



Pars pro toto and personhood in Roman cremation ritual: new bioarchaeological evidence for the rite of os resectum

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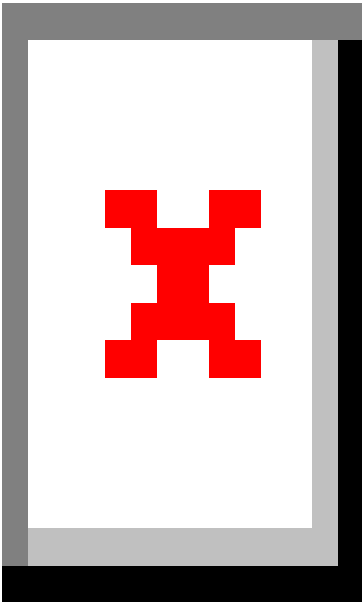


**Pars pro toto and personhood in Roman cremation ritual:
new bioarchaeological evidence for the rite of os resectum**

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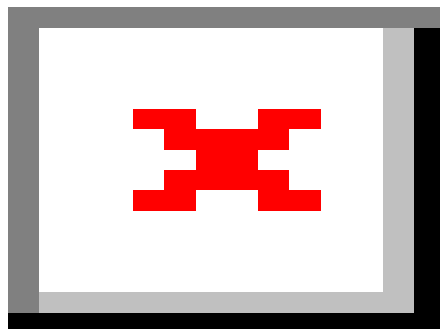
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Cremated remains of the Broadway cremation: (1) cranial fragments, (2) unidentified human skeletal fragments, (3) mandible fragment, (4) vertebral fragments, (5) rib fragments, (6) unidentified human long bone fragments, (7) femoral fragments, (8) pelvic fragments, (9) tibia fragments, (10) fibula fragments and (11) proximal and intermediate hand phalanges (probable os resectum) (photograph by A.T. Chamberlain).

221x320mm (180 x 180 DPI)



Ventral view of the proximal and intermediate hand phalanges of the Broadway cremation (radial tubercle indicated by white arrow; photograph by A.T. Chamberlain).

197x128mm (180 x 180 DPI)

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4 ***Pars pro toto* and personhood in Roman cremation ritual: new**
5 **bioarchaeological evidence for the rite of *os resectum***
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Abstract

Os resectum, or ‘cut bone,’ is an obscure Roman funerary rite known primarily from literary sources. To date, archaeological examples have been recovered from Rome, Ostia, Herculaneum, and Pithekoussai, but none have been positively identified in the western provinces of the Roman Empire. This paper presents bioarchaeological evidence concerning an unusual pattern of preservation for the bones of a single finger in a burial from a late second to mid-third century A.D. cemetery in the Roman colony of Lincoln, England. It explores the implications of this evidence for the identification and performance of *os resectum*, and for understanding rites of passage surrounding Roman death. As well as revealing the value of integrating scientific and theoretical perspectives in the investigation of questions surrounding ritual behavior, it is argued that *os resectum* provides evidence to support the presence of a widespread concept of somatic partibility at the heart of Roman forms of personhood.

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3 During a reappraisal of Roman cremation burials from northern England, an intriguing pattern of
4 preservation was detected involving the bones of a single finger in a burial from a late second to
5 mid-third century A.D. cemetery in Lincoln. It is the contention of the authors that this discovery
6 represents an example of *os resectum* ('cut bone'), a funerary rite known principally from
7 Roman literary sources which has not been positively identified in the western provinces of the
8 Roman Empire (although see Devillario 1884; Simon-Hiernard 1987 for two potential cases in
9 Gaul). This paper explores the implications of the bioarchaeological evidence from this burial for
10 current understandings of the rite of *os resectum*, contextualizing it in relation to both Roman
11 experiences of personhood that drew upon concepts of somatic fragmentation and partibility, and
12 acts of purification and rites of passage surrounding death. We begin with a brief overview of the
13 processes connected with Roman cremation rites, followed by an outline of the historical and
14 cultural context associated with the cremation burial from Roman Lincoln. The focus of the
15 paper then shifts to a bioarchaeological assessment of the cremation burial itself and the extant
16 literary and archaeological evidence for the Roman rite of *os resectum*, including its significance
17 for understanding Roman concepts of personhood.
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40 **Biocultural and Historical Contexts: The Roman Rite of Cremation**

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42 According to literary sources, the early Romans had traditionally inhumed their dead (Toynbee
43 1971; Morris 1992). Pliny the Elder (*Naturalis Historia* 7.187) and Cicero (*De Legibus* 2.22.56)
44 assert that cremation burial did not emerge until the Republic (a period traditionally dated from
45 c. 509 to 27 B.C.). According to Pliny the Elder, it was the unintended consequences of
46 territorial expansion that prompted the shift—as Roman soldiers fell and were subsequently
47 buried on foreign soil, Rome received distressing reports of conquered peoples desecrating the
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3 remains of the war dead. The rites of disposal were modified in response to this defiant behavior,
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5 and cremation burial became widely adopted in order to diminish opportunities for vandalism
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7 (Pliny *Naturalis Historia* 7.187; see also the example of Sulla: Cicero *De Legibus* 2.22.56). The
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9 archaeological record, however, reveals that burials recovered from the Forum Romanum, in the
10
11 center of Rome, indicate that both cremation and inhumation were practiced concurrently there
12
13 from the eighth through the sixth centuries B.C. (Toynbee 1971:39), with cremation becoming
14
15 the dominant rite in Rome sometime during the middle to late Republic (Hope 2009:81; Graham
16
17 and Hope 2016:162).

