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Des données fragmentaires et des terres dispersées. Un protocole d'enregistrement pour l'analyse comparative des pratiques mortuaires basée sur des illustrations archéologiques

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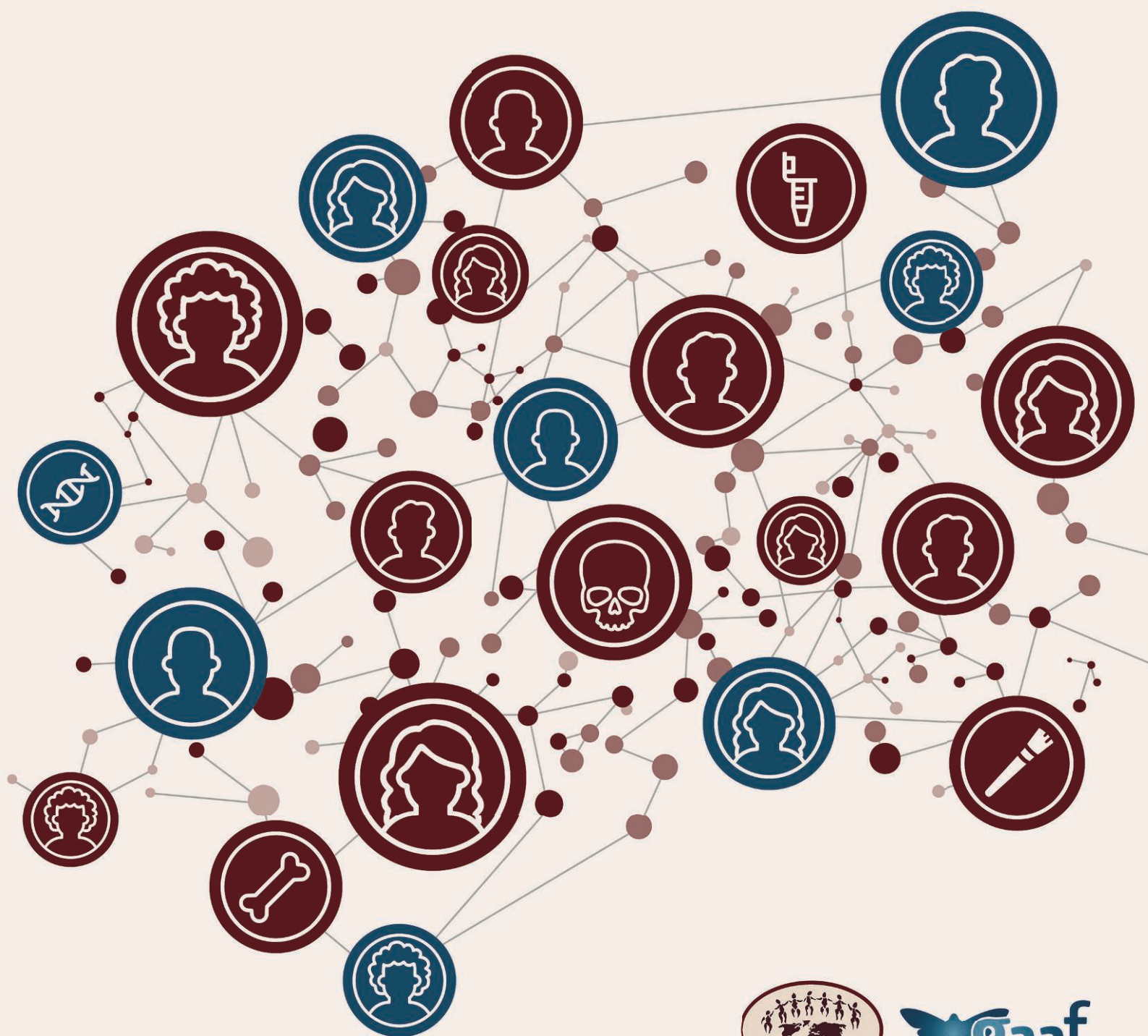
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Des données fragmentaires et des terres dispersées. Un protocole d'enregistrement pour l'analyse comparative des pratiques mortuaires basée sur des illustrations archéologiques

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Abstract – This paper examines the treatment of the dead in three Early Bronze Age cemeteries on the Greek mainland, in comparison with six contemporaneous cemeteries in the Cyclades. The study presented here was undertaken with a view to exploring whether and to what extent differences in mortuary practices can be identified between the two regions, as part of the wider discussion regarding Cycladic and Cycladic-style artefacts and architecture in mainland cemeteries. The study aimed to reconstruct practices in the case-studies by devising a protocol for recording human remains from illustrations. The protocol is based on archaeothanatological principles and structured by a decision tree to ensure comparability and repeatability. The results highlight aspects of differentiation between Tsepi, Aghios Kosmas (mainland) and the Cyclades, indicating variation in mortuary practices: for example, the graves at Tsepi, and potentially at Aghios Kosmas, were filled in following each deposit whereas the Cycladic case-study graves were left uncovered. Differences were also observed in the architectural setting of the secondary interferences. The interpretation for Manika, on Euboea, however, is more problematic, since it presents common features with the case-studies in both the Cyclades and the mainland.

Keywords – Bronze Age, Aegean, archaeothanatology, archaeological photography, mortuary practices

Résumé – Cet article examine le traitement des morts dans trois cimetières de l'âge du Bronze en Grèce continentale, par rapport à six cimetières de la même période dans les Cyclades. L'étude présentée a été entreprise en vue d'explorer si et à quel point il y a des divergences identifiables entre ces deux régions en ce qui concerne les pratiques mortuaires, question liée à une discussion plus large à propos de la présence d'objets et d'architecture d'origine

ou d'influence cycladique dans certains cimetières de la Grèce continentale. Cette étude vise à reconstituer les pratiques mortuaires en mettant au point un protocole pour enregistrer les os humains à partir des illustrations de fouille (photos, dessins). Le protocole est basé sur des principes de l'archéothanologie et il est structuré à l'aide d'un arbre de décision, assurant ainsi sa comparabilité et répétabilité. Les résultats montrent des différences entre Tsepi, Aghios Kosmas (Grèce continentale) et les Cyclades, impliquant des pratiques mortuaires différentes : les tombes de Tsepi et éventuellement d'Aghios Kosmas étaient remplies de terre après chaque interaction, alors que celles des Cyclades ne l'étaient pas ; des différences sont aussi observées dans la structure architecturale des interférences secondaires. Néanmoins, l'interprétation de Manika, en Eubée, est plus nuancée, étant donné qu'elle présente à la fois des similarités avec les cas d'étude cycladiques et avec ceux de la Grèce continentale.

Mots clés – âge du Bronze, égéen, archéo-anthropologie, photographie archéologique, pratiques mortuaires

Introduction

Introductory remarks

The Cyclades are a cluster of approximately 220 islands (figure 1), and although only 25 are inhabited today, current research observations suggest various patterns of activity on these marginal islands during the Bronze Age (Knodel et al., 2020). They have therefore been at the centre of discussions concerning intra- and inter-Cycladic and intra-Aegean relationships, seafaring and trading (indicatively: Broodbank, 2000; Dumas, 2008; Catapodi, 2011; Renfrew, 2011; Vavouranakis and Catapodi, 2021).

One aspect of these relationships is the distribution of Cycladic artefacts and grave architecture in Early Bronze Age (EBA) mortuary contexts on the mainland. However, the focus of studies on this phenomenon has been limited to grave goods and architecture (Mylonas, 1959; Sampson, 1985; 1988; Sapouna-Sakellarakis, 1987; Renfrew, 2011), whereas mortuary practices *per se* have not been addressed. This paper seeks to contribute to the corpus of evidence brought into such discussions by making a more in-depth comparison of practices in the two regions, to expand our understanding of the diversity of the EBA Aegean funerary landscape.

This research was also undertaken in response to the destruction or fragmentary recording and publishing of Early Cycladic (EC) funerary contexts (Broodbank, 2000) and the almost complete absence of osteological and archaeothanatological analyses of these contexts (Berg, 2019). This gap in knowledge has caused the debate on the Cycladic funerary landscape to stagnate while data from the late 19th and 20th centuries are continually recycled.

