CHAPTER 1

# The archaeology of warfare and mass violence in ancient Europe
## An introduction

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### Aims of this volume

In the past two decades, conflict archaeology has become firmly established as a relatively new and promising field of research, as reflected in publications, symposia, conference sessions and numerous fieldwork projects (see e.g. Freeman and Pollard, 2001; Pollard and Banks, 2005; Scott et al., 2009). It has its origins in the study of battlefields and other conflict-related phenomena in the modern and pre-modern periods (Meller, 2009; Saunders, 2012; Schofield, 2009; Scott and McFeaters, 2011), but numerous studies have already shown that this theme, and at least some of its methods, techniques and theories, are also relevant for older historical and even prehistoric periods (Buchsenschutz et al., 2014; Carman, 2014; Carman and Harding, 1999; Guilaine and Sémelin, 2016; Link and Peter-Röcher, 2014; Meller and Schefzik, 2015; Otto et al., 2006; Ralph, 2013). The research domain has a wide geographic and temporal scope, from early prehistory up until modern times. Its rapidly growing research output has generated a constant demand for synthesising studies, and it is here that this volume finds its justification. To enhance the depth and cohesion of the volume we have chosen to focus on the later prehistoric and early historic periods, roughly extending from the Neolithic up until the Late Roman period. In terms of geographical scope, the focus is on Europe, with sites or research regions spread over the continent (Figure 1.1).

This book presents a series of case studies on conflict archaeology in ancient Europe, based on the results of both recent fieldwork and older excavations. Our aim is to explore the basic material evidence for the study of warfare and collective violence as well as the current methodologies and theoretical concepts employed to gather and interpret this evidence. We feel that the methodological and theoretical framework of conflict archaeology is still underdeveloped for these older periods. Using an historical-anthropological perspective, we wish to present an interpretative framework that will enable us to compare the many contributions in this volume and to draw some conclusions. We hope this volume is sufficiently cohesive and that it will stimulate the further development of this particular field of study. It is our conviction that conflict archaeology has the potential to add interesting new narratives to the long-term history of humankind.

Archaeologists are increasingly aware that they have underestimated the societal impact of collective violence in ancient Europe (Armit et al., 2006; Armit, 2011; Buchsenschutz et al., 2014). Sites like Tollense Valley, Ribemont, Kessel, Monte Bernorio and Kalkriese confront us in a poignant way with the cruelties of war and mass violence in late prehistoric and early historic times. There is a growing critique that archaeology has marginalised violence and presented too pacified a view of the past, a reproach expressed most prominently in Keeley's book (1996) *War Before Civilization*. We agree with suggestions that we should make more room for violence and warfare in our narratives of both the prehistoric and early historic periods (Armit, 2011; James, 2007; Morris, 2014; Parker-Pearson and Thorpe, 2005). Violence was more common in the everyday life of ancient societies than recently assumed and was an integral aspect of social life (McCartney, 2012: iii; Pérez Rubio, this volume). In Roman archaeology the debate has been too heavily dominated in past decades by the Romanisation issue and the myth of the *Pax Romana*. With this volume we aim to give warfare and violence a more prominent place in the narratives that we produce.

### Definition and history of conflict archaeology

Warfare and collective violence are prominent topics studied by a broad range of disciplines: history, sociology, anthropology, psychology and philosophy. To this list can be added archaeology, which can make an original contribution to the study of war, in particular by focusing on the *materiality of conflict* and on *long-term developments* from prehistory into modern times.

Battlefield archaeology and conflict archaeology are often used as overlapping labels. However, conflict archaeology is a more inclusive term that covers a broader field than just the study of battles. It is a more comprehensive term for the study of all conflict-related


***Figure 1.1*** *Location of key sites discussed in this volume (authors): 1 Ribemont-sur-Ancre, 2 La Tène, 3 Tollense Valley, 4 Kalkriese, 5 Harzhorn, 6* Numantia*/Renieblas, 7 Hjortspring, 8 Kessel/Lith, 9 Hermeskeil, 10* Alesia*, 11 Orange, 12 Monte Bernorio, 13* Baecula*, 14* Iliturgi*, 15 Thorsberger Moor, 16 Talheim, 17 Asparn/Schletz, 18 Gournay-sur-Aronde, 19 El Civil rockshelter, Valltorta*

archaeological phenomena, including defensive works, military camps, military infrastructure, landscapes of war, battle-related ritual deposits and symbolic representations of violence in iconography, grave goods, etc. We also need to distinguish different types of warfare: raiding parties, open-field battles, sieges, ambushes and massacres.

