Chapter 10
The Human Remains from Tell es-Sa'idiyeh
International Custodianship, Respect and Research

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Introduction

Tell es-Sa'idiyeh, identified as the biblical city of Zarethan (Josh 3:16; 1 Kings 7:45–6), lies at the heart of the central Jordan Valley, on the south side of the Wadi Kufrinjeh. The large mound occupies a key strategic position, commanding the crossroads of two major trade routes and dominating some of the richest and most fertile agricultural land east of the River Jordan.

Excavations were first conducted by James Pritchard on behalf of the University of Pennsylvania between 1964 and 1967 (Pritchard 1980; 1985), and were resumed in 1985 by a British Museum expedition directed by Jonathan Tubb (Tubb 1988; 1990; Tubb and Dorrell 1991; 1993; 1994; Tubb *et al.* 1996; 1997).

The site was initially settled in the Chalcolithic period (5th millennium BC), but the first extensive occupation phase dates to the Early Bronze Age (*c.* 3300–2150 BC). Little has been recovered of the Early Bronze I phase apart from a few traces of a well-constructed city wall, indicating that the settlement was significant and substantial, covering approximately 12 hectares. The most extensively excavated phase belongs to the Early Bronze II period. Part of a large palace complex has been uncovered, the function of which seems to have been orientated to the industrial scale production of commodities for export to Egypt. One wing of the complex (on the evidence of the bone tools) was devoted to the manufacture of fine textiles, another to the production of wine, but the most fully exposed part was found to be responsible for the extraction of olive oil. The palace was destroyed by fire around 2700 BC.

Following its destruction, and a brief, somewhat ephemeral, phase of squatter occupation in the ruins, the site appears to have been abandoned and was only reinhabited in the Late Bronze Age (1480–1150 BC). During this and subsequent periods, occupation was confined to the eastern side of the mound, giving rise to the existing topography – a high Upper Tell to the east and a lower bench-like extension to the west (**Pl. 1**).

During the 13th century BC, perhaps in the reign of Ramses II, the site was taken into Egyptian control, and at this time the Lower Tell was used as a cemetery to serve the population inhabiting the Upper Tell. This first usage of the Lower Tell as a burial place defines Phase 1 of the cemetery. Tell es-Sa'idiyeh was further developed by the pharaohs of the 20th Dynasty, and during the 12th century BC it became a major trade and taxation centre. A remarkable series of public buildings has been uncovered including a palace complex, a large residency and part of the main eastern gate – all built using Egyptian construction methods – as well as an Aegean-style external, stone-built water system. The Lower Tell continued to be used as a cemetery and a large number of graves have been excavated in Phases 2–3 of the cemetery.

Following the withdrawal of the Egyptian empire in the 12th century BC, the site reverted to local control, but the 'Egyptian phase' buildings remained in use (as did the cemetery) until some time in the 11th century BC when they were destroyed by fire. Following this destruction and a brief abandonment, occupation resumed, but on a much smaller scale. Only in the 9th century BC was the site again

Plate 1 A view of Tell es-Sa'idiyeh from the north (photo: J.N. Tubb)

extensively settled. Protected by strong fortification walls, a well-planned city was laid out on an intersecting grid of streets and alleyways, and the houses and workshops provide artefactual evidence for industrial specialization in the form of weaving and textile preparation. Towards the end of the 8th century BC, Tell es-Sa'idiyeh was again destroyed by fire, this time most probably by the Assyrians. This event effectively put an end to settlement on the site, and although a series of fortresses crowned the highest point of the Upper Tell throughout the Babylonian, Persian and Hellenistic periods, no evidence has been found for associated habitation. That there was some settlement in the vicinity, however, is indicated by the renewed use of the Lower Tell cemetery after a gap of nearly 500 years (Phase 4 of the cemetery).

During the Roman period, a solitary watchtower was built on the north-west corner of the Upper Tell. The very last traces of occupation consist of a single-roomed farmhouse on the Upper Tell and what may be a type of *khan* or caravanserai on the north side of the Lower Tell, both dating to the 7th to 8th centuries AD. It is clear from a few late period (medieval) graves (Phase 5 of the cemetery), however, that the site was visited occasionally for the purposes of burial.

