**Part Three**

**Post Excavation and Research**

**Introduction**

Peter Clark

After some years of assessing the results of our major field projects, and reorganising our procedures and methodologies, the post excavation team are now involved in a major campaign of analysis that will result in a series of publications over the next few years. Work on the St George’s Clocktower, Maidstone Roman Villa and St Gregory’s Priory projects are all well advanced, and already substantial elements of the analysis of the Monkton excavations are complete. Academic study of the Dover boat is underway, and the fruits of this research are beginning to emerge; work on the Roman settlement at Each End, Ash and the cathedral nave excavations is largely complete, whilst reports on the Pound Lane kiln, Spital Street, Dartford, and the Hightead excavations are ready for publication. The publication of the Marlowe volumes in 1995 was a major achievement by the post excavation team, making the Trust one of the foremost units in the country in terms of its publication record.

Many other projects, both large and small, are also underway. The remarkable discoveries at Buckland, Dover, are being assessed jointly by the Trust and the British Museum. Work is also well advanced on the assessment of the three Roman watermills found at Ickham in 1974. They were excavated by the Ashford Archaeological Society and the Department of the Environment, and the Trust has taken on the responsibility for their study and publication. This small rural excavation produced a number of late Roman coins comparable to all those found within the city of Canterbury, in addition to a remarkable assemblage of late Roman artefacts.

The reports presented in the pages of Canterbury’s Archaeology are often interim statements based on field interpretations. To properly unlock the full potential of our discoveries, formal academic analysis is essential, not only to test our field interpretations, but also to discover new perceptions of the data and to document the rationale of our interpretations for our colleagues and future scholars. We are most fortunate in these increasingly commercial times that the need for detailed study of archaeological data is recognised by our colleagues at English Heritage, the planning department at Canterbury City Council, and the county archaeologist and his team at Kent County Council. We hope to maintain our programme of academic study and publication, and indeed to expand our purview to include more synthetic studies of the archaeology of Canterbury and Kent.

One exciting possibility, which will prove pivotal in the synthetic study of Canterbury’s archaeology, is the prospect of establishing an Urban Archaeological Database for the city. English Heritage have commissioned us, in collaboration with the city council, to prepare a proposal for compiling a computerised database of all the archaeology of Canterbury, possibly linked to a system of computerised maps. This would not only revolutionise the speed and efficiency with which we could advise and inform the council planning department on archaeological matters, but also mobilise the vast store of information in our archives into a format easy to interrogate and study. Such a scheme will provide a firm foundation for continuing the management of Canterbury’s archaeology well into the next century.

Our busy programme of research and analysis has required us to expand our resources in both human and material terms. We are very happy to welcome Ian Ridder to the post excavation team, an expert in finds analysis who will be responsible for co-ordinating and directing all aspects of finds study at the Trust. In addition, Dr Enid Allison is taking an increasingly important role in co-ordinating the palaeoenvironmental aspects of our work.

The Trust’s computing services continue to grow; we now have sixteen workstations connected to the network, including a powerful machine dedicated to Desk Top Publication purchased with the help of the Friends of the Trust. We continue to review and develop our methodologies of analysis; we have recently designed a new pottery computer database using Microsoft Access software, which is being tested and refined on the St George’s, Monkton and Ickham projects. The Integrated Archaeological Database has proved very successful in the analysis of the St George’s Clocktower site, and will continue to be a useful tool in our studies of urban stratification. In addition, the Trust has acquired an electronic distance measurer (EDM), which will allow us to automatically produce survey drawings quickly and easily on our computers.

Although there is still some way to go, and there will inevitably be challenges of integration and staff training, we are making good progress in developing a suite of computing services available to the post excavation team. Already the computers are indispensable, and we have gone a long way towards our goal of freeing post excavation staff from much of the drudgery of data analysis, focusing their skills on interpretation and explanation, integrating different avenues of study, and expediting publication.

Our ultimate goal is not just academic rigour in our research, but the communication of our findings to the community in which we live. The publication of the Marlowe volumes was a landmark event for the Canterbury Archaeological Trust; we fully expect this to be followed by a series of important articles and monographs in the next few years. In the meantime, however, we present here some short notes on the progress of the Dover Boat project, some thoughts on the prehistoric pottery from Monkton, a discussion of several interesting post medieval vessels from Canterbury, and a progress report from the Bone Department.
I The Dover Boat

1 Primary Recording
Barry Corke

During the assessment phase each boat piece was recorded in detail, both photographically and by 1:1 drawings including plans, sections and profiles. The drawings constitute the main archive record of the boat and will be used by many specialists in their research.

The timbers had to be placed in their correct position, as they were found at the time of excavation. The original base boards, whilst proving an excellent support during the retrieval of the boat, did not adequately support or follow the profile of the pieces and consequently the timbers had moved or had been dislodged. A system of shaped wooden supports, foam covered wedges, jiffy foam and new sandbags was therefore used to prop each piece into position.

The system for recording the boat pieces depended on the size and shape of the timbers. The large base planks, being generally flat, required the simplest method; a wooden frame was constructed over the boat piece, (as near as possible to the surface of the timbers), onto which a piece of thin perspex sheet was laid. Mylar film was laid on top of the perspex, allowing the detail to be drawn from above. Small plumb lines and a spirit level aided accurate recording in the vertical plane. Section drawings were made at each end of the boat piece as well as selected profiles using a profile gauge at several points along its length.

The curved side planks presented more of a problem. If the timbers were recorded in their upright position — as they were in the ground — the detail of the upper side would have been invisible due to its near vertical position. Also, the detail below the side cleats would be obscured.

Another view had therefore to be attained, in addition to the upright version, to allow the full detail to be drawn. The ile pieces were propped in a rotated position such that both the upper and lower edges were approximately at the same height forming a U shaped profile.

The recording time for each boat piece varied enormously — from a matter of hours to about five days for the most complicated sections. If the drawing extended beyond a day’s work it had to be ‘re propped’ to the same position the following day for work to continue. It was not possible to leave the timbers exposed overnight as they had to be returned to the water tanks to prevent drying out and decay.

In addition to the main drawings, contact drawings were made. This involved laying smaller pieces of Mylar film against the boat in hard to reach areas or areas containing specific detail that could not be recorded in the normal way. This information was then transferred to the main drawings. Over 750 individual contacts were made during this stage.

Once the inboard surfaces had been drawn, the boat pieces were inverted (Corke 1994), and a detailed record of the outboard surfaces made.

2 Research and Analysis
Peter Clark

The formal assessment of the Dover Boat has now been completed and a programme of study agreed with English Heritage that will result in the publication of an academic monograph in 1999. The research programme may be divided into three main areas; first, the study of the boat itself; secondly, the study of the environment in which the boat was abandoned; and thirdly a study of the implications of the find for our understanding of Bronze Age society.