21
22 Cremation burial at Rome was a lengthy and complex process (Habinek 2016; McKinley
23
24 2017). After the preparation of the body and a period of lying-in-state, the rite itself commenced
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26 with a procession which started at the home of the deceased and ended at a pyre site beyond the
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28 city walls (Cicero *De Legibus* 2.23.58; Noy 2000a). There, the clothed body and its
29
30 accompanying funerary goods (occasionally elaborate, see Lucan *Pharsalia* 9.175) were placed
31
32 on a pyre constructed of interlaced layers of logs (Vitruvius *De Architectura* 2.9.15; Noy 2000b).
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34 Once the body and its accoutrements were in place, a close relative of the deceased ignited the
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36 pyre, which took an estimated 7–10 hours to burn completely (McKinley 1989; Noy 2005). The
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38 mourners were said to have kept vigil until the flames were extinguished with water or wine
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40 (Virgil *Aeneid* 6.226). The remains were subsequently interred either at the pyre site (described
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42 as a *bustum* burial, whereby the remains fell directly into a pit beneath the pyre which was then
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44 covered with soil) or, more commonly, collected for burial elsewhere (McKinley 2000; Noy
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46 2000a).

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52 Cremation burial, whether practiced at Rome or in the provinces, was an inherently
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54 selective process, since an individual, or group of individuals, was required to take responsibility
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3 for collecting the cremated remains and depositing them in a receptacle (McKinley and Bond
4 2001). These receptacles usually took the form of a ceramic or glass urn, but sometimes a bag or
5
6 wooden box might have been used. On other occasions the remains were deposited in an earthen
7
8 pit without any protective container. In both cases the cremated remains might be accompanied
9
10 by additional grave goods (McKinley 1994a). The fragments of bone found within these
11
12 containers and graves typically represent a random and incomplete assortment of skeletal
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14 elements (McKinley 2000; Cerezo-Román et al. 2017). Furthermore, it was common for the
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16 remnants of pyre debris and pyre goods to be included amongst the remains placed inside the urn
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18 (McKinley 2004a).
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24 Cremation burial remained common across much of the Roman west until at least the
25
26 third century A.D., when inhumation once again became the dominant rite (Jones 1981; Graham
27
28 2015). Beginning in Rome around the late first and early second century A.D., the shift was not
29
30 instantaneous but it was widespread. Although the reasons behind this change continue to be a
31
32 matter of debate, ranging from the adoption of new religious beliefs or cultural mores to novel
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34 forms of elite competition (Toynbee 1971; Nock 1972; Graham 2015), what is clear is that
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36 inhumation was never again superseded during the period of Roman domination in Europe.
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42 **Roman Lincoln and its Cemeteries**

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44 The remains of the individual cremation burial in this study were recovered from a site
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46 associated with *Colonia Domitiana Lindensium*, also known as *Lindum* (modern Lincoln), in the
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48 Roman province of *Britannia* (Fig. 1). Only three *coloniae*, a form of high-status settlement,
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50 were established in the province (a fourth settlement at York was promoted to the same status in
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52 the third century: Millett 1990:91). These newly-founded cities, which were part of a wider
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3 imperial strategy for provincial government, were often created in locations that had been
4 occupied by military fortresses and were populated, at least initially, by discharged army
5 veterans holding Roman citizenship (Mattingly 2006:192). The colony at Lincoln was
6 established at the end of the first century, possibly around A.D. 90 (Jones 2004; Mattingly 2006:
7 272; Millett 1990 suggests *c.* A.D. 90–96) and its early community included veterans from the
8 Ninth Legion *Hispana*, who had previously occupied the fortress on the site (Jones 2003). With a
9 population of 10,000–12,000 residents, the colony at Lincoln was not one of the largest cities of
10 Roman Britain. However, the community was diverse, composed of immigrant traders,
11 merchants, government officials, and craftsmen in addition to ex-military personnel and
12 members of pre-existing local communities (Jones 2002).
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26 As with all Roman cities, cemeteries soon emerged on the outskirts of Lincoln, beginning
27 with those associated with the fortress to the south of the colony but later extending to all the
28 major roads leading away from the city (Fig. 2). The graves identified within these cemeteries
29 reflect a mix of Roman and pre-Roman practices, although strong Mediterranean influences can
30 also be detected, including two subterranean mausolea (Jones 2003), which may represent
31 *columbaria*. This form of collective burial chamber, a particular product of the social landscape
32 of Augustan-period Rome, was not employed in its true form outside of the city of Rome itself
33 (Borbonus 2014). However, the term is commonly used to describe similar mausolea from
34 Roman-period Italy (and elsewhere) that were designed for the communal burial of cremated
35 remains. Gravestone evidence from Lincoln reveals that some of the ex-legionaries originated in
36 the regions of modern Macedonia, Spain, and Italy, and many others would have experienced
37 Mediterranean culture before being posted to Britain (Jones 2003). Jones (2002) has suggested
38 that the influence of Mediterranean culture imported by these soldiers, and later merchants and
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3 craftsmen who flocked to the colony, may have been dominant for a generation or two before a
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5 new sense of Romano-British identity began to develop amongst their descendants. However, he
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7 also observes (2002:144) that the nature of graves as a whole is “very much in the Roman mould,
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9 with parallels in north-east Gaul.” Roman burial traditions were evidently widely adopted and,
10
11 most importantly, continued for some time at Lincoln, perhaps a reflection of its cosmopolitan
12
13 history. Indeed, Mattingly (2006:192) has suggested that the influx of discharged veterans to
14
15 colonies such as Lincoln probably continued for some time after they had been established, with
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17 veterans and their citizen families, accustomed not only to a military lifestyle but to a *Roman*
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19 military lifestyle, “being attracted by the concentration of ex-soldiers” and, in turn, serving to
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21 perpetuate the strong “military character of such sites” for several generations. The shift from
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23 cremation to inhumation occurred at the colony, as for other cities in the province, during the
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25 third century A.D. when inhumations begin to appear alongside earlier cremation burials (Jones
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The Broadway Cremation Burial