The Tell es-Sa'idiyeh cemetery

As the final report volumes detailing the British Museum's excavations in the Sa'idiyeh cemetery and its human and material remains are nearing publication (Tubb *et al.* forthcoming), this paper does not seek to summarize the findings in any detail. Nevertheless, a few general remarks would seem to be appropriate.

Even before the start of the British Museum's campaign of excavations in 1985, it was known that a cemetery existed on the Lower Tell from the investigations undertaken there by James Pritchard on behalf of the University of Pennsylvania. Between 1964 and 1967, 45 graves were excavated on the north side, these having been dug into the long-abandoned remains of the Early Bronze Age city. It was partly in pursuit of investigating this underlying occupation that an excavation area was developed towards the centre of the Lower Tell in 1985. Nothing, however, prepared the British Museum expedition for the intensity and complexity of interment present in this part of the mound, and between 1985 and 1996 some 493 graves were excavated. Although many had been grossly disturbed through the effects of intensive and repeated intercutting, it has been possible, nevertheless, to assemble a sizeable and significant corpus of burials and through detailed analysis of the internal stratigraphy to group them into 5 phases.

In Phase 1, which marks the initial use of the Lower Tell as a cemetery when the site was taken into Egyptian control, the burials consist of neatly cut pit-graves dug into the eroded remains of the Early Bronze Age occupation or the silt overlying it. The graves were laid out in rows, giving the impression of a planned graveyard. They contained individual primary inhumations, buried consistently with a west–east orientation with regards to the positioning of the head.

Phase 2, corresponding to the resumption of Egyptian control in the 12th century BC, is characterized by individual primary burials in built graves, or more properly, tombs, constructed of mud-brick and roofed over with slabs of the same material. It is this phase also that sees the introduction of double-pithos burials (two very large jars joined shoulder-to-shoulder, their necks having been removed), possibly representing the interments of a group of the Sea Peoples, who were captured and pressed into service by the Egyptians following the land battle of Ramses III in the northern Levant in the eighth year of his reign (see Tubb 2000 for a detailed discussion of this idea).

The burials of Phases 1 and 2 were found to be quite rich in grave-goods, containing fine assemblages of pottery, metal vessels and weapons, stone and ivory vessels, amulets, seals and jewellery. Many of the finds are strongly Egyptian in character, as indeed are some of the burial practices which include the 'ritual killing' of weapons, the covering of the face (or, in one case, the genitals) of the deceased with a metal bowl and the extensive use of Egyptian linen for binding, shrouds and wrapping objects.

Phase 3 represents the continued use of the cemetery following the withdrawal of the Egyptians in the mid-12th century BC and the reversion of the site to local control before its destruction by fire towards the middle of the 11th century. The burials of this phase were again made in simple sub-rectangular pits, but were much less carefully dug and were randomly disposed. Repeated use of the same burial area resulted in the considerable disruption to graves of the previous two phases and has led to the creation of a new

