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Studying Age Identities Through Funerary Dimensions: A Discussion of Child and Adult Burials from Lower Egypt (4th mil. BCE)

Pablo Barba

Institute of Archaeology, UCL, London, UK

ABSTRACT

This article presents an assessment of age identities through the funerary practices of the Lower Egyptian Culture (ca. 3500 BCE), with particular attention to childhood. The case study provides an opportunity to discuss how archaeologists form interpretations on age identities through reviews of mortuary data. I claim that we should evaluate the relevance of each and every burial dimension in order to create an informed opinion, rather than provide broad conclusions based on the overall similarities or differences between age groups. Specifically, the location of the tombs has been found particularly relevant for exploring age identities. I propose that these communities recognised at least three different age identities, differentiating foetuses and infants under four months, older subadults, and adults. The role of the arrangement of the grave, corpse, and material culture in negotiating age identities, personhood and grief by mourners is also discussed.

KEYWORDS

Funerary archaeology; age identities; Predynastic; Lower Egyptian Culture; personhood; grief

Introduction

Comparisons of funerary practices of children and adult burials have become a standard procedure in childhood archaeology. Numerous studies analyse differences and similarities between both age groups to approach age identities in the past (see contributions in Murphy and Le Roy 2023; 2017; Sánchez Romero, García, and Jiménez 2015). These works understand that, to some extent, past communities might have exhibited *emic* concepts of age in burial rituals, which could in theory correspond to categorisations applied during daily life. Generally, it is acknowledged that adults directed these practices, and that the results might be an ideal categorisation as understood by these actors. However, I argue there are still uncertainties on *how* we should approach and translate the differences or similarities in funerary rituals of adults and children to create interpretations of past age identities.

Unfortunately, few similar studies are available for 4th millennium BCE Egypt. The alarming lack of attention to social identities beyond status in the archaeology of

CONTACT Pablo Barba  pablo.barba.18@ucl.ac.uk  Institute of Archaeology, UCL, 31-34 Gordon Sq, London WC1H 0PY, UK

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Predynastic and Early Dynastic Egypt – despite the availability of plentiful data – has recently been the object of criticism (Stevenson 2009c), resulting in several publications trying to subvert that tendency (Barba 2021; Kelly 2022; Mawdsley 2020; Power 2020; Stevenson 2009b; Tristant 2012). The present paper joins this trend through an analysis of childhood identities in Lower Egyptian communities around the middle of the 4th millennium BCE. The increasing number of excavations reaching levels related to the Lower Egyptian Culture in the Delta has revitalised the debates on this region and period, but they have concentrated in studies of material culture, and economic and cultural processes (Bajeot 2017; Mączyńska 2013; Midant-Reynes and Buchez 2021). Children feature sporadically in some publications working with funerary data, but hitherto have consisted of descriptive comparisons without engaging with childhood archaeology and social identities (Debono 1954; Midant-Reynes and Buchez 2021, 24–26; Rizkana and Seeher 1989, 67; 1990, 111–116).

Thus, the purpose of this article is twofold. On the one hand, to provide a study of the age identities of the communities populating Lower Egypt during the middle of the 4th millennium BCE to compensate for the lack of consideration towards a more social archaeology. On the other, I propose certain methodological comments on how archaeologists should evaluate the funerary record to study age identities in the past. Specifically, I defend the necessity to assess the relevance of each funerary dimension individually, as they might have been valued differently by past communities and might not have exhibited age identities in the same way, or at all.

Case Study: The Lower Egyptian Culture

The Lower Egyptian Culture/Complex (from now on LEC) – previously known as Ma'adi-Buto culture – developed in North Egypt during the first half of the 4th millennium BCE (Figure 1). Current knowledge of its funerary customs emphasises the simplicity of burial practices, especially when contrasted with the southern Naqada culture (Stevenson 2009a; Mączyńska 2013, 106–111; Dębowska-Ludwin 2014). Individual interments are the norm in the LEC, most of them with no grave goods; those few tombs with artefacts possess one to three items, although some unique graves deviate from this. Grave goods consist almost exclusively of pottery – a limited variety at that – with exceptional introduction of jewellery, stone vessels, palettes, shells, or flints. The corpse is always contracted and deposited on either side indistinctly, with no clear preference for the orientation of the head, although regional and chronological variations exist. Animal burials are also attested (Debono and Mortensen 1988, 46–47; Rizkana and Seeher 1990, 28, 93).

During the Naqada IIC-IID/Buto IIb period (3450–3325 BCE), increasing contact with the meridional Naqada culture led to the disappearance of the practices and materials that characterised the LEC, and to an increasing imposition of southern customs. By the Naqada IIIA-B/Buto IIIB-c period (3325–3085 BCE), the Nile valley and Delta were integrated into a unified cultural sphere sharing material culture, construction mechanisms, production methods, funerary customs ... (Bajeot and Buchez 2021; Midant-Reynes and Buchez 2019; Buchez et al. 2021; Stevenson 2016, 438–443). Although the nature of this process is still debated, current interpretations focus on cultural assimilation and integration (Buchez and Midant-Reynes 2007; Mączyńska 2021; Midant-Reynes and Buchez 2019; see however Köhler 2020 and responses).

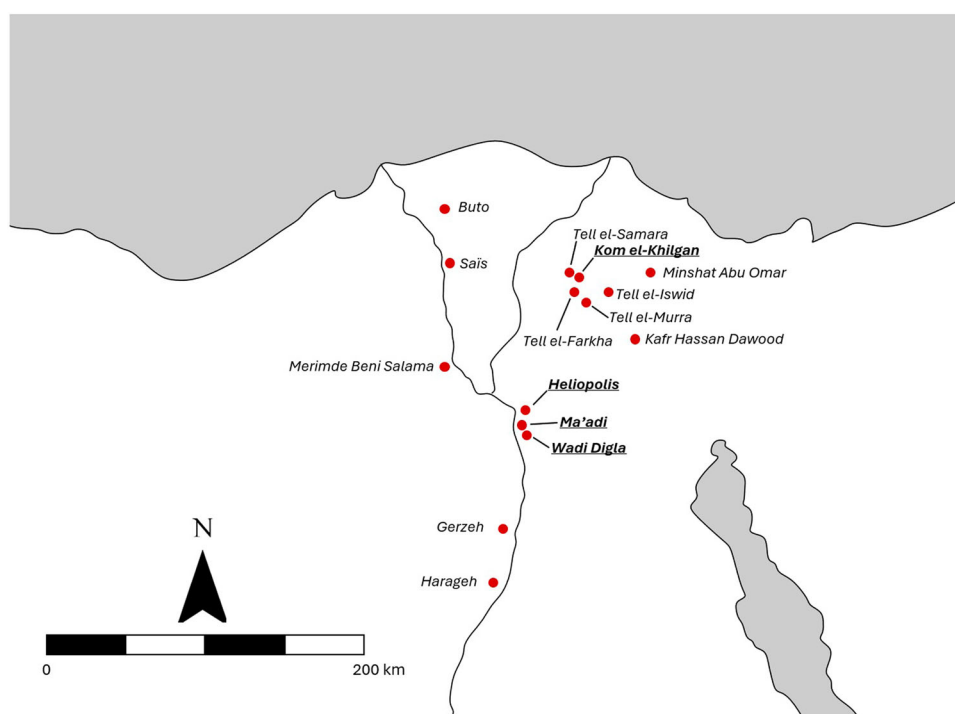


Figure 1. Map of North Egypt with the four sites used in this paper (bold and underlined), and other relevant sites from the 4th millennium BC.

Data

The data used here emerges from sites belonging to the earlier phases of the LEC (Naqada IC-IIIB and early Naqada IIC-D, approx. 3650–3400 BCE), before the abovementioned influence of the Naqada culture is deeply observed in the Lower Egyptian funerary practices. Unfortunately, few sites have been excavated and properly recorded, leaving us with only four cemeteries and one settlement with burials for analysis (Table 1, Figure 1). Thus, this paper considers 431 burials from the LEC cemeteries of Ma'adi, Wadi Digla, Heliopolis and Kom el-Khilgan whose occupants could be aged, the data being complemented with burials from the settlement of Ma'adi. While the sites belong to the same stage of the LEC, they are not contemporary according to seriations (Buchezy and Midant-Reynes 2007, Figure 9): the cemetery of Ma'adi, the NW sector of Heliopolis, and the phase 1 of Wadi Digla are earlier ('Digla I') than the phases 2 of Wadi Digla and 1 of Kom el-Khilgan, and most of Heliopolis ('Digla II'). Similarly, the phase 2 of Kom el-Khilgan is even later. These subtle chronological differences are unlikely to largely affect the analysis, as the funerary culture of the LEC remained relatively stable throughout the first half of the 4th millennium BCE, although they are included into the discussion whenever necessary (see below 'Side position of the corpse').

