Adult, female	Tight flex (left side)	Primary	Body position is halfway between laying and reclined.	Total: 0

11.23	H20		Adult, indeterminate	Tight flex (right side)	Primary		Total: 0
11.24	H21	LN	Adult, female	Loose flex (left side)	Primary	Dentalium beads found across the skull and nearby to the body. Limestone block placed on right arm. Associated with nearby isolated remains of a child.	G.I. - 2 Total: 2
11.25	H22	EN	Adult, unknown sex	Unknown	Isolated remains	Unclear how many individuals are included in these remains.	Total: 0
11.26	H23	EN	Adult, male	Tight flex, prone	Primary	Very small pit. Triple burial with H23a and H23b. Grave fill includes many stones. Decorated with dentalium beads, pear-shaped beads, and twin-type pendants.	G.S. -1 G.C. - 1 G.I. - 2 Total: 4
11.27	H23a	EN	Adolescent	Tight flex	Primary	Very small pit. Triple burial with H23 and H23b. Grave fill includes many stones.	G.S. -1 G.C. - 1 Total: 2

11.28	H23b	EN	Child	Unknown	Unknown	Very small pit. Triple burial with H23 and H23a. Grave fill includes many stones.	G.S. -1 G.C. - 1 Total: 2
11.29	H24		Unknown	Unknown	Isolated cranium		Po.D.-3 Total: 3
11.30	H25	EN	Adult, male	Tight flex (left side)	Primary	Triple burial with H25a and H26. Body was likely bound at burial. Seven rows of dentalium beads positioned as headdress.	G.I. - 2 Pr.D.- 2 Total: 4
11.31	H25a	EN	Adult, indeterminate	Unknown	Isolated cranium	Triple burial with H25 and H26.	Po.D.-3 Total: 3
11.32	H25b	EN	Unknown	Unknown	Primary	Double burial with H25c.	Total: 0
11.33	H25c	EN	Unknown	Unknown	Primary	Double burial with H25b.	Total: 0

11.34	H26	EN	Unknown	Extended, prone	Primary	Triple burial with H25 and H25a.	Total: 0
11.35	H27	LN	Adult, probable male	Flexed (right side)	Primary		Total: 0
11.36	H28-32(1)	EN	Child	Flexed (left side)	Unknown	Part of the Lower Terrace multi-burial. Includes a headdress of dentalium and gazelle phalange beads.	G.I. - 2 Total: 2
11.37	H28-32(12)	EN	Adolescent	Tight flex	Unknown	Part of the Lower Terrace multi-burial.	Total: 0
11.38	H28-32(8)	EN	Adult, indeterminate	Flexed, supine	Unknown	Part of the Lower Terrace multi-burial.	Total: 0
11.39	H28-32(10)	EN	Adult, indeterminate	Unknown	Unknown	Part of the Lower Terrace multi-burial.	Total: 0

11.40	H28-32(13)	EN	Adult, female	Unknown	Unknown	Part of the Lower Terrace multi-burial.	Total: 0
11.41	H28-32(14)	EN	Adult, male	Unknown	Unknown	Part of the Lower Terrace multi-burial.	Total: 0
11.42	H28-32(15)	EN	Adult, indeterminate	Unknown	Unknown	Part of the Lower Terrace multi-burial.	Total: 0
11.43	H28-32(16)	EN	Adult, male	Unknown	Unknown	Part of the Lower Terrace multi-burial.	Total: 0
11.44	H35		Unknown	Unknown	Isolated cranium		Po.D.-3 Total: 3
11.45	H36		Adult, probable female	Unknown	Primary		Total: 0
11.46	H37		Unknown	Unknown	Unknown		Total: 0

11.47	H38		Adult, probable male	Unknown	Primary		Total: 0
11.48	H39		Unknown	Unknown	Isolated cranium		Po.D.-3 Total: 3
11.49	H40		Adult, probable male	Unknown	Primary	Found beneath a stone wall on the upper terrace.	Total: 0
11.50	H41	EN	Adult, male	Unknown	Primary	Double burial with H43. Grave located at the edge of a rocky platform and beneath a stone slab. Includes dentalium beads and tibio-tarsus beads.	G.C. - 2 G.I. - 1 Total: 3
11.51	H42		Adult, probable male	Unknown	Primary		Total: 0
11.52	H43	EN	Adult, male	Unknown	Primary	Double burial with H41. Grave located at the edge of a rocky platform and beneath a stone slab.	G.C. - 2 Total: 2

11.53	H44	LN	Adult, probable female	Unknown	Disturbed primary		Total: 0
11.54	H45	LN	Adult, probable female	Unknown	Disturbed primary		Total: 0
11.55	H46	EN	Unknown	Unknown	Unknown		Total: 0
11.56	H47	EN	Unknown	Unknown	Unknown		Total: 0
11.57	H48	EN	Unknown	Unknown	Unknown		Total: 0
11.58	H49	EN	Adult, probable male	Tight flex (left side)	Primary	Head on a stone ‘pillow’	G.I. - 1 Total: 1

11.59	H50	LN	Unknown	Unknown	Isolated remains		Total: 0
11.60	H51	EN	Child	Unknown	Primary		Total: 0
11.61	H52		Unknown	Unknown	Unknown		Total: 0
11.62	H53		Unknown	Unknown	Unknown		Total: 0
11.63	H54	EN	Unknown	Unknown	Unknown		Total: 0
11.64	H55	EN	Adult, male	Unknown	Unknown		Total: 0

11.65	H56	EN	Adult, female	Tight flex (right side)	Primary	Very compact grave, body possibly bound to accommodate. Grave associated with stones. Dentalium beads found on scapula.	G.S. -1 G.C. - 1 G.I. - 1 Pr.D.- 2 Total: 5
11.66	H57a	EN	Adult, indeterminate	Flexed (left side)	Primary	Part of mortar multi-burial on lower terrace. Bodies placed surrounding broken mortar. Probably placed concurrently with H57b-d.	G.I. - 1 Total: 1
11.67	H57b	EN	Unknown	Flexed (left side)	Primary	Part of mortar multi-burial on lower terrace. Bodies placed surrounding broken mortar. Probably placed concurrently with H57a, c-d.	G.I. - 1 Total: 1
11.68	H57c	EN	Unknown	Unknown	Unknown	Part of mortar multi-burial on lower terrace. Bodies placed surrounding broken mortar. Probably placed concurrently with H57a-b, d.	G.I. - 1 Total: 1

11.69	H57d	EN	Unknown	Unknown	Unknown	Part of mortar multi-burial on lower terrace. Bodies placed surrounding broken mortar. Probably placed concurrently with H57a-c.	G.I. - 1 Total: 1
11.70	H57e	EN	Unknown	Unknown	Primary	Triple burial with H57f and H57g. Includes dentalium beads, pear-shaped beads, twin-type pendants, and tibio-tarsus beads.	G.I. - 2 Total: 2
11.71	H57f	EN	Unknown	Unknown	Primary	Triple burial with H57e and H57g	Total: 0
11.72	H57g	EN	Unknown	Unknown	Primary	Triple burial with H57e and H57f	Total: 0
11.73	H58		Adult, male	Unknown	Primary		Total: 0
11.74	H59	EN	Child	Extended, supine	Primary		Total: 0

11.75	H60	EN	Adult, male	Extended, supine	Primary	Grave associated with stones. Mortar placed on thorax. Possible 'phallic' item included.	G.C. - 1 G.I. - 2 Total: 3
11.76	H62	EN	Adult, male	Flexed (left side)	Primary	Legs packed into grave with stones.	G.C. - 1 Total: 1
11.77	H101	LN	Adult, male	Flexed (right side)	Primary	Grave includes stones, obsidian, and beads.	G.I. - 2 Total: 2
11.78	H106	LN	Child	Unknown	Isolated remains		Total:0
11.79	H107	LN	Child	Flexed (right side)	Disturbed primary	Cranium missing.	Po.D.-3 Total: 3
11.80	H108	LN	Child	Flexed	Disturbed primary	Double burial with H109. Cranium missing.	Po.D.-3 Total: 3

