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Holocaust Archaeologies

Approaches and Future Directions

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Preface

In 2007, whilst conducting research for my master's proposal, I came across a book which contained letters written by members of the Sonderkommando in Auschwitz-Birkenau. The Sonderkommando were a group of inmates who were forced to dispose of the bodies of the victims killed by the Nazis in the gas chambers. One letter by Salmen Gradowski, which had been buried in the rubble of the camp, stated:

> I have buried this among the ashes where people will certainly dig to find the traces of millions of men who were exterminated.

I was struck by the faith that Salmen and others like him had placed in society and how certain he was that the victims of the Holocaust would be identified. Yet, at that time, I had not heard of any cases where the mass graves of the Holocaust had been excavated by archaeologists. Therefore, I decided to research just how many attempts had been made to locate the victims and sites of the Holocaust in the past. Having trained as a forensic archaeologist, I was shocked to discover that few investigations had been conducted, despite the fact that well-established protocols have emerged in the past 25 years concerning the search for and recovery of victims of genocide. Some investigations were carried out immediately after the Second World War by doctors and lawyers but these surveys were mainly aimed at gathering evidence to prosecute offenders. Thus, the fact that physical evidence existed was confirmed, but detailed examinations of this evidence were not carried out. It was not until the 1990s that several investigations were undertaken by archaeologists and, in recent years, more and more searches for Holocaust sites are being carried out. The majority of investigations to date have focused on excavating or coring at the sites in question and this has caused significant problems due to the disturbance of human remains, something which is strongly discouraged under Jewish Halacha Law. In the absence of a suitable methodology, many Holocaust sites where the victims were predominantly Jewish have not been surveyed and the rabbinical authorities have been reluctant to grant permission for such work in light of the criticisms of these investigations. At other sites, the association, by the public, of archaeology with the search for human remains likely offers another explanation for a degree of wariness and sometimes hostility when archaeological work has been suggested.

The more I engaged with research in Holocaust archaeology, the more I came to realise that it is also the variety of political, social, ethical and

religious sensitivities surrounding this period which have undoubtedly influenced the number of investigations of the physical evidence that have been conducted in the past. Seventy years may now have passed since the end of the Second World War. Yet, whilst the Holocaust may be distant in terms of time, these events exist between history and memory, and continue to have considerable resonance in modern society. Excavation in particular may also be seen as physically and metaphorically digging up painful memories of the past and may bring to the fore particular aspects of the past that some people would rather forget. So it is not as simple as Salmen Gradowski (cited above) hoped to locate the evidence of the Nazis' crimes; in fact it may be forbidden to 'dig to find the traces of millions of men' due to religious stipulations and the sensitivities surrounding this period.

However, because of the variety of novel techniques and approaches now available to archaeologists, the inability to excavate should not inhibit research. In fact, adopting a non-invasive approach to the investigation of these sites opens up the possibility for much more detailed forms of investigation which can potentially locate an abundance of different evidence types. This is providing that, when addressing Holocaust archaeology we, as archaeologists, remember that we are not just dealing with the physical landscape; we have to consider the fact that landscapes have evolved over time and sites have taken on new functions. We are also dealing with contested spaces and memoryscapes where there will be conflicting opinions and memories of where and how events happened. Therefore, any attempts to examine Holocaust sites require a methodology that accounts for these sensitivities.

It was to this end that I developed the Holocaust Landscapes Project. This project began as research for my master's and doctoral theses and continues as an active research project involving staff and students at Staffordshire University, and several international partners. It is an interdisciplinary project which involves the integration of documentary, cartographic and physical evidence, and draws upon techniques from a variety of different disciplines. This book is based heavily on this work and focuses on the lesson learnt in the course of my own investigations at Treblinka extermination and labour camps in Poland, Semlin Judenlager and Anhaltlager in Serbia, and the camps and fortifications on the island of Alderney in the Channel Islands. I also draw on information derived from other sites that I have visited or provided professional advice about in the course of my research, and the work of colleagues working in this field. This book is a timely one as an increasing number of investigations are being carried out by archaeologists and it seems likely that more investigations will be carried out in the future. Its purpose is to consider current approaches to, and possibilities for, the investigation of Holocaust sites and to present novel ways in which investigations may proceed in the future. In a sense, the book is a call to action to archaeologists and a demonstration of potential to those who are custodians of Holocaust sites. Although we may not always be able to 'dig to find the traces of the millions of men (and women)' who were exterminated, by adopting a unique approach to Holocaust archaeology, we can certainly find out more about the lives and deaths of the victims, the experiences of those who bore witness and the actions of those who perpetrated one of the most heinous crimes of the twentieth century.

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About the Author

Caroline Sturdy Colls is an Associate Professor at Staffordshire University specialising in forensic and Holocaust archaeology. She is also the Research Lead and founder of the Centre of Archaeology at the same institution. Her research focuses on the application of interdisciplinary approaches to the investigation of Holocaust landscapes. As part of this research, she completed the first archaeological surveys of the former extermination camp at Treblinka (Poland), the sites pertaining to the slave labour programme in Alderney (the Channel Islands), and the former Semlin Judenlager and Anhaltlager (Serbia). She has published extensively in Holocaust and forensic archaeology. Her research has received international media attention via television documentaries and radio programmes aired in Europe and the USA. She also acts as a scientific advisor for Kamp Westerbork and sits on the NWO Holocaust Archaeology Group. Caroline is also a consultant for the Polish-German Reconciliation Foundation, searching for mass graves of the Holocaust across Poland. She is also a member of the Forensic Archaeology Expert Panel and regularly undertakes forensic search and recovery work with UK police forces. Her particular interests in this field include the application of forensic archaeological methods to the investigation of cold cases and sociohistoric conflicts. She is also a member of the Chartered Institute for Archaeologists (MCIFA) and a member and assessor for the Chartered Society of Forensic Sciences (MCSFS). As the research lead of the Centre of Archaeology, her interest in archaeology goes beyond the recent past and she has managed a number of large-scale research and consultancy projects across Europe.

Introduction

1.1 Physical Evidence and the Holocaust

The Holocaust resulted in the deaths of millions of Jews, Roma, Sinti, disabled people, Jehovah's Witnesses, black people, political prisoners and other so-called enemies of the Reich (Gilbert 2012)[1]. These events irreversibly altered the geographic, political and demographic map of the world. Whilst some of the victims were murdered in the extermination camps, others were subject to 'annihilation through work', ad hoc executions and terrible living conditions. In addition to the societal impact of these killings, Europe's landscape was physically transformed. Previously unassuming villages were to be defined by the presence of over 20,000 extermination, concentration and labour camps (USHMM 2013). Factories and fortifications were built to support to war effort. Transport infrastructures were constructed and altered. Areas were designated as ghettos and internment sites, and the fields of Europe became burial grounds for millions of people. Previously unconnected places became linked through the transportation of materials used to construct the camps and ghettos, personal belongings and people. These people included victims of Nazi crimes and individual Nazi officers, as well as specific groups such as the Nazi killing squads—the *Einsatzgruppen*.

In fact, the Holocaust transformed the thousands of places throughout Europe where atrocities occurred into crime scenes and one of the legacies of the Holocaust is the complex body of physical evidence that it left behind. Historically, considerable importance has been placed on this physical evidence where it has survived above the ground. Sites such as Auschwitz-Birkenau, Majdanek and Bergen-Belsen are universally recognisable because of the fact that their structures survive intact, and their museums and memorials attract millions of visitors a year (Fig. 1.1). Analysis of the form and function of these places has informed historical narratives and an understanding of their architecture has become synonymous with an understanding of Nazi extermination policies (Sofsky 2013; van Pelt 2002; Jaskot 2000). The abundance of personal items that are displayed at these memorial sites—such as shoes, suitcases and clothing—have also come to form an essential part of the iconography of the Holocaust and are viewed as important reminders of the atrocities perpetrated (Myers 2008; Fig. 1.2).

Conversely, however, little attention has been paid to the wealth of other physical evidence that exists pertaining to this period, particularly at sites that do not have the surviving built infrastructure of places like Auschwitz-Birkenau. Instead, it has often been suggested that no physical evidence

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[1] The exact number of people killed during the Holocaust remains unknown. Some scholars have suggested a figure of around 11 million. Of these, it is estimated that approximately six million Jews were killed but the number of Roma, Sinti, disabled people, political prisoners and others killed cannot be estimated with complete certainly.

Fig. 1.1 The gates of Auschwitz-Birkenau, which have become an iconic image of the Holocaust. (Copyright: Caroline Sturdy Colls)

Fig. 1.2 Piles of shoes which were found at Auschwitz-Birkenau after the liberation of the camp. (Copyright: Robert Hoetink)

survives at sites where tangible, above-ground features are not visible and that the Nazis were somehow successful in eradicating all traces of their crimes (Sturdy Colls 2012; Fig. 1.3). Some sites have been preserved as memorials and museums, and this may have led to the belief that any evidence that existed has already been located. In other cases, sites are unmarked and have become dilapidated, whilst the locations of others have been forgotten altogether with the passage of time. This is particularly true of graves pertaining to individual massacres.

However, atrocity on such a scale cannot be so easily erased. Long after sites from this period were destroyed or became dilapidated, traces of them will remain; some in the form of visible structural remnants and personal belongings, but less acknowledged as buried or concealed evidence. At the majority of sites, far from being destroyed, evidence has likely been modified or masked through natural or anthropogenic landscape change, deliberate attempts to hide it by those who perpetrated the crimes or through tampering or neglect by those who wished to forget what happened. The remnants of sites may survive only as subtle traces of evidence—as banks, ditches, vegetation change, depressions and other

Fig. 1.3 Some of the tens of thousands of Holocaust sites where it is often believed the Nazis managed to destroy the traces of their crimes and where the surviving physical evidence has been underestimated: Treblinka extermination camp (*top left*); an area containing mass graves at Izbica (*top right*); Brok Jewish Cemetery (*bottom left*); and the area of the former Kraków Ghetto, all in Poland. (Copyright: Caroline Sturdy Colls)

markers in the landscape—but these have considerable potential to increase our understanding of the nature of Nazi genocide. These micro-level changes have been shown to survive for archaeological sites that are thousands of years old and in longer-term criminal investigations (Hunter et al. 2013). Drawing on the latest developments in archaeology, in particular forensic archaeology, it is now possible to locate, record, analyse and (re-)present the above- and below-ground evidence that lies within Holocaust landscapes. Camps, ghettos, massacre sites, graves and an abundance of other features can be located, characterised and marked. This book will explore how new approaches to forensic and archaeological investigation will help to reveal this evidence. It will demonstrate how the study of Holocaust archaeology can provide new insights into the crimes that took place, enhance historical narratives and contribute to commemoration, conservation and education programmes.

This opening chapter will provide an overview of the key themes of the book and will highlight why a unique approach to Holocaust archaeology is required. The value of interdisciplinary methodologies and novel approaches to the examination of physical evidence will be explored, alongside a consideration of how archaeology can uniquely complement and challenge histories of this period. This acts as a platform for the chapters which follow.

1.2   A Unique Approach

The term Holocaust archaeology is one with which the reader may be unfamiliar. Conversely, the Holocaust itself likely needs little in the way of an introduction, although a broad historical outline is included in Chap. 2. The crimes persecuted by the Nazis have been thoroughly documented by historians, psychologists, demographers and sociologists, and have come to form part of collective memories of the twentieth century (van der Laarse 2013). For the purposes of this book, the term Holocaust is used throughout, as opposed to Shoah (which is a specific reference to the murder of the Jews), in order to reflect the fact that physical evidence will be examined that pertains to various religious and cultural groups. The Holocaust is also considered to be broad in temporal scope, spanning from the Nazis' rise to power in 1933 until the collapse of the Third Reich in 1945.

In recent years, an abundance of literature has emerged that has considered the role of archaeology in the investigation of conflict (Cornish and Saunders 2013; Carman 2013; Saunders 2012; Scott et al. 2009; Schofield 2009), genocide (González-Ruibal 2011; Giblin 2010; Ferllini 2007) and murder (Hunter et al. 2013; Cox and Hunter 2005). Additionally, a wealth of material exists which outlines the significant advances in archaeological methodologies that have emerged and which demonstrate that archaeologists have become more technologically aware (Ch'ng et al. 2013; Opitz and Cowley 2013; Parcak 2009). The number of archaeological projects undertaken at Holocaust sites has also increased considerably over the past two decades and there is now a reasonable body of literature that highlights the contribution that archaeology has made at specific sites (for an overview, see Sect. 2.3; Sturdy Colls 2012; Gilead et al. 2010). Hence, Holocaust archaeology has become a definable field of research and professional practice.

That said, the reader may ask themselves why a book focusing specifically on Holocaust archaeology is required. Firstly, given the increased interest in Holocaust archaeology in recent years, it seems timely to take stock; to evaluate the investigations that have been carried out to date, to address the lessons that can be learnt from them and to consider how sites should be approached in the future (Chap. 2). Although more investigations at Holocaust sites are taking place, there have still been relatively few investigations in comparison to the number of sites that exist. The Holocaust is also under-investigated by archaeologists compared to other twentieth-century conflicts and genocides, for example the First World War, the Spanish Civil War and the genocide in the former Yugoslavia (Sturdy Colls 2012). Therefore, there is a need to reflect on why this is the case. Undoubtedly, this is because, although the Holocaust may be distant in terms of time, these events exist between history and memory (Chap. 3). Many sites are no longer considered to be of 'forensic significance', in terms of the investigation of war crimes, but the events have not been confined to the annals of history. In fact, in many cases these events continue to have considerable resonance in modern society and remain extremely sensitive. Whilst it is true that archaeologists wishing to examine Holocaust sites can learn a great deal from the existing literature concerning conflict and forensic archaeology, the nature of the Holocaust means that archaeologists working in this area are forced to confront a unique set of circumstances that require a unique approach. It is this unique approach that will be the primary focus on this book.

Crucially, there has been little discussion amongst archaeologists operating in this area regarding the ethics of Holocaust archaeology and the vast number of religious, political, social and cultural affiliations that are connected to this period of history (Chaps. 3 and 4). This book will provide the first in-depth analysis of these issues and suggest ways in which they can be accounted for when planning fieldwork methodologies. In the past, the failure to design methodologies with these issues in mind has led to opposition to archaeological investigations, in particular where excavation of human remains has been undertaken or suggested (Weiss 2003; Sect. 3.5). Therefore, to date, the need

for a unique approach to Holocaust archaeology has not been given adequate attention; Holocaust archaeology has become something that is simply done, with little consideration of its value and what constitutes an ethical approach to its undertaking. Archaeologists who have not previously worked in this area are often shocked by the fact that they cannot simply employ the standard methodologies that they have used elsewhere and that the suggestion of doing so is met with opposition. Indeed, many are surprised that the Holocaust remains such a sensitive subject.