Following Ember and Ember (1992: 248), warfare can be defined as "socially organised armed combat between members of different territorial units (communities or aggregates of communities)". Because of its organised and collective character, warfare can be easily distinguished from other, more individual forms of violence, such as feuds, domestic violence and assaults. It is the express aim of this volume to concentrate on the study of warfare and collective violence, since this is the field in which important advances have been made in the past two decades (see e.g. Arkush and Allen, 2008).

Because of its great time depth in particular, conflict archaeology appears to be a rather fragmented field of study, with a heterogeneous academic background and different interdisciplinary orientations. For the prehistoric periods, conflict archaeologists draw strong inspiration from the social sciences, in particular cultural anthropology with its focus on the social theory of violence. Evidence of battle sites is extremely rare for these early periods, and research is concentrated on the technical and social use of weapons, on defended settlements, and on the construction of warrior identities (Kristiansen, 1999, 2002; Uckelmann and Mödlinger, 2011; Vandkilde, 2013; Szeverényi and Kiss, this volume). For the historic periods on the other hand, there has traditionally been a strong historical orientation and a clear link with the field of military history (Carman, 2014: 1–3).

Conflict archaeology is generally considered a young field of study that developed from battlefield research

for the pre-modern and modern periods; only since the end of the 20th century have we seen systematic archaeological interest in comparative battlefield research, as illustrated by the launch of the *Journal of Conflict Archaeology* (2005), and the growing interest in the archaeology of WWI/II. We should also mention the impact of Anglophone historical archaeology, and the introduction of new methodologies such as the systematic use of metal detectors. The study by Douglas Scott et al. (1989) of the battlefield of Little Big Horn (USA) marked the start of the systematic archaeological research into battle sites.

However, some qualifications should be made here. Insufficient justice is done to the long tradition of Roman military archaeology, or '*limes* archaeology' from the late 19th century onwards. Often also forgotten are examples of early battlefield investigation such as the French fieldwork (including excavations) at the Caesarian battlefield of *Alesia* under the authority of Napoleon III in the 1860s (Reddé, this volume) or the study of the siege of *Numantia* in central Spain by A. Schulten at the beginning of the 20th century (Jiménez et al., this volume). The field of conflict archaeology has made great advances in Europe and the USA in the past two decades. However, the investigation of late prehistoric and Roman period battlefields in Germany, France and Spain has developed almost independently of the Anglophone tradition of conflict archaeology and has its roots instead in the continental tradition of Roman military archaeology. This could also explain why this field of research has not been developed yet in areas where Roman military archaeology has no strength, like in Italy and Greece.[1]

Most striking is the rather marginal attention until recently to conflict archaeology in Europe. Several factors have played a role here. One is the practical problem that battle sites and traces of mass violence are difficult to detect archaeologically. More important, however, seems to have been the current idea (no doubt influenced by the dominant anti-militaristic ideology in post-WWII Western Europe, cf. Armit et al., 2006: 3; Deyber, 2009: 22; Vandkilde, 2013) that war and collective violence were relatively marginal phenomena in the ancient past. This triggered Keeley's (1996) criticism that archaeologists had 'pacified' the prehistoric past and adopted a 'neo-Rousseauian' social theory of warfare and violence. 'Primitive' warfare in prehistoric societies was thought to be less effective, more ritualised, and focused on honour and status. There is now a growing conviction that warfare had a more prominent place in both prehistoric and early historic societies (Carman and Harding, 1999; Guilaine and Sémelin, 2016; Guilaine and Zammit, 2005). Warfare is a dominant and constant theme in Greco-Roman classical literature (Pitcher, 2009), and we observe the same preoccupation with war in the earliest literature of the Celto-Germanic world (see e.g. Bazelmans, 1999), while the archaeological evidence for conflict is rapidly growing. At present we observe a trend in European archaeology to 'un-pacify' the past (Armit et al., 2006; James, 2007).

[1]Recently, a team directed by Llyn Foxhall (University of Liverpool) has identified and partly excavated a 5th-century BC battle site at a defended hilltop settlement in the highlands of southern Italy at San Salvatore. Cf. Foxhall/Yoon, forthcoming. Information kindly provided by Llyn Foxhall.