The boat

Each of the thirty boat pieces was recorded in great detail during the assessment phase. Our first job is to realise the original shape of the boat, so that we may then hypothesise about the nature of its missing elements, the waters it could travel in, the cargo it could carry, and the crew it would require.

First, therefore, we must understand how the boat was made. To do this, each component timber must be ‘reconstructed’ from the detailed records of the composite boat pieces. This complex and difficult task is being undertaken by Peter Marsden and Caroline Caldwell. The product of this work will be a set of 1:5 drawings of each component of the boat, together with details of jointing and the withy stitches that held the timbers together. This in itself has proved an exciting exercise. The boat was excavated in two separate trenches, and then cut into pieces; for the first time we now can see...
the entire vessel, particularly the outboard surfaces which we had never seen in their entirety before.

During assessment, the boat pieces were inverted, cleaned, and the outboard of each piece recorded. During this process we noticed narrow grooves running lengthways along the bottom planks. These toolmarks puzzled us; why had they survived if the boat had been in regular use? Were they evidence of repair or cleaning? If so, how could Bronze Age shipwrights have got access to the bottom of the boat, which would have been far too heavy to invert when complete? Now that we can see the whole of the bottom of the boat, it has become clear that the outboard was deliberately decorated with grooving running along the length of the vessel. Whether this grooving was symbolic or functional is not yet clear, but the signs of differential wear on this decoration were up to 50 per cent thicker than they are now. This important data will help us in understanding the original shape and form of the boat when afloat.

Whilst this work is continuing, Richard Darrah has been carrying out some pioneering research into the degree of distortion and compression that the boat timbers suffered during their long burial beneath the streets of Dover. Because the boat was cut into pieces when it was excavated, cross sections through the timbers of the vessel were exposed. In these cross sections, we could see the rays and rings of the trees from which the planks had been fashioned. Careful study showed that the rays in the planks had been bent, and that in some areas the rings of the wood had been squashed together, thereby calculating the original thickness and shape of the planks before compression. Even at this early stage, it is clear that the bottom planks were up to 50 per cent thicker than they are now. This important data will help us in understanding the original shape and form of the boat.

The study of the records of the boat can only take us so far; one important aspect of the research project will be to reconstruct a mid section of the vessel, transforming a huge oak log into planks with facsimiles of Bronze Age tools, using the plans of the component timbers, adjusted for compression, as our blueprints. This will provide us with invaluable data about the techniques of construction and the practicalities of building such a large craft. This will take place in about a year’s time, and we look forward to reporting on this work in a future Canterbury’s Archaeology.

Following this, we will be able to hypothesise about the parts of the vessel not recovered during excavation; how was the end of the boat originally closed; how many side strakes did it possess? A range of alternative reconstructions will present themselves, which will allow hydrological analysis of their hull forms, model testing in water tanks and so on, which will suggest the sea going capabilities, cargo capacity and crew levels of the original vessel.

The environment

Whilst this work is going on, the many soil samples collected during excavation will be processed and studied. Analysis of the biological material preserved in the sediments surrounding the boat will give us clues to the environment of the boat; the remains of insects, molluscs, plants, pollen and animal bone will allow us to reconstruct the environment in which the Bronze Age boatbuilders and seamen lived. Sedimentology will offer information about the nature of the river valley and the proximity of the sea, and may also explain why the boat was buried and preserved for so long.

Bronze Age society

Lastly, the analysis team will consider the implications of the boat for our understanding of Bronze Age society; who were the boatbuilders? What was their way of life, and with whom did they have contact in their boats? This will require the team to look further afield, and consider discoveries of similar date both in Britain and abroad to synthesise and postulate a richer view of Bronze Age life.

The results of these studies will be published in a major academic monograph by English Heritage. Because of the enormous international significance and interest in the discovery, it has been suggested that the detailed archive data also be published, either on an accompanying CD ROM or perhaps as a World Wide Web site on the Internet. This academic monograph will be the resource for the production of popular accounts and education initiatives from 1999.

3 Conservation

Barry Corke

Even during the recovery of the boat, we always hoped to display this remarkable artefact in Dover. Lengthy consideration was given to the methods by which this goal could be achieved.

Scientific tests on the timber planks showed us that much of the wood’s natural cellulose had been replaced by water during the boat’s long burial. In some cases, the timbers proved to be 90 per cent water; if they were allowed to dry out, the wood cells would collapse and the timbers crumble. A process of replacing the water with another substance was required to preserve the individual cell structure, and thus the timbers themselves. This was achieved by soaking the boat first in a solution of polyethylene glycol (PEG), a soluble wax, followed by a process of controlled freeze drying.

The boat was moved to new storage premises at Whitfield, near Dover, in May 1994 for its

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preservation treatment. With the assistance of the Dover Harbour Board carpenters, a new, much larger storage tank was constructed to accommodate all of the boat sections on their newly constructed cradles, enabling them each to be treated at the same time. This tank was insulated with polystyrene sheeting to help keep the water at a suitable temperature.

English Heritage conservators advised us to soak the boat in two types of PEG (400 and 4000) at fairly low concentrations for twelve months. The absorption of PEG from a low level solution would not clog the outer wood cells thereby allowing the PEG to penetrate into the heart of each timber.

The first priority was to procure the relevant chemicals; polyethylene glycol is not often used in large quantities in this country. The PEG 400, a relatively low concentrate liquid form, was acquired and kindly donated by Pfizers of Sandwich. The PEG 4000, a more concentrated dry flake form, was slightly more difficult to find. Eventually 3 tonnes were located in Holland. This was shipped over in 25 kg. bags and subsequently donated by ICI Surfactants.

The volume of water in the tank, including the boat, was calculated at about 14 tonnes. To this was added 1.4 tonnes of PEG 400. To prevent localised PEG concentrations forming in corners of the tank, a submersible pump was used to circulate the water very gently. Although highly corrosive to metals, the solution provided an ideal breeding ground for algae and bacteria. To help counteract this, a layer of polystyrene sheeting was laid on the surface of the water to exclude light from the timbers. The mixture was left for seven weeks allowing the PEG to penetrate deeply into the wood. The PEG 4000 flake was then added in two 750 kg. (5 per cent) and four 375 kg. (2.5 per cent) batches at intervals of four weeks and two weeks respectively until a maximum concentration of 30 per cent was attained. The additions were completed by the end of 1994 and, except for periodic checking, was allowed to stand with only gentle circulation of the water.

Allowing members of the public to witness the preservation treatment of the timbers offered the opportunity to install a well lit glass tank containing a piece of the boat, soaking in PEG, at Dover Museum. This formed part of a small exhibition and aroused a great deal of interest. A side effect of using PEG is a slightly unpleasant aroma formed by the slow discharge of a methane like gas, the production of which apparently increased proportionally to a rise in temperature. When working directly on the boat in a large building this smell was not particularly apparent but in a warm, confined public area the odour was considerably more noticeable. This piece was returned to the main tank in April.

