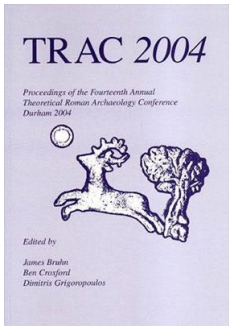

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Reconstructing syntheses in Romano-British cremation

Jake Weekes

This paper focuses on archaeological reconstructions of Romano-British cremation, re-examining the syntheses of evidence, inference and terminology that inform our current understandings of this form of ritual action. In particular, I will look at two main areas, each with their own specific discourse, namely 'the cremation process' (in relation to 'pyre technology'), and '*bustum* burials'.

'The cremation process'

Much important work has been carried out comparing the results of archaeological experiments and ethnographic material, as well as literary, epigraphic and archaeological evidence, in an attempt to reconstruct 'pyre technologies' (Wells 1960; McKinley 1989; 1994a; 1994b; 1994c; 1997; 2000a, Pearce 1999; 2002). Several new points can be made, however, in relation to such syntheses of evidence and inference. In particular, the terms 'cremation process' and 'pyre technology', while much used in this area and useful to a point, seem to have objectified the process and to have placed an implicit emphasis on the technical aspects of the pyre itself, rather than the work of human 'technicians'.

In observing 'modern cremations' we are evidently dealing with a highly mechanised (recently further automated), and therefore more indirect activity, obviously informed by modern western attitudes towards both death and the disposal of human remains (Parker-Pearson 1999: 41–42). Cremator operators seem to be removed from their 'charge' (the corpse to be processed) physically, technically and psychologically (this would also apply to any scientific observers present). Thus it is perhaps not surprising that theoretical frameworks largely based on evidence from such sources have tended to treat the process as paramount, seeming to play down the part of the operator.

The act of cremation required to produce the often successfully mineralised bone that we tend to find in archaeological deposits can actually be seen as comprising the accomplishment of two main goals (partly synchronic, but mainly diachronic). First the removal through burning of the organic and water components of the body is required so that sufficient oxygen and heat can be applied directly to the bone. Only then can the organic and water components of the bone be burnt off and driven out respectively, and (at least largely) uninhibited modification of crystalline structures be achieved (see Shipman *et al.* 1984; McKinley 1994b: 77; Mays 2000: 207).

As Wells and McKinley have each pointed out, there is a varied distribution of fats and soft tissues in each body, so some parts will burn more quickly (although not necessarily more effectively) than others (Wells 1960, 34, 35; McKinley 1989, 65, 66; 1994b, 72–75); in particular it would seem that the lower legs and skull will tend to finish burning quicker than other parts as a direct result of there being less soft tissue to dehydrate and combust, although 'complete combustion of the brain may prove somewhat problematic' (McKinley 1994b, 75). In the latter case the opening of the skull vault is required for the brain to be fully combusted, a

matter largely dependent, for McKinley, on degrees of fusion of cranial sutures (*ibid*; or else, significantly, on human intervention in the process, see below).

In fact, automated cremators now constitute a computerised and pre-set response to this problem (with programmes for 'light', 'standard' and 'heavy' cadavers), provided that the coffin is 'charged into' the cremator in the correct fashion. In three of the cremations that I observed (March 2004) a jet of air, directed at the right sphenoid and temporal areas, meant that the skull was in each case sufficiently agitated for the brain to be exposed (or at least accessed) and combusted. In this way cranial sutures looked to be opened as a result of internal pressure, as much as anything else. Interestingly however, each skull responded differently to this treatment, with one of the crania remaining intact far longer than the others, the brain matter in this case eventually erupting from the disturbed temporal region.

Thus variability *between* different corpses is also a significant factor that the cremator operator or pyre technician, or automated cremator needs to be able to deal with. Because different bodies tend to vary in terms of the quantity, quality and location of the fat deposits required for cremation, general trends can be postulated: 'females will cremate more easily than males because of their slightly heavier and different fat deposits; the very old and the immature are more difficult to cremate as they usually carry less fat' (McKinley 1994b: 72; see also Wells 1960: 35); techniques to respond to and overcome such variables are therefore required of the cremator, whatever technology is being used.