Specialist	Affiliation (at the time of research)	Areas of responsibility / material analysed
Janet Henderson	Institute of Archaeology, University of London*	On-site human osteoarchaeology documentation and analysis (1985 season)
Andrew Chamberlain	University of Sheffield	Supervision of human osteoarchaeology research; curation of the human skeletal remains whilst at the University of Sheffield
Charlotte Roberts	University of Bradford	Supervision of human osteoarchaeology research
Stephany Leach	University of Sheffield	On-site and post-excavation human osteoarchaeology documentation, analysis and primary publication (with E. Rega)
Elizabeth Rega	University of Sheffield	Post-excavation human osteoarchaeology analysis and primary publication (with S. Leach)
Jelena Bekvalac	University of Sheffield	On-site human osteoarchaeology documentation and analysis
Gaynor Wood	University of Sheffield	On-site human osteoarchaeology documentation and analysis
Stephen Forbes	University of Sheffield	Post-excavation human osteoarchaeology analysis and reporting
Theya Molleson	Natural History Museum, London	Post-excavation analysis of human dental remains and tooth-wear
Prisca Vareilles	University Lumière Lyon 2	Intern of T. Molleson, assisting with the post-excavation analysis of human dental remains
Caroline R. Cartwright	British Museum	Leader of environmental archaeology team and coordinator of human osteoarchaeological team; on-site and post-excavation analysis and publication of charcoal, wood, seeds, grain, mineral-preserved fibres, molluscs (with D. Reese), fish bones, ivory; also SEM examination and imaging of these materials, as well as of human tooth-wear (with T. Molleson)
David Reese	Peabody Museum of Natural History, Yale University	Identification of the marine molluscan remains (with C.R. Cartwright)
Louise Martin	University College London	On-site and post-excavation analysis of and reporting on the animal bones from non-cemetery contexts (also supervising UCL students on post-excavation analyses of animal bones)
Priscilla Lange	University of Oxford	On-site and post-excavation analysis of and reporting on the animal bones from the graves
Michela Spataro	British Museum	Analysis of and reporting on cemetery pottery
Thibaut Deviese	British Museum	Analysis of and reporting on grave pigments
Emma Passmore	British Museum	Analysis of and reporting on grave pigments
Elizabeth Crowfoot†	Private researcher	Early identifications of textile impressions
Michela Sandias	University of Reading	Stable isotope analysis of animal and human bones
Pascal Flohr	University of Reading	Stable isotope analysis of cereal grains
Rula Shafiq	University College London	Inter-site comparisons of the human skeletal remains e.g. those from Jericho
Joel D. Irish	University of Alaska Fairbanks	Inter-site comparisons of the human teeth with Egyptian material (dental morphometric analyses)

*In 1985, the Institute of Archaeology was part of the University of London, not part of University College London as it is now

Table 1 Internal custodianship: scientific research of the Tell es-Sa'idiyeh cemetery

burial class, 'derived secondary' which can be defined as the reburial of partial, largely disarticulated remains of pre-existing burials. In some instances bones encountered during the preparation of a new grave appear to have been dug up and simply left in disorderly piles or scatters. In other cases, however, selective bones, principally skulls and long bones, were redeposited in the newly dug grave. The grave-goods of Phase 3 are generally much poorer in quality than those of the previous two phases and show fewer Egyptian influences.

The use of the Lower Tell cemetery appears to have come to an end with the destruction of the city towards the middle of the 11th century BC, and although occupation resumed and continued throughout the Iron Age, it was not until the 6th century BC that it was used again for burials. What is remarkable about the burials of Phase 4 is their similarity to those of Phase 1, with the same strongly Egyptian influence in terms of both grave-goods and burial practices. As with Phase 1 burials, they are single, primary interments in well-fashioned sub-rectangular pits, but with one important difference. Whereas the individuals of Phases 1–3 show a consistent west–east orientation (with regards to the head), those of Phase 4 were, almost without exception, buried east–west (see Tubb 2007).

Phase 5 refers to a very few late (medieval) graves made long after the site had ceased to be a habitation centre.

Recovering the human remains from the cemetery

Having sketched the main features of the cemetery in terms of its historical context and phasing, the purpose of this chapter is to outline the collaborative processes involved in the excavation of the human remains from the graves, their international custodianship and their subsequent research. It aims to provide the 'back-story' of the collaborative decisions that have enabled the recovery of human remains from the site on behalf of the British Museum for nearly three decades.

It was clear from Pritchard's results (1980), even before the initial season of British Museum excavations in the Tell es-Sa'idiyeh cemetery in 1985, that there were several graves that were exceptionally rich in terms of their associated grave-goods (Tubb 1998). Thus, from the outset, it was envisaged that not only would there need to be specialist human osteoarchaeological input and advice (**Table 1**), but also a highly skilled team of specialist excavators working alongside experienced supervisory archaeologists, assisted by student volunteers from around the world. As each season progressed (**Table 2**) and a greater diversity of funerary

Excavation season	Tomb numbers
1985	1–40
1986	41–99 and 146–57*
1987	158–285
1989	286–384
1990	385–94
1992	395–420
1993	421–32
1995	433–80
1996	481–512

* Graves 101–45 were excavated by the University of Pennsylvania (Pritchard 1980)

Table 2 Tomb numbers excavated by the British Museum 1985–96 (Tubb *et al.* forthcoming)

material was revealed, along with a larger quantity of human skeletal remains, procedures were constantly re-evaluated and new ones put in place.