The timbers are due to be transported to Portsmouth for freeze drying in August. They will be freeze dried, under vacuum, in batches and stored under controlled conditions until return to Dover in early 1996.
II Pottery Studies

1 Earlier prehistoric ceramics from the Monkton A253 project
Nigel Macpherson Grant

The narrow 2.5 km. long strip associated with this road widening project cut through the southern edge of an earlier prehistoric ceremonial and funerary landscape at the western end of Thanet’s main east–west chalk downland ridge. This may have originated during the earlier–mid Neolithic, developed during the later Neolithic and Early Bronze Age as a local centre for both ceremony and burial, followed by a principally funerary phase during the rest of the second millennium B.C., with possibly family or community based strings and clusters of barrows spreading across the downland.<§&p2>

Most of the pottery was of Beaker or Late Bronze Age date. Over eighteen Beakers (sherd or complete vessels) were recovered from Area 9 and the Area 4 flat cemetery, and up to fifteen Late Bronze Age urns (mostly representing plough damaged or redeposited cremation vessels), from the Area 7 barrow cemetery. The quantity of Beakers (and some of their associations or contexts) are unusual; equally unusual, and indeed exceptional, is the recovery of a virtually complete Cornish Treviker type storage jar from the primary ditch fills of the Late Bronze Age Barrow X (Area 3). The Beakers and the Treviker jar are still being studied, but some aspects can be usefully highlighted at this stage.

The Beaker period ceramics

Most of the Beaker pottery recovered is fragmentary and principally from Area 9, with one decorated sherd from Barrow I and the rest from Barrow III, mostly represented by two discrete assemblages, one clustered in the upper fill of the Outer Ditch, another from a small pit probably cutting the Inner Ditch. The Barrow III assemblages contained both decorated fine ware and ‘rusticated’ coarseware Beaker types, the latter including coarsely flint tempered examples, as opposed to the finely grog tempered vessels traditionally associated with Beaker finewares. This mixed bag of fragmentary fine and coarse vessels would, in a settlement context, automatically be classed as a simple refuse deposit but here we may raise a different set of questions. Since there is no associated evidence for occupation, they are more likely to be associated with ceremonial events, seasonal celebrations or ancestor worship rites, but if so, why are the vessels incomplete? Admittedly, this may be due to partial excavation or to loss by ploughing, but the recovery of three or four sherds from the same Beaker in a small pit from a similar sub ceremonial enclosure context at Lord of the Manor 1 (Gibson forthcoming), suggests that the partial deposition of fragments from one or more vessels was deliberate. If so, what are we looking at? Intentional breakage following on site ceremonial or celebratory use with the deliberate selection of part of a vessel(s) for burial and the remainder left unburied or dispersed? Or the deliberate but ad hoc gathering of convenient to hand rubbish, within the settlement, which is then taken for burial during such occasions? Either explanation may be valid.

The above point has been raised because within the same broadly contemporary essentially non secular social context, there is a clear and interesting distinction between the burial of pottery fragments in pits and the burial of complete vessels in graves. There are standard and acceptable explanations for the latter, but not yet the former. Whilst no more than post wake clearance may be indicated by these fragments, the aspects of partial selection and burial suggests that something more fundamental was in mind. If so, the evidence indicates that the answer lies in how we interpret four clearly defined original intentions: breakage, partial selection, burial below ground and choice of context. One further clue may lie in the realisation that these four intentions have one thing in common: they all technically represent acts at the interface between what was once complete and tangible, and then was not, between what was visible and then was not. What is still not so readily signposted, despite the common social context, is any explanation for what governed the marked difference in choice between the placement of whole pots with burials and pottery fragments in pits.

These are aspects related to the definition of prehistoric belief (a tantalising and difficult subject), and any attempt to examine this has to be accompanied by a clear minded examination of the data. This is too big a subject to discuss here, but the points raised underline the possibility that if we objectively examine the evidence we might accurately perceive the original intentions. These intentions can be accurately named, and via these names we can at least begin to approach the core of the issue, definition of the symbolic or practical meaning that lay behind those intentions.

In a similar manner we can approach the decoration of the four complete Beakers from Monkton, not the potential symbolism of their decoration, but the method of application. Three of these came from the same Area 4 flat grave cemetery; the fourth was recovered from a grave immediately adjacent to the Area 9 post alignment. The Beaker from Area 9 and two of the Area 4 examples are decorated in the complex visually stimulating manner traditionally associated with fineware Beakers. Their comb tip impressed decoration appears well ordered and carefully executed, particularly the general symmetry of the lower body decoration applied to the Beaker from Area 9 (see photograph). For most vessels, at least two different combs were used: broad ones (with sizes varying between 22–33 mm.)

Reconstructions of Late Neolithic / Early Bronze Age Beaker pottery from Monkton. Scale in cms.
used mostly for plain bands or motif outlines, and narrow ones (with sizes varying between 12–17 mm.) for motif or narrow band infill work. Several Beakers are additionally burnished in the plain undecorated zones between individual design elements. Overall, these points reflect a genuine degree of care and attention, an aspect amplified by the absence of obvious smudge marks as the pot was handled during decoration. However, closer inspection reveals something else. During application, comb teeth were not regularly cleaned, individual impressions often appearing coarse or blurred as wet clay gathered around comb tips. There is also a marked trend, particularly amongst the Area 4 Beakers (including the exceptionally crude example from Grave 751), for a variation in the quality of decoration: generally (but not always) neat, precise and clear at rim and upper body, becoming coarser and less exact towards the base and part of the lower body with impressions missing or overlapping.

So what do these aspects suggest? The carefully finished base of the Area 9 Beaker indicates that this trend amongst the Area 4 Beakers is not simply a case of handling problems. Neither is it simply a chronological trend; a base sherd from Pit 7356 possibly cutting Barrow III’s Inner Ditch, shows the same cruder basal finish. The crude Beaker from Area 4 Grave 751 probably provides the clue, even though its decoration is exceptionally poor, it is still clear that relatively greater care was applied to the upper body decoration than below. This implies (at least here) that despite the tradition for technically all over treatment, it was normally that part of a pot most visible to its user, i.e. the upper body and lip, that received the greatest level of attention during decoration, the rest being ‘invisible’ and obscured by the hand(s). Conversely, the decoration on the Beaker associated with the Area 9 post alignment is visually most effective when viewed from below, or ‘up ended’ whilst in use, which suggests visibility to the onlooker rather than the user. These points suggest the need to impress the eye in some way. A key feature of fineware Beaker decoration is the visual stimulation provided by the rhythm of alternating plain and infilled zones, minor imperfections in application being lost in the dominant vibrancy of the overall design. Irrespective of effects conveyed by any potential symbolism in the motifs employed, better decorated Beakers exhibit a considerable degree of care, but application is not pernickety, greater
attention apparently being given to the effective presentation of contrast and rhythm.