The following terminology is employed: a subadult constitutes any individual up to 19 years of (osteological) age. From 20 years onwards, it is defined as an adult. This period of skeletal immaturity is further subdivided into 5-year cohorts: infants (0–4 years old), young children (5–9 years old), old children (10–14 years old) and juveniles (15–19

Table 1. Information on the sites used for the analysis in this article. If an asterisk (*), see notes.

Site	Abbreviation	No. aged graves	No. subadult graves	Bibliography	Notes
Heliopolis	HEL	45	10	Debono and Mortensen 1988	
Kom el-Khilgan	KEK	152*	50	Midant-Reynes and Buchez 2021	The site was also used in later Naqada III: only graves that could be dated through pottery to the LEC or were found in a sector used exclusively during the LEC are included in the analysis
Ma'adi (cemetery)	MAA.CEM	73	57	Rizkana and Seeher 1990	
Ma'adi (settlement)	MAA.SET	>8*	>7*	Bajeot 2017; Rizkana and Seeher 1989; 1990	Only eight burials found in the settlement were properly described in the final report.
Wadi Digla	WD	161*	41	Rizkana and Seeher 1990	Unfortunately, many records of these graves were lost before publication. These numbers only include graves that could be aged, even though the site held over 400 graves

years old). These concepts should be understood as tools used by the research to organise and analyse the data, not as cultural realities of the studied past communities. Of the individual burials found in the cemeteries, 52 were fetuses, newborns, or infants, 24 young children, 20 old children, 19 juveniles, 302 adults, and 11 subadults whose osteological age was not specified. There were three additional multiple burials. Except for Heliopolis, the skeletons were aged and sexed through modern standards (i.e. Rizkana and Seeher 1990, 106–110).

The main material culture and focus of much of this paper is ceramic, with a total of 376 pottery items referenced in these interments, with exceptional introduction of other goods such as palettes ($n = 8$), jewellery ($n = 9$) or stone vessels ($n = 4$). Various statistical tests are employed to demonstrate the validity of patterns (Table 2). Overall, if the p -value is under 0.05, the patterns are statistically significant and not random.

Throughout the text, specific graves are referenced through an abbreviation of the site followed by the burial number as in their original publication. Bibliographical references to these reports can be found in Table 1.

Table 2. Explanation of tests applied throughout the text. See Carlson (2017) and Barceló (2018).

Test	Usage
Chi-square test	Determines the significance of the relationship between qualitative variables in a contingency table.
Fisher test	Similar to the chi-square, it analyses relationships of categories in a contingency table when sample size is small.
Cramer's V	Derived from chi-square, it evaluates the strength of the relationship between categories. A value of 0.1–0.29 indicates a weak relationship, 0.3–0.49 a medium, and more than 0.5 a strong one.
Wilcoxon test	Analyses the significance of differences between the means of two populations when their distribution is not normal.
Kruskal Wallis test	Analyses the significance of differences between the distributions of two or more populations when their distribution is not normal.
Tukey HSD test	Test that compares simultaneously the means of multiple groups, assessing which ones are significantly different and which ones are not.

Analysis of Spatial and Demographic Introduction

An analysis of the distribution of subadult and adult graves in the landscape of the LEC provides evidence for a well-ordered progression in space of the burial location: as the individual grew up, their eventual burial would also change.

Settlement Burials

A first spatial divide can be observed in the differences between the burial demography of settlements and cemeteries (Figure 2): while adults were buried in cemeteries, it is subadults who dominate the burial demography of settlements. Nevertheless, it is not all subadult cohorts, but specifically very young infants, who were buried in the habitation sites. In the settlement of Ma'adi, out of the 55 bodies of subadults found, 13 were of fetuses and 35 of infants below one year of age. This contrasts radically with what is found in cemeteries from the LEC, where fetuses and infants younger than one-year-old are practically absent. Only three cases are known, which include a woman buried with a foetus (HEL57), a foetus buried alone (WD302a), and a young infant (KEK99). The latter, however, was aged 6–12 months, and might indicate that the age when the burial place shifted from the settlement to the cemetery was close to four months of life, rather than one year (Rizkana and Seeher 1989, 67). Indeed, of the subadult remains available for study (Rizkana and Seeher 1990), most belonged

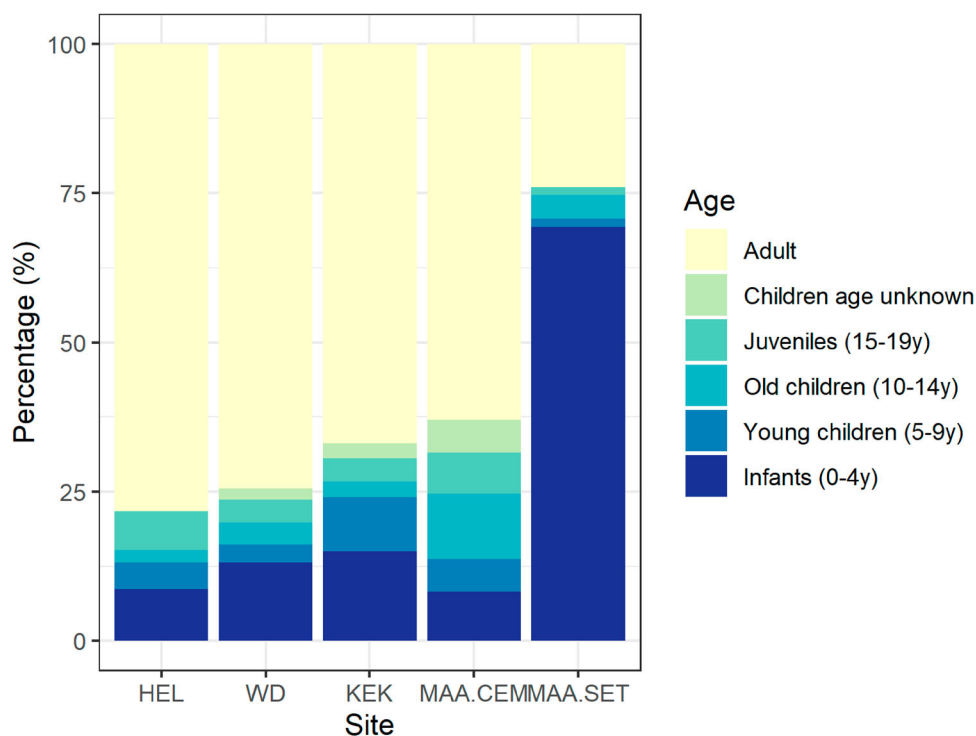


Figure 2. Distribution of age categories in the analysed sites: Heliopolis (HEL), WD (Wadi Digla), KEK (Kom el-Khilgan), MAA.CEM (Ma'adi cemetery), and MAA.SET (Ma'adi settlement).

to young infants less than four months old. It must be clarified that the adult, juvenile and child remains found in Ma'adi settlement and represented in Figure 2 are likely to be of modern times and scattered by scavengers: only one unusual prehistoric burial of an adult – interestingly under a pot – was found *in situ*, as well as the intentional deposition of an adult skull (Rizkana and Seeher 1989, 65–66).

While some foetuses and infants at Ma'adi were buried in or under a pot (Menghin and Amer 1936, 57–58), exceptionally accompanied with grave goods (Rizkana and Seeher 1989, 67–68), the remaining seem to have been buried in small pits without any artefacts (Bajeot 2017, 58; Rizkana and Seeher 1989, 67).