11.81	H109	LN	Child	Flexed	Disturbed primary	Double burial with H108. Cranium missing.	Po.D.-3 Total: 3
11.82	H110	LN	Adult, male	Unknown	Disturbed primary	Includes a boar jaw and sickle blade.	G.I. - 1 Total: 1
11.83	H111	LN	Adult, male	Unknown	Primary	Includes basalt.	G.I. - 1 Total: 1
11.84	H115	LN	Adult, female	Flexed (right side)	Disturbed primary	Cranium missing.	Po.D.-3 Total: 3
11.85	H120	LN	Child	Unknown	Primary		Total: 0

11.86	H121	LN	Adult, unknown sex	Unknown	Isolated remains		Total: 0
11.87	H122	LN	Child	Flexed (right side)	Disturbed primary	Cranium removed.	Po.D.-3 Total: 3
11.88	H125	LN	Adult, male	Flexed (right side)	Disturbed primary	Cranium removed. Grave includes stones and beads.	G.I. - 1 Po.D.-3 Total: 4
11.89	H127	LN	Child	Flexed (right side)	Primary	Nearby to a large ground stone tool.	Total: 0
11.90	H128	LN	Infant	Unknown	Isolated remains		Total: 0
11.91	H129	LN	Child	Unknown	Isolated remains		Total: 0

11.92	H10232		Adult, unknown sex	Unknown	Unknown	Identified in-lab, no burial information.	Total: 0
11.93	H10236		Child	Unknown	Unknown	Identified in-lab, no burial information.	Total: 0
11.94	H10238		Adult, unknown sex	Unknown	Unknown	Identified in-lab, no burial information.	Total: 0
11.95	H10239		Adolescent	Unknown	Unknown	Identified in-lab, no burial information.	Total: 0
11.96	H10265(1)		Adolescent	Unknown	Unknown	Identified in-lab, no burial information.	Total: 0
11.97	H10265(2)		Adult, male	Unknown	Unknown	Identified in-lab, no burial information.	Total: 0

11.98	H10265(3)		Adult, male	Unknown	Unknown	Identified in-lab, no burial information.	Total: 0
11.99	H10270(1)		Adult, unknown sex	Unknown	Unknown	Identified in-lab, no burial information.	Total: 0
11.100	H10270(2)		Adult, unknown sex	Unknown	Unknown	Identified in-lab, no burial information.	Total: 0
11.101	H10270(3)		Adult, unknown sex	Unknown	Unknown	Identified in-lab, no burial information.	Total: 0
11.102	H10321		Adolescent	Unknown	Unknown	Identified in-lab, no burial information.	Total: 0
11.103	H10323sup		Infant	Unknown	Unknown	Identified in-lab, no burial information.	Total: 0
11.104	H10323(M1)		Child	Unknown	Unknown	Identified in-lab, no burial information.	Total: 0

11.105	HW16		Adult, male	Unknown	Unknown	Identified in-lab, no burial information.	Total: 0
11.106	HW18		Child	Unknown	Unknown	Identified in-lab, no burial information.	Total: 0
11.107	HwadE		Adolescent	Unknown	Unknown	Identified in-lab, no burial information.	Total: 0
11.108	HwadJ		Adult, unknown sex	Unknown	Unknown	Identified in-lab, no burial information.	Total: 0

Table 8.16: All numbered individuals from el-Wad Cave. From Garrod, 1934; Garrod, 1936; Garrod and Bate, 1937a; Garrod and Bate, 1938; Mastin, 1964; Goring-Morris, 1995; Boyd, 2001; Bocquentin, 2003; Barzilai et al., 2017.

8.2.9 Saaide II

Individual Code	Excavator Code	Subphase	Age and Sex	Burial Pose	Burial Type	Description	Performative Currency
16.01		UN	Adult, unknown sex	Unknown	Unknown		Total: 0

Table 8.17: All numbered individuals from Saaide II. From Churcher, 1994; Horvath, 2001.

8.2.10 Nahal Ein Gev II

Individual Code	Excavator Code	Subphase	Age and Sex	Burial Pose	Burial Type	Description	Performative Currency
19.01	H2	LN	Adult, female	Tight flex, supine	Primary	Embedded in the southern wall of Building 3. The wall was taken apart and repaired to include the burial. Body was likely bound at the time of deposition.	G.C. - 2 Pr.D.- 2 Total: 4
19.02	H3	LN	Unknown	Unknown	Isolated remains	In a pit beneath occupation layers.	Total: 0

19.03	H4	LN	Adult, female	Flexed (right side)	Primary	In a moderate sized pit beneath occupation layers. Burial appears to have been covered with plaster at the time of the burial.	GS -2 PrD- 2 Total: 4
19.04	H5	LN	Unknown	Unknown	Isolated remains	In a pit beneath occupation layers.	Total: 0

Table 8.18: All numbered individuals from Nahal Ein Gev II. From Grosman et al., 2016.

8.2.11 Eynan (Ain Mallaha)

Individual Code	Excavator Code	Subphase	Age and Sex	Burial Pose	Burial Type	Description	Performative Currency
20.01	1	LN	Unknown	Unknown	Secondary	Part of Locus 10 multi-burial. Burial is probably successive.	Total: 0
20.02	2	EN	Adult, unknown sex	Unknown	Primary		Total: 0

20.03	3		Unknown	Unknown	Isolated remains		Total: 0
20.04	4	FN	Older Adult, female	Unknown	Unknown		Total: 0
20.05	5	FN	Adult, male	Unknown	Unknown		Total: 0
20.06	6a	EN	Adult, male	Loose flex, supine	Primary	Part of Cemetery A. A necklace of >150 dentalium and gazelle phalanx beads.	G.I. - 2 Total: 2
20.07	6b	EN	Child	Supine	Primary	Part of Cemetery A. Probable bracelet of dentalium beads, and a headdress of >100 beads.	G.I. - 2 Total: 2
20.08	7	FN	Older adult, female	Unknown	Unknown		Total: 0

20.09	8	EN	Adult, indeterminate	(right side)	Primary	Part of Cemetery A.	Total: 0
20.10	9	FN	Adult, unknown sex	Unknown	Unknown		Total: 0
20.11	10	FN	Older adult, male	Tight flex, supine	Primary	Triple burial with H11 and H163	Total: 0
20.12	11	FN	Child	Unknown	Primary	Triple burial with H10 and H163	Total: 0
20.13	12	FN	Older adult, female	Unknown	Primary		Total: 0
20.14	13		Unknown	Unknown	Isolated remains		Total: 0
20.15	14	EN	Adult, indeterminate	Unknown	Primary	Part of Cemetery A.	Total: 0

20.16	15	EN	Adult, male	Loose flex, supine	Primary	Part of Cemetery A.	Total: 0
20.17	16-22	EN	Unknown	Unknown	Unknown	Part of Cemetery A	Total: 0
20.18	16a-18	EN	Adult, unknown sex	Unknown	Disturbed primary	Part of Cemetery A	Total: 0
20.19	17	EN	Adult, indeterminate	unknown	Isolated cranium	Part of Cemetery A. In direct contact with H19.	Po.D.-3 Total: 3
20.21	19	EN	Adult, indeterminate	Seated	Primary	Part of Cemetery A. Dentalium beads along the head and near the chest. Orientation of the feet suggests possible binding. In direct contact with H17.	G.I. - 2 Pr.D.- 2 Total: 4

20.22	20	EN	Adolescent	Loose flex (right side)	Primary	Part of Cemetery A.	Total: 0
20.23	21	EN	Infant	Loose flex (right side)	Primary	Part of Cemetery A.	Total: 0
20.24	23	EN	Adolescent	Supine	Primary	Part of Cemetery A. Necklace of dentalium, gazelle phalanges, and perforated shells.	G.I. - 2 Total: 2
20.25	24	LN	Unknown	Unknown	Secondary	Locus 9 multi-burial, probably a successive burial.	Po.D.-1 Total: 1
20.26	25	LN	Adult, female	Unknown	Secondary	Locus 10 multi-burial, probably a successive burial. Gazelle horn cores on the head.	G.I. - 1 Po.D.-1 Total: 2
20.27	26	LN	Unknown	Unknown	Secondary	Locus 10 multi-burial, probably a successive burial.	Po.D.-1 Total: 1

