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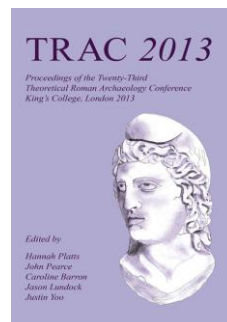
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Small Finds and Roman Battlefields: The Process and Impact of Post-Battle Looting

Joanne Ball

Introduction

This paper addresses some of the outstanding issues in Roman battlefield archaeology, particularly those of site formation and post-battle activity in relation to artefact nature and distribution. It will explore the objects from the three identified Roman battlefields at Baecula, Kalkriese and Harzhorn, which survive as widely-distributed large assemblages of non-weaponry small finds, supplemented by small numbers of projectiles, and large-piece weaponry fragments. These artefacts will be placed in a wider theoretical context of Roman small finds, and will illustrate that Roman military archaeology is not predominantly martial, even in the context of the battlefield itself.

One of the most significant challenges posed by Roman battlefield archaeology is the archaeology itself. Two assumptions have commonly been made in the past in regards to the archaeology of Roman battle. First, that the archaeology of battle is primarily weapons based, and second, that the battlefield would have been purposefully cleared of deposited weapons in the aftermath of the engagement. This paper suggests that battlefields, like other Roman military contexts, are not dominated by martial finds, but instead by a range of artefacts that were in both military and civilian use, deposited in the pre- and post-battle phases of activity as well as during the fighting itself. As a result the identification of Roman battlefields cannot rely solely on the recovery of weaponry but again as on other Roman military sites, on the context of the overall assemblage. This context may extend far beyond the actual area of fighting into a wider conflict landscape, within which the 'central' battlefield can be identified. The process of post-battlefield stripping must also be reassessed, as the large range of non-weaponry debris deposited on a battlefield previously has not been factored in. These artefacts would have been fragmented and often of low innate value. There is no evidence to suggest that the Roman army expended undue effort to recover non-weaponry artefacts, and less than might be expected to suggest that battlefields were scoured for these low value fragments by local populations.

The study of warfare in antiquity increasingly aims to explore trends in military activity, and to develop an understanding of the wider inter-linked conflict landscapes, rather than considering each individual engagement in isolation (Coulston 2001: 42–44). However, battlefields are nexus points around which the wider conflict landscape can be explored. In the context of the historical narrative the exact location of the Battle of Mons Graupius (A.D. 83) changes little; but locating the battlefield would provide a definitive point from which to explore the nature and geographic

extent of Roman military activity prior and subsequent to the battle. This will be particularly useful when it allows the identification and incorporation of conflict sites which did not survive in the historical record. The archaeology of the battlefield itself offers the opportunity to explore the reality of Roman military behaviour in battle, to assess the reality against the long-dominant perception of the 'Roman War Machine'.

Battlefield Archaeology

Ancient battlefield studies have become excessively entrenched in the discipline of military history. Academics and enthusiasts alike have attempted to superimpose the battlefield topographies given in ancient sources onto the contemporary landscape, facilitating the creation of tidy tactical maps illustrating troop formation, advance, engagement, and retreat. In the nineteenth and early twentieth century the study of ancient battlefields was particularly furthered by a series of *Schlachtfelderstudien* by Germanic scholars, which also served as a training method for the contemporary military (e.g. Kromayer 1903–1931). These centuries also saw the development and growth of battlefield tourism. This initially focused on the near-contemporary battlefields of the Napoleonic, Franco-Prussian and World Wars but gradually came to incorporate battlefields from the more distant past. Heritage management remains a key motivating and financial factor in battlefield studies.

A military motivation for ancient battlefield studies persisted well into the twentieth century. Many authors came from military backgrounds, and imposed theories informed by perceived inherent military probability onto the location of lost ancient battlefields, often without an in-depth understanding of the armies involved or the wider campaign (Burne 1952: 1–15 on the c. A.D. 50 battle between the Romans and Caratacus in Britain). Ancient source criticism has been minimal, and in-depth consideration of subsequent landscape change may be infrequently incorporated (e.g. Carman and Carman 2001).

The origins of battlefield archaeology as a discipline lie in the 1980s with work conducted at the battlefield of Little Bighorn in the United States (Scott *et al.* 1989). Archaeological study has now been conducted at a range of battlefield sites, primarily from the later medieval period onward, within a thriving sub-discipline of conflict archaeology (e.g. Scott and McFeaters 2011). Battlefields from antiquity have struggled to make an impact within the discipline. The suitability of the methodology of post-medieval battlefield archaeology for the exploration of earlier sites is questionable. This methodology centralises the historical record, with archaeology used to confirm, elaborate, or arbitrate between surviving battle narratives. The location of the battlefield is usually already known, if not its exact extent. Modern battlefield assemblages are dominated by ammunition remnants supplemented by limited numbers of non-weaponry artefacts, typically fragments of military kit such as buckles, buttons and insignia, cavalry fittings, and coinage (Pollard and Oliver 2002: 118–83; Foard and Morris 2012: 23). Modern battlefield projects work from the inside out, starting at an area known to be associated with the battle, and applying survey and excavation until the archaeology, both landscape features and artefact scatters, ends.