Cemetery Burials

Once an individual had passed these first four months of life, burial in the cemetery was the norm. Nevertheless, these necropolises developed particular sections where subadults were buried. This is the case of the site of Ma'adi (Figure 3). Graves of subadults concentrate in the western sector of the cemetery (n burials = 19; percentage subadult individuals = 67.9%) (chi-square p -value = 0.0002254). While a few adults are buried within the subadult sector, most concentrate in the eastern area, where only two exceptional burials of infants and a few juveniles gather.¹ A similar pattern was observed in the nearby cemetery of Heliopolis (Figure 4). In this case, it is the northern sector of the cemetery which holds most burials containing subadults (n = 9, 32.1%). A Fisher test provided

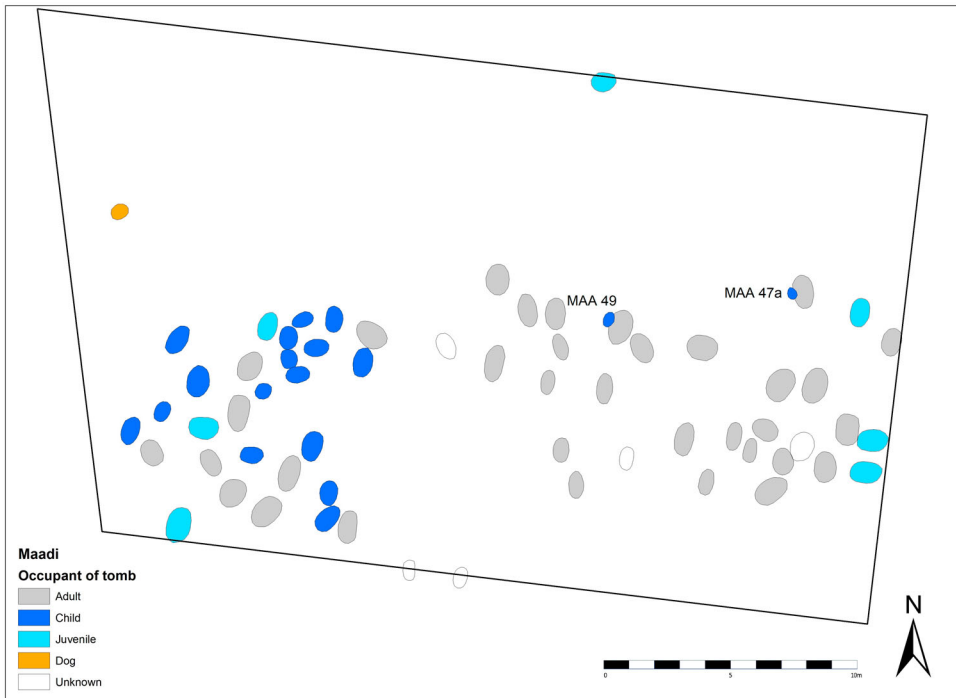


Figure 3. Spatial distribution of age categories in the cemetery of Ma'adi. Notice two exceptional infant burials in the adult section.

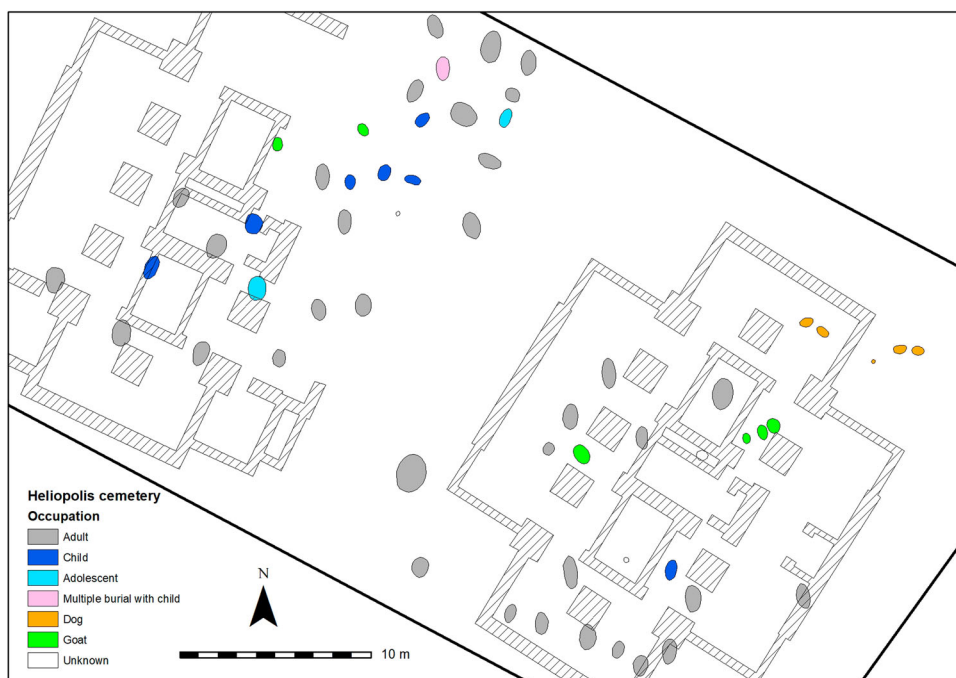


Figure 4. Spatial distribution of age categories in the cemetery of Heliopolis. The hatched space represents the foundations of two buildings whose construction led to the discovery of the prehistoric graves.

a very low probability value (p -value = 0.06215), just shy of rejecting the null hypothesis. This is likely the result of the large number of adults in the northern sector and of the limited number of subadults unearthed, rather than a lack of significance of the spatial preferences for subadults' burials.

A similar division is found in the cemetery of Kom el-Khilgan. Three phases of the Pre-dynastic site were attested: I focus here on phase 2 (early Naqada IIC-D) and mention phase 1 (Naqada IC-IIB), too. Phase 3 dates to the Naqada III and is hence not studied here. Phase 2 is attested in trenches SD26 and SD09 to the north and in SD 21 and 29 by the centre of the site (Figure 5). The demography of both sectors clearly indicates age-related preferences: while at the centre of the site, the bodies of 43 adults and 8 subadults (15.7%) datable to phase 2 were found, in the northern sector 24 subadults (43.6%) were uncovered vs. 31 adults (chi-square p -value = $3.51e^{-05}$).

It is likely that a similar division of burial spaces was present in the earlier phase 1, although this cannot be solidly established for now. During this period, the graves are found in the southern sector (trenches SD22 and SD35) and in the central sector (trenches SD13-15, 'sector 4') (Figure 5). Those burials in the southern trenches provided 15 adult individuals and 3 subadult ones (16.7%), a low percentage of subadult individuals akin to that found in the adult sector of Ma'adi (16.7%), in Heliopolis (5.9%), and in the sectors 21–29 of Kom el-Khilgan (15.7%). It is thus possible that this southern area constitutes a space dedicated for adult burials. The demographic analysis of the graves in the central trenches SD13-15 and 'sector 4' is less straightforward, as the area was later

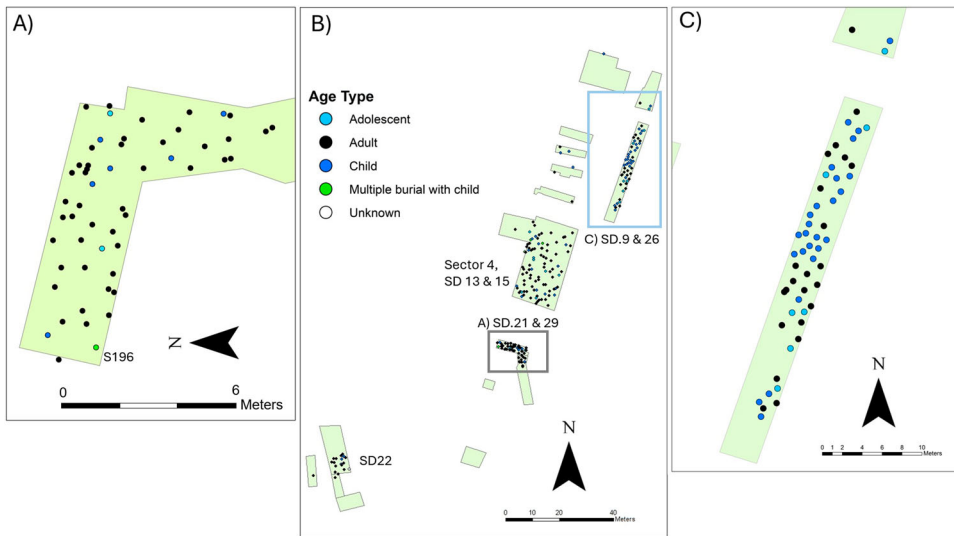


Figure 5. Spatial distribution of burials in Kom el-Khilgan phase 2. (A) Sectors 21 and 29 (adult section). (B) General view of the site. (C) Sectors 9 and 26 (subadults' section).

reused and partly disturbed (Midant-Reynes and Buchez 2021, 15). Nevertheless, within the 19 burials assigned to the phase 1 through pottery, the excavators unearthed 14 adult bodies and 5 child ones (26.3%). It is possible then that, for Kom el-Khilgan phase 1, we have two sectors dedicated to the burial of adults, while we are still missing the corresponding subadult area.