20.28	27	LN	Unknown	Unknown	Secondary	Locus 10 multi-burial, probably a successive burial.	Po.D.-1 Total: 1
20.29	28	LN	Unknown	Unknown	Secondary	Locus 9 multi-burial, probably successive burial.	Po.D.-1 Total: 1
20.30	29	LN	Unknown	Unknown	Secondary	Locus 9 multi-burial, probably successive burial.	Po.D.-1 Total: 1
20.31	30	LN	Unknown	Unknown	Secondary	Locus 9 multi-burial, probably successive burial.	Po.D.-1 Total: 1
20.32	31	LN	Unknown	Unknown	Secondary	Locus 10 multi-burial, probably successive burial.	Po.D.-1 Total: 1

20.33	32	LN	Unknown	Unknown	Secondary	Locus 9 multi-burial, probably successive burial.	Po.D.-1 Total: 1
20.34	33	LN	Unknown	Unknown	Secondary	Locus 9 multi-burial, probably successive burial.	Po.D.-1 Total: 1
20.35	34	LN	Unknown	Unknown	Primary	Double successive burial with H35. Part of locus 18.	Po.D.-1 Total: 1
20.36	35	LN	Unknown	Unknown	Primary	Double successive burial with H34. Part of locus 18.	Po.D.-1 Total: 1
20.37	36		Unknown	Unknown	Isolated remains		Total: 0
20.38	37	EN	Adult, male	Unknown	Isolated remains		Total: 0

20.39	38		Unknown	Unknown	Isolated remains		Total: 0
20.40	43	EN	Infant	Flexed (left side)	Primary	Part of Cemetery C. Grave sealed with a stone slab. At least 70 dentalium beads found at waist and neck. Deer bone pendant at the knee.	G.C. - 2 G.I. - 2 Total: 4
20.41	50	LN	Unknown	Unknown	Primary	Triple successive with H60 and H161. In Locus 21.	Po.D.-1 Total: 1
20.42	51	FN	Unknown	Tight flex	Unknown	Possibly bound based on degree of hyperflexion	Pr.D.- 2 Total: 2
20.43	52	LN	Unknown	Unknown	Primary	Double successive with H58. In locus 23. Large erect stone in the centre of the burial pit, pit walls lined with plaster.	G.C. - 2 G.I. - 1 Po.D.-1 Total: 4

20.44	53		Unknown	Unknown	Primary		Total: 0
20.45	54		Unknown	Unknown	Unknown		Total: 0
20.46	55	LN	Unknown	Unknown	Secondary	Locus 20 multi-successive burial.	Po.D.-1 Total: 1
20.47	56	LN	Unknown	Unknown	Secondary	Locus 20 multi-successive burial.	Po.D.-1 Total: 1
20.48	57	LN	Unknown	Unknown	Secondary	Locus 20 multi-successive burial.	Po.D.-1 Total: 1
20.49	58	LN	Unknown	Unknown	Primary	Double successive with H52. Found in Locus 23. Large erect stone in the	G.C. - 2 G.I. - 1

						centre of the burial pit, pit walls lined with plaster.	Po.D.-1 Total: 4
20.50	59	LN	Unknown	Unknown	Secondary	Locus 20 multi-successive burial.	Po.D.-1 Total: 1
20.51	60	LN	Unknown	Unknown	Primary	Triple successive with H50 and H161. In Locus 21.	Po.D.-1 Total: 1
20.52	61	FN	Unknown	Tight flex	Unknown	Possibly bound based on degree of hyperflexion.	Pr.D.- 2 Total: 2
20.53	62	FN	Unknown	Unknown	Unknown		Total: 0
20.54	63		Unknown	Unknown	Isolated remains		Total: 0

20.55	64	LN	Adolescent	Unknown	Primary	In Locus 39.	Total: 0
20.56	65		Unknown	Unknown	Isolated remains		Total: 0
20.57	66	FN	Unknown	Unknown	Unknown		Total: 0
20.58	67	LN	Unknown	Unknown	Secondary	Locus 24 multi-successive burial.	Po.D.-1 Total: 1
20.59	68	LN	Child	Unknown	Secondary	Locus 24 multi-successive burial.	Po.D.-1 Total: 1
20.60	69	LN	Adolescent	Unknown	Disturbed primary	Locus 24 multi-successive burial.	Po.D.-1 Total: 1

20.61	70	LN	Unknown	Flexed (left side)	Primary	In Locus 39.	Total: 0
20.62	71	LN	Unknown	Unknown	Secondary	Locus 24 multi-successive burial.	Po.D.-1 Total: 1
20.63	72		Unknown	Unknown	Unknown		Total: 0
20.64	75		Unknown	Unknown	Isolated remains		Total: 0
20.65	77		Unknown	Unknown	Isolated remains		Total: 0
20.66	78	LN	Unknown	Unknown	Primary	Double burial with H79, in Locus 64.	Total: 0

20.67	79	LN	Adolescent	Unknown	Primary	Double burial with H78, in Locus 64.	Total: 0
20.67	80	EN	Unknown	Unknown	Unknown		Total: 0
20.69	81	EN	Unknown	Unknown	Unknown		Total: 0
20.70	82	EN	Unknown	Unknown	Unknown		Total: 0
20.71	83	EN	Unknown	Unknown	Unknown		Total: 0
20.72	84	FN	Adolescent	Unknown	Unknown	Double burial with H84b.	Total: 0
20.73	84b	FN	Adolescent	Unknown	Unknown	Double burial with H84.	Total: 0

20.74	85		Unknown	Unknown	Isolated remains		Total: 0
20.75	86		Unknown	Unknown	Isolated remains		Total: 0
20.76	87	EN	Young adult, male	Tight flex (left side)	Primary	Part of Cemetery B. Possibly bound based on hyperflexion. Necklace and bracelets made of dentalium beads, gastropod shells, and gazelle phalanges.	G.I. - 2 Pr.D.- 2 Total: 4
20.77	88	EN	Child	Flexed, supine	Primary	Part of Cemetery B. Dentalium beads (both long and short) and rounded shell beads located at the neck. >350 beads total.	G.I. - 2 Total: 2
20.78	89	EN	Young adult, male	Loose flex, supine	Primary	Part of Cemetery B. >120 dentalium beads as a necklace.	G.I. - 2 Total: 2
20.79	90	EN	Older adult, female	Supine	Primary	Part of Cemetery B. 6 loose dentalium beads found in the grave.	G.I. - 1 Total: 1

20.80	91	EN	Adult, female	Loose flex, supine	Primary	Part of Cemetery B. Headband, belt, necklace, and bracelets of dentalium beads and other rounded beads. One oval pendant made of bone. >330 total beads.	G.I. - 2 Total: 2
20.81	92	EN	Older adult, male	(right side)	Primary	Part of Cemetery B.	Total: 0
20.82	93	EN	Adult, male	(right side)	Primary	Part of Cemetery B.	Total: 0
20.83	94		Unknown	Unknown	Isolated remains		Total: 0
20.84	95	EN	Infant	(right side)	Primary		Total: 0
20.85	96	EN	Unknown	Unknown	Unknown	Laying on a circle of stones.	G.C. - 1 Total: 1

20.86	97	EN	Infant	Unknown	Primary	Part of Cemetery B.	Total: 0
20.87	98	EN	Older adult, male	(right side)	Primary	Part of Cemetery B.	Total: 0
20.88	99		Unknown	Unknown	Isolated remains		Total: 0
20.89	100		Unknown	Unknown	Isolated remains		Total: 0
20.90	101-152	FN	Adult, female	Flexed, supine	Primary		Total: 0
20.91	102	EN	Unknown	Unknown	Unknown		Total: 0
20.92	103-150	FN	Unknown	Unknown	Unknown		Total: 0

