

TREATMENTS OF THE DEAD: PRELIMINARY REPORT OF INVESTIGATIONS AT
SOUSKIOU-LAONA CHALCOLITHIC CEMETERY, 2001–2004

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Our understanding of pre-Bronze Age Cyprus is currently constrained by the homogeneity of our sources which are largely confined to settlement sites. This stands in sharp contrast to information for the succeeding Early and Middle Bronze Age which, until recently, came almost exclusively from cemeteries. We can, of course, infer Neolithic and Chalcolithic non-habitation activities from data recovered from settlement sites, but direct evidence for extra-mural human activities is sparse. One exception to this general limitation on our reconstructions is the occurrence of four discrete MChal (Middle Chalcolithic) cemeteries in an elongated arc around the settlement of Souskiou-Laona, 2.5 km inland from Palaepaphos, modern Kouklia, in the southwest of the island (figs. 1 and 2; the fourth, recently discovered cemetery lies beyond the area of the map of fig. 2). The opportunity exists here to investigate human-nature interactions, that is the manner in which Chalcolithic peoples *c.* 3000 BC interacted with landscape and environment beyond the settlement. To do this, the Lemba Archaeological Research Centre initiated a programme of research in 2001 to study a range of activities that have left residues in an area 350 x 1500 m, evaluating them in terms of land use potentials and choices, and relationships beyond the territory of the Souskiou complex.

Souskiou has been well known to looters, collectors and archaeologists ever since it first came to the attention of Iliffe and Mitford who were mainly working at Kouklia (Iliffe and Mitford 1952). They identified two of its components, ascribed them to the Chalcolithic period and recognised the oddity of a cemetery that was dated to before the Bronze Age. In response to further depredations of looters at what has come to be called Souskiou-Vathyrkakas Cemetery 1, three more expeditions conducted excavations, the last as recent as 1997 (Peltenburg forthcoming a). Many objects allegedly derived from Vathyrkakas have been published (e.g. Vagnetti 1980), but as all four cemeteries have been looted, we do not know which one they come from, assuming they are from here at all. The site is particularly well known for cruciform figurines, the ideological hallmark of the early and middle phases of the Erimi culture, and for such outstanding works as a stone sculpture in the J. Paul Getty Museum (Maier and Karageorghis 1984, 34-5) and a seated ceramic figure in the Pierides Collection (Hamilton 1994). While we lack unequivocal evidence that many of these objects in private collections come from Souskiou, scientific excavations at Vathyrkakas Cemetery 1 prove that extraordinary numbers of cruciform figures and dentalia were deposited in tombs there, in addition to occasional fantastic zoomorphic and anthropomorphic pots. Given the demonstrable wealth of at least that cemetery and the unusual concentration of rock-cut tombs around a relatively small settlement, our second aim is to explore reasons for the existence of what appears to be an exceptional complex. We seek to explore the possibility that it may have served as a regionally integrative centre in which the ideology of birth, as indicated by

the stylised posture of the cruciform figurines, and death figured strongly. Such centres that help to define the wider community, well known in other regions of prehistoric Europe and the Near East, have been conspicuous by their absence in Cyprus. It may also owe its exceptional wealth to its nodal location, on the boundary between two districts and overlooking the lengthy Dhiarizos just above its entry onto the Ktima Lowlands (cf. Peltenburg 1982, 54-55).

The first component chosen for intensive fieldwork, and the subject of this preliminary report, is the Souskiou-Laona cemetery which lies at the northeast end of the complex, on the same spur as the settlement some 300 m to its southwest. The Souskiou complex is bisected by a ravine formed by the Vathyrkakas stream, and the three other cemeteries lie on the edge of the plateau on the other side of this ravine. As Toumazou (1987, 92-93) argues, cemeteries, defined as spatially reserved areas for multiple tombs, are not a new feature of the Bronze Age, since they already existed in the Neolithic and the Chalcolithic. This is clear at Sotira where there is a graveyard for an adult segment of the population on the lower slopes of the settlement. Another exists at Chalcolithic Lemba where graves were cut into a structure-free zone beside the buildings of the settlement (Toumazou 1987). The concept of a cemetery, indeed multiple cemeteries, therefore, was not an innovation at Souskiou, let alone the EBA, even if cemeteries became more elaborate and formal entities during the EBA (cf. Keswani 2004). The chief innovations at Souskiou are more spacious facilities, the elaboration of tomb types, a multiple inhumation system, unequivocal secondary treatment of the dead and a greater emphasis on the disposal of objects as part of funerary rituals. Perhaps the feature that most distinguishes the cemeteries from earlier ones is the repeated use and re-use of well-furnished, deep tombs over many generations, thus establishing inter-generational kinship ties and reinforcing ancestral links in a manner not seen before.

As described below and in preliminary notices of our work, Souskiou-Laona cemetery is a topographically well-defined burial precinct (Crewe *et al.* 2002; Peltenburg 2002, in press a, b, forthcoming b). Because its tombs were so obvious and apparently all looted, a condition first noted by Maier (1974, 41), our initial modest goal was to clean the tombs of looters' detritus, record tomb types and analyze the spatial organisation of the cemetery. Were we to come across objects overlooked by looters, then we hoped to evaluate some of the issues for dealing with looted cemeteries described by Sneddon (2002). Once we began to encounter intact burials, this research strategy evolved so that the main focus became something quite different.

With the recent prominence given to bioarchaeology, the true costs of past funerary archaeology in Cyprus, driven as it was by the recovery of abundant objects for aesthetic appreciation, museum display and typological study, have become clear. In the headlong pursuit of artefacts (given 'small find' registration numbers), skeletal material, often jumbled and poorly preserved, frequently received lower standards of recording, recovery and storage (bagged, if at all). Well-preserved skulls were treated with care, but generally, priority was given to the artefacts. Since museum storage was essentially intended for registered objects, much human bone was discarded and so now we have a lamentably depleted osteological database for integrated mortuary analysis. As increasing numbers of studies demonstrate, human bone analysis now allows us to go beyond proxy data to consider such questions as genetic relationships, local/non-local origins, palaeodemography, health and diet of buried populations (e.g. Gamble *et al.* 2001;

Bentley *et al.* 2003; Shimada *et al.* 2004; Parras 2004). With these developments in mind, our fieldwork and research emphasis shifted to the retrieval and treatment of human remains consistent with the very real potentials of bioarchaeological investigations, a direction in line with Keswani's seven methodological imperatives for the archaeological studies of mortuary remains (Keswani 2004, 161-2). But enhanced retrieval and recording by themselves are insufficient for research unless they are supported by wholesale re-assessment of storage policies in Cyprus. Four seasons of excavation by the Lemba Archaeological Research Centre of the University of Edinburgh have been carried out at the site to date (2001–2004). The 2005 season will complete excavation of the cemetery and also investigate the nearby contemporaneous settlement.