Unfortunately, the site of Wadi Digla was badly recorded, with only 94 skeletons of the total 417 excavated available for analysis. Nevertheless, the excavators mention both an aggregation of subadults in the centre of the site, and an absence in the southeast (Rizkana and Seeher 1990, 99), which could perhaps refer as well to a consecration of burial spaces for subadults.

Considering the above, it seems that the Lower Egyptian communities divided burial spaces according to age: foetuses and infants under 4 months were buried in settlement spaces, older subadults were interred in specific sections of the cemetery, and adults were preferentially interred in adult-only sectors of the necropolises. Exceptions to this model exist, however. At times, individuals deviate from the identified spatial pattern (see Figure 3). For subadults, this is rather exceptional, and is marked through certain characteristics of their burials: either better material provision or inclusion in plural burials (Barba forthcoming).

Organisation of the Graves

Guided by the categories found in the spatial distribution of graves, I compare here the funerary assemblages of adults and subadults. Unfortunately, I am unable to include settlement burials in the analysis due to poor publishing, although these were principally small pits or pot burials without goods (see above, Table 1). All graves from this period are pit burials of circular or ovoid shape, irrespective of age. However, the grave size,

orientation of the corpse, presence of matting, and the number of individuals per interment can be studied.

Size of Burial pit

Unsurprisingly, the area of the burial pits shows strong contrasts between the mean of infants, children, juveniles and adults (Kruskal Wallis p -value = $3.508e^{-07}$). The most likely explanation is the size of corpse, with infants and children requiring smaller graves. Indeed, [Figure 6](#) shows a stepped increase in size of grave from infancy up to adolescence, when body size would be equal to that of an adult. Similar differences are provided by the analysis of the volume of burial pits (Kruskal Wallis p -value = 0.02154), with a gradual increase ([Figure 6](#)) indicating a correlation with corpse dimensions. It is interesting that differences have been detected despite the variety of geological settings – i.e. hardness of soil – of the different sites: most burials in Ma'adi and Heliopolis ranged from 0.10 to 1.5 m³, while in Wadi Digla they were never larger than 0.50m³.

Side Position of Corpse

The corpses in LEC burials were consistently buried in a crouched position, on either the left or the right side, with few exceptions (Midant-Reynes and Buchez [2021](#), 257–258; Rizkana and Seeher [1990](#), 23–25, 71). Corpses were either on their right ($n = 229$) or on their left ($n = 145$), with both sides equally distributed to children, juveniles and adults (chi-square $p = 0.9$). However, there are clear regional and chronological differences in the position and orientation of the corpse, some of which might indicate cultural changes in Lower Egypt through the 4th mil. BCE (Midant-Reynes and Buchez [2021](#), 62; Rizkana and Seeher [1990](#), 73). Nevertheless, whatever the local preference was, there is no distinction between ages ([Figure 7](#)). Differences do not appear either if we analyse the whole sample dividing it between cohorts of 5 years (chi-square $p = 0.4$). Thus, the left-or-right ratios were always equally distributed regardless of age.

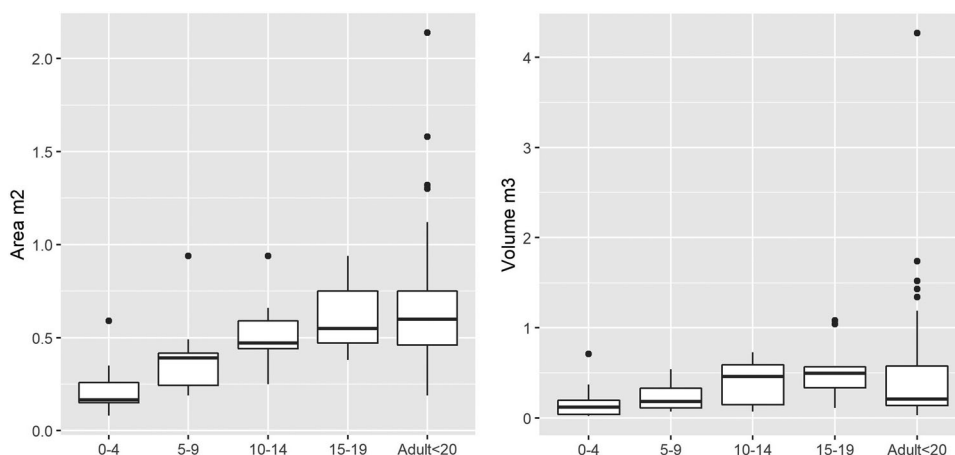


Figure 6. Distribution of graves according to their area (left) and volume (right) with respect to age of occupant for Ma'adi, Heliopolis and Wadi Digla.

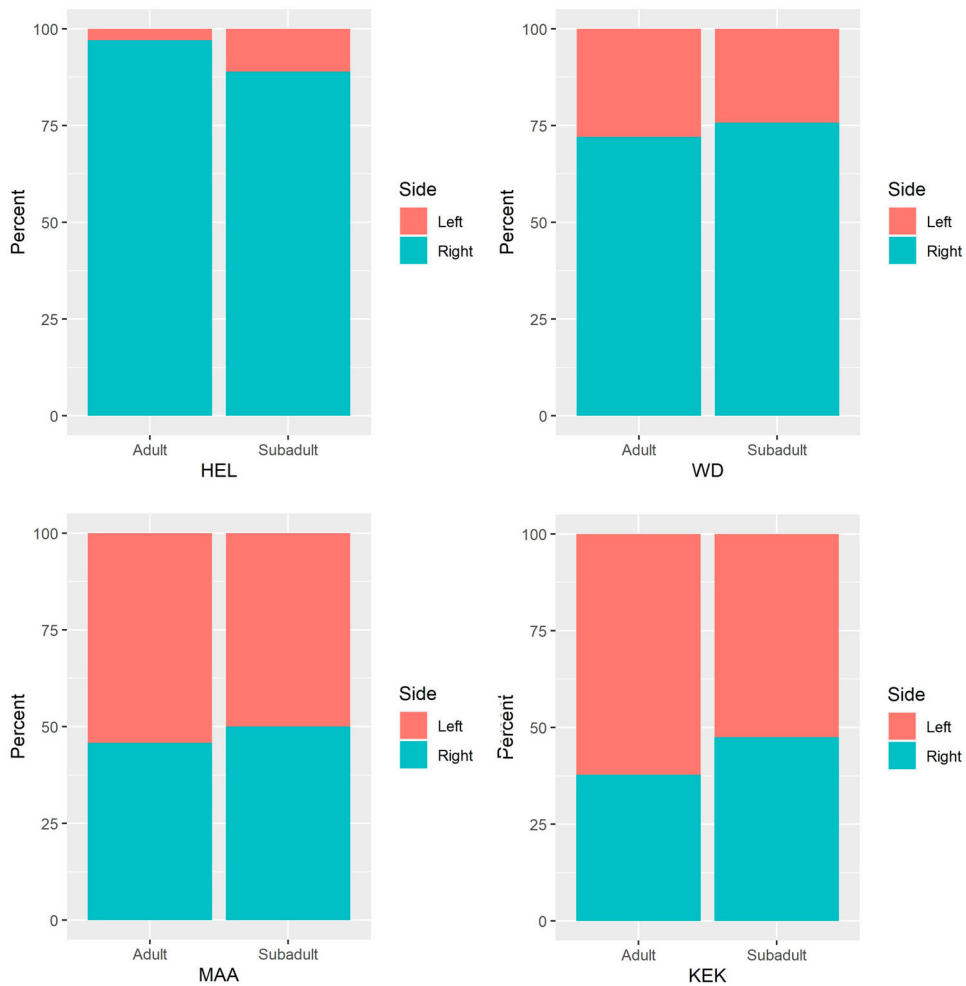


Figure 7. Local preferences for side of the corpse in Heliopolis (HEL), Wadi Digla (WD), Ma'adi (MAA) or Kom el-Khilgan (KEK).

Orientation of Corpse

Although artificially separated, the orientation of the head and the side on which the corpse was placed were interrelated, aiming at a certain direction that the deceased would be facing. Indeed, by the Digla II phase, most corpses were positioned with the head south and on their left side to face away from the Nile, looking into the sunrise (Rizkana and Seeher 1990, 73). To avoid the impact of regional and chronological trends, I analyse the orientation of the corpse in three steps: graves from the Digla I, then from Digla II, and finally from Kom el-Khilgan.