However, when a detailed investigation is made concerning the various groups who were, and who continue to be, affected by the Holocaust, it becomes clear why bringing the physical evidence pertaining to this period to the fore—or even the suggestion of doing so—may raise concerns and objections. Issues may arise due to politics, religious beliefs, cultural differences, disparate opinions between (or within) communities, or a lack of understanding of archaeological practices (Chap. 3). Since many investigations will focus on sites where people were killed and buried, archaeologists must consider the religious and commemorative significance of the locations that they plan to investigate. Most importantly, it must be borne in mind that the standard invasive archaeological techniques carried out at other sites (e.g. excavation) may be completely at odds with the religious beliefs of the victims and their ancestors (Sect. 3.5). In some cases, failure to consider these issues can also result in the re-emergence of societal divisions or even incite violence (Sect. 3.3.5). Even when the intention of archaeological investigations is to assist in locating victims or to commemorate a site of atrocity, hostility may still arise if the context in which the work is being undertaken is not fully understood. Therefore, it is simply not enough to attempt to apply traditional archaeological techniques at Holocaust sites. As more investigations of the physical evidence are likely to take place in the future— given calls to memorialise sites, pressures to develop land and the desire to conduct research—further consideration of the most appropriate techniques to use to facilitate the investigation of the physical evidence from this traumatic chapter of Europe's history is required. This book will take an in-depth look at the practicalities of carrying out archaeological investigations in this context. It will demonstrate how investigations should balance the scientific and historic requirements of investigations with the various issues surrounding them in order to ensure that they can be undertaken ethically and respectfully. It is the intention of this book to encourage future research at Holocaust sites that seeks to create such a balance.

Central to this book is the suggestion that Holocaust archaeology, as a field of investigation, must embrace the variety of novel techniques now available to archaeologists and forensic scientists. An interdisciplinary methodology will be presented in order to demonstrate how archaeology can (uniquely) contribute to the history of this period (Chaps. 5–7). This methodology has been based on a thorough consideration of the resonance that the Holocaust still has in modern society, in terms of political and social impact, religious thought and a desire by various groups to influence and claim so-called ownership of the past. This methodology has also been designed to allow the abundance of different evidence types present within Holocaust landscapes to be comprehensively located, recorded, analysed and (re-)presented. Indeed, another focus of this book is the wide variety of evidence that exists within Holocaust landscapes, much of which has been overlooked in the past (Sect. 1.1; Chap. 8 These methods also allow the various layers of a site's history to be recorded in order to understand the relationships between the physical evidence of the Holocaust, later events and the development of cultural memory (Chap. 11).

Finally, this book will address a number of issues that have not previously been discussed with regards to the impact of archaeological investigations. Once fieldwork has been carried out and new material generated, archaeologists have the difficult task of presenting it to the wider world. Particularly, when data are generated using highly specialised equipment, its significance may be difficult to convey to the general public. A number of questions also arise regarding what exactly are appropriate forms of presentation in light of the ethical issues that surround the investigation of this period;

yet these issues have never been addressed directly by archaeologists. Chapter 12 will explore novel forms of presentation and highlight some of the issues that should be taken into account when presenting archaeological material for use in commemorative, educational or heritage strategies. It will also consider the various uses and abuses of this material once it has entered the public realm.

1.3   Defining Holocaust Archaeology

The terms Holocaust archaeology and Holocaust archaeologies, used in the title of this book, require something in the way of further explanation. Holocaust archaeology has two main connotations; it implies the study of the archaeological remains pertaining to the Holocaust and also the use of archaeological techniques to examine this period. At this present time, the former can be problematic, given the Holocaust's position between history and memory. Describing the physical evidence of this period as 'archaeological' may be deemed inappropriate when this evidence includes the remains of victims, many of whom have living relatives. Archaeological remains are usually associated with the distant past, yet for many the Holocaust is deemed recent. With regards to the second definition—the use of archaeological techniques to examine the sites of the Holocaust—this can also be problematic. The discipline of archaeology often conjures up images of searching for lost treasures, excavating ancient sites and looking for the skeletons of our ancestors. Not only are these associations misleading in terms of failing to recognise the breadth of archaeology but they can also sometimes be difficult, particularly in the context of studying recent events. When one suggests investigating sites of the Holocaust, if archaeology is perceived as being about excavation, particularly of human remains, then opposition may be encountered (see Sect. 3.2.1). This is commonplace at, though not exclusive to, sites where Jewish victims were killed by the Nazis and where disturbance of the remains contravenes Halacha Law (Sect. 3.5.2).

However, this book takes the approach that the term Holocaust archaeology reflects both the diversity of the evidence relating to this period and the methodologies that can be used to investigate it. Firstly, if we take Deetz's (2010, p. 4) definition of archaeology that states 'archaeology is the study of past peoples based on the things they have left behind and the ways they left their imprint on the world' then assemblages of remains from any period can be termed archaeology. Whatever form it takes, the physical evidence of the Holocaust survives as a testament to the suffering of the victims and a source of evidence of the actions of the perpetrators, the investigation of which has the potential to contribute to local, national and international histories of this period, and its aftermath. This is the basic principle on which this book is based. It will be demonstrated how archaeological research has the potential to identify places and material remains. It will be shown how physical evidence can reveal the stories of the people who experienced the events to which it relates. Therefore, at the core of the methodology described throughout this book is the human experience; the techniques outlined, be they archaeological, historical, forensic or otherwise, are simply the medium to derive information about the people affected by these events contemporaneously and in the years since.

Additionally, the reality is that in recent years the term archaeology has come to have more of an association with methodology rather than a distant past (Harrison and Schofield 2010; Little and Shackel 2007). Similarly, Wright (2010, p. 96) has argued that buried evidence—be it structural, topographic, human remains or otherwise—should be considered 'archaeological territory' on the simple basis that it is in the ground; thus removing the temporal connotations of the discipline. This is the approach that was taken when devising the methodology outlined in this book. Archaeologists are essentially experts in the analysis of landscapes and the physical evidence that is buried within them. They are uniquely trained to understand sequences of deposition (layers) and how these relate to specific activities,

actions and time periods. This will be relevant when examining buried remains and landscapes relating to all periods of history, no matter how recent. The growth of forensic archaeology into a sub-discipline in its own right in recent years serves to demonstrate how it is not the period of time that has elapsed since deposition that defines the "archaeological" investigation of buried remains, but the approaches and methods which are drawn upon to examine them (Hunter et al. 2013).

1.4 To Dig or Not to Dig …

Whilst, traditionally, archaeology has been seen as a discipline centred on excavation, this need no longer be the case. This is a fortunate reality in the context of the investigation of Holocaust sites where the sensitivities involved in their investigation may negate or delay invasive activity (Sect. 3.5). The variety of non-invasive recording methods now available to archaeologists has increased considerably in recent years (Corsi et al. 2013; Sturdy Colls 2012; Parcak 2009). This is mainly due to developments in remote sensing technologies, geophysics, geographical information systems (GIS) and digital archaeology, alongside a greater appreciation of systematic search strategies and landscape profiling. The success of these methods for recording and analysing complex archaeological assemblages and landscapes has been well documented with regards to archaeological explorations of the distant past. However, their value in terms of mapping conflict and genocide sites has not yet been fully appreciated. Where excavation is not permitted, desirable or wanted, these tools offer the possibility to record and examine topographies of atrocity in such a way that the disturbance of the ground is avoided (Sturdy Colls 2012; Fig. 1.4). The specific techniques that can be used are discussed in Chaps. 5–7 but a discussion of the value of these methods is provided here by way of introduction.

When non-invasive methods are employed at Holocaust sites, the entirety of the landscape can be examined and complex configurations of structures, graves and other features can be more readily understood. The transport infrastructures that connected sites to other locations, the areas adjacent to camp and ghetto boundaries, and the settlements located nearby, can all be evaluated. The transport infrastructures that connected the site to other locations, the fields outside the camp boundaries and the settlements located nearby, all of which form part of the surrounding 'intermediate zone' (Kolen 2013) can all be evaluated (Sects. 8.7 and 8.8). Larger areas can be assessed and both above- and below-ground remnants can be recorded across the entirety of a chosen search area. In many of the investigations undertaken by the author, much of the physical evidence of the Holocaust lay on the surface and had not been looked for previously (Sect. 11.7). This included sections of buildings, earthworks and vegetation change indicative of buried evidence, as well as artefacts and human remains. Therefore, adopting a broader, non-invasive landscape approach ensures that such evidence is not overlooked and facilitates an assessment of both the macro- and micro-scale evidence; thus, large-scale events and landscapes can be analysed alongside individual stories.

The examination of the physical evidence relating to the Holocaust is inextricably linked to:

- The historical narratives of the period
- The cultural memory surrounding both the individual site in question and the events in general (at local, national and transnational level)
- The political, social, religious and ethical issues that have both shaped the site's current appearance and which will be brought to bear when archaeological investigation is suggested

Therefore, Holocaust archaeology as a subject area is not, and should not be, limited to the remit of archaeological practice in the truest sense. Archaeology is at the core of the investigation, in terms of

Fig. 1.4 Non-invasive approaches to archaeological investigation. (Copyright: Caroline Sturdy Colls)

the location and analysis of physical evidence, but it needs to be complemented by historical enquiry, geographical analysis, memory studies, political science, social anthropology, forensic science and criminology in the context of the Holocaust which was, and is, a crime as well as a historical event. As such, the collection of data 'in the field' must be complemented by archival research (including but not limited to witness testimonies, administrative documents, plans and court transcripts), cartography, spatial interpretation, oral histories, forensic analysis, and research into current and past political and social climates.

Archaeology is by its very nature an interdisciplinary field and many archaeologists reading this book are likely to be familiar with the techniques discussed. Most would agree that many techniques used by archaeologists have been 'borrowed' from other subject areas—one particularly relevant example are geophysical techniques which have been adapted for archaeological purposes from the fields of engineering, computing and geology. By utilising a range of different techniques capable of assessing both the above-ground and subterranean evidence present at a site, methodologies can 'be appropriately matched with both archaeological and logistical demands of the project' and a variety of aspects of the landscape can be recorded (English Heritage 2008, p. 3). Additionally, the limitations of one method can be compensated for by another, thus ensuring as much as possible can be derived about surviving remains.

Particular attention needs to be paid to method selection when examining burial sites. If excavation is not permitted, there are now a wide variety of non-invasive methods that can be utilised. These

Fig. 1.5 Discussions with local residents and visitors during a non-invasive survey at Staro Sajmište in Belgrade, Serbia. (Copyright: Caroline Sturdy Colls)

techniques provide the opportunity to locate graves so that they can be marked, protected and avoided in the course of future groundwork. This will prevent the disturbance of these sites during any future excavation works that may arise as a result of archaeological projects or in the process of the construction of monuments, memorials and buildings. It may also be possible to eliminate areas and demonstrate that they do not contain human remains, thus allowing development works or archaeological excavations to proceed. As Henrik Ofstad, the Norwegian Ambassador to Bosnia-Herzegovina has argued 'as we have the people and the technology to do it, nothing should prevent us helping to resolve the fate of those missing persons' (ICMP 2005). The development of well-established protocols in relation to the search for and recovery of victims of genocide by forensic and conflict archaeologists have been a major driver behind facilitating such activity (Cox et al. 2007). Many of these same techniques can now be applied at Holocaust sites. New methods in forensic archaeology also offer the possibility to go beyond the simple documentation of burials—to explore these crime scenes as evidence of the suffering of the victims and the actions of the perpetrators; to use techniques in offender profiling to locate lost and unmarked sites; to analyse whole landscapes for what they can tell us about systematic murder; to examine graves in terms of how genocide was carried out and attempts made to hide the crimes; to provide both an account of how victims died and to tell the stories of their lives. Much of this can still be achieved even when the remains themselves are not exhumed providing appropriate non-invasive or minimally invasive methods are selected (Sect. 7.5).

Because non-invasive approaches can account for many of the sensitivities surrounding Holocaust sites, they may also act as a mediatory tool between archaeologists and those with a connection to them (Chap. 4). The use of these methods may facilitate access to, and the detailed recording of, sites where work has not previously been permitted (Fig. 1.5). An approach that demonstrates that archaeologists have thoroughly considered the religious and commemorative importance of sites will help to build trust between local authorities, communities and researchers. The results of the research may also be used to facilitate discussions between groups who may have had differing opinions in the past and to determine how the site should be approached in the future.

It is not suggested in this book that non-invasive methods should always be used in place of excavation. However, by demonstrating the benefits of an interdisciplinary approach and the individual merits of different techniques, it is the intention to suggest that, in cases where excavation is not permitted, required or wanted, there are alternative means to gaining substantial information about buried remains. Similarly, in terms of devising a methodology for the investigation of Holocaust sites, even when excavation may potentially be permitted, it is also important to consider the value of adopting a non-invasive approach either in advance of or instead of an invasive strategy.

In the first instance, at sites where excavation is to take place, these methods offer a valuable precursor and allow appropriate, minimally invasive excavation strategies to be devised based on clearly defined search areas (Chaps. 5–7). For example, in some cases, it will of course be desirable to carry out excavations of mass graves in order to recover human remains. Non-invasive methods, ranging from community liaison (Sect. 4.2.4), walkover survey (Sect. 6.4), remote sensing (Chap. 6) and geophysical survey (Sect. 7.2), may help locate graves. If there is then a desire to identify victims, practitioners can draw on the well-established protocols developed by forensic archaeologists and anthropologists as part of recent war crimes investigations (Hunter et al. 2013, Chap. 8; Steele 2008; Ferllini 2007; Cox et al. 2007) and Disaster Victim Identification in order to do so (Black et al. 2011; Interpol 2009; Sect. 7.5). Secondly, the practicalities of conducting excavations mean that it cannot be undertaken at the same scale as non-invasive surveys. Features are often excavated only in part, usually through a series of test pits. Given the size of these tests pits in relation to the overall size of the chosen site, excavation can result in 'tunnel vision' and short-sightedness concerning the overall landscape and the amount of evidence contained within it. For example, where excavation is the focus of an investigation, it may be possible to examine only a handful of buildings and/or other features within a camp. Where non-invasive surveys are undertaken, it may be possible to carry out area- or even countrywide surveys.

This book is not intended to represent a textbook that outlines how Holocaust sites should be investigated. The individual sites and, perhaps most importantly, the issues that will surround the investigation of each, are too diverse to present a standard methodology. What this book intends to do, however, is to outline the issues that need to be considered when conducting such investigations, as well as highlighting the methods that could be used to examine the physical evidence. It is of course up to the individual practitioner to select the methods used based on the practicalities of search, the logistical and financial framework within which they are working, and the type of remains being sought. Therefore, the methods discussed in this book should be viewed as forming part of a toolbox, from which the most appropriate techniques can be selected on a case-by-case basis. This book is also intended to provide a source of debate for those already engaged in such work. It seems like an appropriate time to raise such issues due to the increasing number of investigations at Holocaust sites in recent years.

1.5   Archaeologies of the Holocaust

What constitutes the physical evidence of the Holocaust has often been viewed in very narrow terms and has centred on a distinct set of typologies borne out of the iconography of this period (Hayes 2003). However, an abundance of different evidence types exist that have often been overlooked or undervalued in terms of what they can reveal about the history of this period. In addition to individual features, many 'archaeologies' of the Holocaust can also be identified. The term archaeologies can here be used interchangeably with the terms layers or assemblages. There may be temporally, spatially or typologically different archaeologies which may reflect what Schiffer (1976) has termed 'cultural transforms' or different groups occupying the same space. Through the identification of individual

features it will be possible to classify them according to whether they are structural, infrastructural, mass graves, cremation pits, artefacts (which can be further broken down into their form and function) etc. Individually, these features may provide an insight into the living and working conditions of inmates in the camps and ghettos, and the killing and burial processes employed by the Nazis. When the broader landscape of the site being investigated is considered, collectively these features may aid our understanding of how particular sites functioned in spatial terms. Here lessons can be learnt from scholars in architecture and geography who have, for some time, been interested in examining the architecture of genocide (Knowles et al. 2014; Sofsky 2013; Jaskot 2000; van Pelt 2002). Locating the remains of structures for example can enhance our understanding of the layout of the camps and, subsequently, the way in which inmates moved throughout the space. Sites, and their subsequent analysis, should also not be restricted by boundaries of camps, apparent extents of graves or walls of ghettos; instead it should be recognised that the impact of these sites transcends geographical boundaries and that they form part of a wider Holocaust landscape (Sturdy Colls 2012; Gilbert 1997). Networks of sites can be examined and comparisons made between places in order to derive more detailed information about the nature of the genocidal acts carried out and, thus, the actions of those who experienced them.