(Insert Figs. 1 and 2 at bottom of second page of text, fig. 3 on third page of text)

The cemetery and the tombs within the Souskiou landscape

Souskiou-Laona is located on a narrow spur between the Dhiarizos River and the Vathyrkakas stream, near the abandoned village of Souskiou. It occupies a commanding position on the spur, with views west over the Dhiarizos Valley to the Ktima Lowlands and the Mediterranean, and east to the Troodos Mountains (fig. 3). It seems likely that visibility both to and from the cemetery was a factor in choice of location for the Chalcolithic peoples. The site comprises a settlement, which the Lemba Archaeological Project tested in 1992 (Peltenburg 1993), and a cemetery located on a prominent limestone outcrop at the neck of the ridge. As noted above, a second, larger cemetery of roughly the same period is known to the southwest of the stream at Souskiou-Vathyrkakas (Peltenburg forthcoming a) and is also visible from Laona.

The Laona outcrop rises above the ridge to a height of 1–3 m and measures approximately 25 m east-west and 40 m north-south (fig. 4). It is surrounded by cultivation fields, which are currently used for goat fodder. The composition of the outcrop is variable, comprising a mixture of hard, dense limestone (*kafkalla*) and softer decomposed limestone (*havara*). The depth of the outcrop also varies, in some areas continuing beyond the depth of some of the deeper tombs (up to 2.5 m) and in other areas only to a depth of around 1 m, particularly along the eastern edge of the outcrop. The differences in the outcrop matrix probably dictated to an extent the typological range of tombs attested (discussed further below). The sides of the outcrop are extensively eroded, particularly along the northern and eastern faces (fig. 5). T. 125 in Square J8 (fig. 4) had only the base of the tomb preserved, to a depth of around 0.20 m, and it seems likely that the outcrop extended around a further 2 m northeast in this area and to an unknown extent on the other edges of the outcrop.

(Insert Fig. 4 on next full page, figs 5–9 on full page after)

Prior to excavation, the top of the outcrop was partially covered with a loose dark brown topsoil containing organic matter and cultural material no earlier than ceramics produced in the early–mid 20th century in nearby villages (along with bullet casings, cigarette packets and modern iron artefacts). It is assumed, therefore, that the present soil horizon is fairly recent and it is unknown how much covering or exposure the outcrop

may have had during the Chalcolithic. Post-Chalcolithic use of the site is also attested by a few sherds of Middle Cypriot pottery found at the northern edge of the outcrop and more recent structures and terracing (fig. 4), such as Unit 400 in Square G6, which was a dwelling constructed by animal herders (according to a local informant). There appears also to be a structure to the southwest of the outcrop (not shown on fig. 4), which attests to Late Roman/Byzantine occupation, judging from pottery found in and around a wall. Interestingly, one of the tombs investigated in 2004 (T. 201) contained large fragments of Late Roman/Byzantine amphorae and glass down to the level of a looted but partially articulated Chalcolithic burial. Investigation of this tomb is ongoing but this would appear to indicate that the cemetery was re-used and perhaps looted in the Late Roman/Byzantine period. The extremely scenic location of the outcrop no doubt attracted many visitors at various times and it is still popular with illegal hunters and goat herders today.

Methodology and research aims in investigating the looted cemetery at Souskiou-Laona

Both overlying and underlying the topsoil layer are a series of spoil heaps, along with open tomb apertures, attesting to the long-term activities of looters at the site. Local informants state that the residents of the (now abandoned) village of Souskiou were responsible for the majority of the looting, but unfortunately problems are ongoing. Disturbance was noted between the 2003 and 2004 seasons and it has been necessary to sleep teams on the site during excavation of intact burials as opportunistic looting has been attempted during the season. Prior to excavation, approximately 25 tomb apertures, or depressions signalling a likelihood of looted tombs, were visible (figs. 6–7) and it was initially assumed that the cemetery would be small-scale and completely looted. As mentioned in the introduction, our aims, therefore, were to create a typology of tombs in order to compare the Laona and Vathykakas cemeteries and to obtain information on the mortuary population through fine-sieving of the spoil heaps and investigation of the looted tombs. As the tombs are seemingly confined only to the outcrop, it was also an opportunity not often afforded in Cypriot archaeology: to investigate an entire cemetery, as prehistoric Cypriot cemeteries are often extensive and poorly bounded.

At the end of the 2004 season a total of 137 tombs and a range of other features (both contemporaneous and of later date) have been recorded and the entire top of the outcrop has now been investigated. Several tombs could not be examined, either because of ongoing erosion or because of the presence of olive trees or dense shrubbery and roots (fig. 4). Tomb density is much higher than expected and tombs often encroach upon their neighbours (see figs. 4 and 9). The majority of the tombs are looted but a total of fifteen intact tombs, including intact burials within partially looted tombs, have been recovered.

Twentieth century looting at Laona was variable in thoroughness. This has resulted in a range of types of burial context preservation and led to modifications in our methodology and, most importantly, our recording system. The aim is not only to recover the maximum information from a semi-looted cemetery but also to provide maximum data concerning site formation processes in relation to the retrieved skeletal material and artefacts. At this preliminary stage, we are able to distinguish between four types of preservational status of the excavated tombs.