## Methodologies and their potential

Within the field of conflict archaeology, and in particular the study of battlefields, a broad set of methods is now used, each with its own potential. Below we will present a brief outline, making reference to the contributions in this volume:

1) *The development of specific excavation strategies for battle sites*. Traditionally, archaeological fieldwork focused on settlements, cemeteries and cult places. However, battlefields are exceptional sites because of their extreme size (often covering hundreds of hectares), the absence of stratigraphy, the ephemeral nature of material remains and the scarcity of structural features. In the past two decades, archaeology has made great progress in developing fieldwork strategies for battle sites. Most effective appears to be a combination of survey techniques (metal detection, air photography, LiDAR-based elevation models, etc.) and selective small-scale excavations aimed at testing hypotheses. This strategy has been successfully applied at battle sites discussed in this volume such as Kalkriese, Harzhorn, Tollense Valley and *Baecula*.
2) *Paleogeographic landscape reconstructions*. The morphology of the landscape has always been a key factor in battle strategies and a central topic in military history. Conflict archaeology implies a specific reading of the landscape, with attention to river valleys, moors, strategic hilltops, narrow routes appropriate for ambushes, etc. Knowledge of the paleo-landscape is a prerequisite for the identification of battle sites and the study of military strategies and tactics. The sites of Tollense Valley, *Baecula*, Orange, Kessel, *Alesia*, Kalkriese and Harzhorn are concrete examples presented in this volume.
3) *Systematic metal detection*. The influential study by Douglas D. Scott et al. (1989) on the battle site of Little Big Horn in the USA demonstrated the huge potential of systematic metal detection for the study of battlefields. In Europe important results were obtained for the much older battlefields of

Kalkriese, *Baecula*, Harzhorn and Orange, where extensive metal detection surveys have been successfully used to demarcate battle sites and identify find concentrations.

4) *The study of weapons*. Historic evidence shows that weapons are important markers of the social identity of individuals and can be bearers of complex cultural biographies (e.g. Bazelmans, 1999; Kristiansen, 2002). But at the same time weapons are the embodiment of violence par excellence. Use-wear analyses of swords and spears may inform us about developments and innovations in weapon technology (Uckelmann and Mödlinger, 2011). Horn's chapter (this volume) on Early Bronze Age spears and swords shows that they were intensively used for combat, which means that fighting occurred frequently. Blankenfeldt and von Carnap-Bornheim (this volume) use weapons from bog deposits to successfully reconstruct army composition and fighting techniques in the Roman Iron Age of Northern Europe.
5) *The study of fortifications*. Much attention has been paid in archaeology to the investigation of fortification works related to conflict and the significance of hillforts as defensive strongholds. Regional peaks in the construction and burning of hillforts are seen as an indicator of increased interlocal or interregional warfare. The chapter by O'Brien et al. (this volume) on the identification of a 'hillfort horizon' in Late Bronze Age Ireland provides a case study.
6) *The investigation of military encampments*. Although Roman archaeology has a long tradition of investigating military camps, this research focused mostly on permanently used camps in the frontier areas. Roman marching camps, normally in use for only a few days or during the siege of a fortified settlement, are a much-neglected category of sites. They have a characteristic material culture and layout with a defensive wall and ditch system. In the last few decades, however, we have seen important new initiatives in the study of Roman temporary camps. Many of these key sites – *Baecula*, Renieblas near *Numantia*, El Castillejo near Monte Bernorio, Orange and Hermeskeil – are discussed in this volume. In several cases it has been possible to identify the Roman military encampments, while the nearby battlefields were difficult to trace. The survey presented by Costa-García (this volume) of the evidence from the north-western Iberian Peninsula uncovers many previously unknown Roman marching camps, which shows the future potential of this line of research.
7) *The study of battle-related deposits at public sanctuaries*. The boom in the study of Late Iron Age and Roman cult places has provided indirect evidence for warfare and rituals connected to conflict. A key example is the site of Ribemont (Brunaux, this volume), where there is a clear link to the public commemoration of battle, a theme further explored later in this chapter.
8) *The investigation of battle-related deposits from rivers and moors*. Rivers functioned as geographical and ideological boundaries, which could be locales for inter-group conflict and a place for depositing the battle dead. The contributions on Tollense Valley and the Meuse at Kessel provide interesting case studies. The presence of large numbers of weapons and human remains in these rivers may reflect combat activities, but could also represent a ritual act that fits in with the deeply-rooted symbolism of rivers in Europe as sacred corridors to the Other World. The collective weapon deposits in moors and lakes in Northern Europe – such as Thorsberger Moor, see Blankenfeldt and von Carnap-Bornheim, this volume – are generally interpreted as evidence of a collective votive practice of war booty to deities.
9) *Forensic research into human bone deposits*. Forensic archaeology offers immense potential in cases where conflict-related human bone material has been preserved (Knüsel and Smith, 2014). The contributions in this volume on the Tollense Valley, Ribemont and Kessel provide concrete examples. Here information was obtained about the specific anthropological profile in terms of age and sex of the groups engaged in the conflict, and the injuries inform us about combat tactics and the weaponry employed. Fibiger (this volume) analysed the abundant evidence of head trauma in Neolithic Central-Northern Europe and concludes that small-scale violence was an integral part of daily life in Neolithic farming communities.
10) *Isotope and DNA analysis of human remains*. The application of these methods – recently termed the 'third science revolution' in archaeology (Kristiansen, 2014) – offers new insights into the origins and mobility patterns of both individuals and groups. Strontium isotope ratios of human remains from Kessel show that the individuals involved were all non-locals. In the Tollense Valley, isotope and DNA analysis point to the heterogeneous origins of the battle participants. The investigators hope to be able to differentiate between warriors from the local population and those from the invading group from other regions.
11) *The application of computer modelling*. The complex interaction between armed forces and the terrain where they fought is typically explored with Geographical Information Systems (Nolan, 2009). Computer simulation has recently extended this basic framework by integrating additional factors