Archaeothanatology

The study of mortuary practices has been made possible in past decades through the multidisciplinary field of archaeothanatology, which, through rigorous recording of human remains, encompassing structures and associated artefacts, combines biological data on the decomposition of the human body with osteological, archaeological and taphonomic data (Knüsel and Schotsmans, 2022). This allows questions to be addressed regarding the original grave environment, the position/orientation of the corpse and any events that affected the remains prior to, during or after the deposit.

Furthermore, disentangling the *chaîne opératoire* of the mortuary practices opens the way to discussions on the relationships and interactions of the living with the dead based on the treatment of corpses: whether the process of death/decomposition was witnessed or concealed, prolonged or accelerated; whether it was experienced as a single episode or a recurring engagement with the dead (Nilsson



Figure 1. Map of Greece showing the seven sites examined (CAD: Anastasia Solomou) /
Carte de la Grèce présentant les sept sites étudiés (DAO : Anastasia Solomou)

Stutz, 2008). This gives a central place to the materiality of the human remains and the process of decomposition, enabling researchers to understand the various interactions of the living with the dead.

The use of archaeothanatological principles for the study of photographs and documents has already been attempted in the past and its potential has been highlighted (Nilsson Stutz, 1998; 2006; Peyroteo-Stijerna et al., 2022). However, these studies focus on the presentation and interpretation of individual contexts, thus failing to adopt a standardised repeatable protocol. Willis and Tayles (2009) moved towards a more rigorous standardised protocol by creating a flow-chart to estimate the type of burial context, but this does not cover the entire recording process and does not encompass a wide spectrum of practices or leave room for expansion by other researchers with additional lines of investigation, making it impractical for those studying contexts that vary significantly from those presented (as is the case with the EBA Aegean).

Aims and objectives

The aim of this research is to examine the human remains from EBA cemeteries in the Cyclades and from Cycladic-style cemeteries on the Greek mainland, exploring potential differences in mortuary practices. This is done by devising and applying a recording protocol for the examination of mortuary contexts from excavation photographs, as a way of maximising the data obtainable in cases where the skeletal remains are lost, badly preserved or cannot be examined in person. The protocol combines the collection of osteological, archaeothanatological and archaeological data. It is presented in the form of a decision tree designed to facilitate the recording process and ensure repeatability. We applied

the protocol to illustrations from three mainland and five Cycladic cemeteries. The mortuary practices were then reconstructed and contextualised within the Aegean EBA.

Materials and methods

A total of 14 photographs from EBA cemeteries within the Cyclades were examined, from Doulas, 1977 and Tsountas, 1899 (table 1), including 11 graves from 5 cemeteries: Ayioi Anargyroi, Akrotiri, Lakkoudhes and Lakkoudhes A in Naxos, and Chalandriani in Syros (figure 1). Due to large-scale looting and the early date of the first archaeological excavations in the majority of Cycladic cemeteries, the quantity of material available is very small compared to the number of graves excavated. A total of 42 photographs and 33 drawings were examined from EBA cemeteries with Cycladic influences located on the mainland, including 47 graves from 3 cemeteries: Tsepi and Aghios Kosmas in Attica, and Manika on Euboea (figure 1). These cemeteries were selected in view of the detail in the relevant publications (Mylonas, 1959; Sampson, 1985; 1988; Pantelidou Gkopa, 2005) and the ongoing discussion regarding the relationship between these sites and the Cyclades.

The criteria for the selection of illustrations in the study are outlined in table 2.

Evaluation framework

The analysis covers the osteological, archaeological and taphonomic data collected from each illustration. The structure of the archaeothanatological part of the analysis is based on three questions regarding: i) the nature of the deposits (primary or secondary); ii) the grave environment (filled, empty, with voids); and iii) the sequencing of the

Site	Chronology	No. of tombs excavated	Tombs with illustrated remains	Tombs studied	Photos studied	Drawings studied
Mainland						
Tsepi	3000-2300BC	68	23	20	28	11
Aghios Kosmas	ECI-ECII	53	21	16	14	11
Manika	3000-1900BC	120	42	11	0	11
Cyclades						
Chalandriani	2600-2200BC	>600	4	4	4	0
Ayioi Anargyroi	ECI-ECII	22	11	4	7	0
Akrotiri	ECII	24	2	1	1	0
Lakkoudhes	ECI	25	3	1	1	0
Lakkoudhes A	ECII	4	1	1	1	0

Table 1. Chronology of the sites studied, number of excavated tombs, number of tombs for which an illustration of human remains is available, number of tombs studied, and number of photos and drawings studied from each site. Indicative chronologies: ECI, 3200/3000-2600BC; ECII, 2600-2300BC; ECIII, 2300-2100/2000BC / *Présentation de la chronologie des sites étudiés, du nombre de tombes fouillées, du nombre de tombes avec documentation des restes humains, du nombre de tombes étudiées, et du nombre de photographies et relevés étudiés pour chaque site. Chronologies indicatives : ECI, 3200/3000-2600 av. J.-C. ; ECII, 2600-2300 av. J.-C. ; ECIII, 2300-2100/2000 av. J.-C.*

	Criteria for inclusion
<i>Primary deposits</i>	⇒ ≥60% complete ⇒ Photograph or drawing (however, in the case of drawings, the grave environment is not examined, due to the impossibility of observing the necessary features) ⇒ Resolution sufficient to discern a minimum of four articulations, to allow for the taphonomic analysis ⇒ If epiphyses are not preserved, a resolution sufficient to discern the visible aspect of at least the larger long bones (femur, tibia, and humerus) is required, to allow potential siding and as evidence of the preservation of the anatomical position
<i>Secondary interferences</i>	⇒ Depicted in the form of a photograph (no drawings are included, given that they do not provide enough detail for further identification of the interference) ⇒ Resolution sufficient to attempt identification of observable elements ⇒ Available description of the grave interior by the excavator, to aid comprehension of the part of the deposit that is visible in the photograph

Table 2. Criteria set for the inclusion of illustrations of primary deposits and secondary interferences (which include secondary deposits and reductions) / *Critères établis pour inclure dans l'étude les illustrations des dépôts primaires et des interférences secondaires (incluant dépôts secondaires et réductions)*

deposits containing more than one individual (multiple or collective). A repeatable methodology was devised for this part of the analysis, presented in the form of a decision tree (figure 2; table S1) to guide the researcher through the recording sheets (figure S1) to be completed at each stage of data collection, as an attempt to standardise archaeo-thanatological investigations.

Osteological analysis

The skeletal elements visible in the photographs are first recorded in three dimensions, including their orientation, direction, plane/slope and visible surface during excavation. Where precise identification is not possible, the elements are classified into broad categories: long bone, cranial, other flat bone, irregular bone, sesamoid or short bone (adapted from Moutafi, 2021). The completeness of the skeletal elements is also recorded, using a modified zonation system (adapted from Knüsel and Outram, 2004) to compensate for the low analytical resolution of a photographic analysis (figures S2-S3).

Estimation of MNI and plurality

After recording the skeletal elements, a MNI is estimated. Given the limitations when estimating the MNI of an assemblage that is not necessarily entirely visible or identifiable in the illustration, a conservative method was applied that potentially underestimates the number of individuals. This method uses the number for the most prevalent zone (left or right, in order to avoid cross-counting elements) of the most prevalent element.

Through the MNI, the deposits are classified as either **single deposits**, containing a single individual, or **gatherings**, containing the commingled remains of several individuals (Boulestin and Courtaud, 2022).

Grave environment

The next part of the study concerns the grave environment, first identifying whether the anatomical order of the skeleton has been preserved and examining the spatial distribution of the skeletal elements and the extent of their displacement within the initial volume of the body (WIV) or outside its initial volume (OIV) (Duday, 2006). Identification of skeletal displacements then makes it possible to discern whether the remains were deposited in a space that was subsequently filled or left empty (tables S2-4), or whether voids were potentially created later, on commencement or completion of decomposition of the soft tissues, or as a result of the decomposition of organic materials associated with the body or used as architectural elements (Duday, 2006).

Identification of primary or secondary deposits

The next step builds on the elements examined during the previous step to distinguish between the different deposits in a grave, assigning numbers to each deposit (dpN) (table S5), and to conclude whether the deposits are primary or secondary. This is largely based on the skeletal displacements and examination of articulated elements (Duday et al., 1990). These are classified as *labile* or *persistant* (table S6), where the former include articulations that break down earlier in the decomposition process while the latter take longer to break down (Duday, 2006). Due to the variation in joint disarticulation (Mickleburgh and Wescott, 2018) and the limitations imposed by the materials, a minimum of three types of 'labile' elements must be present and observable in a primary deposit in order to be scored as present.