This vigorous tradition of complex decoration not only applied to vessels accompanying the dead, but was regularly employed on vessels made for domestic use, which is why the crudity of the Grave 571 Beaker is all the more interesting. What does it signify? Deliberate hasty production for burial? Socially inferior production? — and is this why there should be a separate visually less significant flat grave cemetery over 1,300 m. away from the (apparently) main ceremonial focus in Area 9? Or is its crude style an indicator of it being a later creation? The two burials associated with this Beaker have already received specialist attention apparently being given to the effective presentation of contrast and rhythm.

The academic value of these finds should not be underrated; the artefactual and contextual associations of the complete Area 9 and Area 4 Beakers are regionally unique. In addition, Beaker flat grave cemeteries are nationally relatively rare. Any dating applied to, and via, the Beakers from Area 9 will complement that already applied typologically to the material from Lord of the Manor sites 1 and 2D, another focus of ceremonial or funerary activity, with up to six relatively closely clustered small hengi form enclosures. Regionally, these enclosures appear to be confined to the island of Thanet, most with probable mid–later Neolithic inception dates and (where present) a Beaker presence that is consistently secondary. For a single excavation the quantity of Beakers from Monkton is unusually high, at least for a non secular location, and adds to the already high Thanet total for Beakers from burials (Jay 1994). Indeed, seen in terms of individual sites, over 95 per cent of eastern Kent’s Beakers are derived from non domestic contexts. This marked imbalance between Beakers from burial and settlement sites has recently been remedied by the 1987–88 excavations in advance of Channel Tunnel engineering works where, within a 2.5 km. stretch beneath the North Downs, up to ten Beaker domestic sites were recorded, of which one very partially excavated example (Holywell Coombe) produced approximately 300 sherds of Beaker, representing (at a very conservative estimate) upwards of 75–100 vessels (Gibson forthcoming). Exceptional circumstances may have governed the location of these sites, including only a limited zone of suitable land along the spring line at the base of the Downs and (possibly) their proximity to a focus of social or ceremonial activity on Castle Hill (Rady 1989, 41–2), but these finds do suggest that systematic fieldwork in areas already known for their high concentration of Neolithic–earlier Bronze Age artefacts might produce similar results.

The Late Bronze Age ceramics

Regional ceramics of this date are characterised by coarsely flint tempered Deverel Rimbury type vessels with a limited range of (mostly) bucket shaped coarseware forms, large storage jars or urns, medium sized jars and small tub types. Larger coarseware vessels often receive minimal decoration, with high set applied horizontal cordons or single or multiple horizontal rows of finger tip impressions, the latter sometimes mimicking examples with a single row of below rim perforations (for tying on cloth or leather covers). The coarse fabric and simplicity of these vessels is in marked contrast to the highly decorated and sometimes complex moulded forms of mid later Neolithic and earlier Bronze Age pottery. Only very recently was it realised that globular fineware bowls were also produced during this period, like the incised and stamp decorated bowl containing the Birchinghton Hoard (Macpherson Grant 1992, and also for examples of regional Deverel Rimbury coarsewares).

Pottery of this type was principally recovered from the Area 7 barrow cemetery, represented by the frequently rather fragmentary plough damaged or redeposited (via barrow mound erosion) remains of a number of primary and secondary cremation vessels; all are coarseware types similar to those described above, dating to c. 1500–1000 B.C. The regional dating applied so far is primarily typological, derived from a study of ceramic types and associated Late Bronze Age metalwork. Despite the limitations of the latter some significant linkages have been made which are added to, and under pinned by, the Area 7 cremation vessels. The key aspects are summarised below:

a. A cordoned urn from an external secondary cremation burial can be broadly stylistically linked to Bridge Barrow 2, Cremation 8 and thus to the calibrated Carbon 14 date of 1380–930 B.C. for Cremation 7 from the same barrow (Macpherson Grant 1980, 1992).

b. The same Area 7 vessel and fragments of others from Barrow VII are all internally linked by similar form and decoration. These are in turn stylistically linked to Deverel Rimbury occupation ceramics from Reculver, Netherhale Farm, Thanet and South Dumpton Downs, Thanet.

c. The material from Netherhale Farm included a stamp decorated fineware sherd which has been tentatively but reasonably linked to the stamp decorated fineware Birchinghton Hoard bowl, which contained a bronze hoard dated to c. 1300–1000 B.C. Recent comparative research (O. Perkins, pers. comm.) indicates that there is a considerable degree of overlap between this hoard and the St Mildred’s Bay (Westgate) and South Dumpton bronze hoards, with axes from all three produced in the same or virtually identical moulds. All these have been dated to c. 1300–1000 B.C. on typological grounds and this chronological linkage is further strengthened by the likely production evidence.

d. The ditch of the South Dumpton Downs enclosure (Perkins et al., forthcoming) produced a bronze quoit headed pin (again typologically dated to c. 1300–1000 B.C.) and a small quantity of contemporary ceramics.

e. The pottery from the South Dumpton enclosure (though not identical) is stylistically linked to the material from Reculver, Netherhale Farm, Monkton Area 7 and, indirectly, to the Bridge cremation vessels.

The above points represent a significant contribution to regional studies. Even though the full academic benefit of this rather tightly linked data set has still to be assessed, the primary implication is that the chronological emphasis for all this material is c. 1300–1000 B.C., though the Carbon 14 and typological evidence from Bridge could suggest that some elements of the Area 7 assemblage might be better placed between c. 1400–1200 B.C. The Monkton cemetery is likely to have come out of use between c. 1200–1000 B.C.

The Area 3 Cornish Treviser Ware jar

Excavation of the primary ditch sits on the eastern side of Barrow X uncovered the compactly distributed remains of an imported storage jar or cooking pot, its large and small sherds virtually unworn and in excellent condition. Approximately 75 per cent of the vessel was present. Originally, the vessel was almost immediately sealed by
chalk, weathering from the ditch sides and the settling of the freshly constructed barrow mound. Mid upper fills of the ditch and a heavily truncated, possibly secondary, cremation just inside the enclosing ring ditch, produced fragments of Late Bronze Age Deverel Rimbury type cremation urns. Again, an unmodified c. 1500–1000 B.C. date can be applied to the latter. The imported jar is contemporary with the construction of the barrow and can be similarly dated.

This is a truly exceptional find, made during a stimulating period of regional research. There is no doubt as to its origin; its competent well made form, deep inner rim bevel, boldly incised herring bone decoration and traces of applied internal basal strips are well paralleled amongst the pottery from the Trevisker Round settlement at St Eval, northern Cornwall (ApSimon and Greenfield 1972). Its fabric is totally atypical of local products, the hard fired compact ware containing fairly profuse grits of angular black stone. The fabric has still to receive thin section analysis but these grits are likely to be derived from gabbroic rocks in the Lizard peninsula and a common ingredient in Trevisker pottery (ibid., 341).