During the Digla I phase, no orientation prevailed, with a variety of options observed. All orientations are equally distributed between both age groups (Table 3), except for east, which was more commonly found in subadults. It must be noted that this is an exceptional orientation, and it might have been dedicated to atypical burials exclusively. For the later Digla II phase, the dominating position with the head south was equally

Table 3. Distribution of head orientation during the Digla I phase and results of chi-square and Cramer's V tests. An asterisk indicates that a Fisher test was recommended.

Orientation Digla I	Adult graves (n = 101)	Subadult graves (n = 51)	Chi-square p-value	Cramer's V
N	21	11	1	4.170516e ⁻³¹
NE	9	6	0.7879	0.003623833
E	1	5	0.006464*	0.3904021
SE	13	5	0.7743	0.004118301
S	39	13	0.1529	0.1657011
SW	9	4	1	2.736523e ⁻³²
W	1	3	0.1101	0.1252349
NW	8	4	1	1.265283e ⁻³³

distributed for both adults and subadults (Table 4). No differences were observed either in Kom el-Khilgan (Table 5). Hence, the orientation of the corpse was unrelated to the age of the deceased. Only the head towards the east affected subadults more.

Number of Individuals

While most LEC burials are individual interments, there are some instances of multiple burials either simultaneous – two corpses buried in the same pit at the same time – or sequential – a corpse was buried in a pit, which was later reopened for the interment of a second individual, or this latter was buried on top and in relation to the previous grave (see Miniaci 2019). Four cases of multiple simultaneous interments are known from the earliest phase of the LEC. In Heliopolis, a woman was buried with a foetus near the abdomen (death during pregnancy, or an aggravated birth?) (HEL57). In Kom el-Khilgan, a male adult and a 6-year-old child in front (KEK196) and a female adult

Table 4. Distribution of head orientation during the Digla II phase and results of Fisher and Cramer's V tests.

Orientation Digla II	Adult graves (n = 77)	Subadult graves (n = 20)	Fisher test p-value	Cramer's V
N	1	0	NA	NA
NE	1	0	NA	NA
E	0	0	NA	NA
SE	5	2	0.6309	0.0131264
S	68	17	0.7076	3.918729e ⁻⁰⁵
SW	2	1	0.5039	3.84207e ⁻³¹
W	0	0	NA	NA
NW	0	0	NA	NA

Table 5. Distribution of head orientation in the LEC levels of Kom el-Khilgan and results of chi-square and Cramer's V tests. An asterisk indicates that a Fisher test was recommended.

Orientation KEK	Adult graves (n = 90)	Subadult graves (n = 42)	Chi-square p-value	Cramer's V
N	23	15	0.3201	0.08604746
NE	4	1	1*	0.0006892605
E	0	1	NA	NA
SE	3	2	0.6531*	5.696952e ⁻³¹
S	7	2	0.7194*	0.004960952
SW	12	2	0.2238*	0.1224723
W	17	11	0.4671	0.04603048
NW	24	8	0.4633	0.04681122

with a young infant placed on her back (KEK242) have been unearthed. Finally, in Merimde Beni Salama, a woman was discovered with an infant in front of her (Badawi et al. 2016, 42–43). Three sequential multiple burials are known, too. In Ma'adi, two infants were buried on top of the burial of a female and one of a male (MA 47a and MA49, respectively). In Kom el-Khilgan, a 7-year-old child was positioned against the legs of a previously buried adult male (KEK251).

Despite the limited number of cases, these exceptional interments always gather an adult and a child: never two subadults or two adults. Furthermore, they are in sections of the cemetery assigned to adults (see [Figures 3 and 5](#)). Multiple burials could be a mechanism to allow burials of children in atypical spaces, negotiating their age identity and personhood (Barba [forthcoming](#)).

Matting

At times the corpse was placed upon, covered by, or wrapped in a piece of matting. Analysing the prevalence of this treatment is difficult, due to the lack of proper notes for some graves (i.e. Wadi Digla), possible inconsistencies in recording, and the degradation of organic materials in some cases. This latter is particularly true for Kom el-Khilgan, where moist soils hampered preservation generally. I exclude this site and analyse solely burials from Heliopolis, Ma'adi and Wadi Digla, where preservation conditions were optimal. From this sample, adults ($n = 41$, 20.4%) seem more commonly provided with matting than subadults ($n = 10$, 12.98%), although these differences are not statistically significant (chi-square p -value = 0.2093).

Grave Goods

In this Section I succinctly analyse differences in material provision between adults and subadults, starting with differences in richness and absence of goods, and then studying specific types of artefacts provided, principally pottery.

Presence/Absence of Burial Goods

This analysis includes any artefact provided to the deceased, whether pottery (from a whole vessel to a sherd), jewellery, shells, palettes or other. The study divided the sample between graves that had no goods whatsoever, and those which had at least one. The samples show differences between age categories, with subadults more commonly not having any item (60.2%) than adults (36.1%) (chi-square p -value = 0.0001723). However, differences existed also within the stages of subadulthood: while 76.6% of infants had no goods, this percentage gradually dwindles from early childhood (50%) into late childhood (41.2%) and adolescence (41.7%).

Richness (Number of Pots)

Studying the 'richness' of funerary assemblages can be complex, and various archaeologists working on Early Egypt have approached the question through diverse methodologies (Anderson 1992; Dębowska-Ludwin 2021; Hendrickx 1994; Stevenson

2009b). Here I focus exclusively on raw quantities of pottery. As this is practically the sole material found, it is likely to be a good indicator of grave good provisioning. Additionally, the variety of ceramic types in LEC cemeteries was very limited (see below), meaning that a 'pot' can constitute a relatively homogenous unit of measurement.

Overall, adults had richer assemblages than subadults, with the mean of pots in the former being 1.23 and in the latter 0.55 (Wilcoxon p -value = 0.000247, Kruskal Wallis p -value = 0.0002465). Consequently, the rates of provision of pottery between adults and subadults in LEC cemeteries were distinct. This further emphasises trends already discussed regarding presence/absence of funerary goods. However, the differences are not homogeneously distributed within subadulthood. Figure 8 shows that infants have the lowest mean and most limited range. The mean and distribution increases during subadulthood, arriving to a maximum during adulthood. A Tukey HSD demonstrated that differences could only be verified between the mean of infants and adults (p = 0.0015097), while the means of other categories does not seem to be statistically different (p value > 0.37).

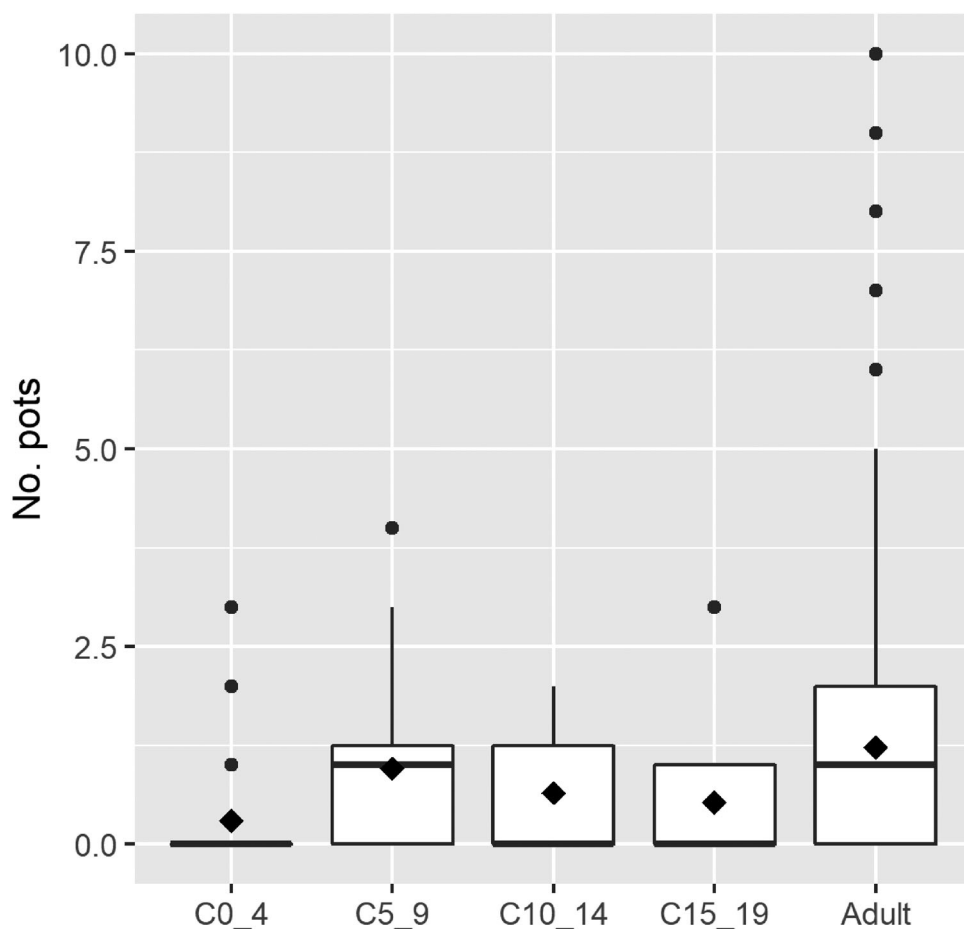


Figure 8. Richness in graves from the LEC according to their age. The black rhomboid indicates the group's mean, while black dots indicate outliers.