For the purposes of this paper, a **primary deposit** is defined as the product of a single event, where the body is fully articulated when deposited and left to fully decompose,

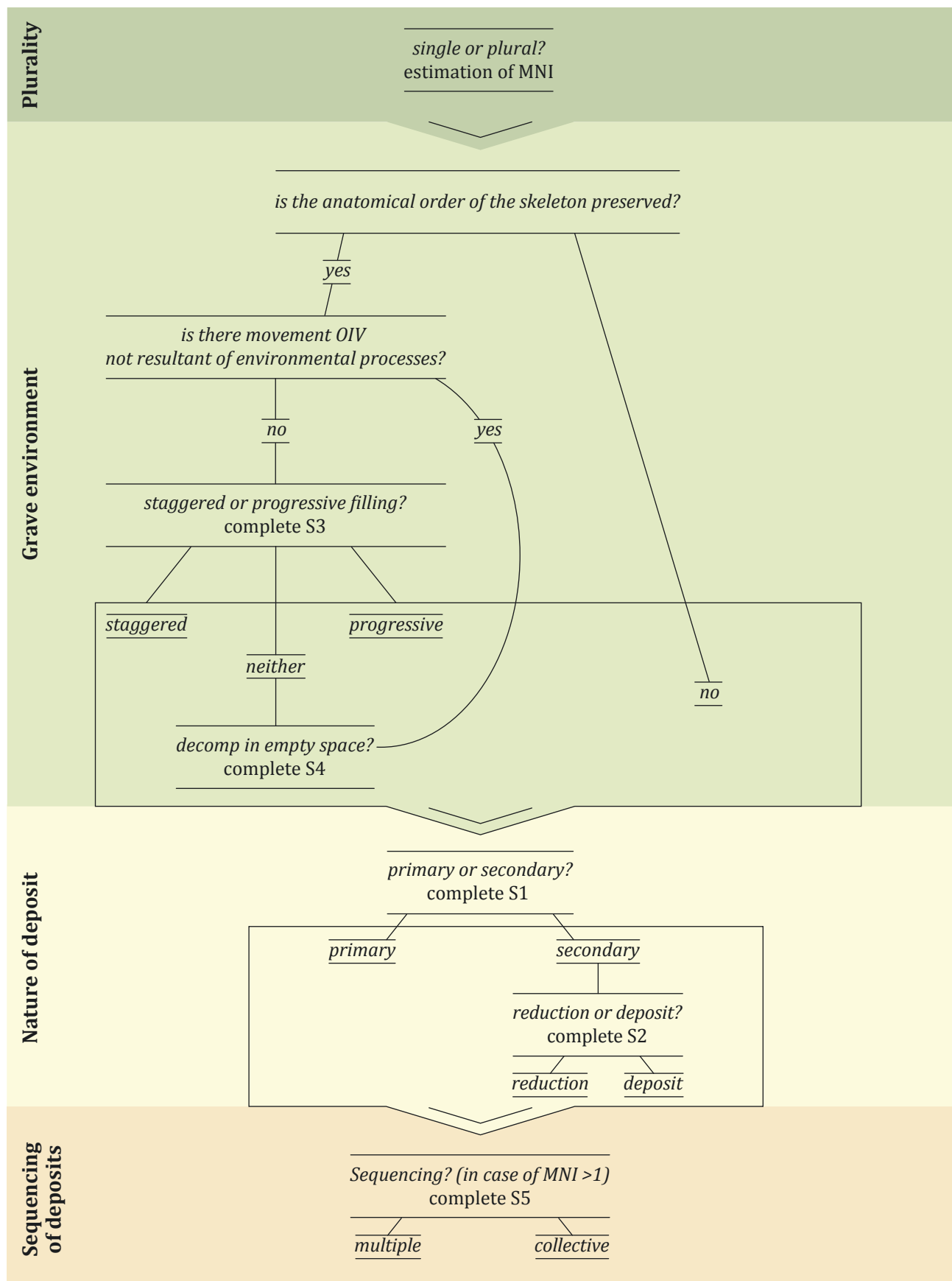


Figure 2. Recording protocol devised for the collection of data for the archaeoethanatomical analysis (CAD: Anastasia Solomou) / Protocole d'enregistrement conçu pour l'étude archéothanatologique (DAO : Anastasia Solomou)

with no re-engagement with the remains (Duday, 2009; Knüsel and Robb, 2016). The criteria based on which a primary deposit is identified include:

- completeness of the skeleton at >60% (for sufficient resolution);
- skeletal elements in anatomical order;
- elements from both labile and persistent articulations (Duday, 2009; Knüsel and Robb, 2016).

Secondary interferences with the remains are divided into secondary deposits and reductions. A **secondary deposit** is defined as an intentional re-engagement with the remains at varying stages of decomposition, resulting in their re-deposition at a different location to that of the primary deposit, where decomposition originally ensued or was completed, typically following some form of spatial/linear organisation (Duday, 2009; Moutafi, 2021). The criteria based on which a secondary deposit is identified include:

- absence of any preserved skeletal elements in anatomical order;
- disarticulation of elements from persistent articulations;
- contextual evidence of intentional re-depositing of the remains (e.g., a structure specifically for their deposit or a linear/spatial organisation of the elements);
- absence of elements from labile articulations *or* labile articulations not deemed to be a necessary criterion, although they may suggest re-deposition of the remains at a different location to that of the primary deposit upon decomposition.

A **reduction** is defined as the displacement of the remains of one or more burial(s) in order to create space (Duday et al., 2014; Moutafi, 2021). Although a reduction can be intentional, similar to a secondary deposit, it differs insofar as the latter is a culturally enforced re-deposition of an individual while the former is part of an event that is not directly related to the deposition of the individual(s) whose remains are being reduced (Solari et al., 2020). The criteria based on which a reduction is identified include:

- absence of any preserved skeletal elements in anatomical order;
- disarticulation of elements from persistent articulations;
- marked clustering/piling of the remains, potentially in a specific area of the grave and haphazardly re-deposited;
- no contextual evidence of intentional re-depositing of the remains;
- articulation of elements from persistent *or* labile articulations is not deemed a necessary criterion, although varying degrees of disarticulation may suggest reduction of the remains at the time of the next deposit, irrespective of the stage of decomposition.

Sequencing of deposits

In the case of gatherings, the sequencing of each deposit and the chronological intervals between them are then also examined, dividing them into **multiple** and **collective**.

‘Long’ and ‘short’ intervals are defined by whether the decomposing or decomposed articulations of the previous deposit were disturbed by the later deposit, based on the resolution afforded by the methods used for the study. When it is not possible to discern the sequencing of the deposits, the term **plural gathering** is used to indicate a deposit containing a minimum of two individuals, with no chronological connotation (Boulestin and Courtaud, 2022).

A **collective gathering** (Boulestin and Courtaud, 2022) is defined as a deposit containing several individuals with longer intervals between interments, and is identified based on the following criteria:

- MNI ³ 2;
- disturbance of articulations that are in contact with the adjacent deposit.

Similarly, a **multiple gathering** is defined as a deposit containing several individuals, buried within shorter intervals or simultaneously (Boulestin and Courtaud, 2022), and is identified based on the following criteria:

- MNI ³ 2;
- undisturbed labile articulations in contact with the adjacent deposit, without disturbance of other articulations that are in contact with it.

Description of the original position and orientation of the human remains

Finally, the original position and orientation of the primary deposits are reconstructed. **Position** is defined as the relationship between the skeletal elements of a primary deposit – irrespective of georeferencing in relation to the earth’s axis – the surroundings and the grave (Ubelaker, 1999; Sprague, 2005), including distinctions such as “prone”, “supine”, “seated”, and “crouched”. Contrariwise, **orientation** is defined as the way the body is deposited in the grave, by the relationship between the skeletal elements, the axis of the earth, and the architectural and non-architectural elements of the grave. This includes information on which way the individual skeleton elements (skull, upper and lower extremities) are facing relative to specific landmarks within the grave, as well as to cardinal directions (Ubelaker, 1999; Sprague, 2005).