Systems for detailed documentation, specialist photography (**Pl. 2a**) and drawing (**Pl. 2b**) were essential, as was input from the teams of conservators, environmental archaeologists and scientists on-site and at the nearby excavation headquarters at Deir 'Alla. In order to maximize the recovery of information from the human skeletal remains themselves (**Pl. 2c**), collaborations were established from 1990 onwards (**Table 1**) at the Universities of Sheffield and Bradford to provide field training and experience to students who attended courses on human osteoarchaeology. Where possible, human skeletal material was initially studied and recorded *in situ*, using purposely designed recording sheets, in order to gather as much primary information as possible. Whilst such procedures, on occasion, meant that excavation on the cemetery progressed relatively slowly, there were many beneficial outcomes which outweighed this disadvantage.

Firstly, *in situ* documentation unquestionably resulted in a very large dossier of detailed skeletal information that, even now, forms the main framework of reference for the many strands of post-excavation research and publications. Secondly, painstaking excavation protocols with regard to the Sa'idiyeh human skeletal remains, such as using a range of delicate dental tools, brushes and individual fine mesh sieves, enabled the training of a specialist team of local workmen who, season after season, were able to apply their skills in the recovery of the material (**Pl. 3a**). By being able to work alongside the human osteoarchaeologists, they were able to appreciate key skeletal changes (such as signs of palaeopathology), thus enhancing the manner in which they excavated and also their own personal understanding of the history of the people living in this area in the past – possibly their ancestors. When not engaged in excavations, most of these workmen were involved with agricultural activities such as growing onions, tomatoes or cucumbers in the fields and plastic greenhouses, which are common to that part of the Jordan Valley. As none of them owned farms and their pay for agricultural work was less than on the excavations, there was a clear financial advantage for them. The excavations benefited too, not only because many of the

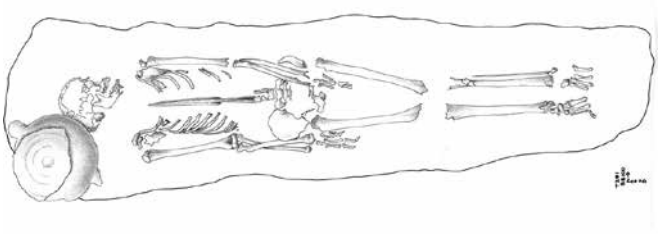

Plate 2a–c: a (top) Specialist photography of the skeletal remains, 12th century BC; b (middle) Specialist drawing of Grave 251; c (bottom) Grave 364A fully excavated (photos: J.N. Tubb)

Plate 3a–b (left and right) Tell es-Sa'idiyeh cemetery during excavations (photos: J.N. Tubb)

workmen employed would return each season, but also because of their intimate understanding of and familiarity with the local soils as a result of their everyday agricultural tasks. This made them ideally placed to recognize during the excavation small changes in soil texture, colour and density that might be of archaeological significance. Their present-day knowledge of the delicate relationship between crops, stock animals, soil fertility and water availability proved invaluable to the archaeobotanists and archaeozoologists on the team. Through contacts with some of their extended families, much useful information was collated regarding local village olive oil cooperatives, inter-cropping practices of grapevines, olive and fig trees, selection of particular types of soils for cash-crops including pomegranates and sumach, and the importance of wild fruits such as *Ziziphus spina-christi* (Christ's thorn) as stock supplements to sheep and goats.