It is also possible to examine the material remains of the Holocaust in terms of what they can reveal about patterns of behaviour at both individual site level and more broadly. This physical evidence may tell us about specific events and individuals but it can also reveal vital information about the architecture of oppression, deception and killing practices. It can demonstrate how internment and killing practices changed over time through the examination of landscape development; it can highlight how individuals or groups attempted to resist or rebel against their oppressors; it can reveal how perpetrators used the landscape to hide their crimes—both during periods of extermination and afterwards (e.g. when the camps were abandoned). Both within their boundaries and outside, Holocaust sites represent scenes of crimes, occupied territories and war zones but also sites of courage and, in the case of those locations where victims were hidden from the Nazis, of kindness and sanctuary (Kopówka and Rytel-Andrianik 2011). In order to understand and learn from the history of this period, it is important that it is acknowledged for all of its aspects, many of which are reflected in physical form. The various archaeologies of the Holocaust that can be identified are discussed further in Chaps. 8–10.

Many layers will be characterised by the fact that they represent a specific instance in time—this may be an extended period of time e.g. the period when a particular camp was operational, or a very short one, e.g. a specific event such as when a camp was burnt down on a particular day. However, the evolving nature of Holocaust landscapes should also be acknowledged. The history of Holocaust sites extends beyond (and indeed before) the period 1933–1945 and all of the pre- and post-war layers associated with this history form an equally important part of the narrative of the site. Layers dating to before a particular camp or ghetto was constructed may reveal information about life before the Holocaust, as well as demonstrating how Holocaust landscapes evolved. In some circumstances, their examination may reveal how the Nazis made used of existing landscape features in order to construct the camps and ghettos or execute the victims (Sects. 9.3 and 10.6.4). With regards to post-Holocaust layers, they may demonstrate how a site evolved and, in turn, this may reflect attitudes towards them or social, political or cultural shifts (Sect. 1.6 and Chap. 11). Relationships between such changes and the effect on the physical evidence can be derived. In some instances, such changes will have damaged evidence, whilst in others they may have protected it (Sect. 11.2).

Fig. 1.6 The former camp
hospital in Semlin camp,
Serbia, which has also been
an exhibition hall, a concert
venue and a gymnasium in
the years before and after the
Second World War. (Copy-
right: Caroline Sturdy Colls)

1.6   Traces of Memory

As already observed above, the history of the Holocaust did not end with the closing of the camps, the final mass killing or the end of the Nazi regime. The legacy of the Holocaust has been far reaching and has not remained static, having diversified according to political and social changes differentially throughout Europe. Thus, an examination of these changes is crucial in order to understand how the landscape being investigated has evolved and this should form an essential part of archaeological methodologies. The treatment of sites since their abandonment is also inextricably linked to the perceptions of them. In many cases, the modern form of a site is a physical manifestation of how the Holocaust is, and has been, viewed. Therefore, it is possible to read the landscape in terms of what it can reveal about societal changes, political circumstances, perceptions of particular groups, acceptance or rejection of the past, heritage management and tourism. This may be achieved through the examination of the built environment and the examination of memorials or museums (or lack thereof). Other forms of evidence such as graffiti or the presence of artefacts on the surface may also highlight current perceptions of the site. Because many sites will have taken on alternative functions since the Holocaust, this also means they will have taken on new meanings (Fig. 1.6). In addition to assessing the physical evidence pertaining to these alternative uses, it is important to consider how people behave in these spaces. Through the observation of how people use the space, the kinds of activities carried out there and any spontaneous, personal acts of memory making, it may be possible to evaluate the level of knowledge about a site's history. Therefore, an archaeological methodology that incorporates an analysis of all of the 'layers' present is vitally important when addressing Holocaust sites. This is not to detract from the events of the Holocaust but instead to gain an understanding of the context in which the site is based. The traces of memory that can be recorded at Holocaust sites will be discussed further in Chap. 11.

1.7   After Archaeology

Having considered how archaeological surveys can be conducted and what this can reveal about the physical evidence of the Holocaust, it is also important to consider what happens after fieldwork has been completed. Chapter 12 will consider the various ways in which archaeologists can present the results of their investigations to a variety of audiences. A variety of new and emerging technologies in the digital humanities field now offer the possibility for new forms of presentation of the results of archaeological surveys, both in situ and in a virtual environment (Ch'ng et al. 2013; Jones 2013). As with the methods used during in-field survey, it is important to consider the appropriateness of these

techniques and ethical approaches to their use in light of the sensitivities that continue to surround the Holocaust.

Looking to the future, the impact of archaeological investigations on the 're-presentation' of the Holocaust and on memorialisation also requires consideration. This discussion is a timely one as we enter an age without survivors and as questions are raised about how to educate future generations about these events in their absence. Issues pertaining to the conservation of Holocaust sites also need to be considered, particularly in the context of the debates surrounding commodification, authenticity and restoration (Podoshen and Hunt 2011; Huyssen 2003; Charlesworth and Addis 2002).

Whilst there will be some legacies of archaeological investigations over which archaeologists have control, there will be others over which they do not. Although attempts can be made to disseminate the new information derived from archaeological work, whether or not historical narratives are revised as a result will depend on a number of factors. One key factor is the willingness of the international, national and local community to depart from "official histories" or long-held perceptions that they may have. Other reasons include a willingness by the same groups to face these aspects of their past, any future plans for the development of sites and the level of interest in this history to name but a few. By challenging or corroborating long-established historical narratives, archaeologists may find themselves caught up in political debates or facing hostility (Chaps. 3 and 12). Whether or not sites that were previously unmarked or poorly explained will be commemorated and modified will also depend on the particular circumstances in which the work is being undertaken. Whilst in some places the results of archaeological surveys will face hostility, indifference or lack of acknowledgement, in others they may attract considerable attention in ways that archaeologists did not intend or want. The evidence uncovered can of course be manipulated. It can be configured or engineered so as to facilitate the production of particular narratives and elements of it can be suppressed or cast into oblivion to the same end (Sect. 12.6). The presence or absence of evidence, as outlined in archaeological reports, can be drawn upon in denial debates and archaeologists may find themselves subject to harassment by so-called Holocaust revisionists (Sect. 12.6). These are all issues archaeologists will be forced to address, sometimes for many years after projects have been completed and any number of unforeseen uses and abuses of archaeology may occur. Yet, these are all issues that have not been discussed in any detail in current literature concerning Holocaust archaeology.

1.8 Holocaust Archaeologies: Approaches and Future Directions

In order to provide a comprehensive overview of the themes outlined above and to address at length both the methodological approaches to Holocaust archaeology and the comprehensive body of evidence that can be uncovered, this volume is divided into three parts.

Part I provides an overview of the contexts in which Holocaust archaeology may be undertaken. Chapter 2 outlines the historical background of the Holocaust and the development of investigations of genocide, whilst Chap. 3 offers a reading of the cultural, political and religious landscapes in which work may take place. The latter provides a comprehensive overview of the challenges that archaeologists may face in the course of their work.

Part II centres on novel methodological approaches to the investigation of the Holocaust. Chapter 4 outlines strategies that should be considered in advance of fieldwork in order to mitigate against the issues outlined in Chap. 3. Chapters 5–7 provide a detailed account of the various cutting-edge methods that archaeologists should consider employing when examining Holocaust landscapes.

Part III addresses the various forms of physical evidence that can be encountered, recorded and analysed by archaeologists. Chapters 8–11 discuss the ways in which this evidence has the potential to enhance historical narratives of the Holocaust and knowledge concerning the cultural memory that

surrounds it. Finally, Chap. 12 addresses the various ways this evidence can be (re-)presented and the impact that archaeological investigations are having, and will likely have, in the future.

Case studies are provided throughout in order to provide examples of past or current works. The geographical distribution of the case studies, and the need to repeatedly refer to sites, stems from the fact that Holocaust archaeology as a field is still in its infancy. Many of the case studies are also drawn from the author's own work and are repeatedly referred to since they are the only sites to have been examined using the full suite of methods outlined in this volume. It is hoped that this book will demonstrate the various possible approaches to Holocaust archaeology and inspires more work in this field in the future.

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2.1 Historical Background

The events of the Holocaust have been thoroughly documented by historians and the reader is referred to this published material if detailed information is required about their chronology and specificity (e.g. Friedlander 2014; Gilbert 2014; Friedman 2012; Snyder 2011; Bergen 2003; Hilberg 2003; Lewy 2000). However, a summary of the history of the Holocaust is provided here for the benefit of those not familiar with the crimes perpetrated by the Nazis and in order to provide clarity concerning many of the places, people and events mentioned throughout this book.

Although some historians continue to argue that the Holocaust was a Jewish event, the definition that it was the persecution of Jews, Roma, Sinti, the disabled, homosexuals, black people, Jehovah's Witnesses, political prisoners and anyone else considered an 'enemy of the Reich' is adopted throughout this book (Friedlander 2014; Grau and Shoppmann 2013; Evans 2010; Penton 2004). This persecution included not only mass murder but also 'annihilation through work', mental and physical torture, internment, deprivation (of provisions, of freedom of movement and of contact with loved ones), forced sterilisation, rape and segregation (Pillay 2003). In terms of temporal scope, these forms of persecution began in 1933 when the Nazis came to power and ended with the fall of the regime in 1945. That said, many places, people and events remained, and remain, linked to the Holocaust through the long-lasting impact that the crimes perpetrated had. For example, the mass graves excavated by the liberating forces are still deemed to be part of the Holocaust, on the basis that many of the casualties buried within them died as a direct result of Nazi persecution (Cesarani et al. 1997; Abzug 1987).

When the Nazi Party took control of Germany on 30 January 1933, whether or not plans had been made at that point, this was the first step on the road to genocide. Almost immediately, the Nazis established internment sites to control those that they deemed to be inferior or a threat to the regime (Megargee 2009). Whilst many were established in existing structures, a number of purpose-built camps were constructed. This included Dachau concentration camp, which was to become to the model camp on which others were based (Marcuse 2008). At these internment sites, ad hoc executions occurred alongside torture and many prisoners were forced to undertake forced labour. As early as 1934, the *Sicherheitsdienst* (SD) secret service department was established to research the 'Jewish Question' and the implementation of the Nuremberg Laws followed a year later (Longerich 2010). These laws imposed a number of restrictions upon 'inferior' individuals and groups, including the Jews. The desire for Lebensraum meant that the deportation and resettlement of minority groups began to occur at this time and, by the time Kristallnacht occurred on 9 and 10 November 1938, tens of thousands of people had already been sent to the camps (Megargee 2009). Many were tortured, deprived of food, subject to harsh labour or executed. The onset of World War II on 3 September 1939 saw the annexation of Poland by

Nazi Germany and the enactment of Hitler's order that 'without pity or mercy all men, women and children of Polish descent or language' should be killed to free up living space (Lukas 2013, p. 3). At the same time, plans were being developed and implemented for the mass murder of the disabled. The euthanasia or T-4 programme, as it became known, resulted in the deaths of more than 70,000 people in hospitals or specially developed euthanasia centres located throughout Germany between 1939 and 1941 (Burleigh 2002). Although the program officially ceased in 1941, thousands more were killed right up until the end of the war (ibid). Through lethal injection, neglect and shootings, the Nazis systematically murdered the mentally ill and disabled, as well as others whom they had interred in medical institutions (Sereny 1995). Nazi ideology promoted the creation of a pure Aryan race and, as such, anyone deemed inferior had to be removed from areas containing Aryans (Arad 1987). Initially, a plan was devised to deport Jews to Madagascar but this was quickly abandoned in favour of establishing ghettos throughout occupied Poland and, later, elsewhere in Europe (Browning 2012). The first were established in June 1940, some as open ghettos, others as closed ghettos. Many of those interred were forced to carry out labour to aid the war economy (Gruner 2008). The concentration camp system also expanded considerably during this time and gassing experiments were already being carried out in the newly constructed Auschwitz I in September 1941 (Megargee 2009). The invasion of the Soviet Union (Operation Barbarossa) has been seen as the crucial turning point in Nazi racial policy, as it facilitated the covering up of large-scale executions of essentially anyone whom the Nazi Party saw fit to kill (Breitman 2002). In 1941, the Einsatzgruppen units were established; four heavily armed task forces were commissioned to kill Soviet Jews by the order of Reinhard Heydrich (Evans 2010). Trained in criminology and killing techniques, the Einsatzgruppen murdered approximately 2 million people, thus leaving 'a trail of mass graves containing hundreds of thousands of corpses' (Büchler 2003, p. 412).

Although the 'Final Solution' was supposedly devised at the Wannsee Conference, held on 20 January 1942, the large-scale killing of Jews, Roma, Sinti, the disabled and political prisoners has already taken place in various forms (Browning 2005). Initially, this included the use of gas vans at places like Chełmno in Poland and Semlin in Serbia (Montague 2012; Byford 2011). The construction of the Operation Reinhard camps—Bełżec, Sobibor and Treblinka—did, however, mark the first attempt to kill millions of people through more efficient, even industrialised means (Berger 2013; Arad 1987). Vast networks of camps and ghettos were established throughout Europe to facilitate the internment and deportation of millions of people. Several labour camps were also established in the Lublin region and incorporated into Operation Reinhard (USHMM 2013). Over the course of less than a year, the Operation Reinhard camps alone resulted in the deaths of approximately 1.7 million people (see Berger 2013 for latest estimates); the exact total will never be known given the lengths that the Nazis went to in order to hide their crimes. Other concentration camps throughout Europe built gassing facilities, whilst others continued to kill people through horrendous working and living conditions, and through executions (Fig. 2.1).

Whilst Germany, Poland, Austria and countries closest to the Reich were affected at the start of the war, others such as Hungary did not face large-scale persecution until 1944 (Aly 1999). Although the scale and methods of killing varied geographically, Dawidowicz (1990, p. 427) has argued that 'wherever German rule was total and supreme, the Jews were consigned to annihilation' and the same can be said of other minority groups and political enemies. As it was clear to the Nazi administration that the war was to be lost, thousands of people were taken from the camps and ghettos and sent on death marches (Blatman 2011). By the end of the Second World War, millions of people had been killed in the camps and ghettos, and at thousands of executions sites-often in the towns and villages where they lived (see footnote in Chap. 1). Thousands more people were subject to deportation, internment, torture, deprivation and forced labour. Many died after the liberation of the camps as a result of the circumstances they had endured. For example, following the liberation of Bergen-Belsen camp on 15 April 1945, a further 13,000 people died and the image of 'thousands of naked and decompos-

Fig. 2.1 The main Nazi camps that were operational during the Holocaust. (Copyright: Caroline Sturdy Colls)

ing corpses…often simply incapable of greeting the liberators' whose 'bodies were eventually bull-dozed into mass graves' has become synonymous with the post-war period (Lattek 1997, pp. 37–38; Fig. 2.2). Many victims buried after liberation were not identified and the locations of these graves were rarely marked due to the massive scale of the cleanup operations (Cesarani et al. 1997). Because of the extent of the suffering experienced by the survivors and the scar that the Holocaust left on the world, its history certainly did not end in 1945 (Sect. 3.3 and Chap. 11).