1. Looted. Completely looted contexts were comprised of tombs which had been opened and emptied or tombs entirely or partially refilled with mixed brown topsoil and tomb fill. Plastic bucket fragments, bullet casings, and a range of other modern finds (including goat carcasses) have been found near the bases of some tombs. In some of the tombs (for example, T. 162 discussed below), the looters have thoroughly jumbled and fragmented the skeletal remains. However, due to the appreciable depth of some of the tombs (c. 2 m), even entirely looted tombs allow information to be obtained on the population of the cemetery. Although severely disturbed, a number of artefacts and fragmentary skeletal material has been recovered. Nevertheless, as with the spoil heaps, it is often not clear whether this material belonged to a single tomb or is derived from a variety of contexts. Although contextually informed associations are difficult to establish it does appear that skeletal material recovered from within looted tombs may be considered to at least partially represent the original burials on the site. However, association of disturbed skeletal material with individual tombs (and possibly spoil heaps) is dependent upon factors such as proximity to additional looted tombs and tomb depth.
2. Partially looted/disturbed burial. In this type, the deposits are mixed in the upper fills while the disturbance in the lower burial matrix is localised and articulated torsos or intact bone stacks have been excavated. In some cases looters seem to have aimed where they suspected the crania were located with the view to recovering figurines or jewellery placed around the cranium, leaving the torso at least partially articulated on the tomb base.
3. Partially looted/intact burial. A range of factors also contribute to this type, which is characterised by the cessation of looting evidence well above the burial matrix. Factors may include the depth of some tombs, possible interruptions to the looters and difficulties arising from the extremely compacted, almost concrete-like consistency of some tomb fills. Along with the next category of completely intact tombs, this type is considered of high contextual value. This is despite the loss of information about the sealing of the grave by means of capstones or other arrangements. The stratigraphy of this category consists of mixed upper fill followed by a distinctive, undisturbed silty matrix comprised of fine sand mixed with *havara* and articulated burials at the base.
4. Intact. The undisturbed/unlooted status of this category refers not only to the preservation of the mortuary remains and deposits but also to the sealing of the tombs with capstone and/or circles of smaller stones. However, some graves were considered unlooted even though capstones were not in place. It is possible that not all mortuary features were covered by stone arrangements and some may have been infilled or left open. In addition, none of the smaller intact features contains burials (for example, T. 138 below). Final assessment of the possible functions of these features must await full study of the site and finds.

In addition to the information obtainable from the tombs and other features, it has sometimes been possible to associate the spoil heaps with one or two adjacent tombs and the information on the human remains contained therein will add to the overall picture of the mortuary population buried in the cemetery. Spoil heaps have also yielded a range of

smaller and broken items overlooked by the looters, particularly dentalia beads, picrolite pendants and pot sherds.

The human remains (K.L.)

Mode of deposition

A pattern of deposition pathways is emerging from the intact tombs excavated at Souskiou-Laona. Most of the intact tombs contain one primary burial in the form of an articulated skeleton, together with an accompanying 'bone stack' consisting of secondary burial material intentionally placed, often at the feet of the primary burial. Most of the articulated individuals have been placed on their right side, slightly supine, although slightly prone examples have also been discovered. The arms and legs of the burials are rather tightly flexed, a position that would have not only allowed the placement of the corpses into the relatively small tomb cuts, but also the transportation of corpses to the outcrop. The foot bones of the articulated individuals often lie on top of the bone stack material, indicating the sequence of intentional placement of skeletonised, secondary burial remains in one end of the tomb, prior to the placement of a fleshed corpse in the tomb. The bone stacks contain varying numbers of crania (until now ranging from one up to six), often placed on their inferior aspects, aligned along the tomb wall and placed on top of the postcranial material forming the rest of the bone stacks. The bone stacks seem to contain elements or fragments of elements from all parts of the body. Full inventories of the intact human skeletal material from the Souskiou-Laona tombs will be conducted during the following study seasons. One very interesting question for future research is whether or not the small bones, such as those of the hands and feet, are sufficiently represented to match the MNI (minimum number of individuals) counts based on larger bone elements. This may allow inferences on as to whether or not the secondary burial material in the tombs originates from originally complete bodies buried as primary burials within the same tomb and subsequently moved aside and intentionally arranged in stacks in anticipation of the next primary burial, or whether secondary, skeletonised material may have been brought from elsewhere within the site, or indeed from further away, for secondary burial in the tomb they were found in. The larger long bones (humerus, radius, ulna, femur, tibia, fibula) in the bone stacks were often stacked parallel to each other and the adjacent tomb wall.

There are a few instances of double burial from Souskiou-Laona, with two articulated individuals in the standard flexed position, placed on their right sides, with or without an accompanying bone stack. One instance of triple burial has also now been excavated (T. 207), with an accompanying bone stack. All of the three individuals had been placed in the standard flexed position on their right side. The central corpse went in first, then the one anterior to it, and finally the third corpse was placed behind the first, central corpse, slightly on top of the two preceding bodies. It seems likely that all three were placed in the tomb at the same time, or very close in time.

The discussion of the five individual tombs forming the focus of this article also contains examples of looted tombs, and the kind of human remains recoverable from such contexts. All the material deriving from looted or otherwise disturbed contexts at Souskiou-Laona is inventoried as commingled within each archaeological unit, and an

overall inventory of all commingled material will be conducted in the future to arrive at a total MNI count for the cemetery site as a whole. This procedure is based on the hypothesis that looters do displace, but do not remove human bone, or significant amounts of it, from the site. This hypothesis seems to be supported by contextual evidence from the site.

Depositional contexts and preservation

Archaeological find contexts of human skeletal remains may be divided into disturbed or intact contexts. Sources of disturbance include looting, ancient reuse of the site, and taphonomic processes relating to the natural world. Human skeletal material deriving from disturbed contexts at Souskiou-Laona is treated as commingled and disturbed. Within the intact tomb contexts there are two different kinds of burial material, primary and secondary. The intact, complete skeletons form the primary burial material, while the bone stacks consist of secondary arrangements of bone elements, often from several individuals, and must thus be treated as commingled (but not disturbed). Separate pathways of physical anthropological analysis were designed and undertaken to cope with the different nature of the depositional contexts and origin of each type of skeletal assemblage. It is important to note the significance of analysing the commingled material deriving from disturbed contexts, as well as primary and secondary materials from the intact tombs, as this will enable overall MNI estimates for the site. Further, it can already be noted that the analysis of disturbed commingled material has brought to light significant amount of subadult skeletal material, from individuals ranging widely in age, something that is not immediately clear from the intact tomb contexts. Full analysis results, including age, sex, and stature estimates as well as assessment of pathologies where possible, will be published in the future.