Furthermore, by having the active on-site input of archaeobotanists and archaeozoologists, the emergent skilled team of local workmen (**Pl. 3b**) was able to learn about the different recovery methods and recording techniques needed for the retrieval of categories of material other than human remains, such as tiny and fragile fish bones or organic traces in pots. Thirdly, the slow and careful pace of uncovering the human skeletal remains greatly minimized the adverse effect of rapid exposure to sunlight and temperature on the bones themselves and allowed conservation intervention when required. Although excavation commenced each day at the site very early in the morning, both human and animal bones showed a tendency to dry out and deteriorate very rapidly with increasing exposure to light and heat, particularly if the changes were sudden. If unchecked, this would exacerbate the development of salt and gypsum crystal growth just below the surface of the bone, often in spongy tissue, which could lead to splitting or cracking. Measures needed to be adopted immediately to minimize such effects. Mindful of a potentially wide range of future analytical research on the material, only minimal conservation consolidants were applied to bones or teeth. This, too, was not without its problems; applications of a thin solution of Paraloid B-72 (a proprietary brand of thermoplastic resin soluble in acetone, ethanol, toluene and xylene) resulted in a too rapid evaporation of the consolidant and an extremely thin and ineffectual coating of the outer surface, leaving the under-surface areas vulnerable to crumbling and disintegration. Thicker solutions of Paraloid B-72 were also not effective on site as they could not penetrate the bone in order to consolidate it. The compromise for both human and animal bones was to transport key elements (such as those displaying pathological change) in their burial soils back to the excavation headquarters (some 20 minutes by road at Deir 'Alla) where consolidation could proceed under temperature controls in the environmental laboratory. In the instance of neo-natal or infant burials located in ceramic vessels, it was deemed preferable to block-lift these and to transport them to the conservation laboratory in the excavation headquarters at Deir 'Alla where each could be micro-excavated under controlled laboratory conditions there by the human osteoarchaeologist and the conservator (**Pl. 4**).

Throughout each excavation season, many soil, sediment, organic and residue samples were also taken from the graves/tombs for post-excavation analysis in the British Museum's scientific research laboratory. Depending on the conditions of preservation, it is interesting to note that even samples that were taken in the 1980s are proving viable for analysis at the present time. For example, some of the graves, notably Grave 46, revealed traces of yellow, red and purplish-red pigments surrounding the skeleton and within the confines of the internal grave-lining. Samples, taken at the time of excavation, have recently been analysed (Deviese and Passmore 2012) and the results revealed that no shellfish purple was present, but all were ochre-based pigments. Samples were taken from the graves for future phytolith (plant silica) analysis to investigate ash deposits that might represent the results of ritual fires, and possibly also matting that might have been used in the burials. Wet and dry sieving/screening and flotation of grave/tomb infills were carried out on site and in the environmental archaeology laboratory at the excavation headquarters at Deir 'Alla; such processes enabled the retrieval of biological remains, beads and other categories of small-scale material. Full descriptions of the nature and presence or absence of mudbrick and/or stone forming part of the construction of the tomb/grave, its kerb or lining were recorded and catalogued each season. These complemented the

Plate 4 Micro-excavation of block-lifted and wrapped ceramic vessel containing neo-natal human skeletal remains. Left to right: conservator Jan Quinlan, human osteoarchaeologist Stephany Leach and student volunteer Jo Carter (photo: C.R. Cartwright)

photographic and illustrative archive. Such documentation, the continuity of recording and, indeed, excavating from one season to the next, was frequently complicated by the fact that the graves intercut the underlying Early Bronze Age occupation. Close attention to detail was required to avoid misattribution of material, including charcoal and other archaeobotanical remains, which had proved so diagnostic for reconstruction of the Early Bronze Age agricultural aspects of Tell es-Sa'idiyeh (see, for example, Cartwright 2002), but were scanty in the securely associated grave fills.

Compared to practices used elsewhere, several aspects of the methods adopted at Tell es-Sa'idiyeh can be highlighted. Perhaps the most important were the continually evolving aspects of theory being put into practice, season to season. This enabled the refinement of techniques used to excavate the human remains themselves as well as their grave-goods and the burial loci. The carefully selected excavation team comprising a director, an associate director, archaeologists, conservators, scientists, human osteoarchaeologists, archaeobotanists, archaeozoologists, surveyors, photographers, illustrators, students and local workmen displayed an enormous array of complementary knowledge and skills, not routinely available on every excavation. The purpose-built excavation headquarters, also rarely available on other projects, afforded facilities and equipment that enabled sustained processing, conservation, photography, illustration and more than just baseline research. The extraordinary range of specialist expertise available for consultation on and off-site (**Table 1**) offered every opportunity to apply new scientific techniques of retrieval and sampling, with the dual objectives of analyses at the present time as well as archiving samples for new, groundbreaking analyses in the future. It must be stressed that none of this would have been possible without the generous co-operation of the Department of Antiquities of Jordan and the Jordanian people.