Trevisker ware products were widely distributed throughout the south west and the Scilly Isles. The original 1972 article by ApSimon and Greenfield published a map of Trevisker ware find spots, principally in the south west but spreading eastwards along the coast as far as the Isle of Wight. In addition they refer to a Trevisker jar tempered with gabbroic grits from Hardelot, Pas de Calais, northern France (ibid., 356). Though the present Monkton find spot is technically inland, its location is only a short distance upslope from the original shoreline of the Wantsum seaway. All these locations indicate distribution along probably well travelled trade routes and it is very tempting to see the Monkton jar arriving at a sheltered southern Thanet anchorage on a boat (perhaps similar to the Dover boat), possibly carrying a cargo of scrap bronze or tin ingots.

Excavation of the Bronze Age levels at Trevisker Round produced one Carbon 14 date, which was calibrated to 1490–1310 B.C. This is well within the broad dating suggested for eastern Kent’s Deverel Rimbury ceramic phase (c. 1500–1000 B.C.) and close to the hoard associated lower end date indicated for the later phases of this tradition (c. 1300–1000 B.C.). A useful contribution will be supplied by the radiocarbon analysis of samples of ‘cooking soot’ taken from the exterior of the Monkton jar. It may be tempting fate, but some elements of the associated Barrow X Deverel Rimbury material initially suggest a date between c. 1400–1200 B.C. It would be exceptionally convenient if the scientific date returned fell within this bracket!

It is undeniable that this jar is an unusual find, and its presence begs many questions. Was it a container for tradeable perishables or other, non organic materials. If so what might these have been? Was it no more than an on board storage jar for food supplies during the boat’s journey from the south west? It was clearly used for cooking at some stage. Were its soot stains acquired at landing places during the coastal journey or were they acquired once the jar arrived in Thanet? Some of these questions are unanswerable, but sherds from the vessel are to be submitted for residue analysis and a clue may emerge.

It is also difficult to explain its unusual context. Most of the sherds were clustered in a flat heap at the base of the ditch, with a few scattered relatively closely to one side. They lay on top of a thin seam of primary silt and chalk rubble, rainwashed, windblown or gravity led material that gathers within a few days or weeks of a ditch being dug. This means the jar arrived in its position shortly after the primary construction of the barrow. The freshness of the pot, with a total absence of surface wear means that it was exposed to the elements for no more than a few weeks, perhaps a month or two at most, before it was buried (one assumes) by chalk rubble from the settling burial mound. However there are some odd aspects. Most of the base and part of the lower body is missing, and there were no traces of an accompanying cremation.
One interpretation suggested by the position of this pot is that it was a late burial only superficially buried within the freshly constructed mound and that as the mound settled, the jar became exposed and tumbled, spilling any ashes (or a leather or cloth bag containing them). However this scenario would require the collapse of the jar into the ditch to be accompanied by a significant fall of chalk rubble both under as well as over it, and the record shows that this is definitely not the case. Alternatively either the jar toppled from an exposed (unburied) position high on the mound, cracked, spilt its contents and tumbled into the ditch, or it was placed at the lip of the ditch possibly with perishable contents and was tumbled into the ditch by the thrust of the settling mound behind it. Not implausible, but in the latter case one would expect a much more compact heap of sherds, not some scattered over 4–5 ft away. Further, the other alternative requires that the spread of sherds could only happen if the pot tumbled from a steeply inclined mound (and if so, the other alternative requires that the base is not present). The diameter of the ditch and its depth suggests that this was unlikely.

Another explanation proffered is that the jar was accidentally dropped prior to burial, but then (if a cremation urn) where are the traces of its contents? This is unlikely since all the evidence indicates that any primary burials had already been placed, sealed and covered by chalk excavated from the ditch, before the event represented by the jar took place.

Most of the above are valid surmises, but none quite fit. So what is the nature of this event, and why this particular pot anyway? If redeposition from a mound position is excluded, we are left (since parts of the jar are missing) with deliberate breakage, deliberate partial collection and deliberate discard (rather than careful placement). Again, as with the earlier assemblages of incomplete Beakers from Area 9, breaking, incompleteness and disposal into the ground are the likely intentions. Here again, the recorded act may represent the end product of wake ceremonies, but if this act was a regular part of contemporary burial ceremony, why have no other similar primary ditch deposits been recorded? Perhaps this is a function of our current excavation strategies.

Why is Barrow X not with the other broadly contemporary Area 7 cluster? Does its isolation represent a separate community or family burial ground, and if the latter, perhaps the boat was local and the south western pot was placed by a seaman relative of the dead person buried in the barrow? Maybe he arrived too late to join the traditional ceremonies and wanted to offer his grief with a pot exchanged in a south western village. But why this particular pot? It would be wrong to assume that because contemporary local pottery was comparatively crude and simple that there was no appreciation of the art of potting or of quality work. This vessel was well made, well fired, boldly decorated and well finished, certainly a suitable vehicle for an expression of familial linkage. Besides, it was different, of ‘foreign’ man’s making, from far away, and imbued with something a little ‘other’.

One final curiosity. Competent potters are skilled Craftsmen and skilled craftsmen are automatically economic in actions and usage of materials. If a potter feels that the base of the pot he is making is too thin, there is nothing simpler than to quickly strengthen it with an externally or internally applied pad of extra clay. So why does the Monkton pot and several of those from Treviker Round have stripes of clay applied across base interiors? Not only does it mean reaching down into the pot to apply them, but each are carefully and evenly moulded. There appears to be very little published comment about this seemingly impractical phenomenon other than that they represent base strengtheners (ApSimon 1953, 41). But do they? Is there an alternative, possibly symbolic, explanation?

2 A Tudor kiln site? A Postscript on the pottery from Kirby’s Lane

John Cotter

Last year’s Canterbury’s Archaeology carried a short report on the results of evaluation trenching carried out between Kirby’s Lane and North Lane around the site of the former East Kent Road Car Depot. A thorough examination of the medieval pottery from the site has since taken place which, together with some initial documentary research, has led to the interesting conclusion that a small pottery making community may have existed in the area in the late medieval or early post medieval period. The material evidence for this is, admittedly, rather scanty and not visually very impressive but it seems worthwhile to record its existence here and to hope that more evidence will come to light at some future date.

Pottery from the site includes a few sherds of flint tempered Iron Age pottery, some Roman pottery and a larger collection of medieval and later wares. The medieval pottery suggests occupation of the North Lane frontage from c. 1175–1200. Among the later pottery recovered from pits on the site dating to c. 1490–1550 were six sherds from over fired ‘waster’ or reject vessels. The finding of a single waster in domestic contexts such as this would be unusual but could be dismissed on the grounds that it had been present in soil or rubbish brought from outside and dumped on the site. The discovery of half a dozen wasters from such a small site however is definitely significant and strongly hints at nearby pottery production during the early Tudor period.