It should be noted that the preservation of human skeletal remains at Souskiou-Laona is extremely poor, a situation often encountered in Cyprus, as well as the Mediterranean at large. The skeletal remains at Souskiou-Laona are extremely fragile, and often highly fragmented, even when not disturbed by looters. However, with slow and careful excavation, and detailed field recording procedures, it is possible to recover crucial bioarchaeological information even from such poorly preserved human remains.

Summary

The physical anthropological and contextual bioarchaeological analysis of the Souskiou-Laona human skeletal remains has barely commenced, but already some interesting results are emerging. One of these is the patterning in burial position shown by the intact, articulated skeletons, and the distinct patterning in the secondary deposition of skeletal material, the bone stacks. The value of disturbed, commingled material cannot be stressed enough here – it is this group of skeletal remains that show the wide range of ages, including the very young, present within the Souskiou-Laona mortuary population.

The human remains from Souskiou-Laona hold great potential for future bioarchaeological studies, for example in the form of research based on stable isotopes and biomolecular techniques, addressing crucial archaeological questions, such as residential mobility and utilisation of funerary space, diet, and affinity (it should be noted

however that DNA analysis and other collagen based analyses may be hampered by the poor preservation of collagen in hot and dry climates).

(Insert Figs. 10 and 11 near following section)

Occurrence of grave goods in intact burials

Along with the variability in numbers of individuals and patterns of deposition of skeletal material (see above), quantities and types of grave goods deposited within the tombs are highly variable, as at Vathyrakas Cemetery 1 (Peltenburg forthcoming a). Grave goods recovered from within the tombs include Red-on-White pottery vessels (fig. 10), most notably an anthropomorphic vessel still to be conserved, picrolite pendants with dentalium shell beads, a large picrolite figurine (SL 345, see fig. 11), chipped stone tools, faience beads and two copper objects (see discussion below).

In contrast to later Bronze Age burial practices, there seems to be no rigidly adhered to complex of grave goods considered necessary for deposition with the dead. Some burials contained no grave goods, others a single pendant, others up to five pottery vessels. Although, T. 158 with evidence for seven interments has 12 objects and 252 dentalia and T.108 with two interments has only one picrolite pendant, inter-tomb variability does not correlate with the number of interred (see below). Certain artefact classes and materials occur in unexpected contexts or are unusual for this period. Only a single example of a picrolite cruciform figurine (noted above) has been found, not within a tomb but in a shallow semi-circular ledge cut into the northwestern edge of the aperture for T. 168 (Squares F7/F8 on fig. 4). Study of this tomb is incomplete and it will be published in the final report. Copper is rare at this time, and in our exposures it was only found in T. 158 (see figs. 15–16). Three tombs have now yielded faience beads (T. 138, T. 158 and the partially looted T. 221 excavated in 2004). These materials are quite extraordinary within the MChal of Cyprus and merit preliminary assessments here (for a fuller consideration see Peltenburg forthcoming a: 93-96, 99-100)

Metal

Two copper objects were located together on the undisturbed floor against the north wall of T. 158. SL 428 is a spiral consisting of a strip of .03 m wide metal twisted round nine times, the spirals unevenly, but closely spaced, terminals slightly pinched and perhaps intact (fig. 16.2). It was suspended along a 2–3 mm diameter strand that has become mineralised and still adheres to the entire length of the interior. Beside it lay 6 curved fragments, five with circular sections, one of these with tightly looped terminal, while the sixth with less corrosion has a plano-convex section (fig. 16.3). The pieces, SL 429, are likely to have come from a single object, perhaps an annular pendant or a pin. The metals were associated with two pendants (SL 407, 430) and 68 dentalia (SL 392a) at the base of a group of bones surmounted by the tripod vessel SL 452. The thread in the spiral implies that it was suspended and if so, it may have been strung with all or some of the adjacent dentalia, metal and pendants in a multi-component accessory such as a necklace. There is no cranium in the group of bones, so if this was the case it was presumably

removed and kept together for secondary deposition. Another possibility, namely that it slipped from the crown of cranium B some 10–20 cm to the west, seems less likely.

These metal ornaments are amongst the earliest in Cyprus, *c.* 3000 BC. Contemporary pieces include an identical spiral from Souskiou-Vathyrkakas (Peltenburg, forthcoming a), and a chisel, hook (?) and knife (?) from Erimi (Bolger 1985, 180-185; Gale 1991, 44-45). Dikaïos also mentions two bronze pins in his Erimi day-book, but these were not included in the final publication (*in* Bolger 1985, 182). From this, it is evident that the Laona metals represent a significant addition to the meagre corpus of pre-Bronze Age metalwork from the island. Erimi had suggested that its genesis was prompted by the desire for small tools, but the Souskiou artefacts point to other motives as well. In fact, the Erimi hook may be an unwound spiral bead since it consists mostly of a thin, flat metal band, like the Souskiou spiral of fig. 16.2, one that lacks the strength to have served as a hook. A major incentive for the emergence of copperwork on the island therefore probably existed within highly innovatory trends for bead and pendant production in the MChal, an intensification prompted by a quest for diversity in personal adornments. The existence of such a consumer drive is supported by the presence of another innovation, faience.

Faience

Some 29 faience beads were recovered from three tombs (T. 138, 158 and 221, Figs.14.4, 15.2). They are all segmented beads, well preserved and probably manufactured by the same efflorescence technique. Analysis is warranted to substantiate this self-glazing formation method, but it is suggested here because of the results from the analysis of a similar faience bead from Vathyrkakas. In Peltenburg forthcoming a: 96, Shortland and Tite conclude that its thick interaction layer and presence of copper-coloured glass in the core are consistent with glazing by the efflorescence technique. Although there is a greater variety of faience bead shapes at Vathyrkakas, they have the same well preserved blue colour, a result of the presence of substantial interstitial and superficial glass, and they are equally hard (see colour image in Crewe *et al.* 2002). These are unusual qualities for faience from Cyprus and so it would seem that we are dealing with a homogeneous tradition of faience production for ornaments, the earliest known on the island.