To record the original burial position and orientation, a series of features was chosen to ensure comparability of the data. Position is recorded in relation to the skull, upper extremities, shoulders, hip flexure, and knee flexure (Ubelaker, 1999; Sprague, 2005) (table S7; figure S4). Orientation is determined by examining the skull, the hands, the vertebral column, the knees and the feet in relation to the entrance of the grave, the cardinal directions and the grave offerings, as well as the general alignment of the skeleton in relation to the entrance, cardinal direction, grave offerings and the sagittal axis of the skeleton.

Results

By following the recording protocol and the decision tree, a set of 22 distinct potential processes can be identified, entitled P1-P22. This allows standardisation of the results and consistency in comparisons between deposits and sites. The type and number of possible processes can be modified depending on the context, and other lines of investigation can be added to the protocol to adapt it to additional mortuary practices that were not relevant in our study contexts, such as remains being placed in coffins or ceramic vessels.

Completeness

The state of preservation of the skeletal remains is assessed based on their completeness and surface preservation (Brickley, 2004). However, due to the impossibility of conducting an in-person macroscopic analysis for our study, this assessment is based on completeness only. This is attempted by estimating the percentage of observable elements relative to expected elements, using the system of Connell and Rauxloh (2003), where the upper and lower limbs and the skull account for 20% each and the torso for 40%. Secondary interferences are not included, given that only portions of the deposits are photographed, resulting in a partial overview.

The completeness of the primary deposits ranges from 50-60% to 95%, with a mean of 66.2% (table S8). It should be noted that the general completeness observed, especially in the EC contexts, is typically much lower, often preventing even a very approximate identification of anatomical positions.

Nature of deposits

A total of 102 deposits were identified during the analysis, of which 47 are classified as secondary, 3 as potential secondary, 36 as primary and 3 as potential primary. Figure 3 presents the results by individual deposit. However, we will now focus on patterns identified by grave, with a view to eventually reconstructing the sequence of events in the graves at the sites studied.

Regarding the mainland, in Tsepi, 80% of the graves contain at least one secondary interference and one primary deposit, with two graves lacking an *in situ* primary deposit. In Aghios Kosmas, only 25% (N=3) of the graves studied contain a secondary interference and a primary deposit, whereas the remainder (excluding one single primary deposit) are classified as secondary interferences.

Regarding the Cyclades, in Chalandriani, the four graves examined each contain one primary deposit, as does the one grave at Lakkoudhes, whereas the grave at Lakkoudhes A contains at least one secondary interference and a primary

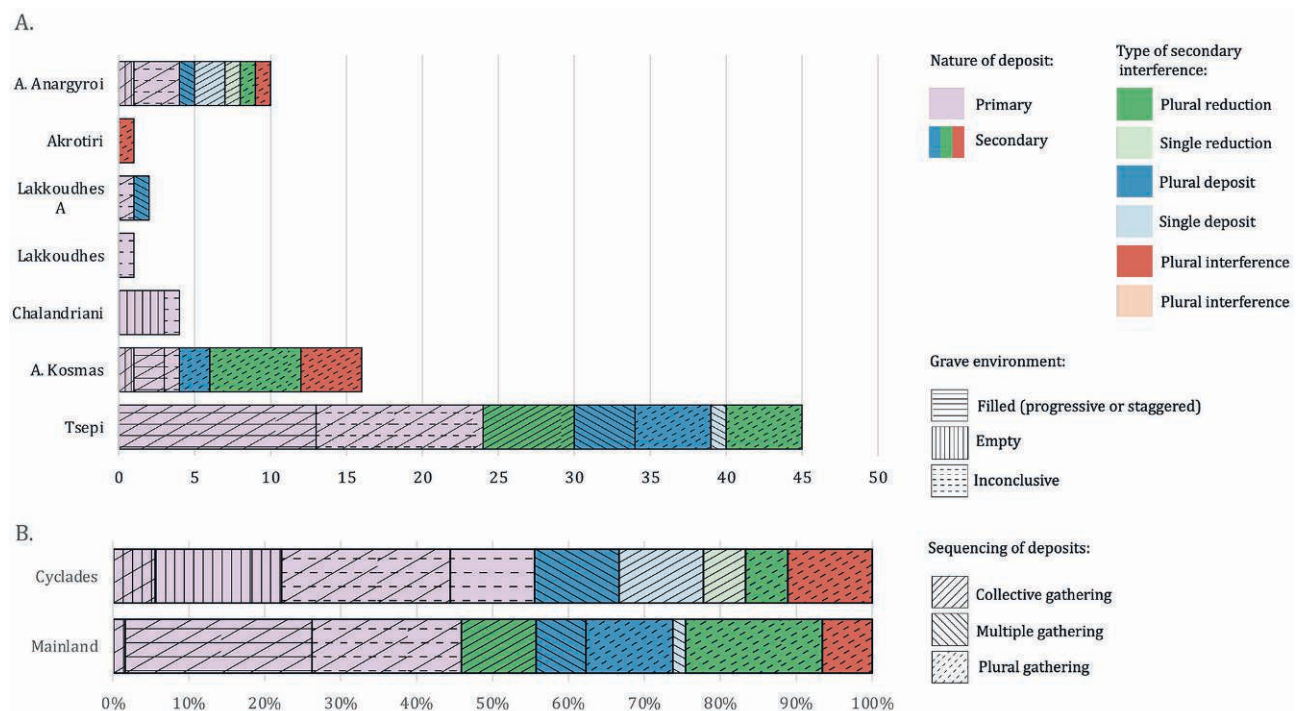


Figure 3. Stacked bar graph showing the plurality and proposed sequence of the primary deposits (P) and secondary interferences (S) in the case-study cemeteries (CAD: Anastasia Solomou) / Graphique à barres empilées présentant la pluralité et la séquence des dépôts primaires (P) et des interférences secondaires (S) dans les cimetières étudiés (DAO : Anastasia Solomou)

deposit. In Ayioi Anargyroi, two graves include at least one secondary interference and one primary deposit, whereas of the remaining two graves, one contains only a single primary deposit, and the other multiple secondary interferences. Finally, the Akrotiri grave contains at least one secondary interference, with no primary deposit observable.

Secondary interferences

Of the 50 secondary and potential secondary interferences, 16 were further defined as secondary deposits and 19 as reductions, whereas 15 did not meet the criteria for a deposit or a reduction, and therefore remain under the “secondary interference” heading.

In Tsepi, all graves with conclusive secondary interferences (58% of all graves with secondary interferences) include at least one reduction, whereas 63.6% (37% of all graves with secondary interferences) contain at least one secondary deposit as well. In Aghios Kosmas, 66.7% of graves with conclusive secondary interferences (54.5% of all graves with secondary interferences) contain a reduction, and 22.2% (18.2% of all graves with secondary interferences) a secondary deposit. In the Cyclades, two reductions are identified in Ayioi Anargyroi (T.21), whereas secondary deposits are identified in two graves in Ayioi Anargyroi, and in one grave of Lakkoudhes A. Finally, a further two secondary interferences are found in Ayioi Anargyroi (T.21) and Akrotiri (T.16).

Plurality and sequencing of secondary interferences and primary deposits

Of the identifiable secondary interferences, eight are single or potentially single (with an MNI of 1 through analysis of the photo) and 43 are plural. Of these 43, 6 are potentially collective gatherings, and 6 potentially multiple gatherings. The sequencing of the secondary interferences is tentative.

In Tsepi, 13.3% (N=4) of secondary interferences are single or potentially single, with the rest being plural. Of the plural secondary interferences, 6 are potentially collective gatherings, and 4 multiple gatherings. In Aghios Kosmas, 8.3% (N=1) of secondary interferences are classified as single, and the rest as multiple. Of the multiple interferences, no estimations could be made regarding the sequence of events. In the Cyclades, secondary interferences were observed in the samples from Ayioi Anargyroi and Akrotiri. In Ayioi Anargyroi 42.8% (N=3) are single, with the rest being multiple, whereas at Akrotiri, the one secondary interference available is multiple. One interference at Ayioi Anargyroi is assessed as a potential multiple gathering, as is the secondary interference at Akrotiri.