The likelihood is that the differences between ancient and modern battle, and the resulting assemblages, do not mean that archaeology will prove fruitless on battlefields from antiquity. Roman battlefield studies will require a developed methodology which accounts for the differences in assemblage nature and distribution. The challenge does not merit the pessimism sometimes directed toward the survival and practical use of ancient battlefield archaeology (e.g. Sabin 2007: 400).

'Military Archaeology' and Roman battlefield assemblages

Allason-Jones's work on small finds from Roman military contexts has illustrated that the archaeology of the Roman army is not primarily martial, but is equally representative of the daily life of soldiers. Unfortunately, the theoretical potential of non-weaponry small finds is often underappreciated in military contexts (Allason-Jones 2001). This approach persists despite the work done by Allason-Jones on small finds from the turrets on Hadrian's Wall, which identified a clear distinction between the reality of Roman military archaeology and previous expectations of weapon-dominated assemblages. Allason-Jones demonstrated that there was a significant amount of overlap between artefacts used by military and/or civilian (1988) and male and/or female (1995) from securely attributed military-finds contexts. It is now widely recognised that 'Roman military equipment' incorporated a range of artefacts also in common contemporary civilian use, with the attribution to either group largely reliant on context. These ambiguous artefacts may be deliberately omitted from studies of Roman *militaria* (e.g. Bishop and Coulston 2006: vii). While the brief and functional nature of a battlefield site makes it appear less likely that finds such as quern-stones, gaming pieces or sewing needles would be recovered, this should not be taken as a reason to discount the theoretical potential of non-weaponry small finds in Roman battlefield assemblages. Indeed, the raided Roman baggage-train assemblage from Kalkriese shows the wide range of artefacts carried by campaigning armies.

The likelihood of the survival of Roman battlefields in the archaeological record is often minimised, most frequently due to the considered impact of field-stripping and post-battle looting. This is informed by a general historical trend of looting battlefields, and the Roman proclivity for clearing sites of metalwork as 'resource denial strategy' (Bishop 2011: 122). These processes, whether conducted by the military or civilians, are viewed as being so effective as to strip a battlefield of its archaeology, irrespective of its conflict-period depositional density. Some suggest limited traces may survive in the form of mass graves, broken weaponry, or projectile scatters (Keppie 1981: 85; Foard and Morris 2012: 4), others that nothing will have been left behind (Webster 1993: 100; Whitby 2007: 75–77). Roman defeats have been proposed as the most likely to have left identifiable archaeological remains (e.g. Coulston 2001: 44; Rost 2007: 51), though ongoing fieldwork at the sites of Baecula and Harzhorn, both apparent Roman victories, suggest this may be a simplification. If the theory of battlefield-stripping due to resource denial is correct, however, in some cases this must have led to battlefield-proximate deposition of damaged weaponry in unrecoverable contexts. Weaponry deposits in water and bog contexts which have been identified as votive offerings after victory (Bishop and Coulston 2006: 30–32) may represent instead a crude but effective process of immediate resource denial.

Known Roman battlefields

Three Roman battlefields have to date been archaeologically verified and explored using recognisable battlefield archaeological methodology: Baecula in Spain, Kalkriese and the Harzhorn in Germany. For the purposes of this paper, potential battlefields with incidental military finds but without wider survey, excavation, or spatial data have been excluded.

The Battle of Baecula (208 B.C) was a field encounter between Roman and Carthaginian forces during the Second Punic War, a Roman victory primarily recorded in Polybius (10.38.1–40.12) and Livy (27.18–20). After the battle, the defeated Carthaginian army retreated over the Pyrenees into Gaul, and its Roman counterpart moved to winter in Tarraco. Previously located

toponymically at Bailén, a 2002–2005 landscape project identified the battlefield at Santo Tomé in southern Spain, which was archaeologically explored between 2006 and 2011. Transects totalling 31 hectares, around 10% of the site, have been excavated, surveyed by field-walking and metal detection (Bellón *et al.* 2012: 357). The assemblage contains over 6000 metal elements, including weaponry, primarily *pila* and arrowheads, Roman and Carthaginian coinage and pottery, and hundreds of Roman hobnails. Wider landscape surveys have identified a Carthaginian camp to the north, and a Roman battlefield approach route from the south. Though it remains a possibility that the battlefield is the site of an otherwise documented near-contemporary battle rather than Baecula, it is securely identified as a Romano-Carthaginian battlefield dated to the late third century (Bellón *et al.* 2007: 259–260).

