

## FAR AWAY FROM THE BATTLEFIELD – MASS GRAVES EXCAVATED UNDER DIFFERENT CIRCUMSTANCES

Dr. Birgit Grosskopf  
University of Göttingen

### ABSTRACT

The obligation of documenting anthropological and archaeological finds in Germany is regulated regionally by state specific law. In Bavaria a certified anthropologist must be present on site when skeletal remains are discovered, however, in other states the decision of what to do with skeletal finds is not as well defined. As a result, skeletons are frequently subject to improper exhumation in order to prevent delays in construction, or they are reburied without any scientific examinations having been conducted simply to save money.

In 2008 in northern Hesse, for example, the bones of over 100 individual napoleonic burials from 1813 were collected by hand and put in body bags by police cadets and emptied as a whole into six coffins and reburied. Following an exhumation in 2012, an attempt was made to reunite the jumbled bones as individual skeletons. In only a few cases was the arduous task rewarded with a successful MATCH. This was extremely unfortunate, especially with regard to pathologies, in particular the high frequency of periosteal changes observed on the long bones. Nonetheless some very interesting results were obtained. The regional provenance of the individuals was determined using the Y-haplotype. Furthermore, molecular biological analyses were able to identify pathogens for typhus and similar agents in the bones. Alternatively it can be shown that when numerous skeletons belonging to Napoleonic soldiers were discovered during construction work near Frankfurt in 2015 archaeologists carried out a thorough excavation. Anthropological examinations will be conducted later in Göttingen. The Quality of scientific information will be compared after finishing the anthropological work.

In view of the recent past, various themes concerning warfare are dealt with in a very careful and conscientious manner in Germany, and understandably so. However, memorials dedicated to the First and especially Second World War are often viewed with disdain or are at least the subject of critical discussion. This criticism, combined with the political situation that characterized the post-WWII-era, created a strong feeling of animosity with regard to them. Holidays and events such as Memorial Day, Veterans Day or Veterans meetings, all commonly accepted and traditionally celebrated in other European countries or in the USA, are simply unthinkable in Germany. Germany's association with the reprehensible atrocities and devastation in WWII has left such deep social and psychological wounds in the generations that followed, that even old memorial monuments from the First World War are often shunned and their preservation is regarded by some citizens as an act of glorifying war.

On the contrary, the German public considers the more ancient type of warfare to be a distinguished form of conflict and holds archaic battlefields in high esteem. For example in 2008 the discovery of the battlefield at Harzhorn was celebrated as a huge sensation. The battlefield, which dates to around 235 AD, indicated that the Romans were still marching for the northern part of Germany with large troop contingents (Geschwinde et al. 2009). This was a historically significant finding, because until then, it was commonly believed that after their defeat at the battle of Varus, the Romans retreated behind the Limes. In response, a small visitor center opened in 2014 and public interest in visiting the area is still high. As of 2009, two millennia after the Varus battle had been fought, numerous publications, TV-documentaries and scientific meetings about the conflict appeared. Many events took place not only at Kalkriese, where a large visitor center with an observation deck and a museum were built, but also at other sites with a history of Roman occupation such as Haltern am See. Active international participation in battle reenactments took place. Similar festivities occurred in 2013 in Leipzig, 200 years after the battle of the Nations.

Quite a bit of attention was also given to the discovery of a mass grave at Wittstock, which contained the skeletal remains of more than 88 individuals who died in 1636 during the Thirty Years' War. The finding was discussed at an international conference about battlefields and mass graves (Eickhoff & Schopper 2014) and was also the focus of a special exhibition in the Brandenburg Museum in 2014. A monument was built close to the site in remembrance of the event and the fallen. Another example also related to the Thirty Years' War is illustrated by the special exhibition featuring the mass grave of Lützen at the Museum in Halle in 2015. This reverence for historic battles and battlegrounds has generated more than just significant public interest. They have also become an important source of revenue, and a host of popular scientific publications has emerged, as have a number of TV programs specialized in historical documentaries. Yet in spite of this increased public interest in historical times and old battles, other not so recent events are nearly ignored, such as the 2008 discovery of a Napoleonic mass grave in Kassel, which is in the northern region of Hesse. Skeletons were found during construction work on the university grounds. Initially their origin was unclear, and it was thought that they perhaps were the buried dead from a Nazi labor camp. However, forensic investigations and radiocarbon dating showed that the skeletons were about 200 years old. Historians researched Kassel's archival records and found out that the mass grave was situated near an old hospital, where in 1813 many Napoleonic soldiers succumbed to typhus fever. As a result, the attending forensic scientist recommended the skeletons be excavated by archaeologists. In addition, he also suggested that the excavation could be conducted with the help of students from the universities of Göttingen and Mainz, under scientific supervision, of course. This had the attractive advantage of being cost effective for the city and because most of the skeletons were very well preserved and with only a few exceptions buried close together in rows (Figure 1), the dig and the skeletal material were optimal for anthropology and archaeology courses. As such, the students and university would also benefit.