2.2   Investigating Genocide

The area of Europe that Snyder (2012, p. viii) has called the 'Bloodlands', where Hitler and Stalin murdered millions of people between 1933–1945, witnessed 'mass violence of a sort never before seen in history'. Through 'state institutionalised, deliberate and systematic practices of making people disappear' (Juhl 2005, p. 3), as well as through starvation, terrible living conditions, ad hoc executions and harsh labour, these regimes enacted genocide at a time when the term itself did not yet exist (Sect. 2.2.5). The uniqueness of these events required an investigative response also 'never before seen in history' (Snyder 2012, p. viii). The illegal nature of these mass killings meant it was necessary that individuals, groups and even whole regimes were held to account. For the first time,

Fig. 2.2 Bodies being buried in mass graves at Bergen-Belsen by the British liberating forces. (Copyright: Yad Vashem)

human bodies and killing sites became key pieces of evidence in achieving this (see also Keenan and Weizman 2012 for a discussion of the role of human remains in criminal proceedings). Although the bodies of those killed during the First World War had been recovered on a large scale, these deaths were seen as an expected occurrence on the battlefield and so the circumstances surrounding them were not investigated at length (The Great War undated). Whilst some of those killed by the Nazi and Soviet regimes were soldiers (and so could be identified based on their belongings), the majority of people killed were civilians who were often stripped of anything that made identification possible at that time. Therefore, the investigation of these deaths necessitated the development of new method-ologies and approaches in the field. Holocaust archaeology as a practice where archaeologists were involved did not develop until much later, but many of the early approaches to the investigation of genocide influenced the course of subsequent examinations of mass graves and physical evidence that is buried or concealed (Hunter et al. 2013; Haglund 2002). In order to consider the extent to which the physical evidence of the Holocaust has been examined, and to suggest future directions for Holocaust archaeology as a field of study, the history of the investigation of genocide is outlined below.

2.2.1   During World War II

Even before the end of World War II, evidence of the crimes perpetrated by the Nazis and other Fascist regimes in Europe was being collected. Some material, such as aerial photographs and other surveillance information, was being collected for military purposes but it also captured the crimes being perpetrated as part of the Holocaust. Some of it was later drawn upon as part of war crimes trials, the rest was merely archived. Therefore, as a source of evidence to be drawn upon in modern investigations, this material is invaluable (Sects. 5.2, 5.3 and 5.12).

Elsewhere, more active investigations were being undertaken into the unlawful killing of Polish soldiers in Katyń forest (Fig. 2.3). After receiving information from Polish railway workers, it was the German army that began to investigate claims that mass graves of Polish soldiers existed within the Soviet-occupied zone (Sanford 2009). The announcement that 3000 bodies had been found in a mass grave by a German investigative team led to the creation of an international team and large-scale excavations were carried out in 1943 (Cienciala et al. 2008). The examination of the graves was far from unbiased, as the Germans and Soviets tried to find or create evidence against each other to assign blame for the killings (Fitzgibbon 1977). Although the Soviets actually carried out the executions, it was the Germans who were blamed for them and the evidence found during the excavations was even presented at the Nuremberg trials (IMTN 1947(17)).

That said, a detailed assessment was made of the nature of the graves by medical and legal professionals and a number of new techniques were developed (Haglund 2002). It cannot be said that the graves were examined archaeologically, due to the fact that they were investigated in the 1940s prior to the recognition of the value of utilising archaeologists in the investigation of recent conflict.

Fig. 2.3 Mass grave investigations being carried out at Katyń, where many novel search and recovery techniques were developed. The presence of personal effects and uniforms made identification possible in most cases. (Copyright: Yad Vashem)

However, many of the techniques went on to be used by forensic archaeologists later that century (Blau and Ubelaker 2009). The graves at Katyń were found only a short time after the crimes took place and it was noted that the graves were visible due to the presence of 'suspicious mounds planted over with young pine trees' (Haglund 2002, p. 246). Botany experts were also employed to identify the age of the ground cover on top of the graves. Here, we see visual indicators being examined that are fundamental in modern forensic archaeological investigations (Sect. 6.5.2). Because the victims of the Katyń massacre were military personnel, many were clothed and, as such, identification was possible due to the presence of personal possessions. For example, of the 4143 bodies exhumed at Katyń, 2914 of them were identified through personal artefacts (Haglund 2002). Additionally, as many of the scientists involved in the exhumation of this grave were medical personnel with an interest in determining the cause of death, autopsies were performed on a sample of the bodies recovered (IMTN 1947(17), p. 365; Zawodny 1962, p. 17). The graves were also compared to other Soviet burials in the area in order to identify who was responsible for the crimes, suggesting an awareness of the importance of examining grave construction, which was ahead of its time (Hunter et al. 1996). For the first time, scientists were employed and ballistic samples were taken from within and around the graves (Zawodny 1962, pp. 20–24). Cienciala et al. (2008) provide an insightful account into the various ways that various organisations tried to protect the evidence found at Katyń based on the belief that the Soviets would try to destroy it. It should be remembered that Katyń was the first place that an international multidisciplinary mass grave investigation team was employed, an approach which was not repeated until the atrocities in Rwanda and the Balkans were investigated by United Nations (UN; Haglund 2002).

   When the concentration camps were liberated towards the end of the war, the physical evidence of the Holocaust was firmly cemented in public consciousness through photographs and film footage captured by the liberating forces. The military and nominated authorities photographed many of the buildings in the camps, the fences, the victims who remained, and the bodies of those who had not survived. At sites such as Majdanek, which was liberated in 1944, investigative committees were quickly established to document the crimes perpetrated and conduct exhumations of mass graves (Kondoyanidi 2010; Fig. 2.4). The analysis of the skulls of the victims in Majdanek for signs of gunshot injuries followed much the same methodology as that employed at Katyń, but here specialists were bought in also to examine the context in which the graves were found, e.g. the camp itself (Polish-Soviet Extraordinary Commission for Investigating the Crimes Committed by the Germans 1944). An investigation of the gas chambers was also carried out to determine how they functioned which included testing for the presence of Zyklon B and carbon monoxide (ibid). The liberating Soviet forces also carried out preliminary examinations at Treblinka, Bełżec and Sobibor in 1944, although these camps had already been demolished in 1943 (Central Commission for the Investigation of German Crimes

Fig. 2.4 One of the towers at Majdanek in 2009. Images of these towers became iconic after the liberation of the camps. (Copyright: Caroline Sturdy Colls)

in Poland 1946). At other camps, such as Bergen-Belsen, where inmates were still present, the priority for the liberating forces was to care for them and to dispose of the corpses of those who had not survived, as opposed to immediately carrying out a 'forensic' assessment of the site (Shephard 2006).

2.2.2   Early Investigations of Holocaust Sites

The majority of investigations at Holocaust sites occurred immediately after the Second World War or in its final months. Specially assembled war crimes commissions were created in order to collect evidence for court trials against members of the Nazi Party. These commissions mainly comprised doctors and lawyers but sometimes included architects and surveyors. The main purpose of these commissions was to verify what crimes had been committed in a given location and to identify potential perpetrators. Therefore, these commissions conducted interviews with witnesses, visited camps and mass graves, and examined some of the surviving physical evidence (Fig. 2.5). The majority of these investigations had a regional or even national remit but the reports were often based on a sample of smaller, localised areas. In Poland, the Central Commission for Investigation of German War Crimes in Poland (1946) carried out surveys at concentration camps to record the presence of surface remains and produce detailed accounts their history.

At Chełmno and Treblinka, the surveys undertaken by the commission utilised oral testimonies to identify the nature of the killings and to determine the estimated number of victims (Central Commission for Investigation of German Crimes in Poland (1946). Other investigative teams examined camps and massacre sites across the Soviet Union and Yugoslavia (Heller and Simpson 2013; Profatilov

Fig. 2.5 An examination of corpses after exhumation in Valmiera, Latvia. (Copyright: Yad Vashem)

1945). On occasion, when it was deemed necessary to strengthen the case of the prosecution, mass graves were excavated and autopsies of the victims' bodies were carried out. For example, at Bełżec it was determined that 553,000 people had been killed based on the partial excavation of nine burial pits; 'the evidence found indicated that thousands of corpses had been cremated and any remaining bones crushed into small pieces' (O'Neil 1998, pp. 50–51). Given the scale of the events, and the fact that forensic anthropological and archaeological methods had not been developed at this time, for the most part emphasis was placed upon verifying that the camps and graves existed, rather than detailed investigation (Arad et al. 1999; IMTN 1947). Many reports of these commissions do not give specific information about the number of bodies contained within mass graves and excavations were often carried out very rapidly in only a matter of days. Alternatively, only a small number of bodies were subject to detailed investigation. For example, during the excavation of two pits near Rogan in Ukraine, the commission recorded how 'according to the findings of the Expert Medical Commission, upward of 15,000 bodies were buried in these pits…. Five hundred bodies were removed from the pits, of which 215 were submitted to medico-legal examination' (Profatilov 1945, p. 424). As this account demonstrates, even immediately after the crimes took place no attempt was made to identify or even recover the majority of victims of the Holocaust and it would appear that the presence of human remains was noted solely to provide evidence for the legal cases being mounted against the alleged offenders. Similarly, recently discovered footage showing these investigations in Eastern Europe demonstrates that some of the autopsies conducted were equally as rapid (Unseen Holocaust 2014). On occasions, excavations or surveys were undertaken at some of the camps in order to produce plans that could be used in war crimes trials. Once again, however, these were produced relatively rapidly and the practicalities involved in the investigation of these sites meant that these excavations were often on a very small scale (for an example see Łukaszkiewicz 1946a). Whilst the limited scope of these reports seems inadequate, particularly in light of current demands for the 'expert witness', standard protocols for mass grave analysis did not exist at this time nor did the technology to facilitate investigations that consisted of techniques aside from excavation (Hunter et al. 2013; Hunter and Sturdy Colls 2013; Cox et al. 2007; Menez 2005). When the logistics involved in investigating crimes on such a scale are considered alongside the post-war conditions in many of the countries concerned, it is perhaps not surprising that exhaustive search and recovery programmes were not carried out.

2.2.3 Early Attempts to Identify Holocaust Victims

Immediately after the war, a series of searches and exhumations were undertaken by teams from Western Europe. In contrast to the above commissions, the investigations focused on specific sites with the primary aim of identifying specific individuals. One such group was the British War Commission, headed by Major Mant, which was responsible for locating the bodies of British service personnel who had been held as prisoners of war (PoWs), some in the concentration camps (Mant 1950, 1987). Mant's work was significant not only due to the fact that he was the first, and to this day one of the few, practitioners who has attempted to identify victims of the Holocaust, but also because he offered new insights into the process of decomposition within mass graves (Mant 1950). However, these investigations did still have a very specific focus, as opposed to examining the physical evidence pertaining to this period as a whole. Although during the course of these searches mass graves dating to the Holocaust were excavated, this was often only partial and only the British individuals being sought were identified— thus the other victims interred in the grave were not afforded this 'basic dignity' (Haglund 2002, p. 245).

Similar aims were pursued by the French investigation unit, Mission de Recherché des Victimes de la Guerre (Rosensaft 1979). In this case, excavations were undertaken in accordance with the Franco-

German Convention, which 'in part…provided for the exhumation and repatriation by the *Mission de Recherché* of the identifiable remains of French deportees who had perished in Germany during or immediately after the war' (Rosensaft 1979, p. 156). In the course of such investigations, it is estimated that 54,000 bodies were exhumed, although only 8576 of these were identified (Rosensaft 1979, pp. 159–160). Opposition to the work of this commission was limited until their proposed exhumations of victims buried in Bergen-Belsen concentration camp and the adjacent Hohne cemetery, which resulted in an 11-year legal battle in front of the Arbitral Commission on Property, Rights and Interests in Germany, following criticism from the German government and the Jewish community (United Nations 1959; Rosensaft 1979, p. 155). This was due to their desire to excavate in areas believed to contain the remains of Jewish victims, something that is strongly discouraged by Jewish Halacha Law (Sect. 3.5.2). Although elements of their methodology are questionable by modern standards, this commission was among the first to suggest the importance of ante-mortem data recorded on identification cards filled in by the victims' families (Rosensaft 1979)—an innovative technique for the time and one which is now commonly used in the identification of missing persons in mass death scenarios (Black et al. 2011; Interpol 2009). In 1958, the commission argued that 'in the presence of new principals of medico-legal and anthropological science, it is inaccurate and obsolete to pretend that one cannot arrive at sufficient certainty of the identity of skeletons inhumed in the mass-graves of concentration camps' (Mallet et al. 1958). Yet, widespread investigation of this kind did not occur at the time, or since, due to a number of religious, political, social and practical issues which will be discussed further in Chap. 3.

2.2.4   Holocaust Memorials

The post-war investigations of Holocaust sites led to the erection of many memorials and the creation of Holocaust museums across Europe and beyond. The time that elapsed between the events and their erection varied between sites, often as a result of political circumstances and attitudes towards the Holocaust in the specific area concerned. This will be discussed further in Chap. 11. Of relevance here are the various ways in which Holocaust sites are marked. The following broad categories can be defined, although it is acknowledged that investigations have occurred at some of these sites in recent years by archaeologists as discussed in Sect. 2.3:

Marked Sites Where In-Field Investigations Took Place After the War: Memorials were erected immediately after the war at some sites, often as a result of their identification by the commissions set up as part of the International Military Tribunal at Nuremberg described above (Sect. 2.2.2). At some sites, extensive exhumations were carried out of individual mass graves and the memorials erected accurately reflect the locations of graves and other elements in the execution landscape. However, at the majority, only limited investigations were conducted and not all places connected to the killings were examined. The locations of the memorials placed at these sites have often been assumed to be correct. The early placement of memorials is likely to be one reason why archaeological work has not taken place at most of these sites, due to the belief that the victims have been adequately commemorated. Those archaeological investigations that have taken place have demonstrated the potential for other graves and connected sites to be present in the vicinity of marked sites, and for memorials to have been placed in the wrong location (Sturdy Colls 2014a; Gilead et al. 2009; Ivar Schute, pers. comm.; Sects. 2.3.3.2 and 2.3.3.3).

Marked Sites Where No In-Field Investigations Took Place: At some sites, memorials have been erected at killing and body disposal sites without any in-field investigation taking place. In some cases, this may have been due to the fact that it was deemed sufficient to erect a sym-

Fig. 2.6 The symbolic memorial at Treblinka extermination camp in Poland, which has often wrongly been seen as an accurate reflection of the location of key camp features. (Copyright: Caroline Sturdy Colls)

bolic memorial which made no claim about being representative of any buried evidence present (Fig. 2.6). There have been occasions where it has been believed that these symbolic memorials do actually mark buried evidence and, thus, this has led to the belief that there was no need to make any further attempts to locate this evidence. One example of this is the memorial at Treblinka, where it is often believed that the large megalith marks the location of the gas chambers, despite the fact that this was not the architect's intention. Archaeological work at the site has proved that this is definitely not the location of the gas chambers because they are in fact located further to the south-east (Fig. 2.6).