20.93	104	EN	Adult, female	(right side)	Primary	Part of Cemetery B. Young dog (or possibly wolf) buried in the hands adjacent to the head.	G.I. - 2 Total: 2
20.94	105	EN	Adolescent	(right side)	Primary	Part of Cemetery B.	Total: 0
20.95	150	EN	Young adult, male	Tight flex (left side)	Primary		Total: 0
20.96	151	FN	Infant	(left side)	Primary	Triple burial with H153 and H154. Stones around grave pit.	G.C. - 1 Total: 1
20.97	153	FN	Infant	Unknown	Primary	Triple burial with H151 and H154. Stones around grave pit.	G.C. - 1 Total: 1
20.98	154	FN	Adult, indeterminate	Tight flex, supine	Primary	Triple burial with H151 and H153. Possibly bound based on degree of hyperflexion. Stones around grave pit.	G.C. - 1 Pr.D.- 2 Total: 3

20.99	155	FN	Infant	Tight flex	Unknown		Total: 0
20.100	156	FN	Adult, female	Tight flex, supine	Primary	Possibly decayed in a void, small grave pit with clear wall effect on shoulders	G.S. -1 G.C. - 1 Total: 2
20.101	157	FN	Adult, female	Supine	Unknown	Locus 206 multi-burial. Nearby to an oven or hearth.	Total: 0
20.102	158	FN	Adult, unknown sex	Unknown	Unknown	Locus 206 multi-burial	Total: 0
20.103	160-166	FN	Unknown	Unknown	Unknown		Total: 0
20.104	161	LN	Child	Unknown	Unknown	Triple burial with H50 and H60. In Locus 21.	Total: 0

20.105	162	EN	Child	Unknown	Primary	Part of Cemetery B.	Total: 0
20.106	163	FN	Adult	Tight flex, supine	Primary	Triple burial with H10 and H11.	Total: 0
20.107	164	EN	Infant	Unknown	Primary	Part of Cemetery B.	Total: 0
20.108	165	EN	Child	Unknown	Primary	Part of Cemetery B.	Total: 0
20.109	167	FN	Child	Flexed, supine	Primary		Total: 0
20.110	174	EN	Young adult, male	Loose flex, supine	Primary	Part of Cemetery C. Double successive burial with H176. Pit is plastered. Includes jewellery of >100 dentalium beads, bivalves, and	G.S. -2 G.C. - 2 G.I. - 2 Po.D.-1

						pendants of gazelle and tibio-tarsus bones, bone tools, and lithics. Indirectly dated to 14,803-14,036 cal BP.	Total: 7
20.111	176	EN	Infant	Unknown	Primary	Part of Cemetery C. Double successive burial with H174. Pit is plastered. Necklace of >100 dentalium beads, bone pendants and tibio-tarsus beads. Also includes a bone spatula. Indirectly dated to 14,803-14,036 cal BP.	G.S. -2 G.C. - 2 G.I. - 2 Po.D.-1 Total: 7
20.112	177	EN	Child	Supine	Primary	Part of Cemetery C. Necklace of >50 dentalium beads. Indirectly dated to 14,803-14,036 cal BP.	G.I. - 1 Total: 1
20.113	178	EN	Infant	Unknown	Isolated remains	Part of Cemetery C. Indirectly dated to 14,803-14,036 cal BP.	Total: 0

20.114	166	FN	Young adult, unknown sex	Loose flex (right side)	Primary	Some bones show signs of burning.	Total: 0
20.115	171	FN	Unknown	Unknown	Unknown		Total: 0
20.117	175	FN	Infant	Unknown	Disturbed primary	Bones moved around within the pit.	Po.D.-2 Total: 2
20.118	179		Adult, unknown sex	Tight flex, supine	Primary		Total: 0
20.119	180	FN	Child	Flexed, supine	Primary	In Locus 240.	Total: 0
20.120	168	FN	Adult, female	Tight flex (right side)	Primary	Large stones nearby	Total: 0
20.121	169	FN	Child	Unknown	Isolated cranium		Po.D.-3 Total: 3

20.122	170	FN	Adult, female	Tight flex (left side)	Primary	Probably bound based on hyperflexion	Pr.D.- 2 Total: 2
20.123	171	FN	Adolescent	Supine	Primary		Total: 0
20.124	172	FN	Adult, male	Flexed (left side)	Primary		Total: 0
20.125	173	EN	Child	Tight flex, supine	Primary	Part of Cemetery C.	Total: 0
20.126	152		Unknown	Unknown	Unknown		Total: 0
20.127	Locus 240	FN	Unknown	Unknown	Disturbed primary	Part of Locus 240 multi-burial. All adults in this multi-burial have the same unique use-wear on the teeth indicative of the use of teeth as tools. MNI=5	Total: 0

20.128	37	EN	Unknown	Unknown	Isolated Cranium		Po.D.-3 Total: 3
20.129	178	EN	Infant	Unknown	Primary		Total: 0
20.130	Locus 240	FN	Adult, unknown sex	Unknown	Primary	Part of Locus 240 multi-burial. All adults in this multi-burial have the same unique use-wear on the teeth indicative of the use of teeth as tools. MNI=5	Total: 0
20.131	Locus 240	FN	Adult, unknown sex	Unknown	Primary	Part of Locus 240 multi-burial. All adults in this multi-burial have the same unique use-wear on the teeth indicative of the use of teeth as tools. MNI=5	Total: 0
20.132	Locus 240	FN	Adult, unknown sex	Unknown	Primary	Part of Locus 240 multi-burial. All adults in this multi-burial have the same unique use-wear on the teeth indicative of the use of teeth as tools. MNI=5	Total: 0

20.133	Locus 240	FN	Adult, unknown sex	Unknown	Primary	Part of Locus 240 multi-burial. All adults in this multi-burial have the same unique use-wear on the teeth indicative of the use of teeth as tools. MNI=5	Total: 0

Table 8.19: All numbered individuals from Eynan (Ain Mallaha). From Perrot, 1966; Perrot, 1974; Valla, 1975; Valla et al., 1977; Valla and Khalaily, 1997; Valla et al., 2001; Bocquentin, Murail, and Sellier, 2001; Bocquentin, 2003; Valla and Bocquentin, 2008; Davin, 2019.

8.2.12 Hilazon Tachtit

Individual Code	Excavator Code	Subphase	Age and Sex	Burial Pose	Burial Type	Description	Performative Currency
21.01	HT1	LN	Older adult, female	Flexed, recumbent	Primary	The 'Shaman' of Hilazon Tachtit, located beneath Structure A. Large stones placed on the body supporting the position. Includes 50+ tortoise shells, marten skulls, an articulated human foot, a wing-tip of a golden eagle, an auroch tail, a *Panthera* pelvis, wild boar limb bone, gazelle horncore, and a fragment of a basalt bowl.	G.S. -3 G.C. - 1 G.I. – 4 Total: 8

21.02	HT2	LN	Older adult, female	Unknown	Primary	In the fill of Structure B. Grave capped with a stone.	G.C. - 1 Total: 1
21.03	HT3	LN	Adult, female	Unknown	Primary	Double burial with HT4. Burial located on a wall between Structures A and B.	Total: 0
21.04	HT4	LN	Infant (perinatal)	Unknown	Primary	Double burial with HT3, located in the pelvic region of HT3. Burial located on a wall between Structure A and B.	Total: 0
21.05 - 21.28	HT5-HT28	LN	Unknown	Unknown	Disturbed primary	Co-mingled remains with MNI of 24 located within Pits I, II, and III. Reported as disturbed primary due to the presence of some articulated bones.	Po.D.-1 Total: 1

Table 8.20: All numbered individuals from Hilazon Tachtit. From Grosman, 2003; Grosman and Munro, 2007; Grosman, Munro, and Belfer-Cohen, 2008; Goldgeier, Munro, and Grosman, 2019.