To be sure, the analytical results of the contemporary Vathyrkakas analogy are not without problems, chief of which is the high tin content of the colourant. This is more appropriate to derivation from scrap bronze of the Late Bronze Age, so the chronological integrity of the Laona beads is crucial. As shown in fig. 15.1C, the faïences from T. 158 were found in secure contexts in the middle of the floor and with the main bone stack, beside cranium D where they were in an object cluster including 181 dentalia and a picrolite pendant. T. 221, like 158, lacked an *in situ* capstone, and although the burial deposit was disturbed, the faience beads were found in the cranial area. Unfortunately, there are no other artefacts to confirm the dating of the beads from the intact T. 138 (see below) but the examples from at least T.158 are securely MChal and so it will be for future research to account for the high amount of tin in beads of the late 4th millennium BC. Whether imported or local (see below), they should be regarded as amongst the earliest, if not the first examples of Mediterranean faience.

Tomb construction and use of space

Whilst the establishment of a typology for the entire cemetery must await completion of excavation and study of the finds, some preliminary comments may be made. The most common tomb type consists of a deep (c. 1.5–2 m), sub-rectangular shaft widening to an oval base (c. 0.8 x 1.5 m), either with or without a circular cut to receive arrangements of capstones (discussed further below). Tombs cut into soft *havara*, tend to be oval pits, ranging in size from c. 0.40 x 0.20 x 0.30 m to larger examples, c. 1.00 x 0.60 x 0.80 m. In addition to a number of small sealed pits, several unsealed, shallow scoop-shaped features have yielded finds and appear to be intact. The extremely limited skeletal material recovered with this type (see discussion of T. 138 and T. 197 below) may due to poor preservation, their use for infant inhumations (unlikely as skeletal material from infants is preserved elsewhere on the site), or they may have served another function associated with secondary mortuary ritual. A wide range of tomb types is also attested at Souskiou-Vathyrkakas (cf. Christou 1989: 85, Fig.12.3; Peltenburg forthcoming a).

(Insert Fig. 12 near next paragraph)

In some cases, tool marks visible in the walls of tombs and/or the aperture provide us with glimpses into the technological method involved in their construction and the high quality of some of the tombs' design. Typical examples of tool marks consist of a series of parallel hemispherical grooves running at an angle down the walls of the tomb (fig. 12). A survey on the visible tool marks, alongside an experimental reconstruction of a tomb, has shown that the shape, orientation and angles of the tool marks support the suggestion that antler had been used and the technique was based on chiselling action with the use of a hammer stone (Robertson 2004).

Although the variability of tomb types and the methods employed in their construction may be partly due to the geological composition of the outcrop and the variable erosion of the *kafkalla*, it would be deterministic to account for these differences solely on the grounds of geology and economic models of energy and effort employed in their construction and to ignore the social and cultural circumstances of the society in question. It should also be noted that these features are not always confined to a particular area and preliminary observation indicates that, despite the extremely limited space on the outcrop, there are clusters of tombs in close proximity to each other whilst other areas have been left unused (see fig. 4). Future research will address correlations between bedrock composition and differential construction and location of tombs as well as determining spatial patterns and grouping of tomb locations.

In order to distinguish between mortuary and non-mortuary features it was decided to commence numbering of tombs from 100 and numbering of other features (including looters' spoil heaps) from 300. Other types of features include shallow cuts (c. 0.15 m deep) which appear to be attempts to begin digging a tomb that were not completed (for example, 347, 348 and 349 in Squares I7/I8 on fig. 4) and some of the smaller oval features that were exposed. In relation to some of the smaller pits, the distinction between tomb and non-tomb is sometimes arbitrary, dependent upon exposure and presence of small finds. The discovery in the 2004 season of a shallow oval feature cut into the bedrock (449 in Square E9 on fig. 4) and measuring only 0.35 x 0.30 x 0.15 m but which contained two picrolite pendants and 19 dentalia beads, suggests that the

Chalcolithic land surface may have been higher in places and also that some of the cuts in the bedrock may have had other ritual or funerary functions. A series of three circular cuts, 0.10 x 0.10 x 0.10 m, may be associated with nearby tombs (see 317, 318 and 354 in Square H7 on fig. 4), possibly to hold grave markers.

Select Catalogue of tomb types

The section below focuses on five tombs, selected in order to display the variability in both typology and preservation at Souskiou-Laona, and incorporates a preliminary discussion of the human remains from within these tombs.

Tomb 108

Type: shaft tomb with deep, circular capstone cut, rectangular aperture, shaft walls widening and belling slightly to oval, flattened base. Oriented SE-NW. Square I8. (fig. 13.1–4).

Status: partly looted, intact burial.

The tomb is located near the highest elevation of the outcrop, and the upper circumference of the deep, circular, vertical-sided capstone cut (unit 108.5), 0.96 x 0.98 x 0.30 m deep, lay exposed prior to excavation. Shaft walls are straight-sided, widening from the rectangular aperture, 0.58 x 0.35 m, and belling slightly near the base of the tomb, 1.06 x 0.66 m. The depth of the shaft is 1.18 m and total tomb depth, including capstone cut, is 1.48 m. Fills 108.1–2 were disturbed by looting action and 108.3–4 were intact deposits.

The entire depth of the capstone cut was filled with 108.1, a loose, brown, crumbly silt containing organic material and identical to the topsoil on other parts of the outcrop. The underlying fill, 108.2, comprised a similar but more compact matrix, with large angular *kafkalla* fragments and stones, organics and human bone fragments for a depth of 0.52 m from the top of the shaft. The fill of 108.3 was fine, compact, grey, silty sand containing small human bone fragments to a depth of 0.86 m from the top of the shaft. The bottommost 0.32 m of fill, 108.4, consisted of a very fine, pale yellow-brown silt matrix containing small chunks of *havara* and undisturbed human remains. The deposit is softer in the centre of the tomb and partially cemented to the lower walls and base with *havara* concretions. Only a single small find was associated with the burial, a picrolite pendant (**SL 281**) from below ribs of articulated individual A (figs. 13.1C, 13.2).