such as time (Rubio-Campillo et al., 2015) or soldiers' behaviour (Rubio-Campillo et al., 2012).

12) *The study of iconographic representations of conflict and warfare*. López-Montalvo's chapter (this volume) on Spanish Levantine rock art informs us about a wide range of subjects related to Neolithic warfare, like the type of conflict, the organisation of warfare, the size of war bands, the types of weapons used, leadership roles and personal ornaments of warriors.
13) *Use of historical evidence*. Many contributors to this volume seek to combine textual and archaeological evidence. The methodologies used are specified in more detail below.

Notwithstanding the broad spectrum of methods and techniques available in modern conflict archaeology, the limited chronological resolution of the archaeological evidence remains a fundamental problem. We need to improve our dating evidence in order to get a better grip on past events.

## Middle-range theory for the study of battlefields

An important insight in battlefield research on the younger historical periods is that archaeological material is not a simple reflection of a single event, but rather of a complex sequence of events (Carman, 2014: 14). Battles from more recent periods (such as the Little Big Horn site) are studied as a process. For the older periods, however, this 'archaeological layerdness' of battle sites is difficult to detect due to the absence of stratigraphy and the scarcity of find material. Moreover, most of our evidence for battles is indirect and is heavily influenced by post-battle activities. However, for the prehistoric and early historic past it is also important to use an interpretative framework that distinguishes several phases, each with specific kinds of activities, in the formation of the archaeological record. We propose a middle-range theory that distinguishes between:

1) *Pre-battle activities*. Examples discussed in this volume are the preparations for an ambush at Kalkriese by the anti-Roman coalition, the construction of two defensive lines (*circumvallation/contravallation*) and associated camps by the Roman army at *Alesia*, and the layout of Roman army camps just before the start of the battles at Orange, Monte Bernorio and *Baecula*.
2) *Activities related to actual combat*, as attested at the battlefields of Kalkriese, *Baecula*, Monte Bernorio and Harzhorn, where the distribution of *militaria*, coins and personal ornaments is used for the spatial delimitation of battle sites and the identification of zones of intense combat. At *Baecula* the distribution pattern of iron hobnails yielded information about the marching route of the advancing Roman infantry troops and enabled the team to identify the nearby Roman camp, while the distribution of lead sling bullets provided information about movements of specialised Roman troops over the battlefield (Bellón Ruiz et al., this volume).
3) *Post-battle looting and cleaning of the battlefield* (cf. Deyber, 2009: 178–183). All battle sites are heavily affected by post-battle activities, which is one of the reasons why ancient battlefields are so difficult to identify. The study of battle-related ritual depositions (see next point) shows that battlefields were often systematically cleared, which involved separating the bodies and equipment of the victorious group and the defeated party. The excavations at Kalkriese have produced evidence of the systematic collecting and processing of metals (Rost and Wilbers-Rost, 2015a), and at *Baecula* also of the melting of scrap metal immediately after the battle (Bellón Ruiz et al., this volume).
4) *Post-battle ritual depositions and the erection of commemorative structures*. Such structures could be situated at the battle site itself, as documented in the historical accounts about the creation of piles of armour, trophies or funeral mounds (see also Deyber, 2009: 181 ff.).[2] However, the best archaeological evidence for battle-related ritual depositions comes from public cult places, like the sacrificial sites of war booty on the moors at Hjortspring, Alken Enge and Thorsberg Moor in Northern Europe, or the cult sites of Ribemont and La Tène in Gaul.