Regarding the primary deposits, 24 are single or potentially single (with an estimated MNI of 1), whereas 7 cases of several primary deposits within a grave have been identified, all from Tsepi. This represents 38.9% of graves with primary deposits in Tsepi, and 20.6% of all the graves with primary deposits studied.

An estimation of the sequencing of the primary deposits was feasible in 3 cases, for which it is suggested that the deposits are part of collective gatherings. These include deposits dp4 and dp5 in grave T.3, dp28 and dp29 in grave T.18, and dp45 and dp46 in grave T.25. Examining dp4 and dp5 (figures 4-5), it can be seen that the left femur

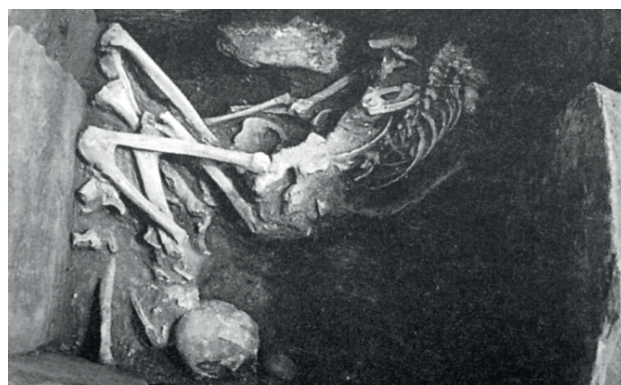


Figure 4. Tomb T.3 at Tsepi showing the top layer of deposits dp4 (closest to the surface) and dp5 (below dp4) (after Pantelidou Gkophia, 2005: fig. 21) / *Tombe T.3 de Tsepi montrant la couche supérieure des sépultures dp4 (la plus proche de la surface) et dp5 (sous dp4) (d'après Pantelidou Gkophia, 2005 : fig. 21)*



Figure 5. Tomb T.3 at Tsepi showing the lower layer of deposits dp4 (closest to the surface) and dp5 (below dp4) (after Pantelidou Gkophia, 2005: fig. 22). It should be noted that the flexed arm and hand seen on the right of the image are in fact the right arm and hand of the individual of dp4. The left humerus of the dp5 individual can be seen directly underneath the aforementioned arm of dp4. The femur seen nearest the bottom edge of the image is also the right femur of the dp4 individual, whereas the left femur of dp5 is not visible in the photo / *Tombe T.3 de Tsepi montrant la couche inférieure des sépultures dp4 (la plus proche de la surface) et dp5 (sous dp4) (d'après Pantelidou Gkophia, 2005 : fig. 22). On note que le membre supérieur et la main que l'on voit en flexion à droite de l'image sont en fait le membre supérieur et la main droits de l'individu du dp4. L'humérus gauche de l'individu du dp5 est visible directement sous le membre supérieur susmentionné du dp4. Le fémur le plus proche du bord inférieur de l'image est également le fémur droit de l'individu du dp4, tandis que le fémur gauche du dp5 n'est pas visible sur la photographie*

and radio-ulnar articulation of dp5 are disturbed, and there is what appears to be a layer of soil separating the two deposits, thus preventing dp4 from collapsing entirely into dp5. Based on this evidence, it is suggested that dp5 was deposited first, with dp4 being deposited on the commencement of decomposition of dp5.

Regarding dp28 and dp29, the former is at a slightly higher elevation than the latter. The right forearm of dp29 is disturbed, though not necessarily by dp28, and the cranium of dp29 is not present (potentially disturbed during the depositing of dp28, given that it would have been nearest to the surface). Furthermore, there is a pile of long bones on the left of dp29, potentially placed there during the depositing of dp28, and again there also appears to be a thin layer of soil separating the two deposits. This evidence supports successive deposition of the individuals, with dp29 being deposited first, and dp28 at a later time, indicating a collective gathering.

Finally, with regard to dp45 and dp46, it can be seen that the overlying dp45 has not collapsed into dp46. The articulations of the arm of dp46 are disturbed and appear to have been potentially re-deposited in order *in situ*, whereas there is a different orientation of the torso in the sagittal axis, which could indicate two distinct deposits, carried out at different times and/or by different individuals. Finally, a thin layer of soil is again observable between the two individuals. This suggests successive depositing, with dp45 being deposited first, followed by dp46 at a later time, indicating a collective gathering.



The decomposition environment

The grave environment was examined for 1 secondary and 24 primary deposits. Conclusive estimations were made for 9 deposits, whereas the results for the remaining 15 are considered tentative. Although the observation and interpretation of smaller movements of the skeletal elements from the photographs present difficulties, thus accounting for a number of tentative results, for some deposits the preservation and quality of the photographs allow some smaller elements to be observed, such as the hands (figure 6). It is therefore possible to detect substantial evidence for the grave environment during decomposition and to formulate suggestions.

In Tsepi, 80% (N=12) of the deposits for which an estimation was possible appear to have decomposed in a filled or potentially filled space, and one in a partially filled space in which at least the bottom half of the body was covered. Of those suggested to have decomposed in a filled space, in four cases the voids created by the decomposition of the soft tissue were filled progressively, or potentially so, thus not allowing for significant movement of the skeletal elements within the initial volume of the body, whereas in five cases filling occurred in stages, or potentially so, allowing some movement of the skeletal elements within the initial volume of the body. In the remaining three cases, this distinction could not be made.

Position

- 0° rotation of the cranium on the horizontal axis;
- 90° lateralisation of the cranium;
- left and right arms placed to the head;
- both shoulders flexed similarly >45°;
- right hip (<90°) flexed greater than left hip (>90°);
- knees flexed <90°.

Orientation

- skeleton placed parallel to the entrance;
- head facing the entrance;
- no direct relation with grave offerings observed.

Figure 6. Tomb T.11 showing the typically observed position and orientation characteristics in the Tsepi cemetery (after Pantelidou Gkophia, 2005: fig. 78) / *Tombe T.11 montrant les caractéristiques de la position et de l'orientation typiquement observées dans le cimetière de Tsepi (d'après Pantelidou Gkophia, 2005 : fig. 78)*

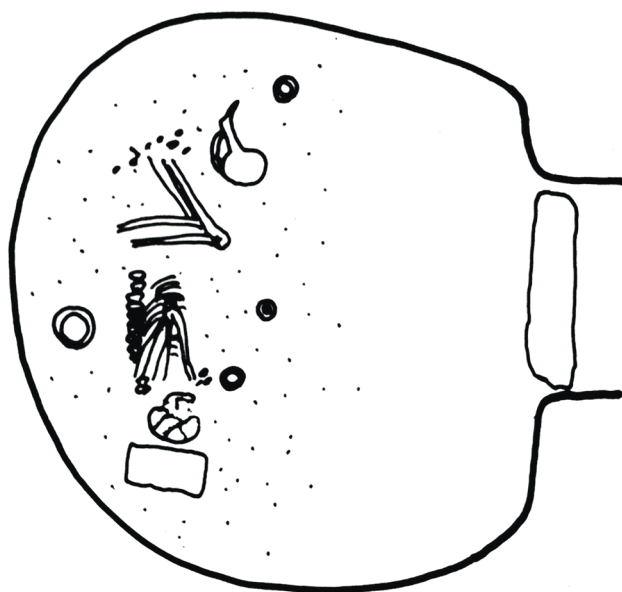
In Aghios Kosmas, 2 deposits are suggested to have decomposed in a filled space where filling occurred in stages, one potentially in an empty space, while one remains inconclusive. It should be noted, however, that Aghios Kosmas is located on the seafront and the deposits in question were found in graves that were flooded, which could have caused significant displacements.

Regarding the Cyclades, the 3 Chalandriani deposits that were suitable for analysis are assessed as having decomposed in an empty or potentially empty space. The one suitable deposit from T.6 at Ayioi Anargyroi, though very poorly preserved, also potentially decomposed in empty space or a space filled in stages.

Sequencing of deposits

All the graves included in the study that contain ≥ 2 deposits and which yielded conclusive results are cautiously suggested to have been created by successive series of deposits. Specifically, our analysis suggests that in Tsepi, 95% (N=19) of the graves comprise several successive deposits. For the remaining grave, the analysis is inconclusive as the photographic material provided is not suitable to reach a conclusion. In Aghios Kosmas, 27.3% (N=3) of the graves show evidence indicating successive deposits. For the remaining graves, although accompanied by suitable photographs, no convincing indications of sequencing of any kind were observed.