International custodianship, post-excavation research and respect

The multi-disciplinary approach to both excavation and recording continued into the post-excavation research, giving a greatly enriched data set and, in consequence, fuller results. The concept of 'respect' encompasses all aspects of this multi-layered and multi-faceted research. Exploring every avenue of potential research during each season and at the current time, and archiving samples for the future, ensures as far as possible that maximum respect is given to the people of Tell es-Sa'idiyeh and their possessions, now brought to light (in every sense of the words).

The agreement between the Department of Antiquities of Jordan and the expedition allowed for a division of the artefacts recovered from the cemetery (as from all other contexts excavated at the site), and this has provided the opportunity to display in the permanent galleries many of the more significant objects (**Pl. 5a–b**) and make them available to the British Museum's international audience. Furthermore, it generously permitted, for research purposes, the transfer to the United Kingdom of all the human skeletal remains excavated by the British Museum at Tell es-Sa'idiyeh since 1985, as each season's graves had been catalogued in the published interim reports (Tubb 1988; 1990; Tubb and Dorrell 1991; 1993; 1994; Tubb *et al.* 1996; 1997). On completion of the research, the human remains will be returned to Jordan for reburial. The agreement also allowed the transfer of all associated animal bones, archaeobotanical and molluscan material from the cemetery for identification and research, as well as the above-mentioned soil, sediment, organic and residue samples. This represents a rare and valuable opportunity for integrated, multi-disciplinary scientific research to be carried out by expert specialists under controlled laboratory conditions with the latest equipment and analytical techniques.

The specialist training of the local workforce (**Pl. 3a–b**) had already initiated the process of demonstrating respect to the people uncovered in the Sa'idiyeh cemetery, not only through the complex and careful techniques of recovery, but also by the sustained interaction with and feedback of the expertise and knowledge from all present on the excavation. This information exchange increased interest on the part of the local community that provided the workmen and also the extended community that took care of the British Museum team at the excavation headquarters at Deir 'Alla. The Department of Antiquities' inspectors, present throughout each excavation season, were well placed to facilitate a wider dispersion of knowledge to the community through daily communication, and also to visitors from further afield in Jordan and abroad, such as at archaeological conferences held in Irbid or Amman.

Once back at the British Museum, collaborative research concerning the human remains continued for the final monograph that will contain detailed analyses and interpretation of diverse materials and topics. An interim report on the human skeletal remains from the 1995 season (Leach and Rega 1996) generated useful feedback that assisted with the cemetery synthesis. A detailed catalogue and report of many of the human skeletons (Forbes 1997) provided important data for the final reports (Tubb *et al.* forthcoming), as did the substantial corpus of the University of Sheffield recording sheets completed on site (now archived at the British Museum). Human skeletal remains from Tell es-Sa'idiyeh remained on extended loan as a teaching

Plate 5a–b: a (left) Ivory cosmetic container in the form of a fish from Tomb 232, 1250–1150 BC. British Museum, London (1987.0727.138); b (right) wine set from Tomb 32, 1250–1150 BC. British Museum, London (1985,0714.53; 1985,0714.54; 1985,0714.55)

collection and for further student research in the Department of Archaeology, University of Sheffield. Also included in the forthcoming British Museum final report volumes are detailed analyses and interpretation of the human teeth, including variable pressure scanning electron microscope study of tooth wear on selected specimens from Tell es-Sa'idiyeh.

Other categories of funerary material have already been alluded to above and it is important to emphasize the broad diversity of research that has emerged, which has contributed to a more complete understanding of the people represented in the Sa'idiyeh cemetery and their lifeways. For example, on-site and post-excavation archaeozoological analysis has culminated in a report on the animal bone funerary offerings recovered from the British Museum's cemetery excavations. There are tantalizing references to similar material recovered from Pritchard's excavations in the 1960s, but unfortunately no detailed data or identifications (P. Lange, pers. comm. June 2010). Details of the analysis of the fish remains found in the funerary offerings of Grave 232, as well as the bone artefacts have also been presented for publication (Tubb *et al.* forthcoming). The archaeozoological results from the cemetery are already providing interesting comparisons with those from other time periods at Tell es-Sa'idiyeh.