**FIGURE 1 THE SITE AT KASSEL DURING THE EXCAVATION BY POLICE CADETS. MOST OF THE SKELETAL REMAINS WERE ANATOMICALLY INTACT (PHOTO: BY BERND SCHOELZCHEN).**

Unfortunately, the authority responsible for approving this plan, decided rather to provide for unhindered continuation of the construction work. The protection and documentation of the site, artefacts and human remains was secondary. Assurance came that any bones unearthed in the process would be gathered up and reburied at the city cemetery. The skeletons were dug up by completely inexperienced police cadets from a nearby police academy without any supervision by anthropologists or archaeologists. The resulting jumble of bones plucked from the backhoe shovel or ground was placed in body bags and then packed into six simple pine wood coffins. Fortunately, the director of the Kassel city museum publicly commented that the mass grave containing Napoleonic soldiers may be of great historical value for the city. So he secured one of the body bags containing skeletal remains and sent it to the University of Mainz for anthropological examination. Following an exchange with the research work group at the Department of Zoology and Anthropology at the University of Göttingen, it was jointly decided to excavate one of the coffins in order to obtain more information about the individuals.

Two MA theses focusing on morphological and molecular investigations of this material proved so promising (Grumbkow et al. 2011, Grumbkow et al. 2012), that the other five coffins were exhumed by members of the research work group in 2012. Because of their simple wood construction the coffins were no longer intact after four years of burial (Figure 2). Anatomical association had already been entirely lost previously and the individual skeletons were hopelessly commingled. The bones were often fragmented and during recovery they were also wet and therefore relatively unstable. As a result, damaging the bones further during unearthing was frequently unavoidable (these fragments were packed together to make later reconstruction easier). After cleaning, all of the isolated bones and fragments were identified and sorted. Extremities were divided into right and left sides. Upper and lower arm and leg bones were brought together and ideally paired up when possible. It proved impossible to completely reconstruct a single skeleton, however, it was often possible to rejoin a number of loose elements belonging to the same skeleton.



**FIGURE 2 FOUR YEARS AFTER THE REBURIAL, THE SKELETAL REMAINS WERE IN POOR CONDITION AND THE COFFIN WAS BEGINNING TO DETERIORATE (PHOTO: BY BIRGIT GROSSKOPF).**

One characteristic helpful in the reconstruction process was bone coloration. A portion of the skeletons exhibited a heterogeneous color, caused by substances in the soil resulting from a gas station and garage at the site. Yet, morphological similarities such as overall size, length, and robustness, as well as muscle and tendon insertions, anatomical variations and pathologies, especially changes due to degenerative joint disease provided the foundation for reassembling the individual skeletons. In some cases genetic fingerprinting of bones was used for establishing an association. Bones deriving from one individual were often found in different coffins. The reconstruction job was very difficult and extremely time consuming (Figure 3), which in retrospect was quite exacerbating considering the excellent skeletal preservation and the fact that at one time the individual remains were lined up in neat burial rows. The examination revealed that long bones and skulls were more often represented in the coffins than smaller bones like vertebrae, hand- and foot bones or other smaller elements.

Using the femur, a minimum number of 126 individuals was determined, which turned out to be considerably more than the count provided by the police. The anthropological examinations indicate that with only one exception the skeletons are all from male individuals, most of whom died between 20 and 40 years of age. Nearly all of the skeletons displayed signs of physical stress and pathologies such as periostitis of the long bones, especially of the tibiae. Evidence for healed traumatic injuries was also regularly observed. Analysis of mitochondrial and Y-chromosomal haplotypings of 101 individuals show that the soldiers originated from the Alsace region (Grumbkow 2013). Through the molecular detection for the presence of *Bartonella quintana* bacteria, and in one case *Salmonella typhi* (*Salmonella enterica* ssp.), it could be determined that typhus was the likely cause of death, as it was written in historical sources (Grumbkow 2013). *Bartonella quintana* is transferred by body lice and was detected in soldiers from a Napoleonic mass grave in Vilnius, Lithuania in a previous study by Raoult et al. (2006).



**FIGURE 3 ATTEMPTING TO ASSIGN EACH BONE TO INDIVIDUALS (PHOTO: BY BIRGIT GROSSKOPF)**

In 2015 another mass grave containing Napoleonic soldiers was found in Rödelheim, close to Frankfurt. In the course of professional archaeological excavations, it was possible to accurately document approximately 200 individual skeletons. Historical sources revealed that the final rear guard movements of the Napoleonic troops were around Hanau (30 kilometers away from Frankfurt) and Rödelheim, but that most troops died of typhus after thousands of soldiers were quartered in civilian houses in Rödelheim. Cramped living conditions, poor hygiene, physical exhaustion, hunger, sickness and a lack of supplies resulted in a quick spread of the epidemic.