Of the Cycladic graves, 80% (N=4) of the gatherings present contextual and osteological evidence supporting the successive nature of their formation. The remaining grave is classified as inconclusive as no suitable photographic material or description of the contents by the excavator is available.



Position

In Tsepi (figure 6), rotation of the cranium is 0° on the horizontal axis in 83.3% of cases, 90° on the vertical axis in 66.7% of cases, lateralised by 90° in 58.3% of cases and $>90^\circ$ in 41.7%. The left arm is placed towards the head in 61.5% of cases, and the right arm in 64.3%. No pattern is observed regarding independent flexion of the shoulders or hips, but the shoulders are flexed similarly in 100% of cases, and the right hip is flexed more than or equally to the left hip in 88.9% of cases ($<180^\circ$ in 100% of cases). Finally, the knees are flexed by $<90^\circ$ in 100% of cases, whereas in 5 (23.8%) cases they are flexed by nearly 10° or $\leq 10^\circ$.

In Aghios Kosmas, the cranium is rotated by 180° on the horizontal axis and lateralised by 90° in 100% of cases, but no pattern is observed for rotation on the vertical axis. Nor is there any evident pattern for flexion of the shoulders, and the left and right do not typically appear to be similarly flexed. One skeleton was in a completely extended position, with 180° hip and knee flexion, while the other two are flexed but do not provide sufficient evidence to discern a more detailed pattern.

In Manika (figure 7), where the reconstruction of positions is based on drawings, the cranium is rotated by 0° on the horizontal axis in 66.7% of cases and 90° on the vertical axis in 80% of cases, whereas lateralisation could not be observed in the drawings. The left shoulder is flexed $<45^\circ$ in 87.5% of cases and the right in 67.5% of cases. The arms are positioned to the head in 100% of cases, whereas the hips do not present any pattern of independent flexion, although the left and right are flexed similarly and by $<180^\circ$ in 100% of cases, and the knees are flexed by $<90^\circ$ in 100% of cases.

Position

- 0° rotation of the cranium on the horizontal axis;
- 90° rotation of the cranium on the vertical axis;
- positioning of the hands to the head;
- hips flexed 90° ;
- knees flexed $<90^\circ$.

Orientation

- skeleton placed parallel to the entrance;
- head facing the entrance;
- back facing a grave offering;
- grave offerings oriented in relation to the knees and the shins/feet;
- head looking towards a grave offering,

Figure 7. Tomb T.MXX showing the most frequently observed position and orientation characteristics in the Manika cemetery (after Sampson, 1985:181) / *Tombe T.MXX montrant les caractéristiques de la position et de l'orientation typiquement observées dans le cimetière de Manika (d'après Sampson, 1985:181)*



Position

- 0° rotation of the cranium on the horizontal axis;
- >90° rotation of the cranium on the vertical axis;
- 90° lateralisation of the cranium;
- hips flexed <90°;
- knees flexed <90°.

Orientation

- skeleton placed parallel to the entrance;
- body facing right on the sagittal axis (not displayed on the illustration);
- cranium looking towards the grave offerings;
- grave offerings oriented in relation to the hands; directly next to the hands, and/or in contact with the right hand.

Figure 8. Deposit no. dp83 at Chalandriani displaying the most frequently observed position and orientation characteristics in the Cyclades (after Tsountas, 1899:88) / *Sépulture dp83 de Chalandriani montrant les caractéristiques de la position et de l'orientation typiquement observées dans les Cyclades (d'après Tsountas, 1899 :88)*

There are patterns in the Cycladic cemeteries (figure 8) that can be observed throughout. The cranium is rotated by 0° on the horizontal axis and >90° on the vertical axis and lateralised by 90° in 83.3% of cases. The hips are flexed by <90° in 83.3% of cases, and the knees in 100% of cases.

Orientation

In Tsepi, 88.2% of individuals are placed parallel to the entrance, 64.7% being aligned NESW. In 61.5% of cases, the head faces the entrance, whereas the head, hands, back and knees present no specific spatial relationship with grave offerings, and the feet are not preserved well enough to permit any conclusions as to their orientation.

In Aghios Kosmas, the only observable patterns of orientation are the placement of the head facing to the left of the entrance and the back facing to the right of the entrance in both observable cases, although it is acknowledged that the evidence is not clear enough to discern any general patterns.

In Manika, 100% of individuals are placed parallel to the entrance, 53.8% being aligned EW. In the sagittal axis, the body faces left or right in virtually equal proportions,

whereas in 69.2% of cases, the head faces the entrance. A direct relationship was observed between the orientation of the cranium and the grave offerings in 40% of cases. The back faces the entrance in 62.3% of cases and has a direct spatial relationship to the grave offerings in 60% of cases. The knees face the entrance in 81.8% of cases and have a direct spatial relationship to the grave offerings in 55.5% of cases. The hands and feet are not depicted clearly enough in the drawings to permit any conclusions as to their orientation.

In the Cycladic cemeteries, 100% (N=3) of deposits with information regarding the location of the entrance are placed parallel to it, with the body facing to the right on the sagittal axis in 77.8% of cases. In 100% of graves with grave offerings, there is a spatial relationship between the cranium and the grave offering(s), with the cranium facing the offering, or the offering placed directly next to the cranium. A relationship is also observed between the orientation of the hands and the grave offerings in 100% of cases, with the hand either directly below, holding the offering, or pointing towards it. On the other hand, no relationship is typically observed between the orientation of the knees or the feet and the grave offerings.

Discussion

Mainland case-studies

Most of the data extracted derives from Tsepi, given that among the published cemeteries included in our materials it is the most detailed in terms of photographs and recording of the grave deposits. Therefore, generalisations on mortuary practices based on overall occurrences of patterns are not made.

Firstly, the practices were performed in arenas that are structurally comparable to others on the mainland and in the Cyclades, with built cist graves (found in Tsepi and Aghios Kosmas) and rock-cut tombs (found in Manika) presenting parallels both on the mainland and in the Cyclades (Heermance and Lord, 1897; Tsountas, 1899; Stephanos, 1911; Theochares, 1955; 1959; Harding et al., 1969; Kontoleon, 1972; Pantelidou, 1975; Doumas, 1977; Pullen, 1985; Theocharakis, 1988; Papadopoulou, 2017).

Evidence regarding the early history of the graves is scarce and especially difficult to disentangle in cases where populations interacted with graves several times. Though it is not certain whether the remains of the secondary interferences uncovered from each grave were initially placed there as primary deposits, the presence of both primary deposits and secondary interferences in the same grave in Tsepi and Aghios Kosmas, the absence of indications that bodies were placed elsewhere to decompose and the identification of labile elements in the secondary interferences all suggest that primary deposits were probably made in a grave and re-engagement occurring with no re-location of the remains to or from a different site of deposit. In the case of Manika, primary deposits were also originally made in the graves, according to the excavator (Sampson, 1985), although more information regarding potential secondary interferences is not available.

For Tsepi, thanks to biodistance analyses carried out on the remains by Dr. Prevedorou (2015; Prevedorou and Stojanowski, 2017), it is also possible to discuss the decision-making process regarding the location of interment of the deceased. The results of the biodistance analysis indicate phenotypic patterning within the cemetery by row rather than by grave, whereas individual graves display some phenotypic similarity but with no strong patterning, which could also suggest the inclusion of affinal or fictive kin, as well as social kin (with no genealogical relationship) (Prevedorou and Stojanowski, 2017). Unfortunately, comparable analyses have not been carried in the rest of the case-study sites to contribute to further discussion on the social spatial organisation of the cemetery and associated mortuary practices.

For the primary deposit, the deceased was introduced through the *prothyron*¹ in Tsepi and Manika (Sampson,

1985; Pantelidou Gkopa, 2005), whereas in Aghios Kosmas, although *prothyra* are found, it is suggested by the excavator that they were introduced from the top (Mylonas, 1959). The body was then placed in a flexed position in all three sites. In Manika and Tsepi, their orientation is parallel to the entrance of the grave, typically positioned on the right side facing the entrance, with the hands to the head and the knees flexed by $<90^\circ$. In Tsepi, however, the right hip is typically flexed more than the left. The degree of flexion, with no substantial evidence for wrapping, suggests that the individual was most likely deposited in the grave on the passing of *rigor mortis* (>24 –48 hours *post mortem*) (*contra* Pantelidou Gkopa, 2005). Regarding parallels, the flexed position is the preferred position on the mainland (Cavanagh and Mee, 1998) and in the Cyclades (Doumas, 1977), although Doumas (1977) reports that the hands are typically directed to the head in the Cyclades.