The framework presented here – and applied by Meyer (this volume) in his contribution on the battlefields of Kalkriese and Harzhorn – can help us to order and interpret our data. It is important to realise that the material evidence from battlefields is actually the result of a complex series of events, often related to only a few days, so we are really talking about 'micro-time'. It is above all the evidence from post-battle ritual depositions that enables us to gain an understanding of the technology and organisation of ancient warfare.

## Battlefields between texts and artefacts

Historical data are important at two levels of the analysis of conflict sites: first, at a local level to identify and

[2]Cf. for example Tacitus' report (*Annales* 1.62) that when the Roman general *Germanicus* revisited the site of the Varus battle six years later, he ordered his troops to erect a funeral mound to commemorate the fallen Roman soldiers (see Rost and Wilbers-Rost, 2015b).

reconstruct a specific battlefield in the modern landscape (does the morphology of a particular site match the topography described in the written sources?); and second, to place a specific battle site in its supra-regional historical context.

In modern periods, battle locations are often historically given and relatively easy to identify, but the situation is different for older periods where we often face the problem of the ephemeral nature and limited chronological resolution of the archaeological evidence. Without historical sources, ancient battlefields are difficult to identify. Recent studies have elaborated the methodology for combining written and textual evidence in battlefield research (cf. Carman, 2014: 45–54, and the chapters of Bellón Ruiz et al., Roymans, Reddé, and Fernández-Götz et al. in this volume). Three basic steps are distinguished: a) study of the topographical information provided by written sources; b) proposing hypothetical locations of battle sites, based on the written evidence and paleogeographic reconstructions; and c) archaeological testing of the proposed hypotheses using a combination of survey methods and small-scale test excavations. The sequence of steps may vary, however. The investigation of the Kalkriese site started with an archaeological discovery – a coin hoard – which suggested a link with the historically documented Varus battle of AD 9; this proposition was then tested by an intensive programme of surveys and small-scale excavations.

Moving on to our second point, there is the level of supra-regional historical contextualisation of battle sites. Historically documented battlefields may offer interesting new themes for archaeological discussion, and conversely, archaeological research can make major contributions to historical debates. The recently discovered Roman temporary camps at *Baecula*, Hermeskeil and Monte Bernorio can be linked to specific phases of Roman military expansion in Gaul and Iberia and are therefore important documents for the study of Roman imperialism. Another example is the site of Kessel/Lith. If we accept its direct link with Caesar's battle of 55 BC against the Germanic Tencteri and Usipetes, then this site plays a role in the debate on massacres and genocidal practices during Roman imperial expansion (Roymans, this volume).

Notwithstanding the impressive results of the last decade, conflict archaeology continues to confront the problem of the limited chronological resolution of archaeological material found on early historic battlefields. Connections to specific events can be very plausible (such as at Kessel), but in most cases there is no strict proof. However, it is important that archaeology allocates space in its narratives to the impact of past events (Bolender, 2010; Revell, 2010), and not only focuses on the study of long-term processes.

## Commemorating battles in the past and present

Although most ancient conflict sites seem to have been quickly forgotten, there is a small group of battles whose memory long remained alive and which played an important role in the collective memory of communities. Pérez Rubio (this volume) – referring to recent work in the field of memory studies – points to the important role of the collective remembrance of specific battles for the identity construction of both individuals and communities in ancient societies. Spanish scholars have emphasised the importance of local place names retaining the memory of battles from a distant past (Menéndez-Blanco et al., 2015).

The way battles were commemorated varied greatly through space and time (Drozdzewski et al., 2016). Above all, this took the non-materialised form of creating songs or mythical stories that recounted the heroic deeds of ancestors (Pérez Rubio, this volume), thus presenting a model for the military élan of the present generation. Pitcher (2009) points to the crucial role of classical war literature – epics, poetry and historiography – in memorialising the martial deeds and military achievements of earlier generations. A concrete example is Aeschylus' tragedy *The Persians* (472 BC), which commemorated the glorious Athenian victory over the Persians in the battle of Salamis, a key element in the collective identity of the Athenians.