The skeletons recovered from Rödelheim will be investigated in Göttingen with the intention of comparing results with those collected for Kassel. An initial investigation shows a higher prevalence of periosteal lesions on the bones discovered at Kassel than on the skeletons from Rödelheim. Jungklaus, König & Wahl (2014), focusing on the 88 individuals recovered from the Thirty Years' War mass grave at Wittstock, did not detect such lesions. The same is true for the skeletons discovered in a Napoleonic mass grave from Leipzig, as described by Teegen (2014). So one of the main questions will be if, how and perhaps why the conditions of the last months in the life of these soldiers apparently varied between the groups. Further skeletons from a mass grave from Hanau, dated in the same period as the Rödelheim skeletons, will also be examined and compared.

In order to facilitate a better understanding of these unique archaeological situations it is necessary to excavate and study different mass graves and as many skeletons that stem from them as possible. This is especially the case with pathological changes and signs of physiological stress and trauma, since these can be more accurately interpreted when large amounts of data to these exist compared to when they are documented just as singular findings. A wealth of information can be won through these intensive anthropological and archaeological examinations, not just on cause of death, but also to aspects of life history such as physical health, nutritional conditions, and perhaps even to medical treatments of the soldiers based on analysis of their healed injuries. In light of the information to be gained by these examinations, it is quite frustrating and even infuriating that so little importance was placed by the aforementioned city authority on reconstructing the fate and life histories of the 126 Napoleonic soldiers who died in Kassel. Only because of the intense personal effort and commitment invested by a handful of people, could a small part of Europe's past history be preserved.

In Germany graves and human skeletal remains are protected under a preservation of historical monuments act, but the laws vary significantly depending on the federal state. Unfortunately, there is no national legislation which makes it obligatory to conduct the excavation and documentation of archaeological human skeletal remains scientifically, ideally by both an anthropologist and archaeologist. In Bavaria for example, it is obligatory to have a certified anthropologist at the site when skeletons are excavated. In lower Saxony an anthropologist need not be contracted and the presence of only an archaeologist at the excavation suffices. Further financing of the excavations depends on federal law. In some states the builder has to pay for the excavation but not the follow up anthropological study. The interests of the builders are often in conflict with those of the archaeologists, understandably, since they want to resume construction under the adage that time is money, and the scientists insist upon protecting the site or excavating it under acceptable conditions. Due to thrifty economic management, human remains are often recovered with minimal monetary expenditure, and hurriedly reburied without an anthropological examination, which of course leads to significant loss of information both for the anthropologist and archaeologist.

With few exceptions, the present situation in Germany, in which the decision to excavate and document skeletal remains is made in a perfunctory manner by city officials is entirely unacceptable. The protection of archaeological and historical sites, as well as graves and their contents should be statutory. New legislation needs to be passed to prevent destruction by construction work, and to make the accompanying scientific anthropological investigation obligatory. This is especially true in light of the fact that this problem is not restricted to Germany. Various situations throughout Europe exemplify this. In 2009 during the construction of a hotel in Malborg (Marienburg), Poland, a civilian mass grave dated to 1945 and containing over 2000 skeletons was discovered. To this day it is still not really clear what the fate of these civilians was. Several offers from the Society of Anthropology in Germany to provide assistance from anthropologists were simply ignored and the clear impression was left, that as little information as possible should be gathered from this recovery of these remains. The excavation was conducted hastily with the aid of city workers and only a few superficial examinations were performed by the coroner before the skeletons were reburied near Stettin. The official explanation was that they were victims of an air raid, however, numerous eye witnesses stepped forward and provided accounts indicating that these people had been rounded up and executed. The only point of contention amongst these accounts concerned exactly who did the rounding up and shooting. Speculation remains whether these individuals were the victims of a massacre, starvation, disease, or as a result of different causes and then buried together in the mass grave. Although only a few skulls were investigated, some of these did in fact display bullet holes. At least in these cases the answer seems to be clear. A thorough examination would have been useful in providing clarity to the events leading to their deaths in the last stages of WWII and what happened in the last stages of WW II in the area, not only for the relatives and future descendants of these people but also for the historical record.

Digging up skeletal remains from this very recent, and for many, painful time period can also be conducted in a way that appeals to the lurid fascination of some viewers, thereby dramatizing the events to the point of distortion. Showing little scruple in how it is done and seizing the opportunity to portray the past by using human remains as a vehicle for catching the attention of those tuning in, a program exemplifying the need for site protection revolves around the so-called "Nazi diggers", who are the focus of public discussion, mainly in Great Britain. This group of hobby archaeologists appears on a TV show as they are filmed when they "discover" relics from Nazi period and dig them up. The sites they target are not in danger due to construction and their excavations are conducted in the absence of scientific supervision. It is a good example of wanton abuse of historical sites simply for the sake of money, and has no scientific merit or benefit.