The discovery of the site of Kalkriese, the likely site of the A.D. 9 Varian Disaster, is the best known and most influential of Roman battlefield sites, with an impact that has moved far beyond the discipline of battlefield archaeology. The battle was most fully documented by Cassius Dio (56.18–22), supplemented by shorter, more contemporary accounts by Velleius Paterculus (2.117–120) and Florus (2.30). These accounts describe an ongoing series of ambushes and retreats in Germania, on the western side of the Rhine, between the three-legion army commanded by the German provincial governor P. Quinctilius Varus, and a Germanic coalition led by the Cheruscan chieftan, and ex-Roman auxiliary, Arminius. This three or four day running conflict ended with the collapse and destruction of the Roman force. After the battle, the site and surrounding territory remained under Germanic control in the long-term, with Roman post-battle activity limited to a brief return to the battlefield during the campaign of Germanicus against Arminius six years later (Tac. *Ann.* 1.60–62). The location of the battle was a subject of interest throughout nineteenth century Germany when the consensus located it near Detmold in Westphalia, marked with the 53 metres tall *Hermannsdenkmal* constructed between 1838 and 1875. Almost immediately Mommsen argued for the re-location of the battlefield in the Kalkriese area, based on the reported recovery of high-denomination Roman coinage during agricultural activity in the area (Mommsen 1885). This location was confirmed in the late 1980s when a series of metal detecting surveys recovered coin hoards and then lead projectiles from a field in the Kalkriese area (Clunn 2005: 3–26). Subsequent exploration revealed this to be only a small part of a much wider conflict landscape of over 30kilometres squared between a large bog to the north and Kalkriese hill to the south (Fig. 1). This area, though substantial, is likely to only reflect a part of what is undoubtedly a much larger conflict landscape, which may in this case extend for hundreds of kilometres around Kalkriese. The primary concentration of archaeology is recovered from an area at the narrowest point of the east-west passage between these two features, the Oberesch, which was further enclosed by the construction of a turf rampart which blocked further Roman movement to the east.

Over 5000 metal artefacts, almost exclusively Roman, have been recovered from the Oberesch, and over 500 more from the wider landscape (Wilbers-Rost 2007). This proportional imbalance may partially reflect the recovery of artefacts between the periodic phases of fighting in the earlier battle, and the impact of post-battle activity in creating artefact fragments in this area (Rost and Wilbers-Rost 2010: 132–133). The larger finds from the Oberesch were predominantly recovered from the area below a section of the turf rampart, which evidently collapsed soon after the battle and prevented its complete looting, preserving among many other artefacts an articulated mule skeleton, complete with grass-stuffed bell, and the iron base of a Roman cavalry mask. The site was identified as the Varus battlefield partly because of the lack of other documented conflicts on the scale to have occurred in this area of Germany, though some continue to associate it

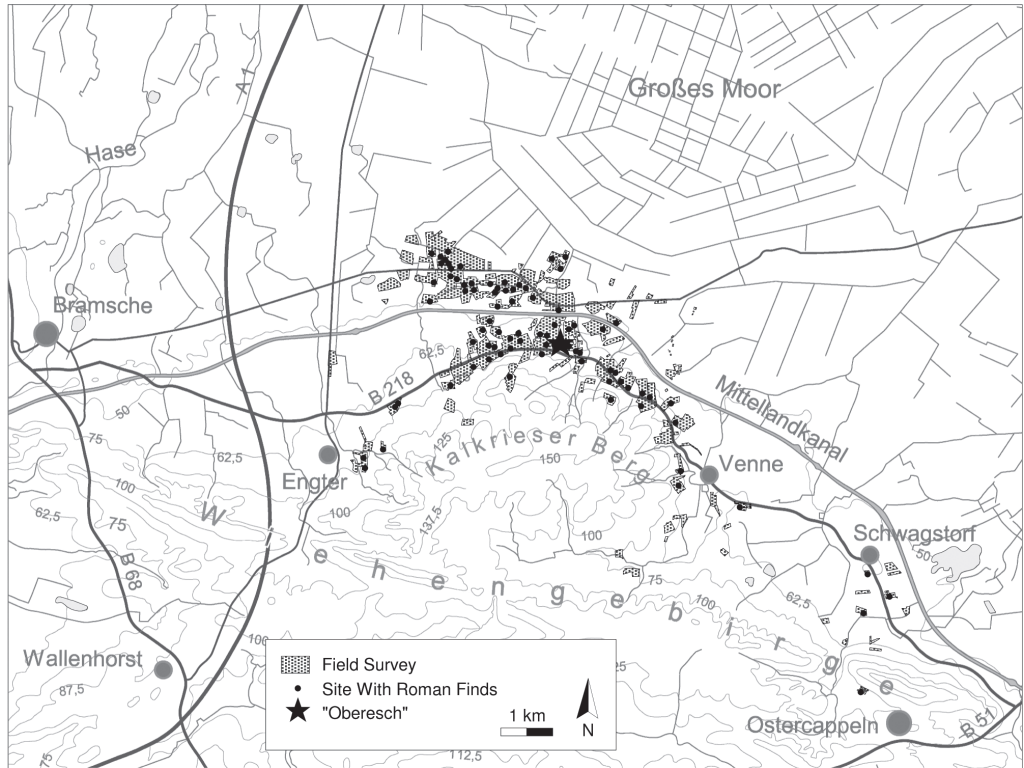


Figure 1: Kalkriese conflict landscape (Rost and Wilbers-Rost 2010: 118).

with the later campaigns of Germanicus or Caecina (Kehne 2000). The coinage suggests a late Augustan date, with the latest issue A.D. 7 (Berger 1996).