The cremation burial which forms the focus of this discussion was found at 43 Broadway,
Lincoln, close to the modern Newport Cemetery and within one of the known concentrations of
burials clustered along Ermine Street to the north of the colony (Fig. 2). The burial deposit was
donated to the Lincolnshire Museum (now The Collection) in 1953 but appears not to have been
recorded by publication. Several years later two late second to mid-third century cremations,
interred in cooking pots, were found approximately 100 m away (Goodburn et al. 1976), and a
fragment of a Roman tombstone was later recovered very close to the previous finds (White
1977). Together with inhumation burials reported from the same area, these finds indicate the

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3 presence of a second/mid-third century A.D. cemetery of indeterminate size in this area of
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5 Lincoln (Jones 2002), including the Broadway burial.
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8 The Broadway burial yielded the cremated remains of a single adult (Fig. 3; note that the
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10 recording form is permanently available at the D-Scholarship@Pitt data repository and can be
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12 accessed at: <http://d-scholarship.pitt.edu/33993>). The individual was assessed as an adult on the
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14 basis of completed epiphyseal union (Scheuer and Black 2000), but sex was not assigned due to
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16 a lack of identifiable sexually dimorphic features. Although the burial deposit did not contain
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18 pyre debris, it did include a piece of bronze that had melted against a rib, together with sherds
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20 from the rim of a greyware ceramic vessel. The bronze fragment probably represents a remnant
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22 of a pyre good. It is possible that the rim sherds are fragments from a burial urn which was not
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24 noted as being present when the burial was donated to the Lincolnshire Museum.
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28 The total weight of all the cremated materials in the Broadway burial was 376 g with the
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30 total weight of the cremated bone 371 g. The latter value is substantially below the expected
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32 weight of a modern adult cremation (approximately 1000–2400 g), but is within the observed
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34 range of Romano-British cremation burials (McKinley 1993, 2004b). At the time of analysis, the
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36 largest bone fragment had a maximum dimension of 42 mm, which is close to the average
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38 maximum fragment size reported by McKinley (1994b) for British cremation burials of 45 mm.
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42 The color of cremated bone often provides an indication of its extent of oxidation, or ratio
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44 between organic and inorganic components (Ellingham et al. 2015). The oxidation of bone is a
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46 multifactorial process (Walker et al. 2008; Reidsma et al. 2016), typically determined by
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48 exposure temperature, exposure duration, positioning relative to the heat source, and the
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50 availability of oxygen (Ellingham et al. 2015). Nevertheless, bone goes through a series of color
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3 changes as it oxidizes (Shipman et al. 1984; Buikstra and Swegle 1989; McKinley 2004a;
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5 Ubelaker 2015), which Ellingham and colleagues (2015:182) describe as follows:
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8 Fresh bone normally exhibits a light ivory colour, which turns over brown into black as a
9
10 result of carbonization, the incineration of organic materials of carbon and collagen. The
11
12 next stage in the combustion process is the pyrolyzation of organic compounds, resulting
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14 in a grey shading of the bone, which then gives way to the bone becoming white,
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16 signaling calcinations and a complete loss of organic compounds and fusion of bone
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18 mineral.
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21 Unlike cremation burials from earlier periods, including Bronze Age Britain, it is common for
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23 Romano-British deposits to be incompletely oxidized (McKinley 2000, 2015) and the Broadway
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25 burial is no exception. Although fragments ranged in color from white to dark grey, the majority
26
27 were white (fully oxidized), while fragments of the tibiae, skull and unidentified fragments
28
29 exhibited light grey patches. Two hand phalanges (proximal and intermediate, their relative sizes
30
31 suggesting that they belong to the same single finger) were primarily dark grey in color (Figs. 3
32
33 and 4). The asymmetry of the base of the proximal phalanx, which exhibits a more prominent
34
35 radial tubercle (Fig. 4), indicates that the phalanx is likely to be from a finger of the left hand
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37 (Garrido Varas and Thompson 2011:132). Although the articular surfaces where the phalanges
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39 would have articulated are missing, the ratio of the midshaft mediolateral diameters of the
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41 intermediate and proximal phalanges is 81%, consistent with their being derived from the same
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43 individual digit (Garrido Varas and Thompson 2011).
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49 In addition to color, three other heat-induced changes are commonly visible in cremated
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51 bone. These changes—shrinkage, fissuring, and warping—attest to the level of dehydration of
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53 the bone and the alteration and loss of the organic components of the bone tissue. Moreover,
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3 examples of each type of heat-induced change are typically noted during the analysis of
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5 cremation burials (Shipman et al. 1984; McKinley 2004a; Schmidt and Symes 2015). A
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7 qualitative appraisal of the Broadway burial revealed that all of the cremated bones exhibited
8
9 these changes with the exception of the two hand phalanges. The phalanges appeared to display
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11 little or no shrinkage and less fissuring relative to the other skeletal elements, suggesting that
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13 they had not been heated to the same high temperatures as the other remains.
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17 Furthermore, although fragments from the skull, axial skeleton, and appendicular
18
19 skeleton were present in the cremation burial, the only identifiable skeletal elements from the
20
21 upper limbs were the aforementioned hand phalanges. This is unusual because these phalanges
22
23 seem to represent a single finger. The uniqueness of the phalangeal alterations are especially
24
25 unusual because “cremation burials generally comprise, apparently, a random selection of bone
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27 fragments from all skeletal areas” (McKinley 2004b:298).
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33 ***Os Resectum* and Roman Rites of Purification**