Units 108.2, 108.3 and 108.4 all contained human bone. It seems that at least two individuals are represented by the human skeletal remains uncovered, one primary burial (A), and at least one secondary burial (B). The human skeletal material deriving from this tomb has not yet been fully inventoried and analysed, and thus the final MNI count for this intact burial context will be published in subsequent publications.

Fill 108.4 in this tomb contained a single articulated skeleton, with an accompanying bone stack consisting of a cranium, longbones and other postcranial material (fig. 13.1C). The articulated individual, A (southern section), is placed on its right side, with arms and legs flexed, and hands placed in front of the face area. The cranium was discovered lying on its right lateral side, almost lying on its right anterior aspect. The lower legs of this articulated individual seem to have been placed on top of the secondary burial material (bone stack, B). This appears to be the repeated standard mode of deposition in the Souskiou-Laona tombs. It seems that at least two individuals are represented by the human skeletal remains uncovered in T. 108, one primary burial (A), and at least one secondary burial (B). Full inventories of intact human skeletal material from the Souskiou-Laona cemetery tombs have yet to be conducted, and thus accurate MNI counts are to be included in future publications (see above).

Human remains:

Minimum number of individuals: two adults

Inventory of registered objects:

Pendant: **SL 281** (from 108.4)

Tomb 138

Type: small rhomboidal pit with deep circular capstone cut encircling approximately two thirds of the aperture and a concave base, flattened in the centre. The walls of the pit widen slightly towards the base. Oriented E-W. Square H8. (fig. 14.1–4).

Status: intact, sealed, no burial.

T.138 is located in an area of the outcrop that forms a junction between the hard *kafkalla* and softer *havara* and the bedrock is sloping and irregular, hence the absence of a capstone cut on the higher, western side of the pit. It was not visible prior to excavation and completely covered by topsoil and overlying looters' spoil heaps. The tomb was sealed with two large flat limestone capstone slabs surmounted by a circular arrangement of smaller, angular stones (138.2) within the capstone cut (unit 138.1), c. 0.90 x 0.96 x 0.32 m deep (fig. 14.1A, C, D). Pit walls widen from the rectangular aperture (0.61 x 0.29 m) down to the irregular rectangular base (0.87 x 0.45 m). The irregularity of the base is due to the extreme hardness of the bedrock and what must have been a difficult task cutting the tomb in such a confined space. The depth of the pit is 0.68 m with a total tomb depth, including capstone cut, of 1.00 m. Fills 138.3–4 completely filled the tomb to the level of 138.2.

Fill 138.3 was a fine, loose, sandy dark brown fill with occasional organic matter and no cultural material, for a depth of 0.48 m. The basal fill, 138.4 was sharply differentiated and comprised loose, light brownish-yellow fine sand for the remaining 0.20 m depth. Contained within 138.4 were a single deciduous tooth and eleven faience beads (**SL 278**). None of these items were *in situ* and most probably floated from their original position due to taphonomic processes. No other human bone was found within the tomb. Fig. 14.1C shows that the capstone arrangement did not completely seal the aperture along the E-W section and it is likely that Fill 138.3 is the result of surface debris entering the tomb. It is uncertain whether fill 138.4 represents intentional deposition or erosion from the *kafkalla* of the pit walls.

The human remains recovered from T. 138 consist of a single tooth. The tooth recovered is a deciduous mandibular left first molar. The calcification stage of this tooth, crown completed, gives an age estimate of c. 0.7 years of age (with two sigma range 0.5–1.0 years), according to Moorrees *et al.* (1963).

Human remains:

Single tooth from infant

Inventory of registered objects:

Beads: **SL 278** (11 faience from 138.4)

Tomb 158

Type: deep shaft tomb with irregular sub-rectangular aperture widening to an oval, concave base. No capstone cut. Oriented E-W. Square H9. (figs. 15.1–5, 16.1–6).

Status: partially looted, intact burial.

The aperture is sub-rectangular and irregular (due to a large fissure running through the bedrock at this location) and measures 1.10 x 0.73 m. The walls of the tomb widen and bell slightly to an oval base with an irregular floor, 1.45 x 0.89 m. The lower walls and floor of the tomb are comprised of eroded *havara*, and large roots have obscured the original shape. The total depth of the tomb is 1.68 m.

The tomb was not visible prior to excavation and was covered by topsoil and looters' spoil heaps. The topmost fill, 158.1, was a combination of looser and more compact areas of pale yellow and browner soil containing some organics and large, flat capstone fragments, boulders and smaller angular stones (fig. 15.3). It continued for a depth of c. 0.50 m. The size of some of the stone fragments (up to 0.70 x 0.60 m) made excavation extremely difficult, especially where the stones were concreted within the *havara* fill. The capstone fragments and boulders may have originally belonged to T.158 or been thrown in by the looters from a nearby tomb. The difficulty of excavating the compacted fill against the tomb walls is the likely reason why the looters gave up before reaching the burial deposit. The underlying fill, 158.2 which continued for a further 0.58 m, was comprised of yellowish brown sand, silt and larger stones, softer towards the centre of the tomb but compacted against the edges. 158.2 contained a piece of chipped stone (**F56**) and a single dentalium shell bead (**SL 354**), which had probably floated upwards through the fill. The gradual softening of the entire fill and end of the stone layer led to a new unit being assigned, 158.3 which continued until the base of the tomb and was a typical intact burial deposit of loose yellowish, sandy silts,

although still concreted to the walls at the side and base. As well as the articulated individual (A) in the eastern end of the tomb, there were also two bone stack areas (discussed further below). Amongst the finds was a unique Red-on-White tripod flask (SL 452, awaiting conservation), along with the only copper artefacts recovered thus far from the site (SL 428, 429) and additional faience beads (SL 399). Grave goods were associated with both the articulated individual and the bone stacks.

The human skeletal material deriving from this tomb has not yet been fully inventoried and analysed. The final MNI count for this intact and non-looted burial context will be published in due course. However, judging by the preliminary inventory of T. 192, the number of more or less complete crania may correspond closely to the adult MNI of the tombs in Souskiou-Laona. A preliminary MNI count for the bone stack areas of T. 158, based on the number of adult crania, and the presence of juvenile longbones from at least one sub-adult individual, is five (four adults and one sub-adult). The preliminary total MNI count for the T. 158 is thus six, including the articulated complete skeleton. It should be noted however that these preliminary MNI counts do not take into account the postcranial material in the bone stack areas, apart from the juvenile longbones (the exact MNI of sub-adults present also needs to be determined after a full inventory), and are subject to change when full inventories of the material will be conducted.