The second Germanic battlefield to be recovered is at the Harzhorn in Lower Saxony, for which no historical context is explicitly attested. Indeed, until the discovery of this site, it was not known that there was an active Roman military presence in Lower Saxony in the third century. The battlefield is located on the main north-south route through the region, where an east-west ridge alongside the road was used to ambush a Roman force. Discovered by detectorists, the site has been under excavation since 2008. Objects have been recovered over an area of 1.5 kilometres running east-west and 0.5 kilometres north-south (Fig. 2). Reconstruction of the battle has been hesitant, but the archaeological distribution suggests that a Germanic attempt was made to entrap and ambush a southward-bound Roman force, echoing the successful attack on the Varian army in A.D. 9. In this case, the Roman army was able to flank around and take the ridge after a period of projectile assault, and evidently proved victorious. There is no archaeological evidence as yet that there was any permanent Roman presence in this area around the time of the battle, and it must be assumed that the battlefield territory remained under Germanic control.

Over 2000 metal artefacts have been recovered from the site, and as at Kalkriese, the overwhelming majority of the assemblage is Roman in nature. The assemblage includes weaponry, particularly projectiles, although there is an ornate *pugio*-scabbard fragment and several fragments of helmet and greaves. This is in addition to non-weaponry military kit, particularly *caligae*

hobnails but also military brooches, cavalry and mule fittings, and coins. Though the wider historical context remains guesswork, the coins date the site to post-A.D. 228 (Geschwinde *et al.* 2009: 229). The battle has been associated with the campaigns of Maximinus Thrax in the 230s. These campaigns were thought only to extend 50 to 65 kilometres in advance of the frontier (Historia Augusta *Two Maximini* 12.1) and were associated with the Rhine-Mainz lowlands around Frankfurt-am-Main. The distance given in the *Historia Augusta* may be an inadvertent error, or ‘correction’, on the part of a past copyist (Johns 2006: 262–64).

Artefact deposition

When describing a battlefield in the aftermath of conflict, authors from antiquity frequently focused on the most emotive subjects: the dead, strewn or piled across the field (Livy 22.51; Caes. *Bell. Gall.* 2.27; Plut. *Caes.* 20.5; *Marius* 19.6, 21.3) and lost or discarded weaponry (Polyb. 15.14.1–2; Tac. *Agric.* 37; *Ann.* 2.18; *Hist.* 4.20; Plut. *Caes.* 19.11; Sallust *Bell. Jug.* 101.11). Other artefact types prominent in the archaeological record are typically not described as present on battlefields in the written sources, though some distinctively military objects, such as standards and military trumpets, are mentioned in the context of later *spolia* recovery. Mechanisms for battle-period deposition would have varied by artefact type. Large-piece weaponry and armour may have been deposited when its owner fell in battle, though some may also have been deliberately discarded due to damage (Caes. *Bell. Gall.* 1.25) or to facilitate fleeing (Caes. *Bell. Civ.* 3.95; Plut. *Flaminius* 8.4; Polyb. 15.14.1–2; 18.26.12). Projectiles, from larger pieces such as *pila* to smaller examples such as lead *glandes*, might be deposited in phases of projectile attack, or incidentally later in the battle if they were not used in earlier phases.

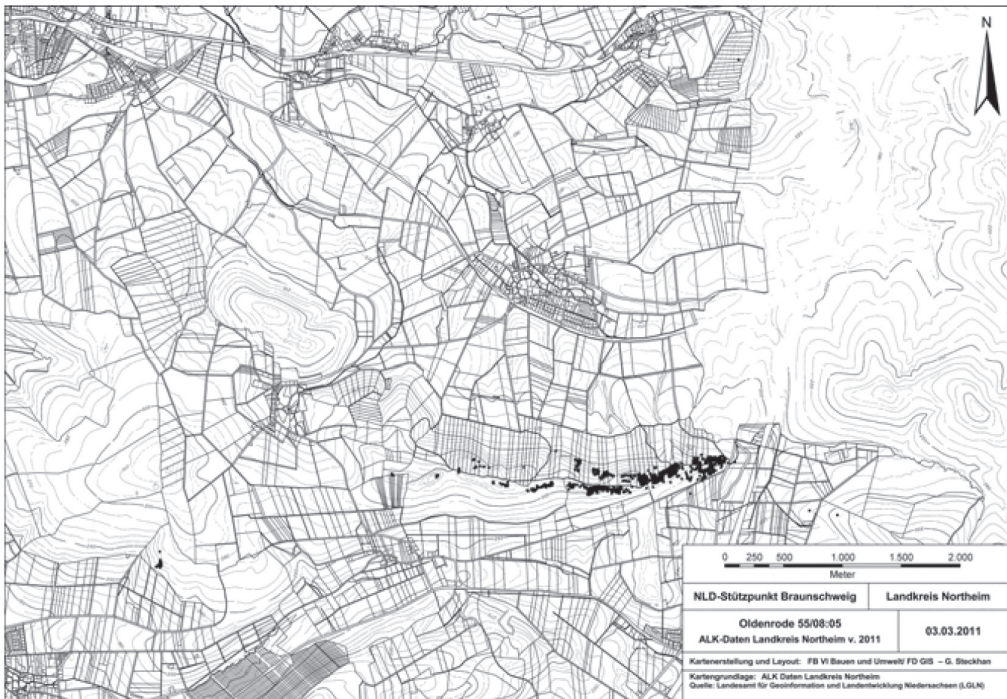


Figure 2: Harzhorn conflict landscape (after Berger *et al.* 2010: 331).