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35 The consistency in the size ratio of the phalanges, and the distinctive pattern of preservation of
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37 the finger bones, together with the absence of other identifiable bones of the hands or arms,
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39 indicates differential treatment of body parts that is a characteristic of the rite of *os resectum*.
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42 Evidence for the rite of *os resectum* (‘cut bone’) is provided initially by Cicero (*De Legibus*
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44 2.22.55), Varro (*De Lingua Latina* 5.23), and Festus (*Frag. ex apogr.* 62). Although Varro refers
45
46 to the rite as *os exceptum*, rather than *resectum*, his text clearly describes the same custom as
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48 Cicero and Festus. Festus provides the specific detail that a corpse may only be legitimately
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50 burnt once a finger has been removed and set aside. Unfortunately the writings of these three
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52 ancient authors provide little in the way of comprehensive information concerning the manner in
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3 which the rite itself was performed, or indeed whether it was performed at all social levels.
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5 Archaeologically attested examples of *os resectum* from Roman Italy are also relatively scarce
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7 (see below). However, the evidence they provide aligns sufficiently with the written sources to
8
9 corroborate the accounts composed by these Republican and Imperial period authors, verifying
10
11 that they do not merely report a rite that was an antiquated oddity, but an activity which
12
13 continued to be a ritual reality for at least some funerals well into the Imperial period. The most
14
15 notable discovery was made in the vineyard of San Cesareo on the Via Appia immediately
16
17 outside Rome in 1732. Antiquarian explorations of this site uncovered approximately 300 small
18
19 single-handled ceramic jugs, each inscribed with the name of an individual and a range of
20
21 specific dates within the Roman calendar (*CIL* VI² 8211–8397; Montalto Trentori 1937–1938;
22
23 Bruni 1997). Together they can be securely dated to the second/first century B.C. on stylistic
24
25 grounds and the use of the pre-Caesarean calendar. Each vessel was also found to contain one or
26
27 two fragments of burnt human bone (Baldini 1738 cited in *CIL* VI² 1103; unfortunately the bones
28
29 were subsequently lost). Baldini linked the discovery with the custom of *os resectum* as outlined
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31 in the written sources, acknowledging but evidently overlooking the fact that they had been
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33 burnt, contra to what is suggested by Festus. Since then, San Cesareo has continued to act almost
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35 as a type site for the rite, with the individually labeled vessels sometimes being interpreted as an
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37 element essential for its identification (e.g. Messineo 1995, 1999). This is proved not to be the
38
39 case by other examples of *os resectum* that have been identified elsewhere at Rome, Ostia,
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41 Herculaneum, and Pithekoussai (Campana 1852; Becker 1995; Grévin 1997; Pappalardo 1997;
42
43 Carbonara et al. 2001).

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45 The example from Herculaneum is particularly intriguing because it belonged to the
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47 senator Marcus Nonius Balbus, one of the leading members of the local community during the
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3 Augustan period (27 B.C.– A.D. 14). Beneath a commemorative altar dedicated to the memory
4 of Balbus that was raised on the town's seafront, an urn was found to contain two layers of pyre
5 debris with a single hand phalanx placed between the layers (Grévin 1997). No other bone was
6 present within the urn. To some extent this parallels the examples from San Cesareo, which were
7 also deposited unaccompanied within individual vessels. Moreover, it demonstrates a degree of
8 associated monumentality that points towards a very specific use of *os resectum* within
9 communal remembrance activities that were focused on the socially distributed personhood of
10 one person of particular significance to the local community (Graham 2009). Other
11 archaeological examples of the rite reflect varying patterns of deposition as well. For example, at
12 Pithekoussai the bone was deposited in the primary cremation urn with the other cremated
13 remains (Becker 1995), whereas in the early imperial period *columbarium* of Pomponius Hylas
14 at Rome a small pit beneath the tomb floor was found to contain what appears to be a communal
15 deposit of burnt bones belonging to multiple individuals (Campana 1852). Neither site appears to
16 have attracted the same sort of targeted monumental commemoration as that of Nonius Balbus at
17 Herculaneum. Regardless, there appears to have been no standardized manner in which to
18 deposit the bone or bones connected with *os resectum*, indicating that it was most likely to have
19 been the performance of the rite itself that was deemed to be of significance, rather than the
20 subsequent burial or disposal of the skeletal elements around which those activities had unfolded.
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44 Questions also remain with regards to the social and/or legal status of those who
45 practiced the rite. Marcus Nonius Balbus was a wealthy Roman citizen and senator, as well as
46 the celebrated patron of the town of Herculaneum, but the texts catalogued for 186 of the vessels
47 from San Cesareo appear to point towards a group of ordinary freeborn and freed (formerly
48 enslaved) people (Graham 2011:98). During the middle and late Republic, when these vessels
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3 were inscribed, the *tria nomina* had not yet become the standard means by which to publically
4 express Roman citizenship, rendering the social status of many of these individuals uncertain.
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6 Most bear only *praenomen* and *nomen* with no indicator of legal status, but at least 22 (including
7
8 four women) record their status as freedmen or freedwomen, while at least seven others use the
9
10 abbreviation of *filius* or *filia* to indicate that they were a freeborn son or daughter. Although the
11
12 repeated use of single names may possibly indicate the presence of enslaved people this is not
13
14 possible to prove based on the available evidence. Moreover, most of the single names on the
15
16 San Cesareo vessels belong to women, following the tradition of using only family names
17
18 (*nomen*, e.g. Caecilia, Iunia, Lucretia) for women of this period. The evidence is therefore
19
20 difficult to interpret, although it might be reasonable to assume that *os resectum* was practiced
21
22 across the social spectrum, albeit potentially very unevenly. Similarly, although *os resectum* can
23
24 be attested at some sites across central and southern Italy it is difficult to determine how
25
26 geographically widespread the practice was, or to what extent or by whom it was adopted beyond
27
28 the immediate hinterland of Rome or the Italian peninsula. On the other hand, two potential
29
30 instances have been described for cremation burials in imperial period Gaul, namely an unburned
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32 human finger (Devillario 1884) and an unburned human foot (Simon-Hiernard 1987).