Fascinatingly, it would seem that no completely predictive model for how particular bodies burn can yet be established. For instance, McKinley recorded one 'unexplained' case, 'charge 5a', 'which was, in size, age and sex, equivalent to charge '5b' but, for some unknown reason, proved very difficult to cremate. Whereas '5b' needed no gas heat [i.e. furnace temperature was sufficient that 'firing' was unnecessary], '5a had continuous heating throughout the process but still proved most difficult' (McKinley 1994b: 74, 72–74). Even in the latter day automated cremators, a manual override is available and still necessary on occasion. The cremation of a particular 'charge' weighing more than '35 stone' required such intervention on the part of the operator interviewed by myself (Darren Caldicott), who extended the duration of the firing in question to nearly three hours, applying a lower and more steady heat; the same informant mentioned that the embalming of corpses often necessitates considerable intervention in the automated process.

It is surely in dealing with such variability that the specialised skill of the operator or the pyre technician is so important. But in what way, specifically, must they become involved in the process (or indeed control it) in order to react to, and therefore overcome, the problems presented by the varied nature of the human body? The answer to this question may lie in a further paradox of the body, arguably not clearly solved by either Wells or McKinley. This important ambiguity is inherent in the fact that while certain parts of the body will have more fat which aid combustion and dehydration, these same parts are also likely to have more soft tissue in general, which will *impede combustion of the bone*: '(I)f oxygen reaching the bone is impeded by the presence of soft tissue, the bone will not burn' (McKinley 1994b: 75). Moreover, some bones, having a higher organic content, will intrinsically take longer to burn than others (*ibid*).

The operator or pyre technician (or cremator designer) must know how to strike and maintain a *balance* between utilising the heat generated by fat ignition in order to remove water and combust non-fatty soft tissue, and concurrent and/or consecutive exposure of the bone to sufficient oxygen as well as heat. Cremator operators and designers, and pyre

technicians, need to control conditions through actively modifying temperature and particular application of the heat source *and through deliberate manipulation of the human remains*.

As has been stated, the role of the operator in largely mechanised (and indeed recently automated) cremation would seem to be as a result relatively reduced, but this role should nonetheless be considered as much more than merely a 'further variable' (McKinley 1994b: 74). In the 1990s, operators not only controlled furnace temperatures, but also airflow around the chamber, to ensure that heat was applied to all parts of the body (especially where it was needed most at any given point in the cremation), and were on hand to '*provide turbulence to aid the breakdown of remains*' (*ibid*: 72, my italics). This intervention, albeit indirect (i.e. using air jets as a tool), manipulating those parts of the body that require more than just heat, was surely an important part of the work at that time; in fact McKinley stated that the 'skill of the operator, using the various air flows, will ensure complete combustion' (*ibid*). In the automated cremators now in use, control of airflow has largely passed to the computer settings and built in functions, although, as has been stated, manual override is still an option (Darren Caldicott, pers. comm.).

The operator is responsible for further processing of the remains, chiefly through *agitation* ('raking down' also results in destruction of the skull vault [McKinley 1994b: 74], see above). It is this agitation that causes the bone to fragment along fissures produced through dehydration: '(T)he bone is rendered brittle, especially whilst hot, when any movement will result in increased fragmentation along the dehydration fissures' (McKinley 1994c: 339). The 'modern' sorting and collection of coffin nails etc from the material causes further fragmentation, and is an interesting inversion of the picking out of bone from a water-quenched pyre (see below). Finally, granulation of remains takes place in the 'Cremulator' (I am informed that before mechanisation this procedure was also manual, using 'a brick'; Darren Caldicott, pers. comm.).

Manipulation and agitation of the human remains, then, formerly the province of the cremator operator throughout, but latterly only in the raking down, sorting and other final stages, is chiefly responsible for fragmentation of the burnt bone in mechanised crematoria.

'Pyre Technology'

A 'common sense' reconstruction of the difficulties attendant on pyre cremation shows (not unexpectedly) the requirement for a high degree of involvement on the part of the pyre technician in the firing process, if the work is to be successful. The open pyre obviously demands a far more manual control of conditions (and, as a result, a more intimate experience of cremation?), requiring manipulation and agitation of both fuel *and human remains*. The particular difficulties of pyre cremations are thus especially inherent in the need to use solid fuel (wood, in the main), while at the same time maintaining a clear flow of the oxygen required for combustion (McKinley 1989: 67; 1994b: 79): this in addition to dealing with the problems inherent in the human body outlined above.