From the historical sources alone it is impossible to say how non-weaponry artefact types entered the battle-period archaeological record. At best, we can speculate that these artefacts were deposited in line with their battle-period exposure to various conditions and strains. While ‘casual loss’ is no longer a popular cause for the deposition of military equipment (Bishop 2011: 115–117), it may be more appropriate in the context of battle, where it might not have been possible to recover immediately lost items, irrespective of how functionally vital they might have been. The deposition of these artefacts is likely to be a combination of exposure to direct battle-inflicted damage, exposure to uncommon stress, and post-battle activity. Military fittings and kit located on the body may have been lost or fragmented as a result of close-order fighting, or from rapid stripping of weaponry and equipment from the bodies of fallen soldiers. At Harzhorn, the distribution of *caligae* hobnails proportionally increases in areas of difficult terrain approaching the ridge, the physical stress on the footwear causing the hobnails to be worked loose (Berger *et al.* 2010: 333–34).

Roman battlefield assemblages

As yet no whole weaponry has been recovered from an identified Roman battlefield, though there are numerous fragments, particularly of armour. Edged weapons are particularly rare, represented only by a single *gladius* blade fragment from Kalkriese (Harnecker 2008: 5, cat. no. 35). Multiple shield, helmet, and scabbard fragments, including one inscribed edge-piece, were recovered from Kalkriese (Harnecker 2008; 2011). In contrast, the quantity particularly of shield-edging fragments from Kalkriese suggest that these were deposited as a result of post-battle stripping of the metal from the wooden shield frames, corroborated by several examples with the edging rolled into a more portable ball (Rost 2012/13: 103). Helmet fragments, greave fragments, and a *pugio*-scabbard fitting have also been recovered from Harzhorn (Geschwinde *et al.* 2009). However, weapons are only infrequently recovered from battlefields of any period, even in fragmented form, even through to modern-period sites from the eighteenth and nineteenth centuries such as Culloden (Pollard 2009) and Little Bighorn (Scott *et al.* 1989). This is typically attributed to the high value and visibility of weaponry, often located in close spatial proximity to battlefield casualties, and the practicalities regarding the recovery for re-use, or resource denial, of even damaged weaponry.

The weapons recovered from Roman battlefields are primarily projectiles, broadly consistent with the high levels of ballistic remains recovered from their modern counterparts. Long and short range projectiles have been recovered from all three excavated Roman battlefields, as well as a number of non-excavated battlefields and siege sites. *Pila* and javelins are least common, which in size and likely areas of deposition more closely resemble large-piece weaponry. Lead *glandes* and arrowheads are more common finds. Over 50 *pila* and javelin fragments have been recovered from the Oberesch at Kalkriese (Harnecker 2008: 3–4; 2011: 22–23), though smaller projectile types are uncommon in this area, and are primarily recovered from the north-west periphery of the conflict area. Smaller projectiles are more common at Baecula, including lead *glandes* and eight distinctive arrowhead types. They are distributed through the north-south central line of the battlefield, with limited concentrations in the south and centre of the battlefield and a denser deposit in the northern battlefield area (Bellón *et al.* 2012: 367), which may reflect the use of long-distance projectiles in earlier phases of battle. Multiple projectile types have been recovered from Harzhorn. The assemblage includes *pila* and javelin fragments, arrowheads, and catapult bolts, many of the latter located *in situ* along the ridge (Berger *et al.* 2010: 324; 355).

Where Roman battlefields differ from their modern counterparts is the proportional survival of non-weaponry artefacts, particularly small finds, on and around the battlefield. The nature of these finds and the spatial dimensions of their relative depositions are likely to prove much more diagnostically significant than has ever been required on post-medieval battlefields, which can be identified through their ballistic remains alone. A significant amount of non-weaponry military ephemera can survive, particularly but not exclusively elements of military kit and cavalry fittings. Many of these artefacts if found in an incidental context would not immediately suggest a military origin, let alone a battlefield. Substantial wagon remains at Harzhorn (Berger *et al.* 2010: 343–347) would no doubt have been identified as agricultural detritus had they been recovered prior to the identification of the site as a battlefield.