33
34 It has been proposed (Toynbee 1971; Becker 1988; Messineo 1995, 1999; Hope 2000)
35
36 that the rite of *os resectum* was closely associated with the Roman tradition of providing the
37
38 corpse with a proper religious burial, which Horace (*Odes* 1.28) described as providing the body
39
40 with a symbolic covering of earth which would allow the soul to rest peacefully. Such activity
41
42 was impossible in instances of cremation because the body had already been transformed and
43
44 broken down by fire when it came to be interred, leading to the suggestion that *os resectum*
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46 offered the opportunity for a separate interment that would satisfy these strict religious demands.
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3 It was able to do this by acting as a substitute for the whole body, drawing on wider cultural
4 traditions concerning the concept of *pars pro toto* ('a part for the whole'; discussed further
5 below). However, re-investigation of the rite has revealed that it is more likely that the *pars pro*
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10 *toto* significance of *os resectum* lay within the ceremonies of purification that followed the
11 cremation of the remainder of the corpse (Graham 2009, 2011). Rather than associating *os*
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13
14 *resectum* with proper disposal, Varro (*De Lingua Latina* 5.23) notes that the bone removed from
15 the corpse was "kept out for the ceremony of purifying the household," and that if this was not
16
17 carried out the family was compelled to remain in a state of spiritually polluted mourning
18
19 (*funesta*). Traditionally, mourners were released from this state nine days after the burial when
20
21 they returned to the grave to perform a ceremony known as *suffitio*, which was an essential
22
23 cleansing ritual involving fire and water (Lindsay 2000; Lennon 2013). In light of Varro's
24
25 comment, it seems probable that before the corpse was removed from the home in order to be
26
27 transported to the pyre site for cremation, the element required for the *os resectum* rite was
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29 detached from the body, remaining in the possession of the family or within the house for later
30
31 use within the purification ceremony, at which point it would act in a *pars pro toto* capacity as a
32
33 proxy for the polluted body and soul of the deceased (Graham 2009:56–57). During the
34
35 ceremony of *suffitio*, the mourners consumed another funerary meal, made offerings to the
36
37 ancestors, and were purified by the dual action of coming into contact with water sprinkled from
38
39 a laurel branch and stepping over fire. This ritual may have been comparable with Ovid's (*Fasti*
40
41 4.721–806) description of similar cleansing rituals performed each year on 21st April as part of
42
43 the *Parilia* festival. He notes that on this occasion "Sure it is that I have leaped over the flames
44
45 ranged three in a row, and the moist laurel-bough has sprinkled water on me" (4.727–728), and
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47 exhorts the reader to "leap with nimble foot and straining thews across the burning heaps of
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3 crackling straw” (4.781–2). The possibly similar activities of *suffitio* represent part of the rites of
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5 passage that surrounded death (Van Gennep 1960; see also Lennon 2013:144–145), being
6
7 performed in order to remove the living mourners, as well as the soul and body of the deceased,
8
9 from the polluted marginal zone that they inhabited temporarily during the *funesta* and, through
10
11 rites of incorporation, (re)assimilating them into the community to which they rightfully
12
13 belonged (Graham 2011). The liminal zone of the *funesta* existed only by virtue of the co-
14
15 presence of mourners and corpse, as mutually polluted and polluting agents, hence both parties
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17 must be purified simultaneously in order for it to effectively dissolve and allow each member to
18
19 (re-)enter the appropriate social community. Since the deceased, present at the ceremony of
20
21 *suffitio* in the form of the retained *os resectum*, was also required to be subject to the same ritual
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23 cleansing process, the bone may have been placed in the purifying flames over which the living
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25 mourners were required to step, so that it too was a mutual recipient of the full lustration.
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31 The evidence recovered from San Cesareo, where the bones were found to have been
32
33 subjected to an unknown degree of burning, goes some way to supporting this (Graham 2011).
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35 First, it is possible that the small inscribed vessels in which they were found were used to store
36
37 the *os resectum* in the intervening period between its removal and the performance of *suffitio*.
38
39 The names and dates perhaps indicate that these people were members of a burial club, whose
40
41 members performed the necessary rites for the deceased, instead of the family, and who would
42
43 have needed to keep track of when and for whom such purification activities needed to take
44
45 place. Secondly, and more pertinently, the condition of the bones themselves is suggestive. If the
46
47 intention was to remove the finger prior to cremation for separate inhumation as an intact,
48
49 unchanged element of the body, then these bones should demonstrate no evidence of subjection
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51 to heat. However, if *os resectum* entailed the purification of the body part in the *suffitio* fire, as
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3 outlined above (see also Graham 2009, 2011), then we would expect to be able to identify
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5 evidence for exposure to high temperatures albeit perhaps for a brief interval of time. In the case
6
7 of the San Cesareo bones, these were certainly described by their finders as having been burnt
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9 (Baldini 1738 cited in *CIL* VI² 1103). Of course, these bones could have been collected
10
11 subsequent to the incineration of the entire corpse, in which case any signs of burning would
12
13 have been the result of the act of proper cremation. However, because the fire used for the
14
15 ceremony of *suffitio* was designed for the mourners to step over safely it would be unlikely to
16
17 have reached the same high temperatures as the cremation pyre, indicating that it should be
18
19 possible to identify whether bones such as these received differential treatment from the rest of
20
21 the corpse in terms of exposure to heat. In other words, rather than being fully oxidized, any
22
23 bones that had been retained for participation in a *suffitio* ceremony would be incompletely
24
25 oxidized. Indeed, it remains a possibility that the San Cesareo bones were described as ‘burnt’ by
26
27 the early eighteenth century antiquarians who recovered them precisely because, in the absence
28
29 of modern scientific techniques, this was the impression that was given by their color, which
30
31 may in turn suggest that they were grey or black. Such coloring, as noted above, would indicate
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33 charring rather than full oxidization.
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40 Once the *os resectum* had been purified it was subsequently inhumed or otherwise
41
42 interred, thus completing the disposal process. In the case of the remains from San Cesareo and
43
44 Herculaneum the now charred bones were placed in identifiable vessels that may have played a
45
46 direct role in later commemorative activities (Graham 2009, 2011). As noted above, separate
47
48 interment was evidently not an essential element of the rite and, given the fact that so few
49
50 depositions of this nature have been recognized within the archaeological record, it is perhaps to
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52 be expected that in most instances the retained bone was reunited with the other remains of the
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3 corpse within the primary cinerary urn, as at Pithekoussai. Very few cinerary urns have been
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5 micro-excavated: typically the urn contents are analyzed as a single assemblage, and as a result,
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7 *os resectum* becomes very difficult to identify archaeologically. This may explain the emphasis
8
9 placed upon the more unusual and highly visible examples of the rite known from San Cesareo
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11 and Herculaneum within existing accounts of *os resectum*, but if many further examples remain
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13 hidden amongst cremation assemblages then *os resectum* may have been far more widely
14
15 practiced than previously thought.
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22 **The Broadway Cremation Burial as Evidence for Ritual**