8.2.13 Azraq 18

Individual Code	Excavator Code	Subphase	Age and Sex	Burial Pose	Burial Type	Description	Performative Currency
23.01	A18-A	EN	Older adult, unknown sex	Flexed (left side)	Disturbed primary	Part of the multi-successive burial. *Bos* horn cores placed above the burial pit, interpreted as markers.	G.C. - 1 Po.D.-1 Total: 2
23.02	A18-B	EN	Older adult, probable male	Loose flex, prone	Disturbed primary	Part of the multi-successive burial. *Bos* horn cores placed above the burial pit, interpreted as markers. Red pigment all over the cranium.	G.C. - 1 Pr.D.- 1 Po.D.-1 Total: 3
23.03	A18-C	EN	Older adult, unknown sex	Loose flex (right side)	Disturbed primary	Part of the multi-successive burial. *Bos* horn cores placed above the burial pit, interpreted as markers. Tri-coloured staining on the facial bones.	G.C. - 1 G.I. - 1 Po.D.-1 Total: 3

23.04	A18-D	EN	Adolescent	Unknown	Disturbed primary	Part of the multi-successive burial. *Bos* horn cores placed above the burial pit, interpreted as markers.	G.C. - 1 Po.D.-1 Total: 2
23.05	A18-E	EN	Child	Unknown	Disturbed primary	Part of the multi-successive burial. *Bos* horn cores placed above the burial pit, interpreted as markers.	G.C. - 1 Po.D.-1 Total: 2
23.06	A18-F	EN	Child	Unknown	Disturbed primary	Part of the multi-successive burial. *Bos* horn cores placed above the burial pit, interpreted as markers.	G.C. - 1 Po.D.-1 Total: 2
23.07	A18-G	EN	Infant	Unknown	Disturbed primary	Part of the multi-successive burial. *Bos* horn cores placed above the burial pit, interpreted as markers.	G.C. - 1 Po.D.-1 Total: 2

23.08	A18-H	EN	Infant	Unknown	Disturbed primary	Part of the multi-successive burial. *Bos* horn cores placed above the burial pit, interpreted as markers.	G.C. - 1 Po.D.-1 Total: 2

Table 8.21: All numbered individuals from Azraq 18. From Bocquentin and Garrard, 2016.

8.2.14 Hof Shahaf

Individual Code	Excavator Code	Subphase	Age and Sex	Burial Pose	Burial Type	Description	Performative Currency
24.01		UN	Adult, probable male	Supine	Disturbed primary	Cranium removed post-depositionally	Po.D.-3 Total: 3

Table 8.22: All numbered individuals from Hof Shahaf. From Marder et al., 2013.

8.2.15 Erq al Ahmar

Individual Code	Excavator Code	Subphase	Age and Sex	Burial Pose	Burial Type	Description	Performative Currency
27.01	H1	EN	Adult, unknown sex	Unknown	Unknown		Total: 0
27.02	H2	EN	Adult, unknown sex	Unknown	Unknown		Total: 0
27.03	H3	EN	Adult, unknown sex	Unknown	Unknown		Total: 0
27.04	H4	EN	Adult, unknown sex	Unknown	Unknown		Total: 0
27.05	H6	EN	Young adult, unknown sex	Unknown	Unknown		Total: 0

27.06	Hsup1	EN	Child	Unknown	Unknown		Total: 0
27.07	Hsup2	EN	Child	Unknown	Unknown		Total: 0

Table 8.23: All numbered individuals from Erq al Ahmar. From Vallois, 1936; Bocquentin, 2003.

8.2.16 Kebara Cave

Individual Code	Excavator Code	Subphase	Age and Sex	Burial Pose	Burial Type	Description	Performative Currency
28.01	H1	EN	Adolescent	Unknown	Primary		Total: 0
28.02	H2	EN	Adult, male	Unknown	Primary		Total: 0
28.03	H3	EN	Young adult, male	Unknown	Primary		Total: 0

28.04	H4	EN	Adult, male	Unknown	Primary		Total: 0
28.05	H5	EN	Infant	Unknown	Primary		Total: 0
28.06	H6	EN	Infant	Unknown	Primary		Total: 0
28.07	H7	EN	Child	Unknown	Primary		Total: 0
28.08	H8	EN	Adult, male	Unknown	Primary		Total: 0
28.09	H9	EN	Child	Unknown	Primary		Total: 0
28.10	H10	EN	Child	Unknown	Primary		Total: 0

28.11	H11	EN	Young adult, male	Unknown	Primary		Total: 0
28.12	H12	EN	Child	Unknown	Primary		Total: 0
28.13	H13	EN	Infant	Unknown	Primary		Total: 0
28.14	H14	EN	Young adult, male	Unknown	Primary		Total: 0
28.15	H14a	EN	Child	Unknown	Primary		Total: 0
28.16	H14b1	EN	Child	Unknown	Primary		Total: 0
28.17	H14b2	EN	Infant	Unknown	Primary		Total: 0
28.18-28.48	Burned	EN				Co-mingled remains, MNI=31. Colouration of the bones indicates low temperature burning after decomposition had occurred.	Po.D.-2 Total: 2

Table 8.24: All numbered individuals from Kebara Cave. From Turville-Petre, 1932; Bar-Yosef and Sillen, 1993; Bocquentin, 2003; Bocquentin and Bar-Yosef, 2004.

8.3 A.3 – Pre-Pottery Neolithic A Burials

8.3.1 Wadi Sharara

Individual Code	Excavator Code	Age and Sex	Burial Pose	Burial Type	Description	Performative Currency
1.01	1	Unknown	Seated	Primary	Under the floor of Locus 7.	Total: 0
1.02	2	Child		Isolated remains	Within Locus 7. Indirectly dated to 11,610-11,233 cal BP.	Total: 0
1.03	3	Adult, unknown sex		Isolated cranium	Within Locus 7. Indirectly dated to 11,610-11,233 cal BP. Skull located between two standing stones, which are associated with flint and quartz artifacts and an el-Khiam projectile.	G.I. – 1 Po.D.- 3 Total: 4
1.04	4	Adult, unknown sex	Seated	Primary	Poorly preserved, found associated with a stone vessel within Locus 7.	Total: 0
1.05	5	Adult, unknown sex	Seated	Primary	Within Locus 7. Damaged by looters.	Total: 0

Table 8.25: All numbered individuals from Wadi Sharara. From Sampson, 2020.

8.3.2 Netiv Hagdud

Individual Code	Excavator Code	Age and Sex	Burial Pose	Burial Type	Description	Performative Currency
7.01	H2	Adult, male	Flexed (right side)	Disturbed primary	Cranium removed post-depositionally.	Po.D.- 3 Total: 3
7.02	H3	Adult, female	Flexed (left side)	Disturbed primary	Double burial with H4. Cranium removed post-depositionally, but part of mandible present.	Po.D.- 3 Total: 3
7.03	H4	Young adult, unknown sex	Unknown	Secondary	Double burial with H3. Represented only by upper limb bones.	Total: 0
7.04	H5	Adult, unknown sex	Unknown	Disturbed primary	Cranium removed post-depositionally, mandible present.	Po.D.- 3 Total: 3
7.05	H6	Adult, male	Unknown	Primary	Fragmentary	Total: 0

7.06	H7	Adult, probable male	Flexed (left side)	Disturbed primary	Cranium removed post-depositionally, mandible present.	Po.D.- 3 Total: 3
7.07	H8	Adult, male	Flexed (left side)	Disturbed primary	Cranium removed post-depositionally, mandible present.	Po.D.- 3 Total: 3
7.08	H9	Young adult, unknown sex	Flexed	Primary		Total: 0
7.09	H10	Adult, male	Unknown	Isolated cranium	Fragmentary skull	Po.D.- 3 Total: 3
7.10	H11	Adult, female	Flexed (left side)	Disturbed primary	Skull removed post-depositionally.	Po.D.- 3 Total: 3

7.11	H12	Adult, male	Flexed (right side)	Disturbed primary	Skull removed post-depositionally, may be the same individual as H17.	Po.D.- 3 Total: 3
7.12	H13	Child	Unknown	Primary	Remains were very fragmentary	Total: 0
7.13	H14	Child	Unknown	Disturbed primary	Cranium removed post-depositionally, mandible present.	Po.D.- 3 Total: 3
7.14	H15	Adult, indeterminate	Unknown	Disturbed primary	Cranium removed post-depositionally, mandible present.	Po.D.- 3 Total: 3
7.15	H16	Adult, male	Unknown	Unknown	Fragmentary lower limb bones only.	Total: 0
7.16	H17	Adult, unknown sex	Unknown	Unknown	Isolated mandible. May belong to H12 due to proximity of the grave. Mandible has a double coronoid rim.	Total: 0