But – importantly for archaeology – the collective commemoration of battles in ancient societies also had a material dimension: in the erection of monuments, the public display of battle remains, and – more generally – the creation of *lieux de mémoire* at specific sites in the landscape. Concrete examples of commemorative monuments are the Soros mound at the battle site of Marathon (Carman and Carman, 2006) and the impressive Roman war memorials at Adamklissi (Romania), including an altar erected in the early 2nd century AD that lists the names of some 3800 Roman soldiers who fell in the Dacian Wars (Figure 1.2; Stefan, 2005: 437). A Late Iron Age example presented by Brunaux in this volume is the cult centre of Ribemont; this site of conflict containing the bone material of at least 508 young adult males was transformed into a cult place of veneration and remembrance, starting immediately after the battle in the mid-3rd century BC and continuing well into the Roman period. The sites of both Ribemont and La Tène have been interpreted as 'trophy sanctuaries' (Brunaux, this volume; Lejars, 2014: 116–122). Blankenfeldt and von Carnap-Bornheim (this volume) consider the ritual destruction and deposition of weapons in public ceremonies on Northern European moors as the equivalent of Roman triumphal processions.

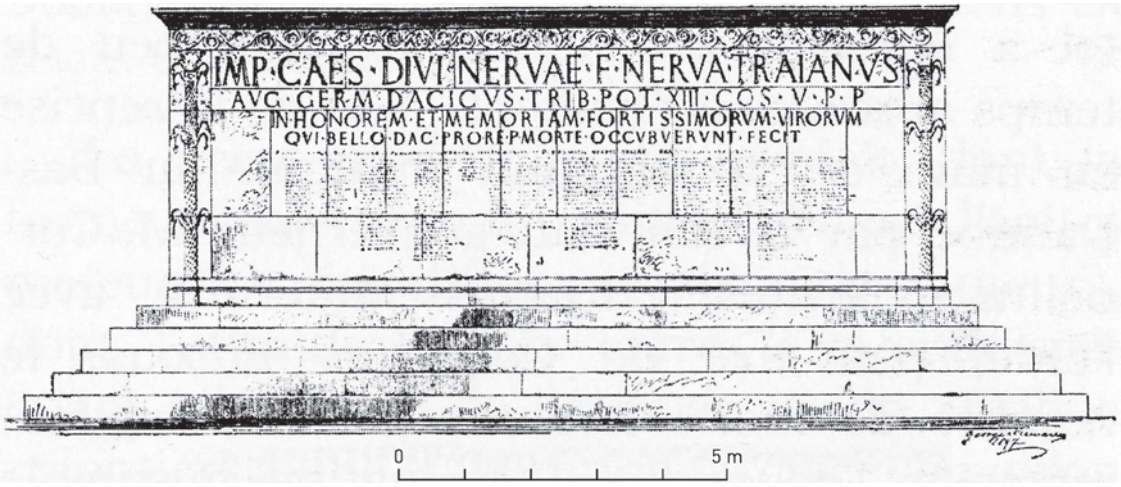


***Figure 1.2*** *Front side of a monumental altar (height approx. 4.5 m) from the early 2nd century AD commemorating some 3,800 Roman soldiers who fell on the battlefield at Adamklissi (Romania) during the Dacian Wars (after Stefan, 2005: 437)*

A different topic is the commemoration of ancient battle sites in our modern society. At most recently investigated conflict sites, we observe attempts to develop battlefields as cultural and touristic resources by means of museological presentations, re-enactment activities, etc. The best examples are the museums at the sites of *Alesia* and Kalkriese, where we see that the stories of ancient battles contribute to the construction of modern national and European identities. They can be considered *lieux de mémoire* of national and European importance.

## Some long-term trends in the organisation of warfare

As stated earlier, the unique potential of conflict archaeology is its long-term perspective on the technology and organisation of warfare, for example by pointing to changing weaponry and military strategies, or by distinguishing different conflict horizons through time. Using a long-term perspective, this volume enables us to compare the evidence for different periods and make some general observations.

Recent investigations emphasise that collective violence was already a feature of hunter-gatherer societies (Allen and Jones, 2014; Guilaine and Zammit, 2005; Keeley, 1996), as illustrated by the recently published massacre deposit of 27 human bodies from Lake Turkana, Kenya, dated to c. 8,000 BC (Mirazón Lahr et al., 2016). However, the first rise in archaeological evidence for collective violence in Europe comes from the Neolithic period with massacre deposits such as the mass grave near Asparn/Schletz (Austria) with over 60 bodies, and the 'Death Pit' at Talheim (southern Germany) with the remains of 34 bodies (see Fibiger, this volume). In the same period, we also observe the first appearance of settlements with defensive enclosures, and in Southern Europe we have some exceptional iconographic evidence portraying scenes of inter-group violence with an important role for archers (López-Montalvo, this volume). There is still debate, however, about the interpretation of the Neolithic mass graves (cf. Golitko and Keeley, 2007; Fibiger, this volume); the number of casualties is remarkably high and fits uncomfortably into the model of small-scale endemic violence often postulated for the Neolithic period.