Several considerations of the cultural significance, repertoire and chronology of the associated artefacts from the Tell es-Sa'idiyeh cemetery have been published (e.g. Green 2006; 2010; 2012), stimulating discussion into the significance of the site in a wider context of Middle Eastern and Mediterranean studies. Allied to this study is the petrographic examination (currently being prepared at the British Museum for publication) of local and imported pottery from the cemetery. Imported material in the form of wood from cedar of Lebanon trees and ivory for fine objects, including the remarkable cosmetic container in the form of a fish (**Pl. 5a**) from Grave 232 (ME 1987.7-27,138), are also currently being submitted for publication (Tubb *et al.*, forthcoming).

The forthcoming final report volumes (Tubb *et al.*, forthcoming) will naturally include detailed specialist studies on all aspects of the cemetery finds: pottery, metalwork, seals and scarabs, ivory objects and so forth, many of them complemented by the results of scientific analyses. With regard to the metalwork, it is worth pointing out that many pieces, such as copper alloy bracelets/anklets, bowls (for example, in **Pl. 5a**) and weapons were associated with mineral-preserved textile fragments, supplying good evidence of the original shroud wrapping the body, its weave and its fibre identifications. From these we can deduce that the textile closely resembles Egyptian linen shrouds. Remains of string found in some of the beads, for example from Grave 242, have also been identified as flax.

Marine shells and shell beads (often from imported Mediterranean and/or Red Sea sources) from the Sa'idiyeh graves have been extensively studied (Tubb *et al.* forthcoming); the species represented and the use to which they were put provide interesting comparisons and contrasts to the shell use of Early Bronze Age peoples at the site (Cartwright 2003).

Given that we are asserting that the concepts of 'respect' and 'international custodianship' embrace the implementation of research as fully as possible by key specialists, we also suggest that it is important to consider novel approaches as well as tried-and-tested ones. It is not always feasible on excavation projects to refocus analyses within broader frameworks of research, but at Tell es-Sa'idiyeh, the rich and diverse evidence coupled with an extended timeframe for study has paid handsome dividends in that regard. For example, the stable isotope analyses (carbon, nitrogen and oxygen) that are being carried out on samples of human (and animal) bones from Tell es-Sa'idiyeh as part of broader research programmes will chart changes in diet and water use in Jordan from the Neolithic to the Byzantine periods, and the results are eagerly awaited. They will complement the extremely interesting results recently received (P. Flohr, pers. comm. October 2012) on the subject of reconstructing past water availability using plant carbon and nitrogen stable isotope ratios on archaeological cereal grains from Sa'idiyeh and other sites in Jordan. Inter-site comparisons between the Sa'idiyeh human skeletal remains and those from other sites, such as Jericho, have investigated

the effects of rural and urban living on diet and health. Comparisons with human teeth from Egypt have recently been undertaken and several requests for DNA analyses have been considered.

Finally, we are conscious of the assertion by Leach and Rega (1996: 134) that states: 'Due to long-term site occupation, limits of the excavated area and the obvious cultural factors affecting the complete populational representation in the Tell es-Sa'idiyeh cemetery, such as segregated child and adult burial areas, traditional demographic methods of estimating life expectancy and average age at death in this cemetery are not only inappropriate but uninformative.' Whilst this observation may have been entirely valid at the time (1996), further seasons ensued with more excavation of human skeletal remains. As a result, Green (2006; 2010; 2012) sees in the evidence from the cemetery an opportunity to examine changes in status, culture and gender in the Late Bronze Age–Early Iron Age transition during a time at which the people at Tell es-Sa'idiyeh were closely integrated with the Egyptian sphere of influence. However, certain key points remain valid: interpretation of the Sa'idiyeh human remains is neither simple nor straightforward, and it is hoped that the multi-disciplinary, international scholarship reflected in the British Museum final reports (Tubb *et al.* forthcoming) will not only reflect this complexity, but also the importance of Tell es-Sa'idiyeh, its peoples and its cultural and economic influence over time.

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