Two late medieval or early post medieval fabrics are present as wasters. One is a pale grey sandy coarseware with an oxidised (orange) outer surface and splashes of clear greenish glaze (corresponding to Fabric LM1/2 in the Canterbury series). The vessel represented is probably a large beer brewing jar (cistern) or a jug bearing a distinct scar from the rim of a glazed vessel stacked upon it in the kiln. The other fabric is a finer sandy ware (probably Fabric LM2) over fired to a dark grey throughout and with vertical or diagonal lines of white (slip) painted decoration under a lustrous dark grey green or black glaze. These last sherds, one of which is intensely warped, probably come from jugs.

For around four centuries (c. 1150 to 1550) the vast bulk of Canterbury’s medieval pottery was supplied by the Tyler Hill kilns only a mile or two to the north of the town. Around 1500 or slightly earlier a number of transitional pottery types appear on the local scene which bridge the gap between coarse Tyler Hill products and the finer wares produced during the post medieval period at other (mostly unlocated) kiln sites. The Kirby’s Lane wasters are of this transitional type and are therefore highly significant in that they imply either that Tyler Hill potters moved down to Canterbury’s West Gate/St Dunstan’s suburb after c. 1500 or that a smaller parallel industry had existed in this area for some time previously. Vessels with white painted decoration, as at Kirby’s Lane, have not previously been noted in these fabrics before now and perhaps such decoration was a short lived experiment.

The area immediately outside the city’s West Gate has a long history as an industrial suburb. There were Roman tile and pottery kilns in St Dunstan’s and a Roman pottery kiln was found in 1978 at 16–22 North Lane less than a hundred yards east of the recent trenching. Just inside the West Gate a twelfth century pottery kiln was found at Pound Lane in 1866. The extensive brickearth deposits in this suburb are ideally suited to tile/pottery production and the industry detected at Kirby’s Lane would appear simply to be the post medieval continuation of this activity.

Scattered documentary references also point to later pottery production in this area. It is hoped to present this evidence in full in a more detailed study, but for the moment a few key references should be sufficient to support these claims. Perhaps most telling of all is the original name of Kirby’s Lane itself. The registers of the parish of Holy Cross West Gate first record the name of this lane as ‘Crockers Lane’ in 1485 and it was variously

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known as this or 'Crockery Lane' until the present name replaced it c. 1830. The same registers and other sources including the Canterbury Marriage Licences testify that potting families, notably the Palmer family, were active in the parishes of Holy Cross and St Dunstan's in the seventeenth century. A 'French potter' is referred to in the Overseer's Accounts of Holy Cross dated 1698–1707 and the area is known to have been home to a high number of Walloon or French Huguenot refugees at the end of the seventeenth century.

The Kirby's Lane pottery wasters, though few in number, are the first tangible archaeological evidence to bear out the documentary references. Recently (1995) very extensive redevelopment of the area at the northern end of Kirby's Lane (Station Road West) has revealed extensive deposits of brick-earth but no traces of pottery production. This would suggest that if any other trace of the pottery industry has survived then it should be looked for in the area south and west of the recent trenching, an area which will be closely monitored for such evidence in the future.

3 Witch bottle? What pub? A note on two unusual stoneware pots from Northgate

John Cotter

Over the last year or so countless thousands of broken pots of all shapes, sizes and dates have found their way to the pottery department from the Trust's excavations in Canterbury and further afield. These have all been dutifully identified and catalogued and selected items illustrated for the various excavation reports currently in preparation.

Although the date, source, original shape and likely function of the pots can usually be inferred, it is only in very special cases that we are allowed a glimpse of something more intimate about the owner of the vessel and his or her daily concerns. Two such pots are the subject of this note. It is hoped that a more detailed description of these and their archaeological contexts will appear alongside the final excavation reports, but as publication of these could be more than a year or two away the interest value of the pots themselves warrants a short interim note.

Both pots are from the Northgate area of Canterbury and occur in grey post medieval stoneware fabrics with mottled brown salt glaze.

The small complete jug or bottle from the Northgate car park (p. 2) is the older of the two vessels (see photograph) and probably dates to around c. 1650. It is of Frechen stoneware made near Cologne in Germany. Bottles of this shape, generally known as 'Bellarmines' were imported in their millions during the sixteenth and seventeenth centuries until production of English stoneware bottles from the 1670s gradually displaced them. However the Northgate bottle is unusual both for its small size (only 121 mm. high as opposed to the usual 220–300 mm.), its unusually plain rim and the complete absence of any decoration whatsoever. It is quite unusual for an imported stoneware bottle of this shape not to have the usual grimacing 'Bellarmine' mask applied to the neck, and usually a circular medallion applied to the body.

Another notable point is that the bottle is a kiln 'second', a faulty product deformed and distorted by the weight of other vessels in the kiln stack and badly scarred in places by contact with these. The rim opposite the handle is severely flawed and the oval mouth would have made sealing a problem unless a rag stopper was used. It is difficult to imagine such a small and faulty vessel being of much practical use (e.g. for holding wine, etc) and the circumstances of its disposal could suggest that it was never purchased with a normal domestic function in mind.

When cleaned, the bottle was found to contain eight corroded iron nails, at least three of which had been deliberately bent, together with a broken brass pin. Bent, broken or 'killed' nails and pins, together sometimes with human hair, fingernail clippings, heart shaped pieces of textile and even human urine are all typical of the contents of seventeenth- and eighteenth century 'Witch Bottles' as was the use of Bellarmine bottles normally stoppered with rag or cork. In his study of 'Witch Bottles' Ralph Merrifield (1987) has shown that their use was a form of sympathetic magic usually the antidote against the evil spells of witches (real or imagined). Breaking or 'killing' the nails and pins would hopefully kill the witch's power (and hopefully the witch). This was followed by burial of the bottle under the hearth or threshold of the victim, though some bottles have been found in water courses. This was a fairly widespread superstitious practice particularly in the second half of the seventeenth century.

Unfortunately, the Northgate bottle does not come from a secure archaeological context as it was brought to light by a mechanical excavator during an evaluation exercise. It can be established, however, that it did not come from the frontage (i.e. the threshold) of the post medieval house and the Victorian building that succeeded it, but rather it came from the central or rear area of the building and close to the boundary wall. It was thus more likely to have been buried under a hearth (removed in the Victorian period) or under a floor in one of the back rooms of the house.

Most south eastern counties have produced one or two dozen examples of witch bottles (there are lots in East Anglia). Merrifield illustrated a small witch bottle from London which is exactly like our example (Merrifield 1987, pl. 54) and which he dates to c. 1650. As far as can be ascertained the Northgate car park witch bottle is the only certain example reported from the city of Canterbury.