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24 This possibility brings us back to the two incompletely oxidized hand phalanges from the
25
26 cremation burial at Lincoln and their potential interpretation as evidence for the rite of *os*
27
28 *resectum* in a Roman provincial setting. First, the markers of differential heat exposure were, by
29
30 necessity, measured in a qualitative rather than a quantitative manner. Quantitative measures of
31
32 bone crystallinity, such as those provided by FTIR and Raman Spectroscopy, have proved to be
33
34 very useful in determining differential heat exposure in the study of experimentally heated fresh
35
36 bone and by implication can be applied to burnt bone recovered from forensic contexts and from
37
38 recent mass disaster incidents. Although these techniques have been applied to archaeological
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40 assemblages (e.g. Squires 2015), Ellingham and colleagues (2015:186–187) have noted, “FTIR
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42 spectra of archaeological, diagenetically altered bone can mimic the spectra of low to medium
43
44 temperature exposed bone as diagenesis, like burning, causes the disintegration of the organic
45
46 components.” In the future it may be possible to apply these quantitative methods of analysis to
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48 the investigation of differential burning in samples of archaeological materials, but they were not
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50 appropriate for the study of the Broadway burial.
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3 Next, some alternative explanations for the phalanges incomplete oxidization must be
4 considered. It might be suggested, for example, that as extremities of the body the phalanges
5 recovered from 43 Broadway simply lay in the cooler outer parts of the pyre, and were thus not
6 subjected to the extreme temperatures at its heart. It has certainly been noted (Mays 1998:220)
7 that the extremities of a corpse and those areas lacking high fat content tend to burn less
8 efficiently than other elements of the skeleton, and that the small bones of the hands and feet
9 may also fall into the cooler parts of the pyre. However, if this was the case for the Broadway
10 cremation we might expect to find a random assortment of other phalanges, including both
11 fingers and toes, as well as other charred elements of the distal parts of the limbs within the
12 cremation burial, since they too would have been located towards the edge of the pyre. Similarly,
13 while there could have been deliberate selection of particular cremated remains for inclusion in
14 the burial deposit, it would be remarkable for only a single digit to be collected when other finger
15 and toe bones are likely to have had a similar appearance and would have lain in the same area of
16 the extinguished pyre. The presence of two potentially articulating phalanges, and the absence of
17 others, therefore remains curious and an alternative explanation must be sought.

18
19 Although the phalanges cannot conclusively be assigned to a single finger (as phalanges
20 from adjacent digits of the same hand are sometimes indistinguishable) the osteological evidence
21 is consistent with this interpretation. Furthermore, it aligns with the written sources for the
22 removal of a single digit in the rite of *os resectum*. Placing this unusual find in the context of this
23 mortuary rite may shed further light on it, since the rite of *os resectum* was inextricably linked to
24 the removal of a finger for ritual purposes. It is unclear how this finger, represented in the
25 Broadway burial by two phalanges, was removed from the hand since there is no clear evidence
26 of cut marks. There is, however, postmortem damage to the ventral aspect of the base of the