Covering the human remains, either with 'pyre goods' or more fuel during cremation, will decrease airflow and increase the level of difficulty. Moreover, build up of fuel ash, premature collapse of the pyre structure, parts of the body falling to less accessible areas of the pyre and being covered by debris, variability of temperature in different areas of the pyre (with the centre more likely to have higher temperatures than the periphery), and even variation in the

weather at the time of cremation (an open firing may take seven or eight hours), affecting degrees of draught available as well as possible inhibitors, such as heavy rain, have all to be taken into account (McKinley 1989: 66–67; 1994b: 78–79).

Bearing in mind such a long list of possible variables, the necessary human element of pyre cremation is thus indicated as 'tending' of the pyre; 'tending' or maintenance of the pyre can simply be defined as the pyre technician's specialist response to the inherent difficulties of open pyre cremation. Thus the work will of necessity involve not only correct timing and placement of additional fuel, but also intervening in order to 'stir up the pyre occasionally, to allow oxygenation and to return any rogue bone or wood, which would result in considerable movement of the bone'; in open pyre cremations in the past, then, 'much fragmentation would have taken place on the pyre (McKinley 1989: 72), with bone being broken

> '… as the pyre collapsed in the later stages of the cremation or if the pyre was tended to any degree, e.g. reinstating bones which had fallen out of the main body of the pyre, or slight stirring late in the process to re-oxygenate the pyre …' (McKinley 1994c: 340).

This description however, by using such careful language, once again rather underplays the degree of human activity in the process; even the word most often used for pyre maintenance activity, 'tending', is loaded with technical and cultural overtones, suggesting a largely supervisory role, a 'careful' mode of action. Perhaps as a result of such attitudes there would seem to be some degree of (culture-centred?) hesitation on the part of researchers as to exactly what form such 'tending' might take, or what degree of 'tending' might be considered acceptable in any given cremation context.

For although considerable and vigorous manual agitation of the pyre, in order to maintain the required relationships between fuel, heat, oxygen and human remains, would seem to be an obvious explanation for much of the fragmentation that characterises archaeological cremated bone deposits, experts have historically avoided giving such activity prominence in the cremation 'process'.

It is important to note with McKinley that with archaeological deposits of cremated bone 'fragment sizes presented in the reports should be regarded as *post-excavation* fragment sizes' (1994c: 339), i.e. that we need to remember the effects not only of the 'pyre technology' (*ibid:* 340), but also of 'burial, excavation and post-excavation treatment' (*ibid*: 342; we should also add disturbance of the deposit and any other post-depositional processes to this list). And yet the examples of apparently largely undisturbed cremated bone deposits cited in support of this argument are surely still fragmented to a degree sufficient to pose questions of the original cremation and/or collection process; for example, does not a 'majority' of fragments being over 30mm, and a maximum of 140mm (*ibid*: 342) still argue for rather profound fragmentation of the skeleton during the original process? (*ibid*: see figures 3 and 4).

A culture specific approach to the definition of 'tending' may well have informed experimental archaeology in this area. McKinley for example citing her own research firing experimental *busta*, reports no clear details as to the types and levels of 'tending' deployed, or the degrees of fragmentation of bone recovered (McKinley 1997: 65–67; 2000: 40). It is interesting to note that McKinley reports 'large quantities of charred soft tissues – noticeably lung, intestine, bowel and spinal longitudinal ligament – in experimental pyre cremations, remaining on the ash bed of the pyre up to eight to nine hours after cremation had commenced…' and that '(E)ven in next day recovery of material, some charred tissues may

remain, particularly ligament' (2000b: 269): all of which strongly suggests that the body on the experimental pyre in question was not rigorously 'tended' to any significant degree.