The grave offerings accompanying the primary deposit were then deposited inside (Sampson, 1985; Pantelidou Gkopa, 2005) or outside the grave (Mylonas, 1959). In Tsepi, the placement of the offerings does not appear to be related to the positioning of the deceased, whereas in Manika, they are placed relative to the head and hands, the torso/back, and/or the knees and shins. Grave offerings are often found on the mainland, including ‘Cycladic’ offerings², however, no information is provided concerning the positioning of the objects relative to the deceased, whereas in the Cyclades, they are typically placed next to the head (Tsountas 1898; Stephanos, 1906a; 1906b; 1911).

In Tsepi, after placing of the primary deposit, the body was covered with soil, filling at least part of the grave; this could potentially be the case in at least some graves at Aghios Kosmas (dp61, dp69), although the small number of suitable photographs and the taphonomic conditions do not allow safe conclusions. The covering of each primary deposit in Tsepi is supported by the identification of deposits in lower strata, which are not the final burial, and which are suggested to have decomposed in a filled space (dp29, potentially dp32). In Manika, at least in certain graves, the individuals were deposited without a soil covering, since five of the graves were found devoid of soil (Sampson, 1985). The rest are either not mentioned specifically, or (in two cases) were filled due to a collapse or to the absence of a sealing slab (Sampson, 1985).

After completion of the primary deposit, in Tsepi and Aghios Kosmas, the remains of the deceased show signs of human interference before they had fully decomposed (based on the identification of articulated elements within secondary interferences). There are differences between

¹ *Prothyron* refers to an antechamber leading to the main entrance of the grave.

² Indicatively, offerings of Cycladic origin or style have been found in Ancient Corinth, Makrykapa (Sapouna-Sakellarakis, 1987), Kovatsi, Rafina (Theochares, 1955), Lithares (Spyropoulos, 1969), Loukisia (Faraklas, 1969), Nea Makri (Theocharakis, 1988), and Sounio (Pullen, 1985).

the two cemeteries as regards the nature of this re-engagement. In Tsepi, the crania were deposited separately as part of a secondary deposit, whereas the remaining elements were piled to one side of the grave, typically opposite the entrance, as part of a reduction, creating space for the succeeding primary deposit. In a minimum of 3 cases, long bones (primarily of the legs) were arranged separately, into a V shape, as a secondary deposit.

In Aghios Kosmas, the repertoire of secondary engagement does not appear to follow a similarly strict pattern, though we cannot exclude that this could be due to the aforementioned limitations of the site or the inability of the methods used to detect the various interferences specific to the site. The interferences identified generally suggest a reductive nature, with the remains of the deceased being swept or piled aside. This is especially evident in 2 graves (T.3 and T.9), where a large volume of remains lies closely packed together. Two cases where the crania were placed linearly as secondary deposits are also identified.

Graves containing several individuals and secondary interferences³ are reported on the mainland, although no details are given about the deposits. Therefore, any sites provided as parallels are tentatively suggested to contain interferences similar to those of the three case studies.

This practice is also observed in the Cyclades, albeit within a different architectural and structural setting. Although there are examples of single-storey graves with several individuals identified as either reductions or deposits, there are also examples of the construction of multi-storeyed graves (typically two storeys) accommodating the deposits⁴. The construction of multiple storeys within a grave, as seen in Naxos, Siphnos or Dhespotikon (Tsountas 1898; 1899; Dumas 1977), allows for re-engagement with – and re-arrangement of – the remains of previous deposits within the limits of the grave, but without retaining all of the remains in the same space or visual field. The secondary engagements observed in the Cyclades, which consist primarily of moving skeletal elements to one side of the grave and arranging the skulls together in the form of a secondary deposit, are effectively similar in nature to those observed in Tsepi and Aghios Kosmas.

In Manika, the information provided about the skeletal remains and the deposits within the graves is not sufficient to include the cemetery in this part of the discussion. However, it is reported by the excavator that 48% (N=10) of

the graves (for which details are available) contained one individual, with a maximum of six individuals (Sampson, 1985; 1988), indicating re-engagement with the deceased on a smaller scale than in the other mainland sites. This is further supported by the identification of several primary deposits *in situ* in graves M XI, M XIX, and Γ II. Nonetheless, deposits have been identified by the excavator as “set aside”, two from M IV and M XXI, and one from M X, M XVI and Γ I (Sampson 1985).

Finally, regarding the final engagement with the grave, in Tsepi (Pantelidou Gkophera, 2005) and in certain cases in Aghios Kosmas (Mylonas, 1959) and Manika (Sampson, 1985), the final deposit consists of a single primary deposit. The deceased is covered with soil in Tsepi, and the entrance is closed with a slab, while the *prothyron* is filled with stones and soil (Pantelidou Gkophera, 2005). The hermitically sealed *prothyron* upon discontinuing engagement with the grave could provide an indication of the reasoning behind covering the bodies between burial events, which could have been adopted as a way of ‘sealing in’ the dead without sealing the entire grave.

The cemeteries in the Cyclades

Due to the criteria set for the incorporation of photographs in the current study, the information extracted with regard to EBA cemeteries in the Cyclades is derived from single case-study graves from cemeteries spread across different islands, resulting in a scattered dataset. Given this limitation, it is not possible to detect intra-Cycladic patterns or to extract generalisations regarding Cycladic mortuary practices. Therefore, the results will be discussed independently and contextualised within the Aegean EBA by drawing comparisons where concurrent comparable evidence is available.

Beginning with the structural setting of these practices, although the distribution of built cist and rock-cut graves has already been discussed, deposits dp83, dp84, dp85, and dp102 are situated within corbelled graves, found in Chalandriani, Syros (Tsountas, 1899). This type of grave is differentiated by Dumas (1977) and Tsountas (1899) from the built cist graves typically observed. However, built tombs in the Cyclades vary widely, with corbelled graves following similar principles to the rest. These include excavation of a subterranean pit (circular or rectangular) and the building of dry-stone walls (which in this case curve inwards), then placing a slab to seal the top of the grave, and dry stones or a slab to seal the entrance (Hekman, 2003). Essentially, this form shows similarities, found mainly in Avdeli, with the Type E grave at Dumas (1977) with the difference that the Avdeli graves are multi-storeyed and lack the construction of a *pseudotholos*⁵.

3 Comparable secondary interferences are potentially found in Lithares (Spyropoulos, 1969), Markopoulo (Theochares, 1955; Pullen, 1985), Nea Makri (Theocharakis, 1988), Olypieion, Athens (Pantelidou, 1975), and Perachora (Pullen, 1985).

4 Multi-storey graves: Akrotiraki in Siphnos (Tsountas, 1899), Akrotiri, Avdeli, Ayioi Argyroi, Lakkoudhes A and Lakkoudhes in Naxos (Dumas, 1977), and Livadhi in Dhespotikon (Tsountas, 1898). Single-storey graves: Akrotiraki in Siphnos (Tsountas, 1899), Akrotiri, Ayioi Argyroi, Lakkoudhes A, and Lakkoudhes in Naxos (Dumas, 1977), Galana Gremma in Paros, Kapsala in Amorgos, and Livadhi in Dhespotikon (Tsountas, 1898).

5 *Pseudotholos* refers to the domed appearance of these graves.

Regarding mortuary practices and their sequencing, the early history of the Cyclades graves is less entangled than their mainland counterparts. That it began with a primary deposit in the grave is supported by the identification of graves containing single primary deposits and graves with several different deposits that include at least one primary deposit. This is further supported by the evidence of later construction of the second storeys, in cases of multi-storey graves (Doulas, 1977), as well as the documentation of bodies deposited solely in graves (as opposed to elsewhere in the cemeteries) (Doulas, 1977).