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3 proximal hand phalanx, and this missing portion might have contained cut marks—especially if
4
5 the original cut was initiated from the palmar surface of the hand. Furthermore, a skilled
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7 dissector can remove an appendage by cutting through the joint cartilage without causing
8
9 damage to the adjacent bones (for minimal presence of cut marks in some Romano-British
10
11 instances of dissection and decapitation, see Reece 1988:98; Tucker 2014). Regardless of how it
12
13 was removed, the ritual process described above indicates that the finger would subsequently
14
15 have received different treatment from the rest of the corpse, which was cremated on the pyre,
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17 and this is what appears to have occurred in the case of the individual buried at 43 Broadway. In
18
19 this scenario, the finger would subsequently have been reunited with the body in the context of
20
21 the burial urn, as witnessed in other examples. Although the finger from Lincoln appears
22
23 incomplete as it is ostensibly missing its distal phalanx, it is possible that this small and fragile
24
25 finger bone is indeed present in the burial, but fragmented beyond the point of identification.
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31 Contextualizing these remains in relation to the purification ceremony known as *suffitio*,
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33 is also useful. We might expect a pyre to reach temperatures in excess of 600–700°C, whereas
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35 the fire used for the ceremony of the *suffitio* outlined above would have been considerably
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37 smaller in size and lower in temperature, given that it was a ritual fire that had to be small
38
39 enough for mourners to pass over safely, perhaps achieving a maximum temperature of 200–
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41 400°C. Werts and Jarhen (2007:857) explain that such a temperature is “more than sufficient for
42
43 the boiling of water, or the reducing of fluids, however, these temperatures are not high enough
44
45 for the flaming combustion of wood.” Such a fire would have been ideal for the purificatory
46
47 purposes of *suffitio*. The lower temperatures of the fire and, presumably, shorter exposure time
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49 would have rendered the bones incompletely oxidized at the most. Consequently, bones that had
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51 been used in this way would exhibit the features described for the phalanges from the Broadway
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3 cremation burial, where osteological analysis suggests that the finger was subjected to heat, but
4 to a different extent than the other remains within the burial. Placing this burial in such a context
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6 may explain why these two small bones not only exhibit different characteristics from the other
7
8 remains within the same burial, but also why it is a digit that displays differential treatment
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10 rather than any other element.
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15 Despite the paucity of other recorded instances of *os resectum* outside of Italy we should
16 perhaps not be surprised to find this rite being performed at Lincoln given the cosmopolitan
17 nature of the community and the history of the colony. Other traditionally Mediterranean
18
19 funerary activities have been identified in the city, including the construction of mausolea and
20
21 the establishment of a burial club or *collegium* (Jones 2003; *RIB* 247). Indeed, Jones (2002:116)
22
23 has noted that the “impression conveyed is one of metropolitan Mediterranean cultural
24
25 influences,” although he cautions that, far from being the norm, these examples may have been
26
27 linked to immigrant Romans or individuals aspiring to Roman identity. How local individuals
28
29 came to learn of rites such as *os resectum* has to be questioned, and it may indeed be the case
30
31 that the individual under discussion here had Mediterranean origins or affinities. Alternatively,
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33 *os resectum* may have been practiced by the discharged legionaries of the early colony
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35 community and subsequently continued by later generations of their families. Perhaps, given the
36
37 date of the burial in the late second or third century A.D., one family chose to reassert its cultural
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39 heritage at a time when burial practices were beginning to change radically with the rising
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41 popularity of inhumation.
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50 It is not possible to assert from this single example that *os resectum* was widely practiced
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52 in Roman Britain, but this case poses questions that beg further investigation. Is this an isolated
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54 example or part of a more widespread activity that has hitherto remained undetected? Are there
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3 other examples of *os resectum* lying unidentified in the cremation burials of Roman Britain? Is it
4 possible to identify these with accuracy? How, and why, were different elements of traditional
5 Roman burial practice selectively adopted in the western provinces? Only thorough analysis of
6 both newly discovered, and previously studied, cremation burials with these issues and their
7 potential alignment with theoretical models and explanations for funerary ritual practice in mind
8 offers the opportunity to shed further, and more conclusive light on the practice of *os resectum*.
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19 **Reconsidering Roman Personhood**