For the Bronze Age in Western and Central Europe we now have the unique evidence of the Tollense Valley battlefield in northern Germany. The scale of the conflict is impressive; we are dealing here with a major violent clash involving at least several hundred and possibly even several thousand combatants (Lidke et al., this volume). Young adult males clearly dominate, but there are also small numbers of females and some children, which suggests that at least one of the parties included non-combatants (Brinker et al., 2014). The traces of injuries on human remains and the weapon finds point to the use of a combination of long-range (bow and arrow) and close-combat weapons (wooden clubs, spears, swords). The presence of high numbers of flint and bronze arrowheads shows the importance of archers. Swords and spearheads are rare, but this may be distorted by the post-battle looting of larger bronze weapons. The find of a small number of horse bones suggests that some (high-status?) combatants were on horseback.

In the course of the pre-Roman Iron Age we see the development of a standardised infantry outfit with

spears and large shields, and increasingly swords. Light spears were used for throwing, heavier spears for thrusting. All this points to a stronger emphasis on hand-to-hand combat in close formation. This method of infantry fighting, which bears similarities to the phalanx warfare of classical Greece (Randsborg, 1995), is best documented in the 3rd-century BC ritual deposits of Ribemont, Gournay-sur-Aronde (Brunaux, this volume) and La Tène (Lejars, 2014), and it is also attested in the 4th-century BC warship deposit at Hjortspring in Denmark (Kaul, 2003; Randsborg, 1995). In the Late La Tène period we see the growing importance of cavalry in Western and Central Europe. This is evidenced by the increasing occurrence of horsemen's graves and the appearance of extremely long cavalry swords, while the historical evidence points to the increased military role of large bands of horsemen operating in closed lines.[3]

The phase of Roman imperial expansion shows a dramatic increase in the scale of warfare and a further professionalisation of the army (James, 2011). From now on we also have written accounts of battles. The core of Roman military power were the legions, heavy infantry units that were supported by auxiliary units, including cavalry. The Roman Empire had a direct impact on the military organisation of 'barbarian' groups in the frontier zones of Northern Europe, as reflected in the sacrificial deposits of military equipment relating to interregional warfare. The swords – and sometimes other *militaria* – appear to be Roman imports. The moor deposits contain the equipment of between 200 and 1000 warriors, thus reflecting real armies (see e.g. Ilkjaer et al., 2002; Jorgensen et al., 2003). In several cases it has been possible to specify the geographic origin of defeated groups. The booty offerings also inform us about the internal organisation of the armies. Most scholars agree that we are dealing here with hierarchically organised war bands labelled as *comitatus* or *Gefolgschaft* by Tacitus (see Blankenfeldt and von Carnap-Bornheim, this volume).

The widespread practice of interregional warfare in the Bronze Age, Iron Age and Roman period will have stimulated a process of diffusion and homogenisation of military strategies and weapon technology in Europe. There is perhaps no other societal domain where groups were so receptive to innovations as in the sphere of warfare and military technology. However, we also observe considerable regional variation in fighting styles in all periods. Horn (this volume) already makes this point in his analyses of bronze weapons in Early Bronze Age Scandinavia. For the younger periods, the historic evidence is highly informative. The Germanic Chatti and the Nervii in Belgic Gaul had specialised in infantry fighting, while other tribes like the Batavi, Treveri, Tencteri and Usipetes had a reputation as producers of high-quality cavalry troops.[4]

## Towards a multidimensional approach to warfare

As already noted, conflict archaeology is a rather heterogeneous domain with different theoretical and cross-disciplinary orientations and related methodologies for the prehistoric, historic and modern periods (Carman, 2014: 2–3). There is nothing wrong with that. However, it is important to realise that conflict archaeology has the potential – and indeed should have the ambition – to offer a basic common ground for the study of human conflict from prehistory up until the present.

At a higher level of social interpretation and proceeding from a historical-anthropological perspective, conflict archaeology can best adopt a broad, multidimensional approach (Figure 1.3) that attempts to integrate elements from different research agendas.[5] This model has above all a heuristic function, as it draws our attention to series of relationships that are all complementary and which together can create a balanced approach. Although it will be easier to apply this approach to historically documented battlefields like *Alesia*, Kalkriese, Kessel and *Baecula* than to prehistoric conflict sites, it essentially seems just as applicable to the Bronze Age site of Tollense Valley, or the Iron Age site of Ribemont.