Gaitzsch and Werner, even though they express surprise that bones from archaeological *busta* show such a high degree of fragmentation (1993: 59–60), mention nothing about the degree of fragmentation of pig bones in their own experimental pyre; moreover, no reference is made to 'tending', other than the need to place more fuel around the more fleshy parts of the pig (*ibid*: 66). Arguably, an easier way of dealing with the problem that such areas of the body pose would have been more vigorous 'tending' or 'stoking' in order to separate the soft tissues from the bone and allow the application and circulation of oxygen and heat.

The expectation of a broadly 'laissez faire' attitude to the pyre seems also to have had implications for the use of ethnographic analogy in cremation studies. Once again McKinley is the authority, concluding that, while 'pyres may have been tended…there is no indication of additional fuel being added once the cremation is underway', and that '(D)eliberate fragmentation of the bone is only documented in some of the Aboriginal cases' (McKinley 1994b: 81).

However, McKinley's assertion is apparently derived purely from an account given by the nineteenth century traveller George Augustus Robinson referring to the practice of first leaving the body to burn on a pyre without tending. Yet Robinson seems simply to state that:

> 'If a corpse was not destroyed by the initial firing the remains were raked into a heap and refired… or bashed so that they were more easily consumed by the pyre' (quoted McKinley 1994b: 80).

Untended pyre cremations are highly unlikely to produce completely mineralised bone; Robinson does not appear to be describing particular or 'rare' cases *per se*, but rather a pattern of human intervention in the firing in order to be sure of its 'completion'. Actually, in his own descriptions of Tasmanian cremation, Robinson shows himself to be a far from squeamish observer of important details:

> ' … (T)hey continued to apply fuel to the pile. The body was now seen on the pile, when one of the of the men, HEEDEEK, got a long pole and broke the head. The brains was in a perfect state, but the skull and flesh was burnt. Others of the men got long poles and poked the body until the whole was consumed to ashes …' (Robinson, 31 July 1832 [ed. Plomley 1966: 637–638]).

We should note the way in which the particular difficulty of the cranium (see above) was overcome in this instance. The cranial fragments frequently analysed for possible indicators of sex or age in archaeological cremation deposits might also be diagnostic of such actions in the past. In fact, Wells long ago noted that a particular type of fracturing of '… the medial part of the petrous temporal bones…' in cremation deposits that he had examined '…does not seem to occur under modern conditions of cremation…' (Wells 1960: 33), a remarkable observation in light of anthropological analogies; further research in this area is undoubtedly called for (see Weekes forthcoming).

Significant new ethnographic comparison is afforded by detailed accounts of Hindu pyre cremations from India and Bali. Robinson's account of 'bashing' of the remains now has more weight. Consider, for example, this description of 'tending' in Banaras on the Ganges in Northern India:

> 'Mid-way through the cremation, the chief mourner performs *kapal kriya,* 'the rite of the skull', by cracking open the cranium of the deceased with a bamboo pole. Often *kapal kriya* in fact consists of a general breaking up of the partly incinerated corpse, and a stoking of the fire so that it is more completely consumed' (Parry 1994: 177).

And such evidence can be further corroborated. I am informed for example that a particular group of chandala ('untouchable') pyre technicians, *Dalits* in the Southern Indian states of Tamil Nadu and bordering areas of Andhrapradesh, are locally called *Kattiyakarans*, meaning 'men with sticks', because of the way in which they actively stoke the pyres, 'bashing' and maintaining the correct position of corpses within pyre structures, etc. (skull and spine are apparently recognised as areas requiring special attention; R. Peniel Jesudason Rufus, pers. comm.).

A Balinese example of latter day pyre technicians in action is clearly recorded by Jane Downes:

> '… one or two men assisted the body to burn more quickly by poking it with long sticks and lifting it up to help the air circulate. The manipulation and fragmentation of the body during burning also serves to aid the spirit to escape the body. When the flesh had burnt off and the bones had been reduced through agitation to fairly small fragments, the pyre was quickly quenched with water brought up in large buckets by the women… the bone fragments were rapidly picked out of the ashes by the women…' (Downes 1999: 23).

It would be hard to find an account that more clearly shows how significant the human action of 'tending' can be for the process of cremation (in this case informing ideas about the metaphysical results of the process as well); the diagnostic qualities of archaeological cremated bone deposits, even if the vicissitudes of deposition, post-deposition, excavation and post-excavation are taken into account (McKinley 1994c), frequently seem to indicate that just such actions were carried out by the modern pyre technician's ancient counterparts.