7.17	H18	Adult, male	Flexed (left side)	Disturbed primary	Double burial with H18a. Cranium removed post-depositionally, mandible present. Mandible has a double coronoid rim.	Po.D.- 3 Total: 3
7.18	H18a	Infant	Unknown	Isolated cranium	Double burial with H18. Mandible present.	Po.D.- 3 Total: 3
7.19	H19	Child	Unknown	Unknown	Very fragmentary	Total: 0
7.2	H20	Adult, female	Unknown	Unknown	Long bones and ribs only.	Total: 0
7.21	H21	Child	Unknown	Primary	Double burial with H21a. Complete but fragmentary.	Total:0
7.22	H21a	Child	Unknown	Primary	Double burial with H21. Complete but fragmentary.	Total: 0

7.23	H22	Child	Unknown	Disturbed primary	Skull removed post-depositionally.	Po.D.- 3 Total: 3
7.24	H23	Child	Unknown	Isolated cranium		Po.D.- 3 Total: 3
7.25	H24	Child	Flexed	Primary		Total: 0
7.26	H25	Adult, unknown sex	Unknown	Isolated cranium	Fragments of skull.	Po.D.- 3 Total: 3
7.27	H26	Adult, unknown sex	Unknown	Isolated cranium	Fragments of skull.	Po.D.- 3 Total: 3
7.28	H27	Young adult, unknown sex	Unknown	Isolated cranium	Fragments of skull.	Po.D.- 3 Total: 3

Table 8.26: All numbered individuals from Netiv Hagdud. From Belfer-Cohen et al., 1990: Valla, 2003.

8.3.3 Hatoula

Individual Code	Excavator Code	Age and Sex	Burial Pose	Burial Type	Description	Performative Currency
22.01	H03	Older adult, indeterminate	Tight flex, supine	Primary	Possibly bound or wrapped at burial.	Pr.D.- 2 Total: 2
22.02	H04	Older adult, indeterminate	Flexed	Disturbed primary	Skull removed post-depositionally. Stone bead found near the distal end of the humerus.	G.I. – 1 Po.D.- 3 Total: 4
22.03	H05	Young adult, male	Loose flex, supine	Primary	Burial cutting was very narrow.	G.S. - 1 Total: 1
22.04	H06	Infant	(right side)	Primary	Small stones found beneath the head.	G.I. – 1 Total: 1

Table 8.27: All numbered individuals from Hatoula. From Le Mort, 1989; Lechevallier et al., 1989; Lechevallier and Ronen, 1996.

8.3.4 Wadi Faynan 16

Individual Code	Excavator Code	Age and Sex	Burial Pose	Burial Type	Description	Performative Currency
25.01	F8, Context 298(a)	Adult, unknown sex	Unknown	Unknown	Triple burial of disarticulated remains. One disarticulated skull sits on a stone 'pillow' and protrudes through the PPNA floor of Structure F8. Nearby chipped stone artefacts.	G.C. – 1 Po.D.- 2 Total: 3
25.02	F8, Context 298(b)	Adult, unknown sex	Unknown	Unknown	Triple burial of disarticulated remains. One disarticulated skull sits on a stone 'pillow' and protrudes through the PPNA floor of Structure F8. Nearby chipped stone artefacts.	G.C. – 1 Total: 1
25.03	F8, Context 298(c)	Unknown	Unknown	Unknown	Triple burial of disarticulated remains. One disarticulated skull sits on a stone 'pillow' and protrudes through the PPNA floor of Structure F8. Nearby chipped stone artefacts.	G.C. - 1 Total: 1
25.04	F39910	Adult, unknown sex	Flexed (right side)	Disturbed primary	Skull is disarticulated and placed on a stone 'pillow'. Probably protruded through the floor of Structure F3992.	G.C. - 1 Po.D.- 2 Total: 3

25.05	O3	Unknown	Unknown	Isolated remains	Only two hand or foot bones, one long bone, and some rib fragments. Within the infill of Structure O31.	Total: 0
25.06	O4	Unknown	Unknown	Isolated remains	Only hand and feet bones remain. Cut into a midden deposit. Nearby fragments of mortar stone.	Total: 0
25.07	O6	Juvenile	Flexed, supine	Primary	Cut through wall of disused PPNA structure. Possible nearby fragment of worked animal bone.	Total: 0
25.08	O7	Adult, sex unknown	Flexed (left side)	Primary	Beneath floor of Structure 31. Nearby hammerstone, stone pick, and El Khiam point.	Total: 0
25.09	O8	Juvenile	Loose flex	Primary	Most of the arms and unfused epiphyses are missing. Nearby a green stone bead.	Total: 0
25.10	O9	Juvenile	Flexed (right side)	Primary	Cut through the wall of Structure O65. Nearby with four lithics and a caprine pelvis.	Total: 0

25.11	O10	Unknown	Flexed (right side)	Primary	Part of infill of Structure O84. Very fragmentary and damaged by animal burrowing. Incomplete. Chipped stone artefact and grooved stone artefact found nearby.	Total:0
25.12	O17	Adult, unknown sex	Flexed (right side)	Disturbed primary	Cranium moved to be positioned in front of the mandible post-depositionally. Cut into a midden.	Po.D.- 2 Total: 2
25.13	O24	Juvenile	Flexed (left side)	Primary	Infill of a structure, cut by Burial O8. Damaged.	Total: 0
25.14	O26	Adult, unknown sex	Flexed (right side)	Primary	Infill of Structure O84. Two large stones placed on the body. Nearby chipped stone, ground stone pestle, and a fragment of red ochre.	G.C. - 1 Total: 1
25.15	O27	Juvenile	Flexed (right side)	Primary	Infill of Structure O114. Nearby two marine shell beads and a marine shell. Some of the cranium is missing.	Total: 0
25.16	O28	Young Adult, sex unknown	Flexed (left side)	Primary	Infill of Structure O65. Damaged, right ribs and foot missing. Nearby chipped stone and a large stone.	Total: 0

25.17	O32	Unknown	Flexed (right side)	Disturbed primary	Infill of Structure O72. Disturbed by the later addition of cranial fragments. Nearby chipped stone artefacts, animal remains, and a stone bead.	Po.D.- 1 Total: 1
25.18	O35	Juvenile	Flexed (left side)	Primary	Infill of Structure O113. Disturbed by looter pit. Gypsum-like concretions on the right ribs.	Pr.D.- 1 Total: 1
25.19	O36	Adult, sex unknown	Flexed (right side)	Primary	Cut through wall of Structure O83. Black staining visible on the bones, grave encased in a mud lining and capping. Nearby green stone bead, a serrated blade, and a possible phallic object.	G.C. - 2 Pr.D.- 1 Total: 3
25.20	O37	Juvenile	Flexed (right side)	Primary	Cut through wall of Structure O83. Nearby two chipped stone bladelets and a marine shell bead.	Total: 0
25.21	O38	Unknown	Flexed (right side)	Primary	Cut through wall of Structure O83. Associated with a fragmentary infant cranium. Skull has gypsum-like residue and black line markings.	PrD- 1 Total: 1

25.22	O39	Unknown	Unknown	Secondary	Unclear how many individuals. Some bones were placed in a gypsum-lined woven basket or cloth, and some are coated in gypsum-like substance. Nearby greenstone bead, and lithics.	Pr.D.- 2 Total: 2
25.23	O41	Adult, unknown sex	Flexed (right side)	Disturbed primary	Cut through wall of Structure O53. Skull and some of the upper body were removed post-depositionally.	Po.D.- 3 Total: 3
25.24	O43	Adult, unknown sex	Flexed (right side)	Primary	Cut through wall of Structure O19, and Burial O93. Possible gypsum-like substance on bones.	Pr.D.- 1 Total: 1
25.25	O44	Unknown	Unknown	Isolated cranium	Among the collapsed rubble of Structure O12. Cranium, mandible, and teeth fragments present.	Po.D.- 3 Total: 3
25.26	O47	Adult, unknown sex	Flexed (right side)	Primary	Cut into mud plaster bench of Structure O108. Fragments of an infant cranium found around the body.	Total: 0