Types of Pottery

Lower Egyptian pottery found in cemeteries shows a much-limited range compared to that of ceramics from settlements of the same culture (Rizkana and Seeher 1987). The former are principally closed forms that I group here into six main types, with some exceptional forms combined as ‘Other’ – shapes for which four cases maximum were found.

A chi-square was undertaken for each type, contrasting the number of adult and subadult graves with and without the specific shape (Table 6). Only one form – globular vessels – showed significant results, being more included with adults than with subadults. The category of ‘Other’ also showed a very low *p*-value that could perhaps be of significance. This might indicate that those rarer pots of unique character were more common in the adult sphere.

Due to the limited number of subadult graves with pottery, it is difficult to analyse the distribution of shapes within substages of subadulthood. I can only partially check this by combining cohorts. For example, globular vessels were found in 61 adult graves (20.3%), in 6 burials of children between 0 and 9 years (7.9%) and in 6 interments of subadults

Table 6. Distribution of pottery types in individual graves from the studied cemeteries. The fourth and fifth column indicate the number of graves in which that pot was present, rather than the actual number of pots. An asterisk indicates that a Fisher test was recommended.

Type of pot	Drawing	Corresponding types in Rizkana and Seeher (1990)	Adult graves (n = 303)	Subadult graves (n = 125)	Chi-square <i>p</i> -value	Cramer's V
Jars on raised base		1a-c	13	5	1	5.033797e ⁻³¹
Lemon-shaped jars		2, 3a	24	11	0.9141	0.0005623506
Bottle-like jars		3b-c	10	4	1*	3.453038e ⁻³⁰
Elongated jar with oblique rim		4a-c	42	12	0.295	0.053011
Globular vessels		5a-c	61	13	0.02258	0.2513563
Other		Various	13	1	0.07586*	0.1156942

between 10 and 19 years (15.4%). These percentages are confirmed as significant (chi-square p -value = 0.03879), Cramer's $V = 0.3210313$): it is thus likely that globular vessels were not only preferable for adult interments, but that they were less commonly buried with subadults under 10 years old. The same testing was run for the other types: no significant result was found, indicating equal distribution through ages.

Size of Pottery and Miniatures

I have also checked for differences in the sizes of pottery (Figure 9): testing shows no significant differences between the height of the ceramics in subadult and adult graves (Wilcoxon p -value = 0.5587, Kruskal Wallis p -value = 0.5581).

I repeated this comparing the height for each shape of pot. All provided a p -value of the Wilcoxon and Kruskal Wallis tests above 0.39, indicating lack of differences. The exception was elongated jars with oblique rim, for which Wilcoxon (p -value = 0.04833) and a Kruskal Wallis (p -value = 0.04744) tests demonstrated differences. It seems that subadults were more likely to receive smaller versions of elongated jars with oblique rim than adults. The reason for this is uncertain, complicated by the unknown functionality of this – and other – Lower Egyptian shapes. Were these artefacts representing the smaller height of subadults and used as metaphors for their age identity? Or used in daily life and the

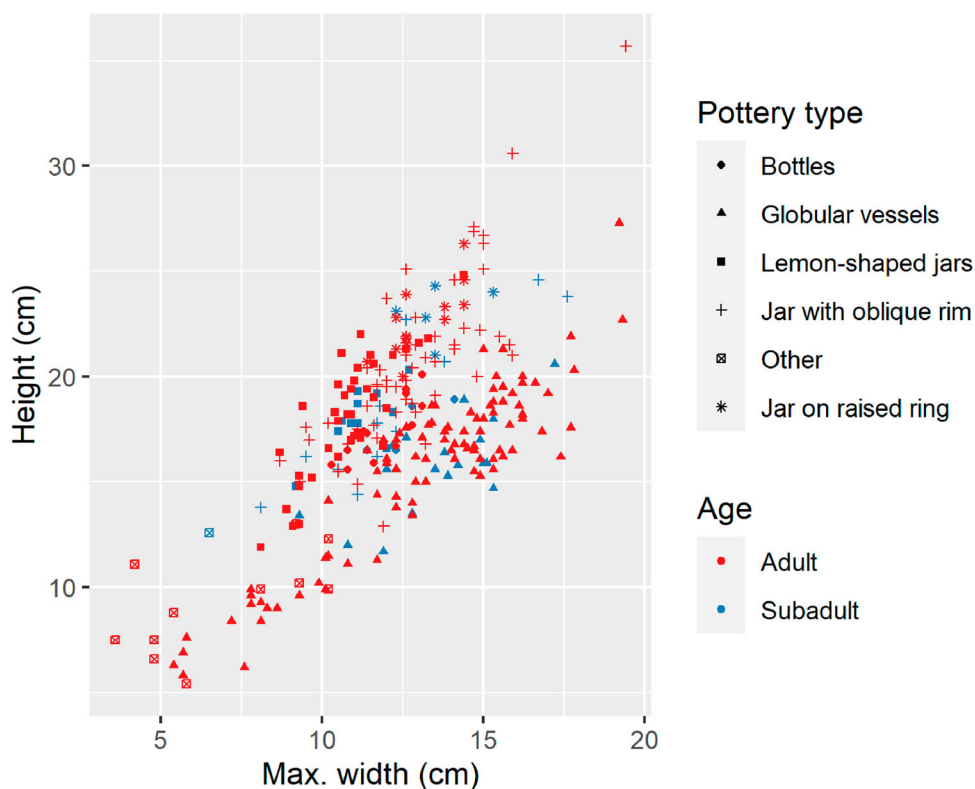


Figure 9. Distribution of the dimensions of the analysed pottery in terms of their height and maximum width.

commonly smaller size of children's vessels simply embodies the lower meal intake of subadults?²

Miniatures deserve especial mention. Figure 9 shows a cluster of pots measuring less than 12 cm height/width that constitute the smallest ceramics in the sample. These are smaller counterparts of common shapes – mainly globular vessels – a phenomenon also recognised in the settlement (Bajeot 2017, 80–81; Rizkana and Seeher 1987, 46). Interestingly, out of the 35 pots defined as miniatures, only one belongs to a subadult: this is a globular vessel found in grave of a 15-to-20-year-old adolescent (WD343).

It might seem paradoxical that miniatures, items so quintessential to the archaeology of childhood (see Crawford 2009; Fassoulas, Rossie, and Procopiou 2020; Langley and Litster 2018; Riede et al. 2023), are completely absent from children's graves and almost exclusively associated with adults in LEC cemeteries. Interestingly, similar miniatures have been found in settlement contexts and at times interpreted as toys (Bajeot 2017, 80–81; Guyot et al. 2022, 344; Mączyńska 2013, 129; Midant-Reynes, Buchez, and Ahmed 2014, 117; Rizkana and Seeher 1987, 45–48). Of course, the absence of miniatures in subadult graves does not detract from the fact that similar artefacts from domestic contexts might have belonged to the realm of children. If allegedly settlement miniatures were related to childhood, what does it mean that they were never found in their graves? Their absence might indicate a lack of interest in displaying childhood in LEC burials, or that age identities were expressed through other means. Additionally, this might serve as a reminder to be cautious when promptly associating small-sized artefacts with children's activities. It is more likely that miniatures found in adult LEC burials were related to the consumption of valuable substances or to rituals which were deemed inappropriate for subadults.