An inverted witch bottle was found beneath a hearth at Hoath near Herne Bay and another from a depth of 5 feet beneath the Thames mud at Gravesend was found to contain human hair, urine and a variety of bent pins and other oddments (Merrifield 1987, 174 and 163 respectively). Although there must be other unreported examples from Kent the number of witch bottles for the county is still considerably less than those counties north of the Thames. Could it be that Kentish folk were less superstitious than their northern neighbours or did their superstitious customs leave less tangible evidence than witch bottles? Seventeenth century Kent did not witness anything like the spectacular witch trials that took place in Essex and East Anglia, so it may perhaps be that the lack of witch bottles from this county reflects a more sceptical attitude towards the power of witchcraft and the efficacy of 'hocus pocus' remedies.

The second pot is from the former Duck Lane car park, St Radigund's, where a sequence of late medieval and post medieval buildings was recently excavated (Canterbury's Archaeology 1993–94, 10–13). Unfortunately this vessel, a London stoneware tankard, is incomplete but the six joining sherds recovered (from directly below the tarmac) are all fresh and fit together allowing the profile to be reconstructed. The tankard is 126 mm. high and has a rim diameter of 88–90 mm. Like most London stoneware tankards it has a pale grey fabric covered with a transparent salt glaze.
and the upper half has been dipped in a light brown iron wash. The floor of the base and most of the handle are missing and the rim is quite chipped (probably post disposal) but apart from this the vessel is in good condition and could not have been very old when it was broken or discarded.

One of the nice things about eighteenth century London tankards is that they sometimes bear their owner’s name and the date. Fortunately on this tankard the entire inscription has survived. This is in a neat cursive (free hand) style and gives the owner’s name as ‘Jno [John] Devine’ and the date 1754. The inscription is arranged around an applied decorative plaque bearing a scene of ships entering a harbour and, although it bears no legend, the view on the plaque is almost certainly copied from a contemporary engraving showing Admiral Vernon’s heroic capture of Portobello in 1739. Admiral Vernon was one of the most celebrated figures in British naval history. His boast was that with only six ships of the line he could capture the troublesome Spanish port of Portobello, on the Isthmus of Darien (South America). On November 21st 1739 Vernon lived up to his word and took Portobello and in March the following year he also took the port of Chagres (Panama). In England Vernon and his exploits became an instant legend; medals were struck and commemorative delftware dishes and punchbowls were made in his honour (Ray 1968, 124–5). One such commemorative Portobello medal was found by the Trust in Canterbury’s Westgate Tower in 1988 (Canterbury’s Archaeology 1987–88, 15). It is a testimony to Vernon’s fame that images of his naval victories were still being depicted on pottery made fifteen years after the events they commemorate.

Apart from just being an attractive object, the Duck Lane tankard is important for at least two other reasons. While the Portobello victory was commemorated on vessels in English delftware and a few Staffordshire white stoneware teapots, according to Robin Hildyard of the Victoria & Albert Museum, the Duck Lane tankard is, so far, only the third known example of this event being commemorated on a London stoneware product. The other two vessels, one a puzzle jug and the other a tankard, have oval rather than square plaques and both are dated 1741. In the Hanley Museum, Stoke on Trent, is preserved one of the original plaster block moulds for making white stoneware teapots with Admiral Vernon shown on one side and Portobello and Chagres on the other. Although the moulded details on the latter are both larger and more detailed, Mr Hildyard is fairly certain that the Duck Lane plaque must have been copied by a London potter who had seen one of the Staffordshire teapots, even if he failed to understand all the details (e.g. the confused gun batteries at the harbour entrance). Though a copy, the design on the Duck Lane tankard is the only example of its type to have survived. This fact makes the tankard unique and the influence from contemporary Staffordshire wares also make it an object of considerable art historical interest.

To the left of the handle the tankard carries an obligatory crowned ‘WR’ excise mark in a sunken oval stamp. The William III ‘WR’ mark was introduced in 1700 and was still sometimes used as late as 1800 and so is not much use for dating. Although excise marks can sometimes be used to assign London tankards to individual stoneware factories along the Thames, the mark on this tankard is just a typical mid eighteenth century mark and cannot be ascribed to any particular factory (Oswald et al. 1982, fig. III).

The other points of interest about the tankard are of more local significance. Mr Hildyard has suggested that the John Devine named on the tankard was probably the landlord of a local tavern and that the ‘Portobello’ plaque must be a tavern sign for either the ‘Portobello’ or ‘Admiral Vernon’ tavern. Records show that a certain John Devine, a woolcomber of Holy Cross parish, was admitted (by marriage) as a freeman of the City of Canterbury in 1754. The tally with the date on the tankard can hardly be mere coincidence. Freemanship granted the right to trade in the city and it appears likely that Devine needed to obtain this before changing his trade in 1754 from woolcomber to tavern landlord. The only problem, however, is that (as far as we have been able to determine) there is no record of a tavern in eighteenth century Canterbury called the ‘Portobello’ or ‘Vernon’. There was however a tavern in Walling Street called the ‘Ship and Sailor’ which is mentioned in the Kentish Post in 1753 — could this be our tavern? We do not know (at present) if any of the houses excavated at Duck Lane ever served as a tavern. Certainly it remains a possibility. Taverns did change name from time to time or ceased to be taverns altogether. Hopefully further documentary research will tell us where Devine’s tavern stood or even whether it existed at all.

Duck Lane: London Stoneware Tankard, 1754. Scale 1:2. Top left: stamp at 1:1.
III Human bone studies

Since the publication of last year’s annual report the Trust has been involved with a number of major projects which have produced human remains. At Buckland, Dover, a major Anglo-Saxon cemetery was excavated, whilst an important collection of inhumations and cremations, ranging in date from Bronze Age to the Roman period, were discovered at Monkton, Thanet. In addition, we have been called upon to excavate and record human remains found unexpectedly during building work. The funding provided by the Bioanthropology Foundation permits us to continue detailed research on the huge corpus of material from St Gregory’s, Northgate, and in addition a wide range of short academic papers on human bone studies have been published (Anderson 1995a–d; Anderson & Andrews 1995; Anderson & Carter 1995a–d; Anderson & Fell 1995; Wakely et al. 1995).

1 Buckland, Dover
Trevor Anderson

During the Summer of 1994, 243 graves, dating to the early Anglo Saxon period, were discovered at Buckland (see pp. 27–31). Almost 70 per cent of the recovered skeletons are over half complete, with sixteen individuals practically entire. The overall standard of bone preservation, however, is poor. The majority (c. 85 per cent) of skeletons are represented by eroded, and fragmented bones. The articular surfaces of the long bones; the ribs; the vertebræ and the hands and feet were particularly prone to erosion. In comparison, the dentition is well preserved and teeth have been recovered from 168 individuals.