25.27	O76	Adult, unknown sex	Flexed (left side)	Primary	Cut through wall of Structure O72. Nearby stone blade and two marine shell beads.	Total: 0
25.28	O77	Juvenile	Unknown	Secondary	Infill of Structure O114. Disarticulated long-bones, reasonably well preserved.	Total: 0
25.29	O78	Unknown	Unknown	Isolated remains	Infill of Structure O72. Disarticulated mandible only.	Po.D.- 3 Total: 3
25.30	O79	Infant	Flexed (left side)	Primary	Infill of Structure O72. Left lower arm and hand missing, possibly due to truncation.	Total: 0
25.31	O80	Adult, unknown sex	Flexed, supine	Primary	Infill of Structure O113. Nearby chipped stone artefacts, animal bones, and a lozenge-shaped stone object.	Total: 0
25.32	O81	Adult, unknown sex	Flexed (left side)	Primary	Inside Structure O64, unexcavated. Sealed by multiple floors of the structure.	Total: 0

25.33	O82	Juvenile	Flexed (right side)	Primary	Cut through floor of Structure O65 and sealed by PPNA deposits. Nearby chipped stone artefacts, two bone beads, a bone point, and a probable fox ulna.	Total: 0
25.34	O89	Infant	Flexed (left side)	Primary	Infill of Structure O83. Well preserved but truncated.	Total: 0
25.35	O93	Adult, unknown sex	Flexed (left side)	Primary	Cut through wall of Structure O19 and cut by Burial O43. Nearby chipped stone blades, green stone bead, and worked animal bone.	Total: 0
25.36	O101	Juvenile	Flexed (right side)	Disturbed primary	In midden layers. Legs have been post-depositionally disturbed. Nearby a stone bead.	Po.D.- 2 Total: 2
25.37	O122	Unknown	Unknown	Unknown	Infill of Structure O84. Fragments of cranium, mandible, and ribs. May be disturbed or secondary.	Total: 0
25.38	O123	Unknown	Unknown	Isolated remains	Articulated foot found in midden deposits.	Total: 0

25.39	O124	Infant	Unknown	Isolated cranium	Unclear grave cut. Fragments of cranium.	Total: 0
25.40	O125	Unknown	Unknown	Isolated remains	Unclear grave cut. Only right scapula, two right ribs, and pelvis fragment.	Total: 0
25.41	O126	Unknown	Unknown	Isolated remains	Unclear grave cut. Fragments of at least one cranium and associated leg bones.	Total: 0
25.42	O128	Unknown	Unknown	Isolated cranium	Rubble infill of Structure O33. Cranium found at different level than maxilla.	Po.D.- 3 Total: 3
25.43	O129	Unknown	Unknown	Isolated cranium	Rubble collapses of burned Structure O45. Cranium, teeth, and mandible found disarticulated.	Po.D.- 3 Total: 3

Table 8.28: All numbered individuals from Wadi Faynan 16 (WF16). From Mithen et al., 2015; Finlayson et al., 2011; Roberts, 2007.

8.3.5 Jericho

Individual Code	Excavator Code	Age and Sex	Burial Pose	Burial Type	Description	Performative Currency
26.01		Adult, male	Flexed (right side)	Primary	Small oval grave cut through the floor of a 'tank-like' structure. Head pressed tightly against the edge of the grave.	G.S. - 1 Total: 1
26.02	A	Adult, male		Primary	Double burial with 26.03. In the eastern part of the 'tank' structure.	Total: 0
26.03	B	Young adult, female		Secondary	Double burial with 26.02. In the eastern part of the 'tank' structure	Total: 0
26.04		Adolescent		Primary	In the eastern part of the 'tank' structure.	Total: 0
26.05		Infant		Primary	Located within a pit in the floor of the original enclosure of the tower.	G.S. - 1 Total: 1

26.06		Adult, unknown sex	Seated	Disturbed primary	Within a midden-like area adjacent to the tower. The body was extremely compressed and placed into the pit in an odd position: the left leg folded back, the right leg flexed and splayed out, cranium twisted to the left and backward, arms flexed with hands near shoulders.	G.S. - 1 Pr.D.- 2 Total: 3
26.07	A	Adult, unknown sex		Disturbed primary	Located within the tower passage, part of the Tower Multi-Burial. Much of the body is missing but the body may have been in a contracted position.	Po.D.- 1 Total: 1
26.08	D	Adult, unknown sex	Flexed (left side)	Disturbed primary	Located within the tower passage, part of the Tower Multi-Burial. Cranium missing, otherwise complete.	Po.D.- 3 Total: 3
26.09	E	Adult, unknown sex	Loose flex, supine	Disturbed primary	Located within the tower passage, part of the Tower Multi-Burial. Cranium removed, mandible present.	Po.D.- 3 Total: 3

26.10	F	Child		Disturbed primary	Located within the tower passage, part of the Tower Multi-Burial. Fragmentary.	Po.D.- 1 Total: 1
26.11	G	Adult, unknown sex	Loose flex, supine	Disturbed primary	Located within the tower passage, part of the Tower Multi-Burial. Primarily represented by a torso, cranium not present.	Po.D.- 3 Total: 3
26.12	H	Adult, unknown sex		Disturbed primary	Located within the tower passage, part of the Tower Multi-Burial. Very fragmentary, includes a mandible but no cranium is present.	Po.D.- 3 Total: 3
26.13	J	Adult, unknown sex	Loose flex, supine	Disturbed primary	Located within the tower passage, part of the Tower Multi-Burial. No cranium present in the grave.	Po.D.- 3 Total: 3
26.14	K	Adult, unknown sex	Supine	Disturbed primary	Located within the tower passage, part of the Tower Multi-Burial. No cranium or mandible present.	Po.D.- 3 Total: 3

26.15	L	Adult, unknown sex	Flexed, supine	Disturbed primary	Located within the tower passage, part of the Tower Multi-Burial. No cranium, mandible is present in the grave. Associated with a nearby bone pin.	G.I. – 1 Po.D.- 3 Total: 4
26.16	M	Adult, unknown sex	Extended, Supine	Disturbed primary	Located within the tower passage, part of the Tower Multi-Burial. No cranium present, limbs slightly splayed.	Po.D.- 3 Total: 3
26.17	N	Child	Flexed (left side)	Primary	Located within the tower passage, part of the Tower Multi-Burial. Complete, associated with a stone and a nearby bone tool.	G.I. – 1 Po.D.- 1 Total: 2
26.18	O	Child		Isolated remains	Located within the tower passage, part of the Tower Multi-Burial.	Po.D.- 1 Total: 1
26.19		Unknown	Flexed	Unknown	Beneath the floor of enclosure AH. Deep grave pit sealed by floor repair phase. Only the legs remain.	G.S. - 2 Total: 2

26.20		Adult, unknown sex	Seated	Primary	Within the rubble fill of enclosure AH. Double burial with 26.21.	Total: 0
26.21		Child	Seated	Primary	Within the rubble fill of enclosure AH. Double burial with 26.20.	Total: 0
26.22		Infant		Unknown	Located beneath the floor of a rebuild phase of enclosure AJ.	Total: 0
26.23		Child	Seated	Primary	Deep grave beneath house BE4, part of multi-burial. Very fragmentary.	Total: 0
26.24		Unknown (subadult)		Unknown	Deep grave beneath house BE4, part of multi-burial. Very fragmentary.	Total: 0
26.25		Unknown (subadult)		Unknown	Deep grave beneath house BE4, part of multi-burial. Very fragmentary.	Total: 0

26.26		Infant	Flexed (right side)	Primary	Deep grave beneath house BE4, part of multi-burial. Very fragmentary.	Total: 0
26.27		Infant		Isolated cranium	Deep grave beneath house BE4, part of multi-burial. Very fragmentary.	Total: 0
26.28		Adult, probable male	Seated	Disturbed primary	Sealed by the floor of room AS. Grave is packed with green stones and clay. Cut by the grave of 26.29.	G.C. - 1 Total: 1
26.29		Adult, female		Disturbed primary	Sealed by the floor of room AS. Grave contains stones encircling the body. Cuts grave of 26.28.	G.C. - 1 Total: 1
26.30		Adult, female	Tight flex (right side)	Disturbed primary	Probably bound at time of deposition. Pit is lined and possibly included a mat of perishable materials. Described as including some grave goods.	G.C. - 2 G.I. – 1 Pr.D.- 2 Total: 5