An articulated individual (Individual A) was uncovered at one end of the tomb (fig. 15.1C), in what seems to be the standard position for complete articulated skeletons on the site, that is arms and legs flexed, lying on its back, on the right side. An arrangement of crania and postcranial bone in the opposite end of the tomb, a bone stack consisting of secondarily placed bone elements, contained four crania (Crania B, C, D, E) and numerous long bones and other postcranial elements to be inventoried. A somewhat separate bone stack area was uncovered between the right lower arm of Individual A, and the tomb wall. Both bone stack areas contained at least some juvenile long bones (age/s to be assessed). The placement of the crania along the tomb walls, and the groups of stacked long bones aligning the tomb walls and following its curvature are patterns that occur also in other Souskiou-Laona tomb bone stacks.

Human remains:

Minimum number of individuals: six, including adults and juveniles

Inventory of registered objects:

Beads:	SL 314 (1 dentalium from 158.1)
	SL 325 (1 dentalium from 158.2)
	SL 385 (3 dentalia from 158.3)
	SL 392a (68 dentalia from 158.3)
	SL 392b (181 dentalia from 158.3)
	SL 399 (4 faience from 158.3)
Pendants:	SL 407 (picrolite from 158.3)
	SL 430 (bone from 158.3)
	SL 431 (picrolite from 158.3)
Copper	SL 428 (spiral from 158.3)
	SL 429 (6 curved fragments from 158.3)
Pottery:	SL 452 (Red-on-White tripod flask from 158.3)
Pecked stone:	SL 432 (pebble from 158.3)
Chipped stone:	F56 (from 158.2)
	F67, F107, F108 (from 158.3)

Tomb 162

Type: shaft tomb with circular capstone cut, rectangular aperture, shaft walls widening and bellling slightly to an irregular oval, flattened base. Oriented NW-SE. Square G9. (figs. 17.1–3).

Status: Looted.

Measuring 2.05 x 1.86 x 0.28 m, the capstone cut for T.162 (162.2) is one of the largest at the site. The cut is not as sharply defined as the T.108 example and slopes gently upwards from the aperture to the exterior edge (fig. 17.1B). The large diameter probably ensured the preservation of some of the circular stone arrangement (162.3), as the looters need not have disturbed the stones to access the aperture. T.162 was visible prior to excavation only as a depression in the overlying topsoil and looters spoil layer. The aperture

is sub-rectangular, belling slightly to an oval, flat base, 1.56 x 0.96 m. The depth of the shaft is 1.44 m and total depth, including capstone cut is 1.72 m.

Fill 162.1 extends from the top of the aperture to a depth of 0.57 m. It is composed of crumbly grey-brown sandy soil containing large angular stone fragments, organics, modern debris and a small fragment of human bone. The underlying deposit, 162.4, extends for a further 0.68 m and was distinguished from 162.1 by the presence of numerous human bone fragments and the absence of large stones. The picrolite pendant fragment (**SL 341**) was found in this layer. The basal 0.14 m of fill, 162.5, consists of typical burial deposit of fine yellow sandy silts mixed with a large amount of fragmentary human bone, the original interments extensively disturbed by looters. Chalcolithic sherds, chipped stone and a cigarette packet were also found in this layer. The human bone fragments were larger and a few long bones were intact, primarily in the centre of the tomb, suggesting that looters' search for grave goods was focused on the narrow extremities of the tomb.

Three units of this tomb contained human remains, units 162.1, 162.4 and 162.5. The degree of fragmentation was high in all units, indicated by the very low completeness scores for individual bone elements (mostly less than 25% complete; see Buikstra & Ubelaker 1994 for scoring system).

Unit 162.1

The human remains recovered from unit 162.1 consist of a single small fragment of human bone. No further identification of this fragment is possible.

Unit 162.4

This unit contained numerous fragments of both cranial and postcranial bone elements. All bone material was fragmentary, with no complete elements present, apart from a few teeth.

Cranial fragments present include parts of the frontal, parietals, occipital, left and right temporals (e.g. the petrous portions), and zygomatic fragments (full inventories of the human remains recovered from each tomb context will be published in the final excavation reports). Part of the mandible was also recovered.

Postcranial fragments include parts of scapulae, clavicles, vertebrae (both cervical and thoracic), ribs, humeri, ulnae, radii, carpals, metacarpals, hand phalanges, fragments of the os coxa, femora, tibiae, fibulae, tali, calcanei, tarsals, metatarsals and foot phalanges. Thus all the main elements of the skeleton are represented, although in a fragmentary and incomplete form.

The minimum number of individuals (MNI) within this unit is two, based on the duplication of left humerus shaft (distal third), right talus and right calcaneus. The morphology of all recovered fragments is consistent with an adult age. No sex estimates are possible due to the incomplete and fragmentary nature of the material recovered.

Unit 162.5

This unit contained numerous fragments of cranial and postcranial bone, from a similar range of elements as listed for unit 162.4. Additional elements represented by fragments include maxilla, sacrum, and patella fragments. Both maxillary and mandibular adult teeth are present, as well as a single maxillary deciduous right canine (apex likely complete). Two partially complete crania (Crania A and B) were uncovered within this unit, likely displaced from their original location.

The MNI count of four for this unit is based on the triplication of many adult postcranial elements (left and right clavicles, right ulna, left and right first metacarpals, left talus, and left and right first metatarsals) and teeth (left and right mandibular first molars, left mandibular lateral incisors), together with the presence of a deciduous maxillary right canine. The root of this deciduous tooth is likely complete, indicating an individual older than 3 years (root complete), but younger than 8 years of age (root resorption initiated; Moorrees *et al.* (1963). The ages and sexes of the adult individuals cannot be determined due to the incomplete and fragmentary nature of the skeletal elements recovered.