In twenty eight graves no bone was recovered and, judging by their size, about a third of these originally contained children. Fourteen graves contained two skeletons and three individuals had been buried in Grave 249. Thus, the number of skeletons available for examination is 231. Preliminary examination demonstrates that the assemblage contains men and women of all ages, although young adults appear to outnumber older individuals. Also, children ranging in age from newborn to juvenile were discovered.

Two individuals, both adult males, displayed evidence of cranial weapon injury (Anderson 1995b). In one case (SK 348), the sharp, clean cut, edges of the wound suggest that the lesion was inflicted by a sword. There is no evidence of healing and the injury was probably fatal. The absent portion of the skull was not present; no doubt it was detached at the site of the injury.

In SK 303b, a sinuous cleft (78 mm. long; with a width of 6–10 mm.) is present on the cranial vault. The depressed nature of the surrounding bone and peripheral microfracture suggests that the injury was caused by a heavier weapon, possibly a small axe. There are signs of bone remodelling, which indicates that the individual survived the trauma.

It would be unusual for the high status weapons found in the cemetery to be used in a minor brawl (Hawkes 1990). Rather, the evidence suggests that the victims were people injured or killed in a local skirmish (there is no documentary evidence for a major battle at Dover in the sixth century). Neither skeleton was buried with weapons.

2 Monkton, Thanet
Trevor Anderson

Human bones were recovered from ten Bronze Age graves. The size of the sample and the poor bone preservation limit the value of the material for analysis. However, in all but two graves, elements of the skull and teeth are present. As such, despite the poor preservation, an accurate age and sex estimation will be possible for the majority of the burials.

In addition to standard of adult oral health, the dentition will hopefully provide evidence for childhood disease (by studying enamel hypoplasia) and possible familial groupings (congenital abnormalities). The paucity of published prehistoric burials from Kent greatly enhances the value and importance of our assemblage. Indeed, the material from Monkton exceeds the total of published Bronze Age burials from the whole of Kent (Mays & Anderson 1994).

Cremated human bone was recovered from five Bronze Age graves. In each case the bones had been placed in a pottery vessel. However, all of these were fragmentary and the majority have suffered from plough damage. The size of the sample and the incomplete nature of the cremations limit the value of the material for detailed analysis. However, only about fifty Bronze Age cremations (for the most part unpublished) are known to exist in the south of England (Mays & Anderson 1994).

A single Roman inhumation, that of a foetus or neonate, was discovered in the north east corner of a building in Area 4. Examination of the remains in situ showed that fragmented skull, ribs and limb bones were present. The latter were not fully articulated and apparently had been disturbed post mortem. All the grave fill soil was collected for sieving. The location of the burial, outside a formal cemetery, and the age of skeleton mean that the bones deserve detailed examination. It may prove possible to determine if we are dealing with a foetus or still born; infanticide or a perinatal death.

Human bones were recovered from fifteen of the Anglo Saxon graves. As with the prehistoric remains, the overall standard of preservation is poor. However, in all but one grave, elements of the...
A medieval hand injury

A male c. 50–60 years old (SK 519) presented with a rather unusual fracture of the right hand. The head of the little finger (the fifth metacarpal) has been pulled off (avulsed) by a strongly contracting muscle and subsequently fused to the shaft of the bone. The mid shaft of the ring finger (the fourth metacarpal) presents with a bone spur, which is probably related to the trauma of the adjacent bone.

SK 519: Avulsion and subsequent fusion of the head of the fifth metacarpal (left). A normal fifth metacarpal on the right.

A medieval tumour

An adult male (SK 633) presented with swelling and angulation of the left fifth metacarpal. Indeed, a faint fracture line can be demonstrated internally. In addition, an area of increased transparency on X ray with expansion of the bone and thinning of the cortex is apparent. Such an appearance, at this
fuse when growth is complete are called ‘sutures’. An adult female (SK 513) displays an additional suture located on the rear of the right parietal bone. The anomalous suture has divided the parietal bone into two unequal parts. Complete bipartition of the parietal bone is extremely rare; examination of 25,000 radiographs revealed only three cases (Shapiro 1972). Due to the rarity of the condition, no inheritance studies have been reported. The cause is not certain, though it has been suggested that mechanical strain and excess pressure may play an important role (Shapiro 1972).

**Cleft neural arch and spinous process aplasia**

An adult female (SK 505) displays a congenital spinal anomaly. The twelfth thoracic vertebra presents with a mid line division of its arch (Plate 9). In addition, the spinous process of the adjacent bone (the eleventh thoracic vertebra) is congenitally absent. Division or clefting of the neural arch, (which forms the tunnel for the spinal chord), so called spina bifida, is most frequently found in the sacrum and also at the atlas. Examples at other sites are uncommon in both modern and archaeological samples. Absence of the spinous process of the eleventh thoracic vertebra has rarely been reported (Willis 1923). Apparently, only one other case of lower thoracic neural arch cleft has been published in dry bone material (Barnes 1994, fig 3.42). The presented condition would have been asymptomatic.

**A bipartite parietal bone**

An adult skull is formed by the fusion of various flat bones; the ‘parietal’ bones form the sides and roof of the skull. The areas where the various bones fuse when growth is complete are called ‘sutures’. An adult female (SK 513) displays an additional suture located on the rear of the right parietal bone. The anomalous suture has divided the parietal bone into two unequal parts. Complete bipartition of the parietal bone is extremely rare; examination of 25,000 radiographs revealed only three cases (Shapiro 1972). Due to the rarity of the condition, no inheritance studies have been reported. The cause is not certain, though it has been suggested that mechanical strain and excess pressure may play an important role (Shapiro 1972).

**Paracondylar process**

A young adult female, (SK 188), displays a rare anatomical variant, a paracondylar process. The maximum height is 9 mm.; the tip of the process, presents as an ovoid sloping articular surface. During life the overgrowth would have been in contact with the uppermost cervical vertebra (the atlas). The variant has rarely been reported in modern clinical practise. The rarity of reported archaeological cases suggests that manifestation was equally rare in earlier populations.

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Excavated from the soil filled crypt. Radiography of SK 21, a 6–8 year old buried within the church, confirms absence of the left mandibular second molar. The right side was damaged post mortem and could not be assessed.

Third molars, the wisdom teeth, are frequently absent, but non development of second molars has rarely been reported. In a survey of 6,000 British patients requiring orthodontic treatment only two presented with congenital absence of a second permanent molar, an incidence of 0.033 per cent (Eagland 1970). As far as I am aware this is only the second report of congenital absence of this tooth in archaeological material. The previous case involves the skeleton of a medieval child c. 10 years old recovered during excavations at Elcho Nunnery, Perth. The radiograph confirms the absence of a crypt for the second right mandibular molar (Lunt 1975).