The quenching of the Balinese pyre, and rapidity with which bone fragments were reportedly picked out of the ashes is also worthy of note; in the same way that small 'unwanted' objects such as coffin pins can be manually removed from bone residues in mechanised crematoria using a hand held magnet which causes further fragmentation of the bone, so it would seem that (at least the well burned/oxidised/white?) bone fragments are readily identifiable and retrievable from the quenched pyre residues in this example. Presumably, this might also apply to the selection of recognisable pyre goods.

Before considering evidence of pyre practice in antiquity, a final note should be made of the much higher degree of 'intimacy' inherent in the tactile experience of pyre cremation than we might see in the use of more mechanised and/or automated technologies. In the latter situation, for example, '(D)iscretion requires that modern cremation incinerates efficiently, without the production of smoke' (McKinley 1994b: 72). On the open pyre, smoke, and with it the smell of burning flesh, is an obvious feature of the nature of the technology and its use; thus adding perfumed oils to a pyre in India not only serves 'to aid the initial combustion' (*ibid*: 78), but also serves to disguise the smell (as do the addition of other spices, the use of sandalwood etc, see Parry 1994).

Further aspects of the experience of pyre cremations would seem to suggest the requirement of a special attitude on the part of pyre technicians to the burning of human remains, perhaps

very different from that which a 'modern western' observer might assume. Quite apart from the action of stoking the pyre, the perceived results of the work on the human remains must be a significant factor.

Some flexing of the limbs is to be expected early in the firing as dehydration affects tendons and muscles (Mckinley 1994b: 74; Mays 2000: 207). Then, as Mays points out, there will sometimes be a swelling of the abdomen resulting from the expansion of gases (Mays 2000: 207). This seems to be something like the effect reported by Gaitzsch and Werner, who noted that the pig carcass they used on their experimental pyre ruptured after about 15 minutes, and the innards became visible (Gaitzsch and Werner 1993: 64). Mays goes on to point out that the skin and muscles of the corpse split (a contraction of skin and muscles through dehydration, perhaps combining with gaseous expansion?), gradually revealing soft tissue and part of the skeleton (Mays 2000: 207). Arguably, this part of the cremation is where the action of actively stoking the pyre and agitation of the remains is of paramount importance. Mckinley's report of viewing un-burnt internal organs and ligaments in her apparently lightly tended experimental pyre is again of relevance (2000b: 269). Finally, my own observations (March 2004) of intact brains rolling from 'opened' crania, and of brain matter erupting from the side of the head during automated cremation might be invoked, although, as we have heard, pyre technicians might have recourse to more 'involved' methods for 'dealing with' brains. Breaking up of the bone to aid combustion is attested by the ethnographic sources.

Above all then, pyre cremation should be seen as a human, physical and conceptual effort as well as technical; the specialised knowledge, skill and experience of 'pyre technicians' should not be underestimated.

'Busta'

Recent work has developed new terminology for the 'types' of pyre in the Roman period that might be might be encountered in the archaeological record, in the shape of '*busta*', 'one-off' pyre sites and '*ustrina*' (Struck 1993; McKinley 2000a; Polfer 2000; Pearce 1999), as well as for the provision of items for consumption with the human remains on the pyre: 'primary gifts' (Pearce 2002: 374) or 'pyre goods' (McKinley 1994a). In all these areas, however, some questions need to be asked of the relationships between evidence and inference commonly used to produce such categories or archaeological classes of feature/find, (and, by implication, 'types' of ritual action). Here I will focus specifically on the '*bustum*' concept.

Identification of '*busta*' often seems to be based on a frequently invoked passage from the Latin writer Festus (though not always quoted/translated either fully or accurately, see Polfer 2000: 30; McKinley 2000a: 38). It has been argued that Festus (or rather an eighth century excerpt from the work of that writer) seems to draw a significant distinction between two general terms referring to types of pyre facility:

> **Bustum** proprie dicitur locus, in quo mortuus est combustus et sepultus, diciturque bustum, quasi bene ustum; ubi vero combustus quis tantummodo, alibi vero est sepultus, is locus ab urendo ustrina vocatur; sed modo busta sepulcra appelamus (*De Verborum Significatu*: 29),

Which can be translated as:

> (A) **Bustum** is properly called a place in which a dead person is burned and buried, and it is called bustum, as being 'well burnt'; where however someone is indeed burned, but is in fact buried elsewhere, that place is called the ustrina from the act of burning; but we only call *busta sepulcra*.