At other sites, memorials were erected by the state (based on witness testimonies) or by local communities (based on their own knowledge of events). In some cases, these memorials may well be accurately located. However, in others, they may be inaccurate. These memorials may contribute to the belief that there is no need for in-field investigation; thus, other connected sites and graves may be overlooked.

Unmarked Sites: Knowledge of many of the killing sites was only retained at local level and some were forgotten altogether (US Commission 2005). Therefore, many of these sites remain unmarked. In-field investigation remains the only definitive way of locating these sites and ensuring that they are marked in the future.

As time passed since the Holocaust, efforts to locate sites and to investigate known sites at length reduced in number. Throughout the 1960s and 1970s, a number of war crimes trials led occasionally to attention being turned back to the physical evidence from this period. However, for the most part, efforts were focused on building memorials and monuments, or on moving on and suppressing the memories of the crimes that were perpetrated (Sects. 3.3 and 11.5). Somewhat ironically, at the same time, the investigation of genocide more broadly was developing rapidly and archaeological involvement in it was emerging elsewhere across the world, as outlined below.

2.2.5   The Development of Genocide Investigations

The early investigations of Holocaust-era sites, some of which are outlined above, immediately led to various legal, forensic and semantic shifts in the ways in which mass violence was considered. Indeed, it was during the Nuremberg war crimes trials that the terms 'crimes against humanity' and 'genocide' were first used to describe mass murder, and the disposal of thousands of victims in mass graves has become synonymous with the Holocaust (IMTN 1947(17), p. 365). Similarly, much of the legislation that still governs the forensic investigation of genocide stemmed from the establishment of the UN in 1945 and the adoption of the Convention on the Prevention and Punishment of the Crime of Genocide, as a direct result of the persecution by Nazi Germany (Juhl 2005).

When the emergence and development of forensic archaeology and anthropology are examined in more detail, it is clear that the Holocaust as an event had a direct impact upon on this, particularly with regards to the investigation of the physical evidence of genocide and human remains. As Mant noted immediately after World War II, for the first time, 'the pathologist … was now required to appear in court as a witness, while the question of identity of the victims became more important'. The work of Mant (1950, 1987) and the investigative teams in Katyń (Zawodny 1962; Fitzgibbon 1977) described above in Sect. 2.2.3 led to the development of a number of techniques that became widely used in forensic archaeology and anthropology more broadly, such as the creation of osteological profiles (age, sex, stature, trauma, pathologies), the detailed analysis of gunshot trajectories and the examination of surface indicators (e.g. vegetation change, depressions, etc.) that may indicate the presence of a grave. Later, in the late 1980s, it was actually what can be termed 'perpetrator archaeology' relating to the Holocaust that led to the further development of forensic anthropology as a discipline and ultimately led to the ability to accurately identify missing persons (Helmer 1987; Eckert and Teixeira 1985). The analysis of the skull of Joseph Mengele (a Nazi doctor) led to the development of a number of new, cutting-edge techniques which were later used in the investigations of mass graves in Argentina and Chile (Keenan and Weizmann 2012). Many of these techniques are still the cornerstone of modern forensic anthropological and archaeological investigation today, whilst others were the stepping stone in the development of more advanced methods, e.g. facial reconstruction (Byers 2010; Ramey-Burns 2012). Indeed, scholars such as Stover and Ryan (2001), Haglund (2002), and Juhl (2005) allude to the importance of post-Holocaust enquiries, with references to them forming a seemingly essential part of any historiography of mass grave investigations. However, none of them suggest that, in light of the development in forensic archaeology, new techniques could be applied to the investigation of Holocaust mass graves today.

Unfortunately, the Holocaust was not the only genocide of the twentieth century and, as such, further developments in the investigation of genocide continued to occur in the decades that followed. Genocide and war crimes in Argentina, Chile, Guatemala, Cambodia, Yugoslavia, Kosovo, Iraq, Rwanda, East Timor, Sierra Leone, Sudan and Armenia (to name but a few) led for the need for tribunals and local, national and international search teams. A detailed summary is provided in Hunter et al. (2013) but a brief overview will be provided here for the purposes of context. In the 1980s, the formation of the Comisión Nacional sobre la Desaparición de Personas (CONADEP/The National Commission on the Disappearance of Persons) marked a major landmark in cementing the role of the forensic archaeologist in mass grave investigations (Doretti and Fondenbrider 2001; CONADEP 1986). The development of new technology alongside increasing calls at international level for the conviction of the perpetrators of genocide led to similar forensic investigative units being established across the world (Haglund 2002, p. 244). In 1987, the International Forensic Program (IFP) at Physicians for Human Rights (PHR) was established in order to 'address the growing need for scientific investigations into alleged human rights violations', with forensic archaeologists playing a key role in achieving this aim (IFP 2008). This organisation provided significant scientific support in the investigations of war crimes in Rwanda and the former Yugoslavia. In both regions,

several mass graves were excavated with the intention of obtaining evidence to prosecute offenders at international tribunals, and to identify the locations of mass graves (ibid). Following the formation of the International Criminal Tribunal for the Former Yugoslavia (ICTY) in 1993 and the creation of the International Commission on Missing Persons (ICMP) in 1997, the importance of investigating the physical evidence pertaining to genocide became universally recognized. International protocols for the investigation of mass graves and the identification of victims were established (ICMP 2013). The ability to utilise deoxyribonucleic acid (DNA) technology and methods for the chemical testing of bones now means that identification of individuals is easier, faster and more accurate (Mallet et al. 2014). The need to investigate war crimes and genocide for humanitarian reasons, as opposed to solely for legal reasons, is now widely acknowledged with regards to recent conflict. The current position is that forensic archaeologists and anthropologists are now consistently employed by ICMP to search for and recover remains interred in mass graves. Most recently, excavations of mass graves from the genocide in Bosnia, discovered near Prijedor, demonstrate the time and manpower that such investigations require and are allocated (CNN 2013). This expertise is also now commonly employed in many countries in the investigation of individual deaths where human remains are involved (Hunter et al. 2013) and also in mass disaster scenarios, such as 9/11 (Mundorff et al. 2009; Sledzik et al. 2009), Hurricane Katrina (Donkervoort et al. 2008) and the Victoria bush fires in Australia (Cordner et al. 2011).

2.2.6   Conflict Archaeology

The increased recognition of the need to identify and analyse physical evidence of genocide emerged parallel to the development of conflict archaeology more broadly (Cornish and Saunders 2013; Carman 2013; Saunders 2012; Scott et al. 2009; Schofield 2009). In some cases, historic acts of war and genocide have been examined in order to create a record of events, to meet humanitarian needs and to facilitate education programmes. This has led to detailed examinations of the archaeological remains pertaining to ancient battles (e.g. Carman and Harding 2013), the American Civil War (e.g. Geier et al. 2014), the Spanish Civil War (e.g. Renshaw 2011), the First World War (e.g. Osgood and Brown 2009), the Second World War (e.g. Moshenska 2013) and the Cold War (e.g. Schofield and Cocroft 2007) to name but a few examples. The various examinations of battlefields, air crash sites, PoW camps, fortifications, command centres, graves and other associated evidence pertaining to both ancient and more recent conflicts has allowed conflict archaeology to emerge as a legitimate field of study in its own right. In-field investigations of historic conflicts have also been accompanied by a rigorous body of literature relating to the ethical, social and theoretical aspects of assessing the remains and their role in local, national and international heritage and identity (Cornish and Saunders 2013; Carman 2013). Various investigations and publications have also addressed so-called hot heritage and dark tourism—ranging from the Native Indian burial sites in America through to the internment sites in South Africa—with a view to highlighting the importance of these locations for understanding contemporary conflict and stressing the sensitivities that still exist with regards to these places (Myers and Moshenska 2013; Smith and Wobst 2010; Lennon and Foley 2010). A great deal can be drawn from this literature and the experiences of the archaeologists involved in all these investigations when devising strategies for the investigation of Holocaust sites.

Other investigations of historic conflicts have occurred for legal reasons or to provide a body of evidence in relation to historic crimes, often after a significant amount of time has passed since they were perpetrated. Many forensic archaeologists engaged in this work have gone so far as to claim that the collection of evidence against the perpetrators of the Holocaust, and mass grave searches that formed part of these, have actually provided the impetus for their own work. Whilst charting the history of forensic archaeology in Lithuania, Jankauskas et al. (2005, p. 50 and 70) suggested that valuable lessons were learnt in the course of Holocaust mass grave investigations which influenced the way

that the victims executed by the *Komitet gosudarstvennoy bezopasnosti* (KGB) were being sought. Similarly, Paperno (2001, p. 108) has referred to 'the enormous power of the image of the Holocaust' and notes how the opening of new archives in Russia has allowed similar searches to be conducted for the victims of Stalin's Purges. This is perhaps another example of how the thoroughness of the early investigations of Holocaust sites has been overestimated, leading to the perception that the physical evidence has somehow all been found and a line drawn under the investigation of this period.

2.3   Holocaust Archaeology

2.3.1   Scenarios

What the above discussion highlights is the fact that, over the decades since the Holocaust, new techniques and approaches have emerged that offer new opportunities for the investigation of genocide. Despite the apparent influence that the Holocaust has had on these developments, the investigation of it has not followed the same trajectory as the analysis of other genocides. Compared to the number of sites that exist, only a handful of investigations have taken place and few have involved archaeologists. These investigations have occurred for a number of different reasons: because of legal proceedings, a desire to provide closure for victims' families and communities, a will to carry out research, new plans for memorialization, the unexpected discovery of remains or a combination of these reasons. Certainly, there has been an increased interest in examining Holocaust sites in terms of their physical evidence in recent years and a greater appreciation is emerging concerning the role archaeologists can play in its examination. A summary of the investigations that have taken place is provided in order to identify the current state of Holocaust archaeology and to identify issues that need to be considered in the course of future work.

2.3.2   Legal Investigations

There have been various legal proceedings that have taken place since the end of the war that have sought to prosecute Nazi war criminals. Over time, the physical evidence connected to the crimes perpetrated has played an increasingly important role. Visits to the places where the crimes were perpetrated, photographic and video evidence, and plans drawn by witnesses have commonly featured in trials undertaken after Nuremberg. This material represents an invaluable resource to archaeologists wishing to examine these historic crimes. As well as medico-legal professionals, historians, psychologists and even architects have been called upon as expert witnesses in legal investigations. The latter most famously occurred during the *Irving v. Lipstadt* trial, where architects analysed the gas chambers in Auschwitz-Birkenau to discredit the arguments of British Holocaust denier David Irving (Van Pelt 2002).

Archaeological involvement in legal proceedings relating to the Holocaust has occurred much less often. The advent of this was the participation of archaeologist Richard Wright in investigations in the Ukraine in 1990 and 1991. A mass grave, located in Serniki, was initially examined based on information provided by witnesses to the Special Investigations Unit in the course of legal proceedings (Bevan 1994; Wright 1995). Brought about as a result of the implementation of the War Crimes Amendment Bill (1988) in Australia, these excavations differed from those carried out immediately post-war in that they were geared towards the collection of forensic evidence relating to named perpetrators against whom specific allegations had been made (Bevan 1994). A partial excavation of the mass grave at Serniki was undertaken, (pers. comm. Richard Wright), owing to the requirement of the prosecutors, which specified that the excavation should determine the number of individuals in the

Fig. 2.7 The closing ceremony at the excavation of a mass grave in Serniki, in the Ukraine, which represents one of the first investigations of a Holocaust site by archaeologists (Copyright: Richard Wright)

grave, their sex, age at death, and cause of death. Identifications were deemed to be infeasible. The requirements could be met without removal of the bodies (Fig. 2.7).

The grave at Ustinovka was partially excavated in 1991, in order to determine whether there were about 20 children killed and buried after the adults. A further grave was excavated by Wright in Gnivan in 1991, this time based on information provided by a survivor, who as a child had escaped the killings, but lost his family (Richard Wright, pers. comm.). As at Serniki, the victims' remains were not fully exhumed during the investigation, though some skulls were temporarily removed for further analysis. At the request of the survivor, the local authorities later fully exhumed the remains for re-burial in the local town cemetery.

The three Ukrainian graves were excavated and recorded using what later developed into standard techniques during the course of Wright's future forensic work in the Balkans (Wright et al. 2005).

Another excavation carried out as a pragmatic response to an allegation was that at Jedwabne in Poland. Poland's Instytut Pamięci Narodowej (IPN) carried out investigations of a mass grave in response to new information (which was included in Gross' (2001) book Neighbours) which suggested that locals had assisted with the killings. The investigation team focused on determining the number of victims but noted 'we did not conduct a full exhumation since we did not pull out the bones from the graves' (CNN 2001; Gross 2004). Polonsky and Michlic have argued that the confusion regarding the number of victims at Jedwabne has actually been *caused* by this investigation given that 'what has been called an exhumation…lasted all of 5 days', and ultimately no prosecutions were made (Gross 2004, p. 359). What was not publicly discussed was the conflict between this legal investigation and religious law, in that the reason that the remains could not be fully excavated was because the remains belonged to Jewish victims (Rabbi Schudrich, pers. comm.). Therefore, a partial exhumation was carried out as a compromise; archaeologists would remove the soil down to the level of the bones, the prosecutors would document the findings and the remains would stay in the grave, thus ensuring the smallest violation of Jewish law possible (Rabbi Schudrich, pers. comm.).

More recently, in the Vulturi Forest near Iaşi in Romania, archaeologists discovered a mass grave as part of an investigation initiated by a local historian and the Elie Wiesel National Institute for Studying the Holocaust (Time 2010). Thirty-six bodies were recovered and subject to anthropological analysis (Cioflanca 2014). In April 2014, it was confirmed that the remains belonged to Jews killed by Romanian troops during the Holocaust (Shalom Life 2014). Fifteen of the victims were men, nine were women and twelve were children (ibid). It was the declassification of post-war investigation documents in 2006 and subsequent calls from the international community that has led to the sudden upsurge in interest in locating these sites. However, this excavation was met with resistance from the Jewish community, including a protest by the Committee of the Jewish Cemeteries in Europe because the remains of Jewish victims were exhumed and analysed (Voz Iz Neias 2011). The same team is currently seeking to undertake excavations at further graves in Romania and three mass grave sites in Moldova (Cioflanca 2014).

The discussion above highlights several key issues that need to be considered in the context of the present state of Holocaust archaeology and future work. Firstly, archaeologists working in a legal arena must be aware of that they are entering the realms of forensic archaeology and that responsibilities of forensic archaeologists differ considerably from those of archaeologists dealing with the ancient past. An in-depth overview of forensic archaeology as a discipline is provided in Hunter et al. (2013) and archaeologists working in this area are duly referred to this and other relevant literature for advice on legal frameworks in general (e.g. Dupras et al. 2011; Blau and Ubelaker 2009; Cox et al. 2007; Hunter and Cox 2005). However, secondly, it is clear from the cases outlined above that legal investigations of Holocaust sites differ in some ways from mainstream forensic archaeological investigations in that they do not include a complete analysis of the crime scene as it were. In fact, these legal investigations often impose certain restrictions upon the work of archaeologists. The inability to carry out a full exhumation and analysis of mass graves is perhaps the most common. This may seem strange when the comprehensive nature of many modern mass grave investigations is considered. However, the remit of many legal investigations connected to the Holocaust is usually verification not detailed investigation. Add this to the religious stipulations (discussed further in Sect. 3.5) that must be upheld and the costs involved in carrying out large-scale search and recovery work, and it becomes clearer as to why this has been the case. However, even when these limitations are understood, they may still be the source of frustration for archaeologists, particularly those who know what can be achieved utilising modern techniques and scientific methods such as DNA testing. Thirdly, the examination of Holocaust sites for legal reasons is becoming less common as more time since the events pass and fewer prosecutions are taking place.