Military insignia and inscribed non-weaponry equipment may be able to suggest strongly the presence of the Roman army and identify an ambiguous assemblage as military in nature. Several fragments from Kalkriese have been identified as military *litui* (Harnecker 2008: 21–22). Looted material recovered from the conflict landscape around the battlefield of Abritus (A.D. 251) contained several bronze insignia of the *beneficiaries consularis*, and more conclusively, a bronze legionary insignia inscribed ‘LEG XIII G’ from 7 kilometres south-west of the Roman battlefieldcamp (Radoslavova *et al.* 2011: 29–31). A scabbard fragment from the Oberesch at Kalkriese is inscribed ‘*T(it)i Vibi(i) (centuria) Tadi(i) l(egionis) P(rimae) A(ugustae) XLX*’, and an armour fragment from the same inscribed ‘*M(arci) Aii (cohortis) I > (centuria) Fab(ricii)*’ (Harnecker 2008: 5, 9). A *dolabra* head inscribed ‘LEG IIII S A’ was recovered from Harzhorn. This is most likely identified with the Legio III Flavia Severiana Alexandriana, at that time supposedly posted in Singidunum, Upper Moesia (Wiegels *et al.* 2011). A non-inscribed *dolabra* was recovered from Kalkriese.

However, inscribed insignia and equipment are rare. Artefacts associated with military kit fittings and clothing are more common. Brooches and belt fittings have been recovered from both Germanic battlefields, including a silvered hinged brooch and animal-motif buckle from Harzhorn, as well as decorative plates, clothing studs, and personal ornaments and jewellery from Kalkriese. *Caligae* hobnails have been recovered from all three sites, particularly from Baecula and Harzhorn where they have been used to reconstruct Roman movement to and on the battlefield (Bellón *et al.* 2012: 366–70; Berger *et al.* 2010: 331–34). Bridle fittings, pendants, beads and wagon fittings were recovered from Kalkriese, and harness fittings and foot-plates from Harzhorn (Harnecker 2008; 2011; Berger *et al.* 2010: 343–47). Pottery fragments have been recovered from all three battlefields, though not in great numbers. This may be caused by the use of metal-detection survey to target excavation, which of course will not pick up pottery, as illustrated in comparison between excavated material and that picked up in pre-excavation survey at Harzhorn (Berger *et al.* 2010: 365). A range of functional non-conflict artefacts were recovered from Kalkriese which attest to the loss of a Roman baggage train, including surveying equipment, seals and *styli*, weights and measures, cooking utensils, and scissors. A variety of domestic and luxury artefacts were also recovered, including strong-box, statue and furniture fittings, gaming pieces, and a number of higher-value silver ornaments and dining equipment.

Looting

Weaponry cannot have been absent from battlefields in the aftermath of conflict to the degree suggested by the surviving archaeological record. The impact of post-battle activity on the site formation must be assessed to understand why battlefield assemblages manifest with few weapons

and a large amount of non-weaponry small finds. The question that needs to be answered is whether assemblages survive because of a deliberate choice not to recover certain artefacts, or because physical conditions negatively impacted the recovery of smaller finds.

The process of battlefield looting in the Roman world is not well understood. While looting in warfare is referred to by numerous sources in the historical record, it primarily concerns the raiding of enemy territory (Caes. *Bell. Gall.* 6.3; Plut. *Lucull.* 14.1; Polyb. 4.73.5–6; Tac. *Hist.* 2.12–13) or the capture of an enemy city or fortification (Caes. *Bell. Gall.* 7.11; Livy 27.1; Plut. *Sulla* 14.3; Polyb. 10.16.1–17.5; Tac. *Hist.* 3.33). Literary evidence from a battlefield context is more limited. Polybius describes Roman soldiers stripping the dead after the Battle of Cynoscephalae in 197 B.C (Polyb. 18.27.3). Livy documents a similar instance in the aftermath of Numistro (210 B.C), where Roman soldiers gathered the spoils of the field while collecting the battle dead for cremation (Livy 27.2). Plutarch documents the distribution of loot after the Battle of Vercellae (101 B.C), where the spoils of battle, including enemy standards, trumpets, and arms, were taken to the camp of Catulus, and were held separately from the booty recovered from the enemy camp (Plut. *Marius* 27.4). The sources are primarily concerned with the recovery of *spolia* from the battlefield, primarily denoting arms and weaponry (Livy 1.37; Plut. *Marius* 27.4; Tac. *Ann.* 1.57, 2.41). This is in contrast to wider campaign booty, *praeda*, which is not mentioned by surviving sources in the context of battlefield looting.

There is no literary reference to the fate of the non-*spolia* on the battlefield, or to subsequent phases of civilian looting. A lack of appreciation of the diversity of artefacts deposited on the battlefield resulted in a failure to appreciate the large residual assemblage left behind by *spolia*-centric military looting. To say that all other artefacts were recovered by local populations is over-generalised. It marginalises the fact that battlefield archaeology survives on sites from much later periods when civilian participation in battlefield looting is historically documented, which in itself suggests that these processes could not entirely strip the field.