Overall MNI for the tomb

An overall MNI for all the commingled material found in this tomb can be calculated. Elements of at least five individuals were recovered from this looted tomb (MNI=5). This is based on the presence of four left and right mandibular first molars, and four left and right adult tali, together with the deciduous maxillary right canine from unit 162.5.

The human skeletal material in units 162.1, 162.4 and 162.5 was displaced and fragmented, likely due to looting disturbance. Two partially complete crania (Crania A and B) were uncovered within unit 162.5, likely displaced from their original location. No clearly articulated elements were present in this tomb.

Human remains:

Minimum number of individuals: four adults and one juvenile

Inventory of registered objects:

Bead: **SL 316** (1 dentalium from 162.1)

Pendant: **SL 341** (fragmentary picrolite from 162.4)

Tomb 197

Type: small sub-rectangular pit. Oriented E-W. Square G8. (fig. 18.1–3).

Status: unsealed, no burial, status unknown.

T. 197 underlay topsoil and was revealed as a slightly darker patch in a layer of extremely eroded sterile *havara* that runs primarily through squares G8 and H8 in the northern central area of the outcrop. The sub-rectangular aperture measures 0.66 x 0.41 m, widening slightly to a flat base and the entire depth is only 0.31 m. The basal 0.10 m of the tomb was cut into hard *kafkalla*. In addition to the possibly *in situ* pendant found at the eastern end of T. 197, some small, unidentifiable human bone fragments, a sherd and a single dentalium bead were also found in the single fill, 197.1, which was composed of a brownish-grey, friable, silty-sandy matrix.

Only a small amount (2 g) of indeterminate fragments of bone were recovered from this tomb. No positional analysis is therefore feasible, nor is morphological analysis possible.

Human remains:

Small indeterminate fragments only

Inventory of registered objects:

Bead: **SL 396** (1 dentalium from 197.1)

Pendant: **SL 397** (1 picrolite from 197.1)

Conclusions

Investigations at the Souskiou-Laona cemetery conclusively demonstrate the need to protect and systematically excavate the looted cemeteries of Cyprus (cf. Sneddon 2002; Frankel *et al.* 2003). Plundering was often incomplete and erratic, and the growing scientific value of human remains, of no interest to the collectors who perpetrate robbing, means that there is potentially an enhanced range of data available to the scientific community in looted cemeteries.

Souskiou-Laona tomb assemblages are broadly the same as the few which have been carefully excavated at Souskiou-Vathykakas Cemetery 1 (Peltenburg forthcoming a). This raises questions regarding the attribution of many objects allegedly from the latter cemetery (e.g. Vagnetti 1980, Niklasson 1991, Figs. 92-101). It is clear that both these cemeteries and the others at Souskiou were being ransacked at approximately the same time and that objects were regularly ascribed to Vathykakas regardless of their real provenance. It should be emphasized that the cemeteries in the Souskiou complex are quite discrete and so if these are regarded as the locales of descent groups with specific property rights and access to resources, then it is important to be able to evaluate variation between these precincts. Alternatively, they may comprise chronologically successive burial grounds. While severe looting and mixing has meant that we have

largely lost the capability of examining these issues, results from the Souskiou-Laona cemetery investigations exceed expectations. They raise the hope that, considered together with undisturbed deposits at Vathykakas, we may have sufficient data for low-level assessment of inter-cemetery variation.

As described above, metal and faience are particularly significant within the tomb inventories. They appear for the first time in Cyprus at Souskiou during the MChal when there was a florescence in the ideational domain and in technology of the Erimi culture. That they appear together, even in the same tomb, T. 158, may not be entirely fortuitous. Since copper provides the colour for faience glazes, the two materials are intimately related. Their occurrence at Souskiou is all the more striking when it is recalled that neither was found in broad exposures at the important site of Kissonerga 3B, and only metal was discovered at Erimi. The small size and the unprepossessing location of the Souskiou settlement would not lead one to expect such a concentration of exotica or rarities. These discoveries, therefore, shed light on the nature of the exceptional character of the complex and they call for reappraisal of society in Cyprus during the 3rd-4th millennia BC. For example, faience and metal are insular novelties that were well known on the mainland. We have assumed that during the MChal islanders staunchly retained their identities by rejecting overseas products and models, but the intensified consumption of fine grave goods evident at Souskiou fostered new demands and these may have led to the start of more meaningful engagements with the outside world. Some support for the existence of such a process is forthcoming from typological similarities for the spiral, which is commonly used on winding pins in SE Anatolia (Frangipani and Palmieri 1983, 565–566) and segmented faience beads, also from the same region (<http://faculty-web.at.northwestern.edu/anthropology/stein/HNexcavationsEB-I.html>).

While much post-excavation work is required before we will be able to realise some of the potentials of the osteological record, it is clear that the mortuary programme at Souskiou-Laona consisted essentially of a multiple burial rite with a degree of secondary treatment, including double and triple burials (above). Keswani (2004, 42) notes that later multi-stage burial programmes and extra-mural burials of the Bronze Age may in part reflect the elaboration of local Chalcolithic practices. Laona now confirms her assessments. We have seen above that Souskiou multi-stage treatments typically involve the disarticulation of individuals and the movement of body parts to bone stacks with superimposed skulls, a progression from the individual to the collective ancestors. But the similarities with later customs are even more pervasive. In addition to the above they include: the occurrence of several formal and distinct cemeteries near a settlement, the enlargement of tombs for multiple burials, entrances closed with a stone slab and wedge stones after successive interments, the under-representation of infants and children (a pattern noted at Vathykakas, but in need of corroboration by the better Laona dataset), marked variation in tomb sizes/labour, and impressive, but variable tomb inventories. And yet, there is a chronological gap between Souskiou and the Early Bronze Age in which we only have intra-settlement burials and no evidence for secondary treatment. The question therefore arises as to whether there was an unbroken evolution in which we are simply missing originally extant LChal (Late Chalcolithic) cemetery evidence, or the discontinuities between the M–LChal also entailed the temporary demise of the use of formal cemeteries.

Our overarching goal is to study a range of activities in the Souskiou complex, and so, as the investigation of the bounded Laona cemetery draws to a close, the project will now commence excavation of another, unlooted but eroded component of the complex, the settlement.

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(Insert Figs. 13–18 at end of text before references)

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