The model distinguishes between a time/space dimension, a cultural dimension and an institutional dimension. With regard to the time-space dimension, conflict archaeologists engaged in fieldwork invest considerable energy in local research, thereby focusing on the study of short-term processes. It is obvious, however, that short-term processes on a micro scale can only be properly understood when placed into a broader temporal and macro-regional context. Similarly, all conflicts have a 'hard core' institutional dimension, where we have to consider the role of power relations, social structures and the close links with the economic domain. But the historical and social sciences have taught us that conflicts cannot be adequately understood without paying attention to the cultural dimension, where we are confronted with the impact of ideologies, belief systems, identity constructions and ritual. It is also important here to allocate sufficient space to the impact of human agency of both individuals and groups. We hope that this model will provide us with a useful framework for the comparative research of conflict sites.

[3] Cf. the role of Germanic and Gallic cavalry as described in Caesar's account of his Gallic Wars. See also Tacitus, *Germania* 7.

[4] Cf. Tacitus, *Germania* 32 (Tencteri, Chatti), idem, *Annales* 2.8; 2.11; *Historiae* 2.17; 2.43 (Batavi). Caesar, *BG* 2.24, 5.3.1 (Treveri), 2.17 (Nervii).

[5] This scheme was originally developed by Jan Slofstra (2002: 20) for the study of Romanisation processes.

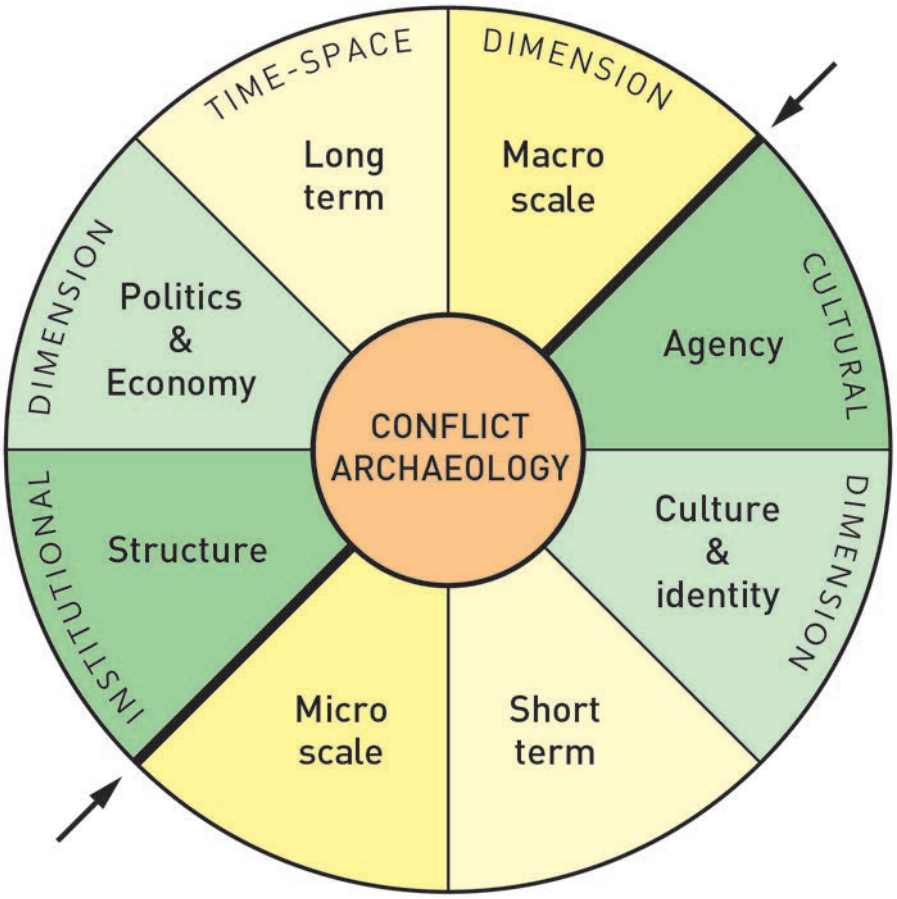


***Figure 1.3*** *Model of a multidimensional approach to conflict archaeology, using an historical-anthropological perspective (authors, inspired by Slofstra, 2002: 20)*

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