As can be observed from the examples cited above and those undertaken in the immediate period after the war, the majority of legal investigations have involved the excavation of mass graves, as opposed to the examination of the camps, ghettos or other locations where crimes were perpetrated. This in itself raises questions over the amount of contextual information that is not being recorded but it also means that it is important to consider here the legal basis on which human remains may be examined. Firstly, there is considerable variation between the classification of human remains as being of forensic or archaeological significance (for a summary, see Marquez-Grant & Fibiger 2012). For example, in Croatia, graves from World War II are classed as 'forensic' (Šlaus et al. 2012, p. 89), whereas in Hungary, only remains pertaining to 25-year-old crimes are considered as such (Pap and Pálfi 2012). In other cases, although there may be a shorter legal statute for individual murder cases, genocide and war crimes may still be deemed to be of forensic significance, particularly where remains are discovered unexpectedly (see Sect. 2.3.5 below). Some countries will consider crimes which are within living memory to be worthy of investigation but the examination of the physical evidence will vary dependent upon the remit of the legal proceedings and the perceived value of the physical evidence by the prosecution and defence teams. A comprehensive review of the treatment of human remains in a wide range of countries is provided by Marquez-Grant and Fibiger (2012). In some countries such as the Ukraine and Poland, religious authorities also have a key role to play in legal proceedings in terms of ensuring that the investigation of human remains is carried out in accordance with religious law. Religious stipulations can result in limitations being placed on the investigation of evidence or negotiated strategies being created to ensure that the religious and legal requirements can be upheld. In other countries, such as France, 'religious authorities are rarely involved in the excavation strategy or implementation' as there is no legal requirement for this (Michel and Charlier 2012, p. 154). This means that human remains here are treated the same as artefacts when they are outside the statute of legal investigation, with the exception of deceased soldiers who are repatriated at the expense of the state. The religious implications surrounding the examination of Holocaust sites are discussed further in Sect. 3.5.

2.3.3   Humanitarian Projects

In recent years, there has been a greater recognition of the need to examine sites of conflict for humanitarian reasons. As the UN Resolution 3320 states, 'the desire to know the fate of loved ones lost in armed conflicts is a basic human need which should be satisfied to the greatest extent possible' (Komar and Buikstra 2008, p. 249). Although, with regards to the Holocaust, personal identification of individuals has not been the focus, the location of mass graves and the investigation of some of the camps have taken place in order to confirm the claims of witnesses, provide information for survivors and victims' families, enhance the historical record and demonstrate the extent of the crimes perpetrated. Some investigations have been prompted by a desire to modify the layout of memorial sites, whilst others have resulted in the erection of new monuments or plaques. By examining the extent, nature and geographical distribution of these investigations, it is possible to identify trends in attitudes towards the sites and the Holocaust more broadly. Political circumstances, societal developments and changing approaches to archaeological methodologies are also evident (Chaps. 3 and 11).

2.3.3.1   Memorialisation
Consistent with the apparent upsurge in interest in the Holocaust, several research projects focusing on the main killing centres in Poland were conducted by archaeologists in the 1980s and 1990s. To varying degrees, these projects sought to alter the memorials and museums, and saw physical evidence as a means of helping visitors understand the nature of the site in question. At Chełmno, several

barracks, three crematoria and several pits containing the victims' personal effects were excavated with the intention of incorporating these buried remains into the memorial layout and museum display (Pawlicka-Nowak 2004a, b; Golden 2003). This was the first archaeological project that focused on a Holocaust camp and recognised the ways in which the physical evidence could enhance both historical narratives and the experience of visitors to the site. Further excavations have been carried out by museum staff to the same end in the years since (Pawlicka-Nowak undated). Large-scale archaeological work was also undertaken at Bełżec extermination camp in the late 1990s as a precursor to the construction of a new memorial (Kola 2000). Despite the statement that this project sought to 'thoroughly examine the topography of the former camp, so as to exclude areas with human remnants', 33 mass graves were identified through coring and excavation (Kola 2000, p. 3; O'Neil 1998). On the one hand, this work allowed the locations of the mass graves to be determined and provided a wealth of evidence concerning the way in which the bodies of the victims were buried. On the other, the process of identifying these graves was extremely invasive, as was the process of constructing the memorial. Subsequently, the project attracted considerable criticism (Fig. 2.8; Weiss 2003). Having failed to account for Jewish Halacha Law, lawsuits were threatened and widespread discontent within the Jewish community temporarily halted the work (Schudrich 2014). The same team began a project at Sobibor extermination camp in the years that followed, which involved further coring and excavation work, alongside a geophysical survey (Yoram Haimi, pers. comm.; Friends of Sobibor 2006). However, the methods used demand equal criticism as the project in Bełżec for failing to consider Jewish Halacha Law.

During the same time period, several projects were instigated in Germany. The excavation of the remains of the *Schutzstaffel* (SS) and Gestapo Headquarters in the heart of Berlin was the first to be undertaken in the 1980s as a form of political action (Bernbeck and Pollack 2009). The instigators wanted to ensure that the atrocities perpetrated at this site, which also contained prison cells where people were held, were not forgotten (Myers 2008; Fig. 2.9). The site was subsequently transformed into the extremely successful Topography of Terror museum, which continues to promote Holocaust education and research (Topography of Terror 2014). Aside from this, the archaeological research that followed mainly revolved around the excavation of camps and sub-camps for the purposes of gener-

Fig. 2.8 The memorial at Bełżec which was constructed after archaeological coring was undertaken in the early 1990s. (Copyright: Caroline Sturdy Colls)

Fig. 2.9 The site of the former Schutzstaffel (SS) and Gestapo Headquarters in Berlin (now known as the Topography of Terror), where perhaps the earliest example of Holocaust archaeology was undertaken. (Copyright: Caroline Sturdy Colls)

ating material for use in 'political education' or commemoration (Theune 2010, 2011; Hirte 2000). Work at Witten–Annen (Isenberg 1995) was followed by excavations at Buchenwald (Hirte 2000). The latter project resulted in the production of a large-scale finds database, which was later made available online, and this is still widely used in education programmes (Hirte 2000; Buchenwald and Mittelbau-Dora Memorials Foundation 2014). A series of projects then followed which aimed to determine the nature and layout of Rathenow (Antkowiak and Völker 2000), Ravensbrück (Antkowiak 2000), Dachau (David 2001), Flossenbürg (Ibel 2002), Bergen-Belsen (Assendorp 2003), and Groß Schönebeck (Grothe 2006). Once again, the majority of these projects drew on excavation as the main method of investigation.

In a recent article, Theune (2010, p. 10) highlighted that, in Germany and Austria, the authorities governing archaeological work now acknowledge the need to examine Holocaust sites in the same way as ancient places. This has led to detailed, long-running projects being undertaken at Sachsenhausen and Mauthausen, as well as at many of their sub-camps. At Sachsenhausen, the archaeological work was instigated because of the redevelopment of the memorial site and it led to the discovery of 5.5 tons of artefacts in a waste pit, many of which were decorated and could be assigned to the prisoners interred there (Theune undated). A number of items belonging to the camp guards were also recovered (Theune 2010). At Mauthausen, archaeological investigations continue to be undertaken according to a well-defined research agenda but there is now also a defined relationship between the archaeologists and the museum authorities so that further archaeological work takes place when the memorial site is developed (Theune 2010). Detailed building archaeology work has also been undertaken since 2009 at many of the standing structures present at the site (Mitchell 2013). Excavations at the former euthanasia centre at Hartheim (Klimesch 2002) and the execution site of Herberthausen (David 2003) also demonstrate a commitment amongst German archaeologists to go beyond the camps and examine other sites where Nazi crimes took place.

The acceptance of archaeologists wishing to examine Holocaust sites seems to have emerged elsewhere in recent years. There has been an upsurge in interest in archaeological approaches to the Holocaust in the Netherlands, where modifications to memorial landscapes have led to a number of projects. This work has been carried out exclusively by RAAP Leiden, a firm specializing in the archaeology of the Second World War. In 2010, a research project was completed at Amersfoort in order to determine the locations of trench systems and other camp features (Wijnen and Schute 2010). A much larger-scale project was instigated at Kamp Westerbork, the main transit camp in the Netherlands from where Dutch citizens were sent to Sobibor and Auschwitz-Birkenau. The aim of this archaeological project was 'to determine the extent of the site so that a strategy for its long-term protection (from looting) could be established' (Schute 2013, p. 9). This involved topographic survey of the grounds of the camp and the excavation of trial trenches in the area of a waste pit (Schute and Wijnen 2012; Schute 2013). These trial trenches yielded 19,525 objects that dated to the Holocaust transit camp, the post-war repatriation camp and the Moluccan camp which was in existence until 1971 (Schute 2013, p. 9; Fig. 2.10). Further work is planned for 2014/2015 (Ivar Schute, pers. comm.).

In 2011, further work was undertaken in the camp grounds and at the villa of the camp commandant (Schute and Wijnen 2012). This work was motivated by the desire by the Memorial Centre Westerbork to re-present the villa as part of the memorial landscape. Following a detailed desk-based assessment concerning the history of the house, excavations were conducted around its exterior in order to locate the remains of the formal garden that had existed there and any surviving artefacts (Schute 2013). A detailed survey of the interior of the house was also undertaken in order to locate any other evidence connected to habitation of the house since its construction in 1939 until its acquisition by the Memorial Centre Westerbork in 2007 (Schute and Wijnen 2012). This project represents an innovative collaboration between the museum authorities, a commercial archaeological firm, an academic advisory board and the community.

Fig. 2.10 Some of the 19,525 objects found during excavations at Kamp Westerbork in the Netherlands. (Copyright: Ivar Schute)

2.3.3.2 Research Projects

In recent years, it has become increasingly acceptable to conduct research projects at Holocaust sites with the aim of locating, recording and presenting the physical evidence that survives. These projects have allowed the history of the sites to which they relate to be rewritten and raised their public profile. Whilst it was not their initial purpose, many of these projects have resulted in changes to the memorial landscapes because of the new information they have generated.

In 2007, the Holocaust Landscapes Project was initiated in order to demonstrate the potential of archaeological methods to bring to the fore previously unknown information about the Holocaust (Centre of Archaeology 2014a; Sturdy Colls 2012a, b, 2013). The project also aimed to demonstrate the diversity of the Holocaust and to challenge widely held perceptions concerning the survivability of the physical evidence pertaining to this period. Drawing on a variety of state-of-the-art non-invasive and minimally invasive methods, archaeological surveys have now been conducted at Treblinka extermination and labour camps in Poland, Semlin camp in Belgrade in Serbia, and the complex of camps and fortifications on the island of Alderney in the UK Channel Islands (Fig. 2.11). At Treblinka, this has allowed the camp boundaries, several previously unknown structures, mass graves, and various objects belonging to the victims and perpetrators to be located, whilst respecting Jewish Halacha Law (Sturdy Colls 2014a; Fig. 2.11, top). The discovery of one of the gas chambers alongside other evidence has provided a new insight into the lengths that the Nazis went to in order to hide their crimes (Sturdy Colls 2014b). This work has facilitated the creation of a new exhibition and modifications to the information provided at the memorial site, which will be completed in 2015.

A combined programme of archival research, walkover survey, Ground Penetrating Radar (GPR) and laser scanning allowed the above- and below-ground remains of the former Semlin camp to be recorded for the first time (Forensic Architecture 2014; Sturdy Colls 2013; Fig. 2.11, bottom right). This project allowed the multiple phases of the site's history to be mapped, given that the site has been a
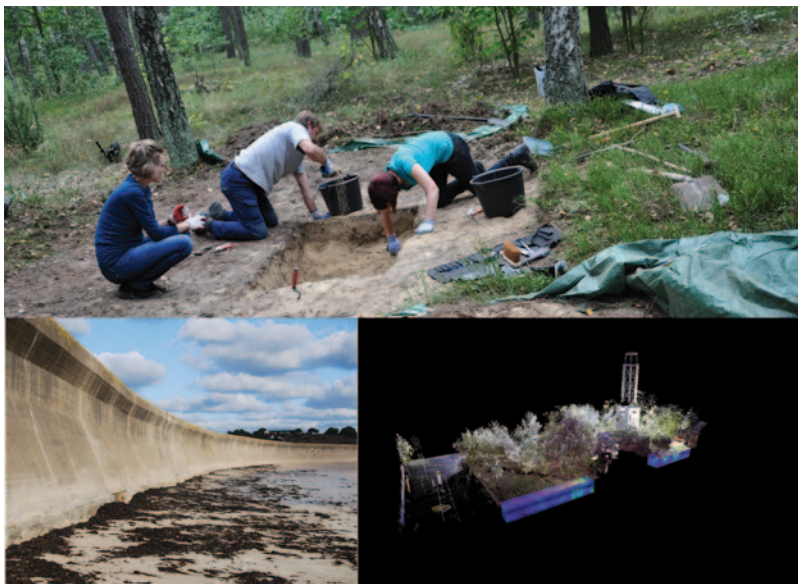
Fig. 2.11 Archaeological investigations as part of the Holocaust Landscapes Project. *Top*: Excavation of a mass grave at Treblinka I in Poland (Copyright: Caroline Sturdy Colls). *Bottom, left*: Surveying the German structures built by slave labour on the island of Alderney, the Channel Islands. *Bottom right*: Laser scans of the former camp administration building at Semlin concentration camp in Serbia combined with below-ground Ground Penetrating Radar results. (Copyright: ScanLAB Projects)

residential and commercial area since the end of the war. The current uses of the site were also captured as were spontaneous acts of memory making. This was particularly timely as the area faced the impending threat of redevelopment. The 3D model created as part of this project has ensured that the site is permanently preserved by way of record and the project itself has served to highlight both the history of the camp and the unsatisfactory memorialisation of the site to date (ibid).

Since 2010, fieldwork has also been undertaken on Alderney in order to locate and characterise the remains of the former concentration and labour camps built by the Nazis to house slave labourers and political prisoners (Sturdy Colls and Colls 2014; Fig. 2.11, bottom left). Archival research and the analysis of aerial imagery are combined with comprehensive in-field survey using a wide variety of topographic and geophysical survey methods. The fortifications that were built by internees are also being systematically located and recorded in order to reveal further information about the lives, work and deaths of those people sent to the island. A number of previously unknown graves have also been located and archival research is helping to identify individuals who were sent to the island.

Also in 2007, a new project began at Sobibor, led by Polish and Israeli archaeologists, with the intention of determining the accuracy of the widely accepted maps and plans of the site. A GPR survey was undertaken over a small area in order to locate buried remains but the project has mainly centred on excavation (Bauman et al. 2010). Over the course of several seasons, at the time of writing, the project has facilitated the identification of part of the camp boundary and barbed wire fence, an escape tunnel, several barracks, the Himmelfahrtstrasse (the road along which the victims walked to the gas chambers), mass graves within the death camp area and the gas chambers (Mazurek and Haimi 2013; The Jerusalem Post 2014). Additionally, thousands of items belonging to the victims sent to the camp have been recovered, some of which bear names (Schute 2013; Haimi 2012). The huge scale of the excavations at Sobibor demonstrates how destructive archaeology can be and the way that excavations can considerably alter the appearance of memorial landscapes (Fig. 2.12). Mass graves were also encountered during these excavations, although rabbinical supervision has been provided to ensure this did not occur in subsequent field seasons. A new memorial will be constructed at Sobibor over the coming years that will cover much of the former camp area (The Times of Israel 2014).