The exact link between this statement and current archaeological theory relating to *busta* (formulated by Struck 1993), and *ustrina* (delineated by Polfer 2000; further explored in detail by Pearce 1999: 48–51) however, is actually somewhat unclear.

The prevailing assumption about the '*bustum*' is perhaps exemplified by the following explanation from McKinley: 'the inferred technique in this instance being to let the pyre burn down into the pit then bury the remains *in situ*, i.e. the feature represented both pyre site and the grave. This type appears to be that defined by Festus…' (McKinley 2000a: 39).

But is this really what the Festus excerpt means? Leaving issues of provenance for these ideas to one side, Festus' perhaps rather too 'aetiological' derivation of '*bustum*' being from 'bene ustum' may give some cause for concern (Tucker [1931: 38] and the Oxford Latin Dictionary [1968: 245] give different etymologies, neither of which agree with Festus). More significantly, however, what does the writer mean by '*locus*'? This word may indeed mean 'exact same spot', but could also, and perhaps more sensibly, refer to a more general 'place' in which burning and burial constitute separate and sequential acts (a 'mortuary area' designated for both the burning of pyres *as well as* subsequent deposition of cremated bone?). Moreover, a further fragment of Festus seems to link '*bustum*' more closely with a place of burial, or sepulchre, with no mention of burning (*De Significatione Verborum*: 456). To infer the ritual specialism of letting the pyre burn down into a pit and burying the remains *in situ* from the Festus excerpt is unwarranted.

In the wider literary context, an examination of the sources by Pearce has shown that 'Festus' distinction seems artificial in comparison to attested literary usage…'; Pearce has found that pyres are most often referred to in the literature as a *rogus*, or *pyra*, or *ignis*, and even *ara* (Pearce 1999: 48; 'ara' is particularly interesting in comparison with some Hindu concepts of the pyre as 'the last sacrifice', see Parry 1999: Chapter 5). Moreover, Pearce could find no reference 'where *bustum* in a literary source actually refers to in-situ cremation and burial', the word tending to denote 'the tomb or ensemble of tomb and monument' (Pearce 1999: 49; 48–49).

Several further observations by Pearce on alternative distinctions of '*busta*' and '*ustrina*' in the epigraphic record are also worth noting: that *(B)ustum* more often refers to the tomb than the pyre…', for example, that '…(S)ome inscriptions explicitly contrast the *rogus* as pyre…' and that '…(A)n epitaph from Rome (CIL VI 10237) contrasts *ustrina* and *bustum* as pyre and tomb' (*ibid*). Do these last points perhaps throw new light on the final part of the Festus quote, that *modo busta sepulcra appelamus*: 'we only call *busta sepulcra*'?

From another perspective, simply using '*bustum*' to mean '*in situ* burning down into an under pyre pit' in the archaeological record carries with it exactly the same interpretive dangers as using other Latin words in the same way. Past experience should provide sufficient warning about the evidential weakness of uncritical application of Latin terminology in archaeological contexts (think of *villa*, for example, see Reece 1988: 80); such words are loaded with complexes of meaning that may well be alien in, and a false projection onto archaeological contexts.

As a consequence, the term '*busta*' , whether relating to 'Grubenbusta' (Struck 1993: 82–83; McKinley 2000a: 39–40; the main type, broadly defined as a feature resulting from

'allowing' the burning down of the pyre into an under pyre pit and covering over) or 'Flächenbusta' (Stuck 1993: 83–84; McKinley 2000a: 40; another 'type' resulting from the simple heaping of a mound over the remains of the pyre on the ground surface) should be considered an *archaeological concept*, rather than anything necessarily reflecting terminology, 'typology' or category in the thoughts and actions of original pyre technicians or anyone else in antiquity.