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21 The construction, or reconfiguration, of personhood through cremation rituals and the pre- and
22 post-mortem fragmentation of the body is a topic that has received increasing scholarly attention
23 over the past decade (Fitzpatrick 1997, 2000; Fowler 2004; Brück 2006; Wickholm and Raninen
24 2006; Cerezo-Román 2015; Williams 2015; McClelland and Cerezo-Román 2016; Cerezo-
25 Román et al. 2017; Weekes 2017). In this context, the present study of *os resectum*, which
26 combines a bioarchaeological perspective with the application of theoretical standpoints
27 concerning distributed personhood and rites of passage, raises important questions about Roman
28 concepts of the potential partibility of the body/person and its role in the creation or maintenance
29 of social relationships both during and after death.
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42 It is unsurprising that in the Roman world the body could be conceived as something
43 which could be fragmented, both literally and metaphorically. Evidence from other ritual and
44 social contexts broadly contemporary with the evidence for *os resectum* suggests that ways of
45 conceptualizing the physical body as inherently partible were potentially widespread across the
46 Roman world, even if they were not acknowledged in such terms by ancient sources. It is not
47 possible to do justice to the intricacies of this bigger picture here, but two examples, from Italy
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3 and the wider Empire, suffice to demonstrate how such ideas might be embedded within a range
4
5 of cultural practices and ways of thinking. The concept of *pars pro toto* underpinned, for
6
7 instance, the widespread anatomical votive tradition prevalent across ancient Italy for several
8
9 centuries (late fourth to early first century B.C.) (Turfa 1994; Recke 2013; de Cazanove 2015).
10
11 As part of this tradition, petitioners who sought assistance from the divine in matters of personal
12
13 health, fertility, or general good fortune, left thank-offerings at sacred sites in the form of (often
14
15 life-sized) terracotta models of individual body parts (Draycott and Graham 2017; Hughes 2017).
16
17 Participants in these religious rituals used these models to intentionally spotlight a specific part
18
19 of the body, thus fragmenting it from the whole for the purposes of ritual activities (Hughes
20
21 2008). In some instances the body part chosen might have been considered appropriate to the
22
23 request that had been made of the god, but in others was also understood to act as a metaphorical
24
25 synecdoche for the health, well-being or social persona connected with the entire body, even to
26
27 indicate the very idea of somatic fragmentation itself (Hughes 2008). Although terracotta models
28
29 dominate votive assemblages of this type, written texts and other iconographic sources suggest
30
31 that on some occasions parts of the living body itself, including hair and possibly fingernails,
32
33 might also be detached and presented as an offering to the divine (Draycott 2017). It has been
34
35 argued elsewhere (Graham 2017) that the use of anatomical votives points towards an
36
37 understanding of religious personhood in early Roman Italy that was grounded in partibility and
38
39 a nexus of reciprocal relationships that included both living and non-living members. In the case
40
41 of votive cult this included the divine, but such relationships might also be extended to include
42
43 the deceased and other ‘ancestors’ or spirits, described recently as a broad category of “not
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45 indisputably plausible” actors (Rüpke 2018: 9). When viewed from the perspective of
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47 relationships of enchainment (see Chapman 2000), models of body parts could serve to both
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3 materialize and enact these forms of relational personhood, acting as a proxy for an original,
4 distant, or intangible body and perhaps being understood to possess something of the
5 fundamental essence or identity of a person (Graham 2017:50–54). In many ways this parallels
6 the way in which *os resectum* served as a proxy for the whole person after death. It temporarily
7 extended the social persona of the deceased into the liminal world comprising living and dead for
8 the duration of the rites of passage surrounding disposal, thereby enabling the social negotiations
9 required for their exit from the world of the living and their entry into that of the dead. Like an
10 anatomical votive, it allowed an intangible person to be present in both material and social form.
11 The only difference in this case was that it was a part of the organic body itself that was used,
12 rather than it being replaced by a material synecdoche. Cerezo-Román et al. (2017:174) have
13 similarly argued that cremation practices in Roman Gaul, particularly the disaggregation of the
14 body caused by the collection of only a sample of remains from the pyre and their subsequent
15 combination with grave goods, might lead to a specific type of “personhood that is ‘part-person’
16 and ‘part-object’.” The fact that the *os resectum* would begin to decompose once it was detached
17 from the corpse, effectively altering its material form in subtle but perceptible ways, may
18 nevertheless have been important, and is perhaps suggestive of further ideas concerning the
19 material agency of the partible body. Indeed, once the ceremony of *suffitio* was complete the *os*
20 *resectum* no longer resembled the fleshed body part that had been removed from the corpse,
21 having transformed instead into something more akin to the rest of the cremated remains of the
22 deceased (at least to the non-bioarchaeologist’s eye).

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49 A similar argument for the importance of distributed personhood has been advanced by
50 Stewart (2006, 2007), for a slightly later period of Roman history than the anatomical votives,
51 and for a different form of bodily fragmentation. His study of the portraits of imperial figures,
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3 particularly those of the emperor, that were distributed across the Empire, reveals the extent to
4
5 which these “announced themselves as extensions of the emperor’s personhood” and extended it
6
7 “beyond the natural constraints of time and space” (Stewart 2007:169–170). By virtue of their
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9 embodiment of the persona and agency of the emperor, who had an impact on the lives of people
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11 across the empire but who would almost never have interacted directly or personally with them,
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13 portraits therefore drew once again upon a shared notion of personhood as fundamentally
14
15 partible in nature. What is more, like *os resectum* and anatomical votives this was also expressed
16
17 via the disaggregation of the human body and the transformation of its material form, rendering
18
19 an otherwise distant person a present and highly active participant within ongoing social
20
21 relationships. It is against this cultural backdrop of distributed personhood and somatic partibility
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23 that *os resectum* should be understood.
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31 **Conclusion**

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33 This article has presented a case for a more holistic approach to the study of ancient ritual
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35 practices through the use of bioarchaeological evidence. In particular, it has demonstrated the
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37 analytical value of integrating evidence from bioarchaeological contexts with that of ancient
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39 written sources and approaches derived from wider theoretical discourses concerning the human
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41 body and its role in underpinning social relationships based on distributed personhood. In doing
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43 so it has addressed a specific question, using a genuinely tiny piece of evidence to spotlight and
44
45 evaluate much more widespread patterns of human behavior. Investigating something as small-
46
47 scale and seemingly unusual as a single example of *os resectum* from a small provincial city has
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49 revealed that close analysis of bioarchaeological evidence can have surprising results for the
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3 ways in which we understand how people in the Roman world produced and maintained a host of
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5 social relationships, including those that extended beyond the pyre.
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Figure Captions

Figure 1

Map indicating the Roman settlements in Britain (drawing by D. Weiss).

Figure 2

Map of the Roman colony of Lincoln, showing the outline of the city defenses, the forum, the principal roads and the known cemeteries (drawing by D. Weiss after Jones 2003).

Figure 3

Cremated remains of the Broadway cremation: (1) cranial fragments, (2) unidentified human skeletal fragments, (3) mandible fragment, (4) vertebral fragments, (5) rib fragments, (6) unidentified human long bone fragments, (7) femoral fragments, (8) pelvic fragments, (9) tibia fragments, (10) fibula fragments and (11) proximal and intermediate hand phalanges (probable *os resectum*) (photograph by A.T. Chamberlain).

Figure 4

Ventral view of the proximal and intermediate hand phalanges of the Broadway cremation (radial tubercle indicated by white arrow; photograph by A.T. Chamberlain).