A notable example depicting a grave site excavation conducted under ideal circumstances is the Napoleonic soldier mass grave documented at Vilnius, Lithuania in 2002 (Signoli et al. 2004). Careful exhumation ensured a solid basis not just for collecting standard biological data to each individual but also for further studies focusing on cause of death. Evidence for body

lice was found in the graves and researchers were also able to detect the louse pathogen *Bartonella quintana* and *Rickettsia prowazekii* in the skeletal remains and teeth (Raoult et al. 2006). The resulting scientific work provided many opportunities for students and scientific research. It captured the public's fascination through media attention and secured a moment in history for generations to come.

One example that exhibits both scenarios in one site is that from Yorkshire, England. In July 1996 a mass grave of combatants who died in the Battle of Towton (1461) was unearthed by construction workers extending a large house. Approximately half of the grave, containing about twenty skeletons was removed and reburied in the local cemetery without any archaeological or osteological observations or analysis. An article in the journal *British Archaeology* entitled 'Battlefield grave lost without record' subsequently discussed what legislation should be put in place to ensure that the recording of such important human remains should be carried out in future cases.

In September of the same year a team of archaeologists and osteologists were brought in to excavate the second half of the grave, containing the remains of at least 38 individuals, so that a record could be made of the remaining skeletons. This work was subsequently published (Fiorato, Boylston & Knüsel 2000) and formed a bench mark for the successful excavation of an osteological assemblage from a historical conflict-related context. It also proved to be the best selling publication by Oxbow Books showing that not only was the subject of interest academically but also to the general public. It has now been twenty years since this discovery at Towton yet still mass graves are continuing to be disturbed and not archaeologically recorded.

It becomes readily apparent just through a handful of examples that varying circumstances exist surrounding the excavation of human remains, especially those originating from warfare, and can result in a positive or negative outcome in terms of the information gained. The contextual differences associated with the skeletal remains recovered from such fields of conflict are quite marked when compared to that of civilian cemeteries where the buried for the most part died natural deaths. The international conference 'Fields of Conflict' has been held since 2000, and each meeting clearly illustrates the wealth of important information gained by studying battlefield sites and mass graves. In general, the area of battlefield-archaeology in Europe is a fairly new branch of research, yet substantial advances have been made in the last few years.

Since the discovery and systematic excavation of the Varus battle site in Kalkriese during the mid-1990s, which in effect laid down the cornerstone for battlefield archaeology in Germany, the country has hosted various national and international meetings revolving around this topic. We should therefore take advantage of the ever growing community of battlefield archaeologists and make a consolidated effort, nationally and internationally, to recommend that legislation be passed guaranteeing that every European country has an obligation to protect old and more recent historical sites. Warfare in particular has often had a major influence on the course of history. As such, battlefield sites and especially mass graves, even when they are not located in near proximity to the battlegrounds, represent a valuable resource that should remain untouched if possible and need to be protected. In the event that construction work or earth removal are unavoidable, then a professional excavation and documentation are absolutely necessary. We not only have an ethical responsibility to ensure this, but also for reasons of conserving historically valuable information. Future efforts should focus on a more effective cooperation between members of the battlefield archaeology group in order to help realize the goal of protecting or documenting our past.

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## AUTHOR

Dr. Birgit Grosskopf

Historische Anthropologie und Humanökologie  
Johann-Friedrich-Blumenbach-Institut der Georg-August-Universität Göttingen  
Bürgerstr. 50  
D - 37073 Göttingen

<http://www.uni-goettingen.de/de/209677.html>  
[birgit.grosskopf@biologie.uni-goettingen.de](mailto:birgit.grosskopf@biologie.uni-goettingen.de)

Diploma in Biology, University of Göttingen.

Employment in various anthropological projects (analysis of cremated remains and skeletal series, aDNA-analysis).

PhD scholar-ship, Ministry of Science and Culture, Saxony.

PhD, Department of Pre- and Protohistory, University of Leipzig.

Postdoctoral fellow, Max-Planck Institute for Demographic Research, Rostock.

Research scientist & lecturer, Department of Historical Anthropology and Human Ecology, curator for the skeletal collection.

Investigator of the human remains from the ancient battlefield at Kalkriese (Varian disaster, 9 A.D.).

## RESEARCH INTERESTS

Prehistoric and historical anthropology with an emphasis on histological methods as applied to age estimations and sex diagnosis of human skeletons and cremated remains.