For the primary deposit, the individual was introduced through the side of the grave, where the entrance was typically located. This is also the case for the majority of the graves in Chalandriani, Syros, although 3 cases have been reported with no entrance from the side (Tsountas, 1899; Hekman, 2003), and a further 2 with no certain entrance from the side (Doulas, 1977). It is suggested for these graves that the body was introduced through the roof (Doulas, 1977), leading Tsountas (1899) to consider that the doorways in the rest of the Chalandriani tombs were too narrow and to suggest that all graves in Chalandriani were accessed from the top. He further supports this by pointing out that the rock in the area directly in front of the doorways was often not excavated, making them impracticable as entrances (Tsountas, 1899). In comparison with the mainland sites, the bodies in Tsepi and Manika were placed in the graves through the *prothyra* located in the side, as in the built cist and rock-cut graves of the Cyclades, whereas in Aghios Kosmas it is suggested by the excavator that they were lowered in from the top, as in Chalandriani (Mylonas, 1959). Parallels of graves with entrances on the side are frequently found on the mainland⁶.

The body was deposited in a flexed position in all the graves examined, as is the general rule in the Cyclades (Tsountas, 1899; Stephanos, 1906b; Zapheiroulou, 2008). The individual was typically placed on the right side, parallel to the entrance, with the head looking slightly upwards, and the knees and hips tightly flexed ($<90^\circ$). The right hand is typically placed by the head, whereas the left could also be placed along the side, toward the knees. As in the mainland case-studies, the flexed position was probably obtained after the effects of *rigor mortis* had passed, i.e. 24–48h *post mortem*. Wrapping of the bodies has been suggested by researchers based on the sharp angle of flexion (Doulas, 1977), but our study did not detect sufficient evidence to support this, except for the non-lateralisation (collapse to the side) of the right *os coxa* in dp83, Chalandriani, which must have been kept in equilibrium by an exogenous factor, although the angle and quality of the photograph do not allow for closer examination.

The practice of placing the head of the deceased on a stone has been reported in Cycladic graves (Bosanquet, 1895; Tsountas, 1898; Stephanos, 1906b; Zervos, 1957), Manika (Sampson, 1985), and Aghios Kosmas (Mylonas, 1959). Although no such cases were identified in this study, it is noted that in dp83 at Chalandriani the cranium has been greatly displaced, possibly simply by the disequilibrium of the cranium relative to the ground, or it could be indicative of the presence of organic material beneath the head. Upon decomposition of the organic material, the cranium would have collapsed into the void and rolled until it reached equilibrium (Duday, 2009). This is a tentative alternative proposal, related to the stone ‘pillows’ already attested to; for a safer evaluation the atlas would have to be visible in the photo so that its articulation with the occipital could be examined (Duday, 2009).

Following the arrangement of the body in the grave, the offerings were deposited, typically with the head facing them, and next to the hands (which are near the face). The right hand is also sometimes found in direct contact with an offering (figure 8). Considerable qualitative variation has been identified among the islands with regard to the grave offerings (Vavouranakis and Catapodi, 2021), but this aspect will not be discussed in this study, given the impossibility of comparing the high resolution of the distribution of grave offerings with the lower resolution of treatment of the dead produced here, due to the limitations of the photographic material available.

After completion of the primary deposit, we suggest that the grave was not filled with soil and sealed with a slab and/or stones. The sample of photographs that are suitable for studying the grave environment of the Cycladic cemeteries is too small to draw general conclusions, but the evidence available from the sample consistently supports decomposition in an empty space.

If decomposition in an empty space is accepted, at least for these case-studies, this points to differences in practice (comparatively to Tsepi), affecting the execution of this stage and the stages to follow. By not filling the grave and leaving the deceased uncovered, there could be prolonged direct contact with the body or the remains. It should also be considered that the filling or not of the grave may have been dictated by the local geology: the soil at the Tsepi cemetery is sandy and very soft (Pantelidou Gkophia, 2005), in contrast to the rocky terrain of the Cyclades or Manika, so that digging the Tsepi graves would have provided loose soil suitable for filling, whereas the excavation of the graves in many rocky hills of the Cyclades (Doulas, 1977) would have produced larger, harder and dryer chunks of soil. Tsountas (1898) also mentions that the subsoil was rocky and hard and would not have been easy to excavate.

After the closure of graves where gatherings have been identified, the remains of the previous primary deposit were piled to one side of the grave, except for the cranium, which was deposited near the side where the head of the new primary deposit was placed. In the case of multi-storey graves, the remains of the previous primary deposit were

6 Indicatively, a side entrance is reported in Ancient Corinth (Heermance and Lord, 1897), Kerameikos (Pantelidou, 1975), Kovatsi (Theochares, 1959), Lithares (Spyropoulos, 1969), Loukisia (Faraklas, 1969), Nea Makri (Theocharakis, 1988), and Pavlopetri (Harding et al., 1969).

gathered into the centre of the grave, to make room for construction of the second storey. However, there is a case in Ayioi Anargyroi, Naxos (dp95) where at least the long bones of 2 individuals are arranged linearly in the lower storey of the grave, and potentially by type of bone (to the extent of the osteological knowledge of those making the deposit). This provides an indication of the complexity of the mortuary practices in the Cyclades, given that the state of preservation of the remains does not often allow detailed examination of secondary interferences.

As mentioned in the discussion concerning the mainland, the secondary engagements identified in the Cyclades do seem to parallel those identified in Tsepi, with secondary deposits involving the crania and occasionally the long bones present, as well as reductions, which have been identified in Aghios Kosmas and in all the graves in Tsepi.

After the final engagement with the grave, it was sealed with a slab or dry stone, and in certain cases such as in Ayioi Anargyroi, Akrotiri, Rhodhinadhes (Doulas, 1977), and Zoumbaria (Zapheiropoulos, 1960), structures were built over the grave, possibly to aid later identification. These are typically constructed with medium-sized stones, forming a sort of platform above the grave. There is no evidence as to whether they were built following the first deposit or the final one, although Doulas (1977) suggests that the multi-storey graves were conceived as such from the start, based on comparisons of the depths of the single and multi-storey graves.

Similar structures are observed in Tsepi, on a larger scale, where the graves were delimited using stones from the local river. These have been compared to graves in the Cyclades (Pantelidou Gkopa, 2005). In Aghios Kosmas, Mylonas (1959) reports small stones piled over the covering slab of the grave. No such structures have been identified in Manika, but it is suggested that platforms similar to those observed in the Cyclades did exist, especially in cases where the graves were used for several deposits (Sampson, 1985).

Conclusions

The protocol implemented for this study allowed us to identify primary deposits, to categorise secondary interferences, reconstruct the sequence of deposits, shape the skeletal assemblages and elaborate on the processes of their formation. Furthermore, new data concerning the grave environment has been added to the corpus of EBA funerary contexts, which had been largely assumed by the excavators rather than evidenced.

Using the reconstructed sequence of events, a comparison was made between the mainland and Cycladic sites, looking beyond the materials-based comparisons attempted in the past and focusing instead on mortuary practices and engagement with the dead. From this angle, the cemeteries of Tsepi and Aghios Kosmas can be seen as affording experiences that clearly differ from the majority of Cycladic cemeteries and imply different processes in the performance of mortuary practices.

However, the cemetery at Manika cannot be directly linked to the cemeteries of Tsepi and Aghios Kosmas, or to the built cist cemeteries of the Cyclades, although there are observable common features with both the Tsepi and the Cycladic case-studies regarding the grave environment and the position/orientation of the body of the deceased. Parallels can be found in the rock-cut grave cemeteries of Agrilia, Ano Kouphonisi (Zapheiropoulos, 2008), Phylakopi, Melos (Edgar, 1904) and potentially Hagia Photia in Crete (Davaras and Betancourt, 2004). This is in accordance with Vavouranakis (2020), who describes the population of Manika as selectively adopting and transforming Cycladic materials and practices, merging them with mainland traits.

These conclusions are presented as tentative, acknowledging the small sample size and the need for further research, ideally to be supplemented by macroscopic osteological analyses and detailed contextual cultural data on the populations using these cemeteries. Nevertheless, this study has attempted to devise and present a method that could be used in analogous circumstances, with a view to maximising the data that can be extracted from poorly recorded or badly preserved contexts. Despite the insufficient resolution resulting from the limitations of the photographic materials, which was largely anticipated, by using the recording protocol devised, a respectable amount of data was obtained that opens the way to new discussions.

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Supplementary Material

Figures S1 to S4 and tables S1 to S8 are available at <https://journals.openedition.org/bmsap/14418?file=1>

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