Placement of Pottery in the Grave

Analysis shows similar distributions of pottery in graves of adults and subadults (Figure 10), both showing a main group of vessels in front of the body and near the head, a second cluster behind the body but close to the head, and exceptional vessels elsewhere (chi-square p -value = 0.7). No differences are found either when using a finer age categorisation. For instance, the position of pots in graves of infants and young children was 50% in the spaces in front of the head ($n = 14$) and 35.7% behind it ($n = 10$), while for older children and juveniles 56.5% were found nearby the front of the head ($n = 13$) and 21.7% in the sections behind it ($n = 5$). This suggests there are no age-related differences in the position of pottery. All prioritise placement in front of the head, or alternatively behind it. It has been suggested that this placement might indicate an intimate relationship between the corpse and the pot, which is 'at hand' for the deceased to use (Midant-Reynes and Buchez 2021, 33). Whatever the meaning, similar concepts governed the positioning of pottery in graves of subadults and adults.

Pottery Decoration and Potmarks

While Lower Egyptian pottery was mostly plain, a few examples are decorated. This decoration constitutes simple rows of impressions or incisions found in the neck or shoulder area of vessels. The dataset provided 10 such pots, all from adult graves. Some were made

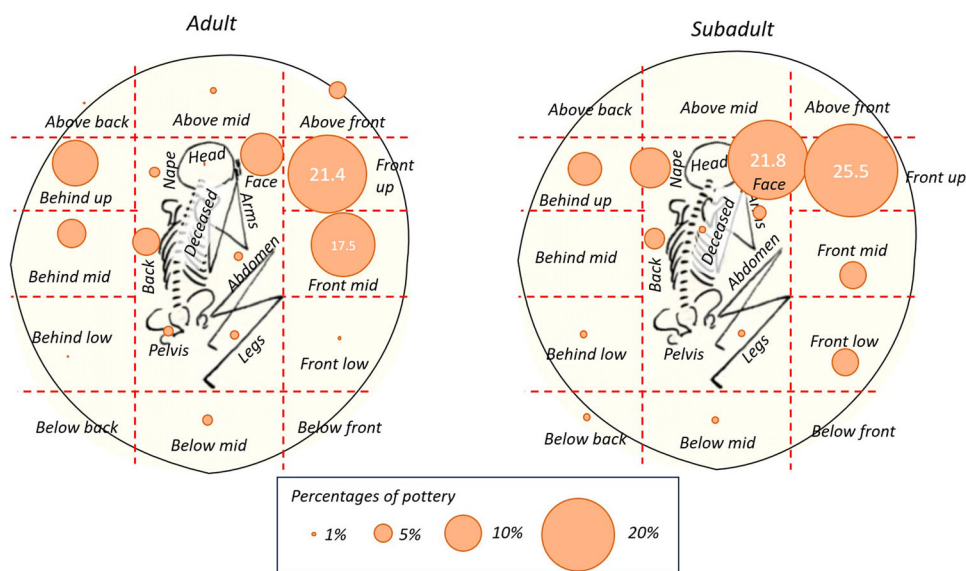


Figure 10. Placement of pottery inside graves of the LEC in the analysed cemeteries. Size of the circle indicates the percentage of vessels found in a specific location.

with ‘Fibrous ware’, a clay tempered with elongated fibres from the Western Delta and exchanged through non-commercial networks (Bajeot and Buchez 2022). Potmarks were equally rare and always abstract, with ten clear examples of vessels marked either before or after firing. The same percentage of pots of adults and subadults (2.8%) were marked, suggesting no age differences.

Other Artefacts

Non-ceramic grave goods in LEC graves are scarce. For example, there are only four stone vessels in aged graves from the LEC, two being old children (HEL10, WD102) and the other adults. Additionally, eight cosmetic palettes were found, two of which come from subadult graves (HEL56, HEL65). Instances of body ornamentation are uncommon, with only nine cases, two of which were beads provided to children (HEL65, KEK32). The absence of jewellery in subadult graves is surprising considering their large prominence in the contemporaneous Naqada sphere, where over 30% of subadult burials had bodily ornamentation (cf. Minotti 2021). The significance of these artefacts is difficult to assess. No age-related pattern seems to emerge. But considering that these communities were apparently not interested in the expression of status through the funerary record (Stevenson 2009a), it is possible that some of these exceptional items constitute intimate offerings as a reaction to the loss of a dear one, including children.

Flint tools might have been more commonly buried with adults, including two exceptional weapons from male graves (Rizkana and Seeher 1990, 90; Midant-Reynes and Buchez 2021, 26). Midant-Reynes and Buchez (2021, 26) also note the deposition of *Unio* shells and copper items only in adult graves of Kom el-Khilgan. The number of cases is limited; hence these associations remain uncertain.

Discussion

In the previous section, I have identified both similarities and differences between the assemblages of adults and subadults in a variety of dimensions, from the location of the grave to the types of artefacts found in them. I showed how the burial space is organised in terms of age, with well-established distinctive norms for foetuses and perinates, older subadults and adults. However, the organisation of the grave was equal between any individual older than 4 months, with similar positioning of the corpse and provision of matting. Differences in grave size are likely related to body dimensions. Regarding grave goods, subadults seem to have been provided with fewer artefacts, if any. Their position in the grave was also similar across ages. Ceramic types were indistinctly given to both age categories, the exceptions being globular vessels, decorated pots, and miniatures. So, were subadults considered different to adults in this society? How do we make sense of these varied patterns to make an informed interpretation on age identities and personhood in the past?

Perhaps an ethnographic analogy where adults and children also display similarities and differences in funerary practices can be illuminating regarding how to interpret age identities in the past. Let's consider the burial practices of the Hopi from Arizona at the beginning of the twentieth century (Beaglehole and Beaglehole 1935; Senter and Hawley 1937; Voth 1912). The Hopi buried stillbirths, infants and children separate from adults, with the former interred in specific cemeteries on the mesas close to the habitation sites or inside crevices of the mesa escarpments. Adults were buried in cemeteries by the foot of slopes of those tableaus. Only individuals that had been incorporated into a religious society could be buried in the adults' cemetery. Thus, burial space becomes an interesting dimension representing personhood acquisition and age identity. Regarding grave structure and goods, both adults and children were provided with a stick with a string set on top of the burial which would allow the spirit to exit the grave. However, while the stick and string pointed towards the west in the case of adults – that is, guiding the spirit to the otherworld – in the case of subadults it would point towards its home, due to the belief that an infant's spirit would soon reincarnate into the next baby born in their family. The placement of this rod consequently evidences ontological and cosmological similarities and dissimilarities between both ages. The deceased's clothing and ornamentation would also be different, as these were not changed after death, and would provide a window to age differences in daily attire if an archaeologist were hypothetically to study such burials. Otherwise, the remaining aspects of burials of adults and children were similar: both received bundles of raptor feathers and prayer sticks, and were positioned in a seated position, facing west. Similarly, in the days following the burial of individuals of both ages, their tombs were visited, and food was offered in bowls for the spirit to feed upon. These last dimensions thus indicate similar emotional concerns and ontological beliefs for the deceased regardless of age.

Through the previous example we see that not all mortuary practices will demonstrate age identities equally (or at all): each of them played a different role in the (re)construction of the deceased's identity and the emotional reaction by griever(s) (cf. Stevenson 2006, 149–152). Archaeological analyses that lump together funerary dimensions without evaluating the sociocultural value of each of them to create one broad

answer (i.e. children were *practically* treated as adults, hence they were considered like adults) might mistakenly blur age differences in the past (cf. Bortolami 2023; Georgiadis 2011; Herrero-Corral 2023; Meskell 1994; Power 2020). We must evaluate the emic relevance of each of the funerary dimensions studied, as age identities might have only been disclosed in certain aspects of burial. Thus, I argue that studies of age identities through the funerary record should evaluate the significance and relevance of each of the funerary dimensions available to create an informed interpretation, rather than relying on broad analyses that equalise all funerary dimensions, blurring their (ir)relevance. Of course, this might prove challenging in studies of prehistoric communities, where we need to assess the meanings, functions, ideologies ... of the material remains without any written sources.

What can we learn about age identities in the LEC then? The spatial distribution of burials might be a good starting point: the archaeological record demonstrated a coherent progression of burial location in the funerary landscape, from foetuses to adults. It is defended here that burial space might be a particularly prominent dimension for studying life course, acquisition of personhood, and changes in age identities, as has been shown in numerous ethnographic studies (i.e. Conklin and Morgan 1996; Denham 2017; Einarsdóttir 2004; Onarheim et al. 2017; Reynolds 1991; Shaw 2014). I argue then that, as the personhood of the individual developed, these identity changes affected burial location. Hence, I propose the following three stages or age identities. Firstly, foetuses and infants under 4 months were buried in the settlement,³ and a non-personhood state can be proposed considering ethnographic analogies (Degnen 2018, 29–90). This identity was occasionally further represented in their interment in pot burials. Then, older infants to juveniles were buried in the cemetery but in a differentiated space. Their interment in the communal necropolis might indicate that they were deemed to possess a partially fulfilled personhood or one in progress. Finally, adults were principally buried in an adult-specific section of the site.