By way of example, might we not consider at first glance the Homeric account of heaping up of a barrow over the pyre of Patroclos to represent some sort of Flächenbustum (*Iliad: xxxiii,* 255–7)? Yet immediately prior to this and apparently as part of the same ritual sequence, attendants have already gathered the 'white bones', for placement in a golden urn (*ibid:* 252–3). Whether or not we treat the Homeric text as an accurate account (although remarkably careful observance of ritual sequence and detail is iterated by 'Homer' elsewhere) the important point here is perhaps that the actions of barrow building over the pyre site and collection of some of the bone for alternative deposition have been allowed to exist side by side in the text. (Incidentally, is the 'white' of the bones here merely an idiomatic adjective used like an epithet, or is it also a technical term for bone which is more fully oxidised, and therefore recognisable and considered 'suitable' for collection?).

Of course, the raising of a mound over a pyre site (or, for that matter, the covering over of a pit full of pyre debris) is not exclusive of first gathering at least some of the human remains (and any identifiable 'pyre goods'?) for separate deposition. But non-removal of cremated human remains after burning is surely a definitive element of the '*bustum*' concept. Archaeological evidence for a '*bustum*' of either sort therefore would necessarily require, *in situ*, the practically complete cremated remains and pyre debris from one cremation event, either in an under-pyre pit or on a buried ground surface; without any real evidence for complete non-removal of human bone from putative '*busta*' (i.e. not even a 'token' amount) prior to back filling or mound building, the whole '*bustum*' concept is called into question.

A decided lack of sufficient cremated human bone in several '*bustum*'-like features from St Stephens, St Albans has suggested that an alternative interpretation of them must be sought, leading both McKinley and Pearce to consider the possibility of these features being 'one-off' pyre sites (see Pearce 1999: 48; McKinley 2000a: 40). And yet it has to be said that '*busta*' not infrequently are found to contain far less burnt human bone than we might expect from an adult cremation where all the remains have been 'left' *in situ*. The weight of cremated human bone that we might expect from an undisturbed '*bustum*' burial (i.e. where all the remains as well as pyre debris had simply been covered over *in situ*) of an adult, according to McKinley's more recent estimate, is between 1000g and 2400g 'with an average of *c* 1650g' (McKinley 2000b: 269).

But it would seem that convincingly large deposits are not the norm in these contexts. As Pearce points out: 'the expected amount has rarely been recovered in the few *busta* from which the human bone has been analysed and is often lower than in other types of cremation burial…'(*ibid*: 43). McKinley successfully questions many of the recorded features designated '*busta*' on just these grounds (2000: 40). Of course, it should be noted that factors such as post-depositional processes, excavation technique and methods employed in post-excavation and reporting have all to be taken into account (Pearce 1999: 43; a point comparable with that of McKinley concerning degrees of bone fragmentation [1994c]); given the nature of pyre cremation, it may also be suggested that insufficiently burnt bone in these contexts has decomposed while the mineralised bone has not.

Even so, without any firm evidence of a total lack of bone collection from these features prior to filling in or covering over, the question remains: do '*busta*' (in the sense commonly meant by archaeologists) actually exist? Or are these features simply various examples of pyre sites, with or without under-pyre pits for ventilation purposes and debris collection, that have been 'closed' by being covered over (along with objects often interpreted as 'grave goods' in such contexts) after the 'right' sort and/or amount of cremated human bone has been collected in each case? It would indeed seem wise to retreat to Pearce's conclusion that

> '(T)he archaeological remnant of Roman period pyre sites comprises mostly the pits over which the pyre would have been constructed to provide for ventilation and, if the pyre site was used only once, as a repository for pyre debris …' (Pearce 1999: 51).

Conclusion

Relationships between evidence, inference and terminology must be constantly reflected upon in order to delineate and understand our projection of meaning into interpretations of archaeological data. In the case of 'the cremation process' and 'pyre technology', it might be 'modern western', 'detached', or 'clinical' attitudes that have informed the picture. With '*Busta*', it is perhaps a more familiar archaeological need for category. Nevertheless, it is important to be conscious of the cultural component of our syntheses of discrete analytical frameworks and archaeological evidence.

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