Certainly, there are reasons why it might not have been physically possible to recover many of the smaller artefacts. The majority of finds from battlefields are less than 10 centimetres in length, with many much smaller, even within categories such as projectiles. Many other finds are highly fragmented, particularly from Kalkriese. These artefacts could easily have been obscured in the mire of an average battlefield in the aftermath of conflict. At Kalkriese, a greater density of artefacts survived in one area of the Oberesch because the Germanic turf rampart collapsed soon after the battle and obscured the artefacts below, as described above (Fig. 3).

Yet it should be reassessed whether Roman battlefield looting by military and/or civilian ever aimed in reality to strip a battlefield of all its archaeology. The time allowed for post-battle activity was likely to be limited to one or two days, or even hours. Looting took place within the wider time constraints of ongoing campaigning, and it was necessary to guard against the tactical risks of a loss of combat cohesion and discipline in what often remained hostile territory (Polyb. 10.16.8–9; 10.17.3–5; Caes. *Bell. Gall.* 5.33; *Bell. Civ.* 3.97; Plut. *Lucull.* 17.6–7; Dio 18.58.2). Battle-deposited weaponry could be Roman or non-Roman in style. The former might provide a replacement for damaged kit; the latter might be of lower quality, and have limited feasibility as a replacement for Roman kit. Limited amounts of excess equipment might be officially collected and transported by the Roman army for later reprocessing as suggested by hoards of battle-damaged equipment recovered at Corbridge (Allason-Jones and Bishop 1988: 103–105; Bishop 2011: 129) and Grad in Slovenia (Horvat 2002: 142). After a Roman defeat, non-Roman forces may have gathered Roman equipment to supplement their own, though from Abritus we can also see that much ended up in a civilian context in the local area (Radoslavova *et*

al. 2011). Any battlefield booty gathered by individual looting is likely to have been transported by the soldier himself, with his pre-existing equipment load likely to restrict the excess which could be physically carried, particularly if it was of inferior or identical quality. Metal elements of value could be stripped from wooden shafts or frames to make carrying easier, as illustrated by stripping of shield-binding at Kalkriese (Rost 2012/13: 103).

Considering the tactical risks of looting, it is unlikely that soldiers were sent to gather non-weaponry artefacts and fragments after the centrally-enforced collection of weaponry. If they were, how scrupulously would this be performed? Certainly there is no evidence to suggest that the large non-weapon assemblages survive out of military ineffectiveness in recovery; more likely, they survive out of a lack of interest in recovery on the part of the army, which focused on the rapid recovery of large-piece weapons. Even projectile recovery could be marginalised by this process. The quantities left behind do not suggest an effort towards wholesale recovery by the Roman army, though their smaller size and wider distribution (see below) is unlikely to have assisted.

To what extent civilian looting occurred on various Roman battlefields, and when, is difficult to quantify. That any traces of Roman battlefields survive at all suggests that civilian looting was not entirely effective at recovering the physical remnants of battle, though we cannot say whether it was ever intended to be. Whether the artefact rewards to be had from a battlefield after the army had removed the weaponry would have presented a sufficient lure to local populations is questionable. At South Cadbury, little effort was evidently made by the civilian population to recover weaponry and non-weaponry associated with a first century A.D. attack on the site (Barrett *et al.* 2000). The potential reward of looting would have to justify the effort expended in recovery; assorted fragments and damaged pieces of kit may not have provided such a lure, despite any innate value in the metal. The idea of hordes of army-followers and local populations swarming to loot battlefields may be an anachronistic imposition from later centuries.

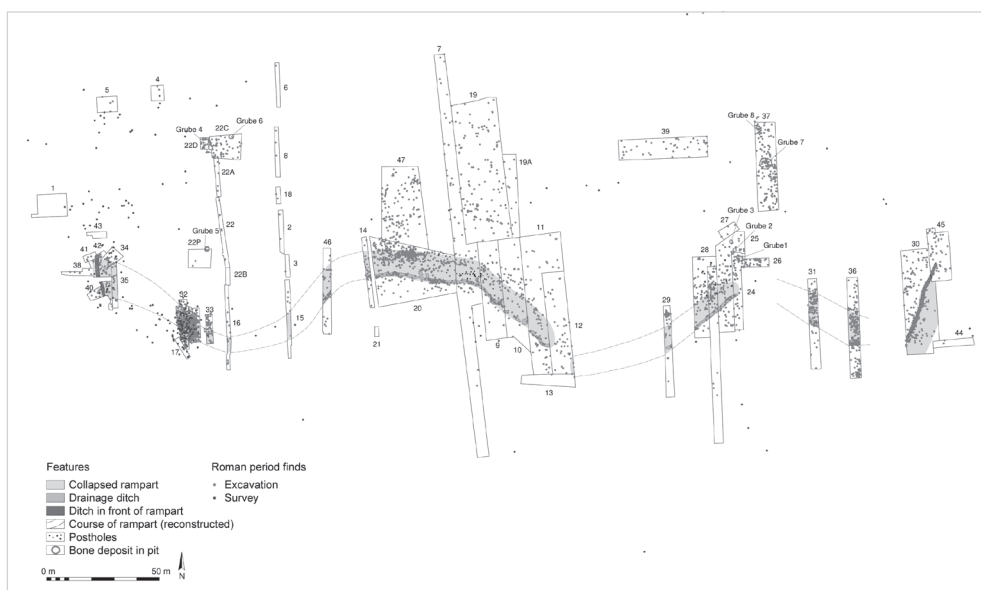


Figure 3: Artefact deposition at the Oberesch (after Rost and Wilbers-Rost 2010: 129).