Fig. 2.12 Excavations at Sobibor extermination camp. (Copyright: Ivar Schute)

A long-running project at Falstad in Norway set out 'to invigorate the cultural landscape of the Second World War as a field of research and strengthen the attention on heritage management, documentation and preservation' (Anderson Stamnes 2013, p. 5). The project team has utilised a variety of geophysical survey methods alongside the analysis of photographs and aerial imagery in order to assess survivability of individual camp buildings no longer visible above the ground (Jasinski et al. 2012). This has resulted in the marking of some of the barrack foundations and has allowed the survivability of other remains to be assessed. As part of the Painful Heritage project, the same team have also carried out a detailed investigation into the c. 500 Nazi camps located in Norway (Jasinski 2013; Jasinski et al. 2012). This project has taken an innovative and pragmatic approach to documenting these neglected sites and the cultural memory that surrounds them.

Over the course of the past 2 years, more and more research projects focused on Holocaust sites have been initiated. Research undertaken by archaeologists from Cranfield University in the UK, working with the Union of Council for Soviet Jews (UCSJ), has sought to characterize a number of mass graves in the Ukraine through the use of geophysical prospection (Wessling and Enright 2013). However, having been under the impression that they were going to determine the overall form of known, marked mass graves, the team undertaking this survey discovered that the graves were not in fact located within the marked area (Paul Cheetham, pers. comm.). This situation likely arose due to a lack of previous scientific investigation of the site at the time when the on-site memorials were erected in this area. This example once again highlights the (false) perception that any site which is marked must have been thoroughly examined (Sect. 2.2.4). At Dachau, a project centred solely on geophysical survey was undertaken in 2012 using GPR (Linck and Dagnault 2012). This survey successfully located a number of barrack foundations surviving below the surface (ibid). Further geophysical surveys have been undertaken of Jewish cemeteries believed to contain mass graves and at other mass grave sites, most notably in Poland and Lithuania (Geotec Engineering and Geophysical Survey Ltd., pers. comm.). Projects in Stutthof (Paris 2011), Bergen-Belsen (Ivar Schute, pers. comm.), the grounds of Berlin Tempelhof airport (The Atlantic 2014; Pollack 2013) and Lager Wick (Carr 2014) have also recently taken place. Holocaust archaeology is having something of a renaissance.

2.3.4 Commercial Archaeology

Some projects at Holocaust sites will be initiated because of a desire to carry out construction works and the requirement to have an archaeological assessment in advance of this. Most common are those undertaken when memorial and museum complexes are modified, e.g. when new structures are to be built that might compromise buried remains or when it is the intention to incorporate surviving remnants into the memorial/museum landscape. This was the case in many of the projects outlined in Sect. 2.3.3.1. Alternatively, archaeological work may be required because other forms of construction work is being undertaken. At sites which are not designated as memorials or monuments, it is quite common for developments to occur but it may not become apparent that buried remains are present until part way through the construction process. Environmental monitoring and the construction or improvement of services (e.g. water, gas, etc.) may also result in excavations at former Holocaust sites.

The archaeological work that precludes these developments falls within the remit of so-called 'commercial archaeology'. The laws regarding commercial archaeology vary between different countries and this will influence how soon archaeologists are allowed to examine any physical evidence that is present. For example, in the Netherlands, the UK and France, it is a legal requirement that there is some involvement by archaeologists in the planning process, although the form this takes will depend upon the nature of the site (for an overview see Europae Archaeologuae Consilium 2014). It may vary from large-scale excavation through to archaeological supervision of the early stages of the construction process (e.g. when foundation trenches are dug). In other countries, there is no legal

requirement for archaeological involvement and so archaeologists may only be called when construction workers report the discovery of buried remains or they may not be consulted at all. It is likely that much evidence at Holocaust sites has been missed in the past due to these variations in practices.

Often, archaeological work in this commercial arena is put out to tender and so any archaeological firm wishing to compete for the contract can do so. A recent example is work undertaken at Auschwitz-Birkenau. A programme of work was defined by the State Museum in Auschwitz-Birkenau in relation to Sect. B1 of the camp and the associated sewage works (Państwowe Muzeum Auschwitz-Birkenau w Oświęcimiu 2013). This work was then put out to tender and a series of excavations, geological and hydrological surveys, and laser scans of recovered objects have since been undertaken by the organisation that had their tender accepted. There have been a number of instances where this type of work has been undertaken very effectively in a commercial setting because the practitioners involved also possessed period-specific knowledge. One particular example of this is the investigation at Kamp Westerbork in the Netherlands, outlined above in Sect. 2.3.3.1, which combined the expertise of commercial archaeologists specialising in World War II with academic guidance (Schute and Wijnen 2012). However, there are several difficulties with commercial archaeology in that archaeologists with little in the way of period-specific knowledge may be employed to undertake the work, tenders are usually based on the most competitive price and the results of the work may not be disseminated more widely than in a grey literature report aimed at specialists or the fee-paying client.

It seems likely that further work of this nature will be undertaken at Holocaust sites in the future as a greater awareness of the benefits of archaeological work are realised, as more plans to modify memorial sites emerge, and as further development works take place. For sites where archaeological researchers are not already engaged in fieldwork, it will be necessary for projects to be put out to tender. As no clearly defined guidelines on archaeological investigations of Holocaust sites exist, the methodologies, implementation and outputs of these projects are likely to vary considerably.

2.3.5   Serendipitous Discoveries and Rescue Archaeology

Given the clandestine nature of many of the sites of the Holocaust, it is perhaps not surprising that on occasion physical evidence is discovered unexpectedly. Man-made (e.g. construction works, pipeline excavations or service works) or natural landscape change (e.g. heavy rain, erosion) has often resulted in the exposure of human remains deposited during this period. The approach to serendipitous discoveries varies between countries, and indeed between regions, depending upon the legal frameworks governing the recovery of human remains and attitudes towards the Holocaust. In many countries, the unexpected discovery of human remains will prompt an initial response from the police often accompanied by forensic scientists (Marquez-Grant & Fibiger 2012). The involvement of archaeologists will equally vary by country, as will approaches to search and the recovery of remains. For example, whilst human remains discovered at Gvozdavka-1 in the Ukraine were 'immediately shovelled back into the ground' because they were believed to belong to Jewish victims (Lisova 2007; Fig. 2.13), those discovered in Menden in Germany were recovered and subject to DNA analysis and identification (Deutsche Welle 2006). Often, in countries where forensic archaeology is not widely practiced, remains will be recovered by the police or forensic scientists, and they may then be examined by forensic anthropologists. Susa (2007) records a case in Budapest where remains were uncovered during building work. Whilst the remains were taken to the Forensic Institute for analysis by forensic anthropologists, no archaeologists were involved in their excavation (Susa 2007, p. 209). Given the lack of contextual information (at both site level and in the form of ante-mortem records), the remains could only be assigned to broad categories such as age, sex and ethnicity, and as a result they 'were reburied again unknown' (Susa 2007, p. 201). No information was available concerning the nature of the grave itself, something which could have revealed important information about the nature of the

Fig. 2.13 A Rabbi immediately recovers human remains found at Gvozdavka-1. (Copyright: International Herald Tribune, 14 June 2007)

crimes perpetrated and the environment in which the remains were found. This case clearly demonstrates the importance of both archaeological and anthropological involvement when human remains are recovered to ensure that they are not detached from their context and that the maximum amount of information is extracted. Serendipitous discoveries are often characterised by the need to recover the remains quickly; sometimes this is with a view to protecting the remains from further damage but, in the case of remains uncovered in the course of building works, this may be due to a desire to proceed with construction.

The projects outlined above can also be termed a form of rescue archaeology since they have only been investigated when they have come under threat. In the case of an archaeological survey undertaken by the author at Semlin in Serbia (Sect. 2.3.3.2), this work retrospectively became an act of rescue archaeology given that the site will now likely be redeveloped as new memorial and development plans are realised (Sturdy Colls 2013). It is likely that as larger building programmes take place, particularly in developing countries, and as more natural landscape change occurs, more mass graves and other remains pertaining to the Holocaust will be discovered in this way. The lack of published accounts by those involved in examining serendipitous remains coupled with the absence of protocols for the investigation of sites from this period means that it is difficult to chart the ways in which these sites are examined. If protocols were to be developed, which addressed the issues that need to be considered when examining graves from this period, this would certainly be of great benefit to practitioners involved in the unexpected discovery of remains and would ensure that they were examined appropriately. It is hoped that the guidance provided in this book also goes some way to providing advice for practitioners who find themselves engaged in this kind of work.

2.3.6   Making Comparisons

The majority of the projects outlined above have been undertaken in isolation and archaeologists have focused on detailed analysis of single sites. Very few projects have sought to compare the findings of archaeological research across more than one location. This may be partially explained by the rela-

tively low number of investigations that have been undertaken by archaeologists at Holocaust sites across Europe. Given the time it has taken for recognition to be given to the fact that the investigation of the physical evidence of the Holocaust by archaeologists is worthwhile, and the problems that some projects have encountered in terms of methodology, to an extent it is not really surprising that archaeologists have focused on individual sites.

There are a few exceptions to this rule where multiple sites have been compared or examined by the same archaeologists. Some—such as the Painful Heritage Project (Jasinski et al. 2012), the Alderney Archaeology and Heritage Project (Centre of Archaeology 2014b; Sturdy Colls et al. forthcoming) and the Cultural Landscape and Urban Environment (CLUE) Atlantic Wall Project (Atlantic Wall Platform 2010)—have focused on the large-scale mapping and comparison of multiple sites related to the Atlantic Wall construction programme, mostly within the same country. In the autumn of 2013, a collaborative project was initiated whereby the lead archaeologist working at Westerbork joined the excavation team at Sobibor in order to facilitate a comparison of the finds recovered at both sites (Ivar Schute, pers. comm.). The rationale for this was that many of the items found at Sobibor in previous field seasons belonged to Dutch people, many of whom were deported from Westerbork (Schute 2013). It was anticipated that the expertise of the Dutch archaeologist (Ivar Schute) would solve some of the problems that had previously been encountered with the classification and dating of many of these items and any that were subsequently discovered during the excavations planned for autumn 2013. This indeed proved to be the case and a number of items found in Sobibor and Westerbork were similar and provided an insight into the lifestyles of the people sent to the extermination camp at Sobibor (ibid). The Holocaust Landscapes Project has sought to compare three geographically separate Holocaust sites in order to identify key trends in the architecture and functions of the camps, to compare the killing and body disposal methods employed and to demonstrate the diversity of Holocaust sites in terms of the types of sites and physical evidence it left behind (Sect. 2.3.3.2; Sturdy Colls 2012a, b, 2013). Various networks also exist in which practitioners engaged in Holocaust archaeology and the study of the twentieth-century conflict meet to discuss their work (e.g. Terrorscapes and CLUE Heritage of War) and experts working at Westerbork and Treblinka have also collaborated during fieldwork. These projects have clearly demonstrated the benefits of comparing Holocaust sites and the findings of archaeological research. An increased amount of discussion between the archaeologists working at these different locations would also facilitate the sharing of best practice and the development of field methodologies.

2.4   Documenting Holocaust Sites

In recent years, a number of projects have been instigated that have sought to document the sites connected to the Holocaust on a large scale. These projects have differed in their focus and the extent to which they have involved in-field investigation. The largest of these projects is the US Holocaust Memorial Museum's *Encyclopaedia of Camps and Ghettos* project which is seeking to create a central record of as many Holocaust sites as possible (USHMM 2013). More than 20,000 sites have been documented to date and overviews of the history of each are provided (Megargee et al. 2012; Megargee 2009). The amount of information available about each place varies based on the nature of the site, its location and the crimes perpetrated there. Despite the extensive record created, USHMM has acknowledged that it will never be possible to record every site since records concerning many places do not exist, particularly those sites which were used on a temporary or ad hoc basis (Megargee 2009). A project of a similar nature is being undertaken by Yad Vashem who are seeking to create a lexicon of Holocaust 'killing sites' in Eastern Europe that 'will allow students, researchers, and laypersons to check the actual location of a certain event and to read who the perpetrators were, the number of

victims, the local collaborator's contribution, etc' (Yad Vashem 2014). It is perhaps not surprising, given the scale of this work, that these projects did not include in-field investigation. However, both of these resources could be useful starting point for future archaeological investigations.

Recognition of the value of archaeology in the investigation of the contemporary past, including contemporary conflict, is only a relatively recent phenomena (Sect. 2.2.6). Above and beyond excavation, many of the techniques now commonly employed by archaeologists in these investigations, and in archaeological practice more broadly, have also only developed in the last few decades (Hunter et al. 2013). Therefore, in many ways it is not surprising that (a) there was no large-scale searches for the sites and victims of the Holocaust in the immediate aftermath of these crimes and (b) that archaeologists have only recently become engaged in the examination of the physical evidence pertaining to this period.

What perhaps is surprising, however, is the fact that there are still many projects being undertaken which focus on the search for, and recovery of, the physical evidence of the Holocaust as part of which archaeologists are not consulted. This is most common with regards to large-scale mapping projects, the majority of which are aimed at locating mass graves. This seems a very strange situation when the impact that archaeologists have had on the search for, and recovery of, victims from mass graves of other contemporary conflicts is considered (for an overview see Hunter et al. 2013, Chap. 8; Sect. 2.2.5). For example, the Holocaust by Bullets Project, initiated by Yahad In-Unum, most likely represents the largest project in the world aimed at recording mass graves of the Holocaust (Yahad-In-Unum 2014). However, it has only involved archaeologists in a few of its investigations (Desbois 2008). This is despite the fact that trial excavations have been carried out at other sites to confirm that locations identified by witnesses are in fact mass graves (Desbois 2014). Instead, historians, metal detectorists and other specialists make up the search teams. Whilst the effectiveness of this project in identifying mass graves cannot be denied (hundreds of previously unknown sites have now been recorded), the lack of archaeological involvement does raise questions concerning how much more information could have been gained had archaeological techniques been applied. Additionally, the decision to only use archaeologists where a full exhumation was carried out does seem to suggest a failure to acknowledge the role that archaeologists can also play in the search for graves. The US Commission for the Preservation of Heritage Abroad (from here on referred to as the US Commission) have also carried out extensive surveys of Jewish monuments in the Ukraine, Belarus, Moldova, Bulgaria, Bosnia-Herzegovina, Romania, Slovenia, Poland and the Czech Republic (US Commission 1994–2013). The locations of hundreds of Holocaust mass graves were recorded as a result. These reports represent a valuable contribution to the desk-based assessment phase of the search for mass graves. However, as the commission notes, 'monuments are slowly being built to commemorate and mark the sites but there has been no archaeological attempt to identify numbers and names of victims' (US Commission 2005, p. 263). Similarly, the series of seminal projects undertaken by the US Holocaust Memorial Museum (USHMM) which have sought to create an encyclopaedia of all of the camps and ghettos (as described above) and map the spatial dynamics of this period have involved historians and geographers but not archaeologists (Megargee et al. 2012; Megargee 2009; Knowles et al. 2014). A number of geophysical prospection projects have also been carried out in recent years where geophysical experts working in engineering and mining have been consulted, as opposed to those with knowledge of archaeological geophysics. The fundamental problem here is the fact that most geophysicists with a background in engineering and mining geophysics, whilst incredibly competent in most cases in their own field, are concerned with deep stratigraphic features, not the subtle, shallow features being sought when considering historical events (Hunter et al., Chap. 3). Therefore, these subtle features may be missed and a lack of subject-specific knowledge, in terms of the events of the Holocaust, may also lead to problems with interpretation. It is not the point here to suggest that all projects that consider Holocaust sites in terms of their physicality should involve archaeologists

but instead to point out the fact that there are many occasions where this would be extremely valuable. It seems, however, that this value is still not always acknowledged.