While burial space provides a relatively normative picture, other funerary dimensions showed more variability (Table 7). A case in point is the position of the corpse, which showed no age-related differences. This probably indicates that whatever the belief – if any – informing this aspect, it was equally appropriate for subadults. The only exception, head towards the east, was almost exclusively found with children and might be an example of atypical burials, as rare cases are known (Murphy and Le Roy 2023).

Richness of funerary assemblages brings a different picture. Analyses showed differences in the provision of grave goods to adults and subadults at an increased rate from infancy onwards. Lower provision levels for infants could indicate cultural restrictions of mourning (Baitzel 2018, 181–182). Nevertheless, there were also exceptional cases of better equipped young individuals. Considering the still limited number of pots of these ‘better provided’ burials and the general lack of interest in funerary expenditure by the Lower Egyptian communities (Stevenson 2009c), it is unlikely that social status/rank constitutes a significant factor. Instead, it is likely that some funerary dimensions granted more liberties and afforded mourners room to negotiate the deceased’s age identity or to express emotions. The better provisioning to young children could signal ‘middle childhood’, an increasing acknowledgment of the child’s incorporation into society (Bickle and Fibiger 2014). Similarly, the higher number of ceramics buried with some infants and children, for example, could have been part of a process of

Table 7. Summary of the results of analysed funerary dimensions and the proposed significance for the study of age identities in the LEC.

Funerary dimension	Pattern found	Proposed sociocultural relevance
Burial location	Spatial progression: – Foetuses and infants < 4 months in settlement – Other subadults in ‘subadult section’ of cemetery – Most adults in ‘adult section’ of cemetery	Expression of personhood acquisition through life course
Pot burial	Exclusive of settlement burials of foetuses and infants	Desire of rebirth of youngest subadults? (cf. Power and Tristant 2016)
Size of grave	Stepwise increase in area and volume as individual grows	Correlation with corpse size
Position of corpse: side and orientation	No distinctions regarding side or orientation, except for a few atypical child burials with the head towards the east.	Uncertain, large variability in first phases, later predominantly buried facing the rising sun. Perhaps same beliefs in the afterlife regardless of age
Multiple burials	Exceptionally, an adult and a subadult were buried together.	Mechanism to negotiate personhood and grief
Matting	No differences	Uncertain: basic arrangement of a LEC grave (cf. Rizkana and Seeher 1990, 71)
Presence of grave goods	Increasing chance of receiving grave goods through subadulthood into adulthood.	Increasing concern for the nurturing of the deceased, cultural restrictions of mourning and individual variability in expressions of grief
Richness (no. pots)	Differences between subadults and adults: especially infants had a much lower provisioning.	
Types of pots	All types were equally distributed except for globular vessels and ‘other’, more commonly found in adult graves.	Unknown: a better understanding of the functionality of these pots is needed.
Size of pottery	Miniatures absent from children’s graves. Elongated jars with oblique rim smaller in subadult burials.	Miniatures might have been used for expensive substances not apt for children. Smaller jars might constitute metaphors for children’s bodies or represent quotidian artefacts for children’s petite meal intake.
Placement of pottery	Equal emphasis on position of pottery close to the head	Similar interest in the supply of food for the deceased
Decoration and potmarks	Decorated pots exclusive of adults. Potmarks found regardless of age.	Unknown
Other artefacts	Palettes, stone vessels and ornamentation given to both. Shells and tools only in adult graves.	Exceptional valuable artefacts as unique expressions of grief. Tools and shells might relate to adults’ occupations or rituals.

‘adulthoodization’: treating the deceased child as an adult in the funerary ritual, thus expressing sorrow for the child’s lost future. Consequently, it is not surprising that most ceramic types were equally granted to children and adults and that no differences were found regarding their position. If the introduction of vessels acted as an adulthoodization mechanism, then their position should follow that of adults: close to the head, allowing the deceased to grasp for the presented meals. In a similar fashion, the equal size of most pottery shapes might have contributed to an ideal representation of subadults as adults. The exception constitutes elongated jars with oblique rim, whose sizes were smaller in subadults’ burials. The adulthoodization process also might have had some limits, as no miniatures or decorated pots were provided to children, and globular vessels were less commonly given to them, too. Without a better understanding of the functionality and value of LEC wares, it is complex to suggest an interpretation on the significance of these patterns.

Although beyond the scope of this article, subadults buried in areas that escaped the norm hereby identified had been better provided than other children, evidencing the maximum possible outcome of this *adultization*: breakage of spatial rules to express a different personhood stage. Multiple burials likely had a similar function, allowing subadults to be buried in adult spaces (Barba [forthcoming](#)).

Thus, I propose that, while the spatial distribution of burials gives us a solid normative representation of age identities and personhood acquisition in LEC, other funerary dimensions allowed mourners some room for variation, renegotiation of age identities, and expression of grief. In this regard, we should not forget the existence of individual differences in mourning and grief that led to variations in the funerary record (Baitzel 2018; Cannon and Cook 2015).

Conclusion

This article has compared burials of adults and subadults from LEC sites to discuss age identities in these communities. It has interpreted the spatial distribution of burials as emic age identities markers and studied similarities and differences in the funerary treatment of adults and subadults. I proposed the necessity of holistic analysis of funerary assemblages which look at differences in treatment of age stages claiming, however, that we should not amalgamate the results into a monolithic answer (i.e. ‘children were mostly treated as adults, hence they were considered as adults’). Instead, we should aim to evaluate and interpret in isolation all the patterns unearthed, as each might (or might not) have had some cultural significance for particular age identities. Identities might not have been perceived through dualistic oppositions adults-vs-children, but specific rituals may have been customary for certain age groups. A one-by-one analysis of funerary dimensions also allows us to explore how the different aspects of the treatment of the deceased interacted with each other and reflect (at times conflicting) age identities, personhood, and grief. While the assessment of the meaning, functions or ideologies behind funerary practices might prove difficult in prehistoric contexts for which texts are not available, archaeometry (i.e. isotopes, aDNA, residue analysis, use-wear ...) could provide valuable insights to supplement this gap.

I explored differences between subadults and adults, but also complemented the analysis whenever possible by studying differences and similarities between substages of subadulthood through 5-year cohorts (cf. Herrero-Corral 2023). Further analysis should include other identities – principally gender – and explore how these interact with age (Sofaer 2006), as well as include subdivisions within adulthood – for example, elderhood (Appleby 2018).

Unfortunately, data for the LEC – especially regarding funerary customs – is still scarce. Current excavations in the Delta might provide further information to refine these models (i.e. Guyot et al. 2022). Moreover, we should consider changes in these age identities through time, by expanding the dataset through earlier and later sites of the region. How did these age patterns come to be? And how might the ‘Naqada expansion’ have changed local concepts of age, personhood, and grief? Addressing these questions can make childhood archaeology a prominent actor in discussions on state formation and development of social inequality in Egypt.

Notes

1. The age of juveniles at Ma'adi does not allow to propose a fixed age for the transition from the subadults' burial space to the adults': those in the west sector were a probable male 18–21 years old (MAA54), a 17–21 male (MAA61), and a 18–22 male (MAA63), while those in the east where a 14–20 female (MAA42), a 17–21 male (MAA44), 16–20 female (MAA44). In fact, young adults (20–29 years) might have also been preferentially interred in the subadult section, with gender playing a role in the further division of burial spaces (Barba [forthcoming](#)). A lack of accurate aging of adolescents at Kom el-Khilgan does not allow to make any inferences in this respect.
2. Similar shapes from Ma'adi's settlement (Rizkana and Seeher 1987, pls. 8–11) showed a size range wider than those of cemeteries – both from adult and subadult graves – and differences in size have been confirmed (Kruskal-Wallis p -value = 0.006624). This points towards a specific selection of funerary artefacts, although more analysis is needed.
3. It is possible that there were further age/personhood distinctions between fetuses, neonates, perinates and infants buried in the settlement depending in which precise spaces they were interred (cf. Boddy 1989).

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