Assemblage distribution

The surviving assemblages are also not evenly distributed across the battlefield, but are concentrated in areas of high and low deposition. The assemblage distribution is influenced by two factors: the density of deposition before, during and after the battle, and the proportion of post-battle artefact recovery. Battlefield archaeology has shown that modern post-battle activity is often focused on areas of high conflict-period weaponry deposition, with some areas of a battlefield being more thoroughly looted than others. These are typically found in the central battlefield, where the highest casualties, and thus highest artefact deposition, are located. It can serve to remove a high proportion of the original assemblage from this area of the site. Away from this area the conflict-period deposition density reduces, but correspondingly so does the intensity of post-battle artefact recovery, artificially reducing the proportional discrepancy between the central and peripheral areas of the battlefield. These areas may not be those of actual fighting, but instead of battlefield approach, retreat or manoeuvring, as well as the location of preliminary or subsidiary skirmishing. In American battlefield archaeology this effect has been informally termed the ‘donut effect’ (Lawrence Babits *pers. comm.* 11 October 2013). On modern sites artefacts are more densely deposited in the central areas of the battlefield, with lower densities in the periphery. The ‘donut effect’ is created by the concentration of post-battle artefact recovery on these same central areas at the expense of the periphery, causing a lower proportional rate of artefact survival in the areas of greatest original deposition. In extreme cases this can lead to the almost complete stripping of archaeology from the central battlefield. This effect is heightened by subsequent relic-hunting, which also focus on the central areas of the battlefield (Legg *et al.* 2005: 70, n. 6).

On modern battlefields, ammunition remains make up the majority of surviving assemblages, and deposition is primarily in areas of fighting. By contrast, on Roman battlefields artefacts could be deposited a significant distance away from the area of fighting, and are also associated with activity pre- and post-battle. Hobnails at Baecula have been found over 4 kilometres to the south of the battlefield (Bellón *et al.* 2012: 366–70). Long-range projectiles are particularly associated with peripheral areas of the battlefield, being primarily located outside the central area at Baecula (Bellón *et al.* 2012: 366–67) and Harzhorn (Berger *et al.* 2010: 323, Abb. 6), and more common in the wider landscape around Kalkriese than at the central Oberesch (Rost and Wilbers-Rost 2010: 134).

Achim Rost identified an effect similar to the ‘donut’ at Kalkriese, an ‘inverse spatial proportion’ in the survival of artefacts from different areas in the conflict landscape, particularly those of high-value or large size (Rost 2008). In addition, Rost argues that the density of deposition at the Oberesch was not only caused by the intensity of battle in this area, but also high rates of corpse-stripping, resulting in the post-battle deposition of numerous fitting fragments, and Roman transportation of their dead and wounded until this late phase of battle (Rost and Wilbers-Rost 2010: 133). At Kalkriese high-value artefacts are more commonly recovered from peripheral areas of the battlefield, up to two kilometres from the Oberesch, where deposits of gold and silver coins and a silver scabbard have been recovered (Berger 1996; Franzius 1999). No similar deposits, if they were ever made, survive from more central areas of the battlefield. A similar pattern is seen from the conflict landscape around the battlefield of the Roman defeat at Aritus, where intentionally hidden hoards of high denomination Roman coinage were likewise recovered from the Roman battlefield camp over four kilometres from the battlefield itself (Radoslavova 2011: 29–35).

It is difficult to judge whether the spatial distribution of finds on Roman battlefields reflects a 'donut effect'. If so, it is even harder to say how far this reflects post-battle looting and artefact recovery, or the spatial distribution of artefacts deposited during the conflict period. A range of weapon types was employed during Roman battle at different phases, and thus may only have been deposited on limited areas of the site.

Conclusion

Once it has been accepted that Roman battlefields do survive in the archaeological record, the issue becomes the development of a methodological approach for locating them. This task is complicated by the nature of surviving battlefield assemblages that are no more characterised by weaponry than any other Roman military finds context. Surviving assemblages have been significantly affected by phases of post-battle looting and artefact recovery, though this process was either ineffective, or not aimed, at stripping the battlefield entirely of deposited archaeology. This process created assemblages which are dominated by fragments, projectiles, and non-weaponry small finds, which may be distributed for miles around the actual area of physical fighting. These finds provide the context within which Roman battlefields can be identified.

The lack of reliable written documentation on the location of Roman battles places the finds at the centre of any attempts to recognise battlefields, whether the assemblage is recovered as part of an intentional location project, or emerges incidentally in the course of another project. The small finds are of central significance to the development of ongoing Roman battlefield methodology; but this central theoretical role must be informed by more research into the exact nature and location of these finds on battlefield sites.

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