26.31		Adult, unknown sex	Tight flex (right side)	Primary	Grave sealed by the clay floor of House MM, nearby to child burial 26.32.	Total: 0
26.32		Child	Tight flex (right side)	Primary	Grave sealed by the clay floor of House MM, nearby to adult burial 26.31.	Total: 0
26.33		Infant	Tight flex (left side)	Primary	Located beneath wall AV which forms part of a basin.	Total: 0
26.34		Infant		Isolated cranium	Part of a multi-burial of infant crania found beneath wall AV which forms part of a basin.	Po.D.- 3 Total: 3
26.35		Infant		Isolated cranium	Part of a multi-burial of infant crania found beneath wall AV which forms part of a basin.	Po.D.- 3 Total: 3
26.36		Infant		Isolated cranium	Part of a multi-burial of infant crania found beneath wall AV which forms part of a basin.	Po.D.- 3 Total: 3

26.37		Infant		Isolated cranium	Part of a multi-burial of infant crania found beneath wall AV which forms part of a basin.	Total: 0
26.38		Infant		Isolated cranium	Part of a multi-burial of infant crania found beneath wall AV which forms part of a basin.	Po.D.- 3 Total: 3
26.39		Adult, probable male	Flexed	Disturbed primary	Inserted into the fill above the basin complex. Located within a burned layer forming a floor surface. Cranium removed post-depositionally	Po.D.- 3 Total: 3
26.40		Adult, female	Unknown	Disturbed primary	Inserted into the fill above the basin complex. Located within a burned layer forming a floor surface. Cranium removed post-depositionally	Po.D.- 3 Total: 3
26.41		Adult, female	Tight flex (left side)	Disturbed primary	Inserted into the fill above the basin complex. Located within a burned layer forming a floor surface. Cranium removed post-depositionally	Po.D.- 3 Total: 3

26.42		Adult, unknown sex	Tight flex (left side)	Primary	Located beneath the floor of building BQ-BR, probably contemporary with the construction. Grave pit is small and lined with stones.	G.S. - 1 G.C. – 2 Total: 3
26.43		Child	Tight flex (left side)	Primary	Located beneath the floor of building BQ-BR, probably contemporary with the construction. Nearby to a pit containing an animal horn core.	G.S. - 2 Total: 2
26.44		Unknown	Unknown	Unknown	Burial cut through the floors of room BQ, lined and capped with stones. Burial is sealed by the collapse of building BQ.	G.C. - 2 Total: 2
26.45		Unknown	Unknown	Secondary	In courtyard outside building BQ-BR. Very fragmentary, part of the burial sits outside excavated area.	Total: 0
26.46		Adult		Isolated crania	Part of the skull cache near wall BS, set on courtyard floor surface. Crania are arranged in 3 groups of 3, facing the same direction.	Po.D.- 3 Total: 3

26.47		Adult		Isolated crania	Part of the skull cache near wall BS, set on courtyard floor surface. Crania are arranged in 3 groups of 3, facing the same direction.	Po.D.- 3 Total: 3
26.48		Adult		Isolated crania	Part of the skull cache near wall BS, set on courtyard floor surface. Crania are arranged in 3 groups of 3, facing the same direction.	Po.D.- 3 Total: 3
26.49		Adult		Isolated crania	Part of the skull cache near wall BS, set on courtyard floor surface. Crania are arranged in 3 groups of 3, facing the same direction.	Po.D.- 3 Total: 3
26.50		Adult		Isolated crania	Part of the skull cache near wall BS, set on courtyard floor surface. Crania are arranged in 3 groups of 3, facing the same direction.	Po.D.- 3 Total: 3
26.51		Adult		Isolated crania	Part of the skull cache near wall BS, set on courtyard floor surface. Crania are arranged in 3 groups of 3, facing the same direction.	Po.D.- 3 Total: 3

26.52		Adult		Isolated crania	Part of the skull cache near wall BS, set on courtyard floor surface. Crania are arranged in 3 groups of 3, facing the same direction.	Po.D.- 3 Total: 3
26.53		Adult		Isolated crania	Part of the skull cache near wall BS, set on courtyard floor surface. Crania are arranged in 3 groups of 3, facing the same direction.	Po.D.- 3 Total: 3
26.54		Adult		Isolated crania	Part of the skull cache near wall BS, set on courtyard floor surface. Crania are arranged in 3 groups of 3, facing the same direction.	Po.D.- 3 Total: 3
26.55		Unknown	Unknown	Primary	Very fragmentary skeleton located just outside structure CP.	Total: 0
26.56		Unknown	Unknown	Isolated remains	Located just outside structure CP.	Total: 0
26.57		Child	Unknown	Primary	Beneath a phase of house repair, wall CT, sealed by the floor of the structure. Possibly a double burial with 26.58.	Total: 0

26.58		Adult	Flexed	Primary	Beneath a phase of house repair, wall CT, sealed by the floor of the structure. Possibly a double burial with 26.57.	Total: 0
26.59		Infant	Unknown	Primary	Located in the debris of the collapse of structure MJ. Possibly a double burial with 26.60.	Total: 0
26.60		Infant		Isolated remains	Located in the debris of the collapse of structure MJ. Possibly a double burial with 26.59.	Total: 0
26.61		Adult, probable female	Tight flex	Primary	Nearby to structure MO. Possibly bound at burial. Cranium, clavicles, and some vertebrae are missing, but some teeth are present.	Pr.D.- 2 Po.D.- 3 Total: 5
26.62		Infant	Unknown	Primary	Nearby to structure MO. Described by Kenyon as new-born.	Total: 0
26.63		Infant	Unknown	Primary	Nearby to structure MO. Described by Kenyon as new-born.	Total: 0

26.64		Infant	Unknown	Disturbed primary	Nearby to structure MO.	Total: 0
26.65		Infant	Unknown	Isolated remains	Nearby to structure MO. Fragments of upper body only. Described by Kenyon as new-born.	Total: 0
26.66		Adult, unknown sex		Isolated cranium	Located nearby structure MO. Mandible present.	Po.D.- 3 Total: 3
26.67		Adult, unknown sex		Isolated cranium	Located nearby structure MO.	Po.D.- 3 Total: 3
26.68		Adult, unknown sex		Isolated cranium	Located nearby structure MO.	Po.D.- 3 Total: 3
26.69		Adult, unknown sex		Isolated cranium	Located nearby structure MO.	Po.D.- 3 Total: 3

26.70		Adult, unknown sex		Secondary	Nearby to structure MS. Cranium and mandible not present.	Total: 0
26.71		Infant	Unknown	Unknown	Located beneath cist under building E3, beneath the floor stones.	Total: 0
26.72		Infant	Unknown	Unknown	Located beneath the lower floors of building E13	Total: 0
26.73		Adult, unknown sex	Tight Flex (right side)	Primary	Located on top of Wall E 24. Possibly bound at the time of deposition.	PrD- 2 Total: 2
26.74		Adult, unknown sex	Loose flex	Primary	Located on top of Wall E24.	Total: 0
26.75		Adult, unknown sex	Loose flex	Disturbed primary	Located on top of Wall E24. Cranium removed post-depositionally.	Po.D.- 3 Total: 3

26.76		Adult		Isolated cranium	Part of skull group E11-16. Crania facing into the center in a circular arrangement.	Po.D.- 3 Total: 3
26.77		Adult		Isolated cranium	Part of skull group E11-16. Crania facing into the center in a circular arrangement.	Po.D.- 3 Total: 3
26.78		Adult		Isolated cranium	Part of skull group E11-16. Crania facing into the center in a circular arrangement.	Po.D.- 3 Total: 3
26.79		Unknown (subadult)		Isolated crania	Part of skull group E11-16. Crania facing into the center in a circular arrangement.	Po.D.- 3 Total: 3
26.80		Unknown (subadult)		Isolated crania	Part of skull group E11-16. Crania facing into the center in a circular arrangement.	Po.D.- 3 Total: 3

Table 8.29: All numbered individuals from Jericho. From Kenyon 1954, 1957, 1959, 1971, 1981; Naveh, 2003.

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