2.5   Reflections

This chapter has sought to provide an overview of the development of the investigation of genocide in the twentieth and twenty-first centuries and demonstrate how investigations of Holocaust sites fit into these developments. It was also the intention to outline the main archaeological investigations of Holocaust sites that have been undertaken across Europe to date and to consider the scenarios in which archaeologists may become involved in such work. Reflecting on this review, a number of key trends are apparent which have important implications for the future of Holocaust archaeology as a field of study:

1. **The value of archaeological investigations of Holocaust sites has not yet been fully realised:** What the discussion above demonstrates is the fact that, although there has been an increase in archaeological investigations of Holocaust sites (particularly in recent years), the majority of these have been instigated by archaeologists themselves. The increased interest in these investigations does demonstrate the greater awareness amongst archaeologists regarding the potential of archaeological techniques to be employed at sites related to the recent past. However, only in a handful of cases have archaeologists been 'invited' to undertake in-depth examinations of the physical evidence pertaining to this period. Additionally, as the discussion in Sect. 2.4 demonstrates, a large number of projects aimed at documenting Holocaust sites and the physical evidence relating to them continue to take place but archaeologists do not form part of the investigative teams. This suggests that there is still a lot of work to be done to promote the benefit of archaeological involvement in such programmes and, in some cases, re-education regarding exactly what skills archaeologists possess.

2. **Opposition to invasive archaeological methods has been considerable in the past:** In a number of cases outlined above, it was clear that the use of invasive techniques such as excavation or coring has often resulted in opposition to both archaeological and medico-legal work. For the most part, this opposition came from the Jewish community on the grounds that Jewish Halacha Law forbids the disturbance of human remains buried in mass graves. The disturbance of the ground was sometimes seen as a desecration of a sacred landscape and restrictions were often placed upon those undertaking invasive work to limit such disturbance. Therefore, even though well-established protocols for the examination of mass graves and human remains were developed from the 1990s onwards (Sect. 2.2.5), it has rarely been possible for archaeologists to follow these to the letter, particularly with regards to the exhumation and identification of victims. In the majority of cases, religious authorities were brought in to advise, but only once this disturbance had taken place. Only a few investigations sought to proactively seek the advice of the religious authorities prior to the commencement of the work (Sturdy Colls 2012a, b , 2014a; Sect. 2.3.3.2). The upset caused by invasive investigations at Holocaust sites and the problems encountered by some archaeologists in the past means that there is a need for an in-depth consideration of the ethics surrounding Holocaust archaeology. This would go some way to ensuring that the same issues do not arise again in the future. Therefore, these issues are discussed at length in Chaps. 3 and 4.

3. **Archaeological work continues to predominantly centre on excavation:** As discussed in Chap. 1, archaeology has often been seen as a discipline centred on excavation. The above review demonstrates that previous work in the area of Holocaust archaeology has continued to fuel this perception since the majority of projects have used invasive methods. More than the past 20 years in particular, archaeological methodologies have developed significantly,

meaning that excavation need not be the only technique drawn upon to record sites. However, it is only in recent years that the value of utilising non-invasive archaeological methods has been realised, and still only a handful of projects have acknowledged this (Sturdy Colls 2012a, b, 2013, 2014a; Sturdy Colls and Colls 2014; Forensic Architecture 2014; Linck and Dagnault 2012; Jasinski et al. 2012). Work undertaken as part of the Holocaust Landscapes Project (Centre of Archaeology 2014a) continues to advocate the use of non-invasive techniques and newly emerging techniques, whilst a number of recent projects have included such methods (e.g. Państwowe Muzeum Auschwitz-Birkenau w Oświęcimiu 2013). A comprehensive overview of the techniques now available to archaeologists is provided in Chaps. 5–7.

4. **The diversity of physical evidence pertaining to the Holocaust has not been fully acknowledged:**
   Whilst the investigations outlined above have played a key role in enhancing public knowledge concerning the Holocaust, it is evident that they have focused predominantly on mass graves and the camps. Likewise, the majority of investigations of the camps have focused on the excavation of structures and the recovery of artefacts. Therefore, the other types of sites and physical evidence connected to the crimes perpetrated have been considered much less frequently. This means that a considerable body of evidence remains unexplored and poorly acknowledged. This evidence is reviewed in Chaps. 8–10 with the intention of demonstrating how archaeologists can take a broader approach to the investigation of Holocaust landscapes.

5. **Investigations of Holocaust sites have not been geographically balanced**:
   It is evident from the above review that the majority of archaeological investigations of Holocaust sites have been undertaken in Germany, Poland, Norway and the Netherlands. In some countries where the Holocaust took place, archaeologists have never been employed to examine sites from this period. This geographical imbalance is as a result of political circumstances, attitudes towards the Holocaust and the presence (or lack thereof) of archaeological expertise in different European countries. These issues are examined in greater detail in Chaps. 11 and 12.

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Reading the Landscape

3.1 Understanding Context

The multiple genocides, wars and violent acts of the twentieth century are well documented and have become embedded in public consciousness. Unfortunately, acts of mass murder by dictatorial leaders, national governments and rebel forces based on religious or ethnic discrimination have become all too commonplace. However, based on its impact both at the time and since, many scholars continue to emphasise the uniqueness of the Holocaust. This has been based on a multitude of factors, ranging from the number of victims and groups affected, through to the industrialised and far-reaching methods of killing employed (Clendinnen 2002; Cargas 1986; Wiesel 1967). Jäckel (in LaCapra 1996, p. 112) remarked:

> never before had a state, under the responsible authority of its leader, decided and announced that a specific group of human beings, including the old, the women, the children, and the infants, would be killed to the very last one, and implemented this decision with all the means at its disposal.

Dawidowicz (1990, p. 18) also focused on the distinctiveness of the Holocaust in terms of its finality: 'Never before in modern history had one people made the killing of another the fulfilment of an ideology, in whose pursuit means were identical with ends.'

The legacy of the Holocaust is equally unique in terms of the diversity of the individuals and groups who were and still are affected by it, and the approaches taken to it by different nation states. Not only will each country have experienced the Holocaust differently—dependent upon its location, the make-up of its population, its government and its place in the Nazi's plans to occupy Europe—but also subsequent approaches to memorialising these events will differ, based on politics, social trends, religious thought and heritage policies. Additionally, since the end of the war these issues will have evolved and diversified according to numerous factors. It is perhaps these issues (discussed in this chapter) that represent the largest challenge facing archaeologists considering this period.

Cargas (1986, p. xiii) has argued that 'the Shoah was an extraordinary event … it requires extraordinary responses'. However, it would appear that in terms of the examination of the archaeological remains of this period, such a unique response has rarely been generated. In particular, in advance of fieldwork archaeologists have often failed to consider the array of differing views held by the public and affected communities. Excepting a few examples, there has been little attempt in the literature to discuss the variety of ethical issues surrounding the examination of the physical evidence of this period (Sturdy Colls and Colls 2013; Sturdy Colls 2012). As noted in Chap. 1, there is considerable disparity between the examination of the material remains of the Holocaust and those from other twentieth-century conflicts. Similarly, there have been no attempts to explain why this situation has arisen and questions remain over whether such studies have been obstructed, deliberately avoided or simply overlooked.

This chapter examines the various reasons that may have impacted upon this situation and will undoubtedly impact upon future work. Prior to the development of field methodologies or the examination of physical evidence, it is demonstrated why and how this work should be preceded by a reading of the political, social, religious and cultural landscape in which it is undertaken. Before embarking on work in Holocaust archaeology, practitioners must ensure that they are in a position to undertake archaeological investigations ethically and sensitively, and that the opinions and beliefs of those with a connection to the site being investigated can be accounted for. Of course, many investigations by archaeologists may be readily welcomed and, in fact, encouraged by many different groups and individuals. However, even in these circumstances, archaeologists should not become complacent regarding the issues that may still arise in the course of their work. Acknowledging the issues that *may* arise will allow an appropriate and sensitive approach to be developed from the outset, something which will also likely be appreciated by those with a connection to the places being investigated.

3.2 Narratives of the Holocaust

The way in which the Holocaust is viewed will undoubtedly impact upon the ability to carry out archaeological surveys. These views can be assessed in part through the historical narratives that have been created about the events and its aftermath. Much has been written about the way in which historical narratives of past events are constructed (McGrattan 2012; Berger and Lorenz 2007; Plumb 2004). These narratives may be cemented in popular culture through publications, museums (Passini 2011; Poulot 2011), tourism (Keyes 2012; Hayes 2003), education (Bekerman and Zembylas 2012) and the media (Rosenfield 2011; Huyssen 2000; Novick 1999). Such narratives may also be passed down verbally through generations, creating either a shared common representation of the past, 'master narratives' (Barkan et al. 2007, p. 14), or many often-conflicting 'truths' (McGrattan 2012; Weigend 2003; Villa-Vincencio and Verwoerd 2000). Narratives may be formed at the local, national or transnational level through the configuration of specific 'facts', at the expense or the exclusion of others. Often physical evidence is used in the construction of these narratives, which includes sites, structures and objects of interest to archaeologists. Conversely, where it suits the narrative being constructed, physical evidence may be ignored. In the case of the former, this may present problems for archaeologists in that evidence may well be manipulated, taken out of context or may be inaccessible. In the case of the latter, it may be extremely difficult or even impossible for archaeologists to carry out new investigations or to successfully contest historical narratives when new evidence is found. Conversely, once work has been undertaken, the physical evidence uncovered by archaeologists may be used (unwillingly) to construct or support nationalistic narratives (Killebrew 2010; Kohl and Fawcett 1995; Chap. 12).

The motivation for the construction of narratives can be varied, and there exists a wealth of literature that considers the impact of the Holocaust on national and individual identity, and collective memory (e.g. Macdonald 2013; Heimannsberg and Schmitt 2013; Klar et al. 2013; Macdonald 2007; Young 1994). It is useful to review some of the main themes of the construction of these memories and identities here in order to consider how these historical narratives can impact upon archaeological research.

3.2.1 Popular Narratives

In the decades since the end of the Second World War, a popular narrative of the Holocaust has developed. Some common representations, such as the presentation of Auschwitz-Birkenau as the 'capital of the Holocaust', have been designed to centralise education strategies, provide a symbol

of the suffering endured by the victims and simplify a complex past (Hayes 2003, p. 331; Fig. 1.1). However, the result has been to create a narrative that, if taken in isolation, presents an impression of the Holocaust that centres only on the industrialised killing of victims and on the iconography of the gas chambers and crematoria (Sturdy Colls 2012, 2014; Lennon and Foley 2000). There has also been a focus on standing remains, and in many cases on complete structures. It has often been suggested that anything of any significance that survives does so above the ground. Such an approach ignores the wealth of evidence that survives below the ground and the more subtle traces that exist on the surface, which may be masked by more recent layers (Sects. 11.2 and 11.7). It also means that the significance of new, innovative archaeological recording and detection methods have often been overlooked (Chaps. 5–7).

Many aspects of official histories can be seen to have their roots in the early investigations of the crimes committed by the Nazis that were undertaken by medico-legal teams (Sect. 2.2.2). The concept will be discussed further in Chap. 5 in relation to the value of re-examining historical sources when conducting archaeological work. However, it is useful to highlight a few key points here in order to demonstrate how such investigations have influenced the construction of historical narratives and how, in turn, this can impact upon perceptions of the surviving physical evidence of this period. For example, much of the language used in early investigation reports is reused time and again in historical accounts. Many reports describe how traces of the camps and victims were 'destroyed' by the Nazis, and how no evidence was found of structures or mass graves. However, whilst these assertions have been adopted in historical narratives, other key information contained within the reports has often been ignored. Take, for example, the report written by the Central Commission for the Investigation of German Crimes in Poland concerning the extermination camp at Treblinka that states:

> At the present time no traces of it [the camp] are left, *except for* the cellar passage with the protruding remains of burnt posts, the foundations of the administration building, and the old well. Here and there can also be traced the remains of burnt fence posts and pieces of barbed wire, and short sections of paved road. There are also other traces. For example, in the north-eastern part, over a surface covering about 2 ha. (5 acres; Central Commission for the Investigation of German Crimes in Poland 1946, p. 97; *highlighting* not in original text)

Only the information contained in the first sentence has been conveyed in popular histories of the camp and it has been regularly claimed that no traces of Treblinka survive (Sturdy Colls 2014; Chrostowski 2004; Arad 1999). The limited timeframe and the specific nature of the aims of these investigations (e.g. the collection of evidence for legal enquiries) have failed to be considered. If these issues are addressed, it is clear that many of these narratives have been created based on only partial investigations of the physical evidence and that key observations, such as the presence of surviving remnants, are often omitted. Additionally, there has been little in the way of a consideration of how the observations made by other people who visited sites and wrote about their experiences may relate to the potential for physical evidence to survive (Grossman 2005; Auerbach 1979; Sect. 5.3).

In Western Europe in particular, much of the common iconography that has informed public opinion about the Holocaust has come from the media, in particular the images of liberated camps from 1944 and 1945 (Young 2000; Huyssen 2000; Douglas 1995). It is the liberation of these camps whilst they were still in operation that has also led to the preservation of standing structures and the emphasis on built remains as the main surviving source of physical evidence from this period. Camps such as Auschwitz-Birkenau and Majdanek (both liberated by the Russian army), Bergen-Belsen (liberated by the British army) and Ohrdruf (liberated by US troops) are central to popular narratives (Novick 1999). Images of emaciated corpses being bulldozed into mass graves, the excavation of other graves, surviving inmates within barrack buildings and looking through barbed wire, and of the crematoria give the impression that the killing and internment methods are well understood (Fig. 2.2). They also suggest that the bodies of some victims were destroyed, that the mass graves of others were found and

that the Nazi extermination policies centred on the camps. This has served to create a false impression of both the nature of the crimes perpetrated and how much is known about them. The recent discovery of unmarked mass graves at Bergen-Belsen and the gas chambers at Treblinka and Sobibor by archaeologists demonstrates that there is still a lot that remains undiscovered, even at the seemingly well-known camps (Ivar Schute, pers. comm.; Sturdy Colls 2014).

Often, popular narratives have also been based on legal proceedings, in particular those aspects of them presented in the media. There has been a general failure to recognise that the narratives created for legal proceedings cannot account for the complexities of witness testimonies and the documentary record, and that they instead present a streamlined version of events. These narratives will have been created with the express purpose of ensuring that a prosecution is made, and it is in the prosecution's interest not to include things that conflict with the majority (Bargueño 2012). Material also not deemed 'of interest' will also not have been entered into the public record (see IMTN 1947 for examples) and, for investigations and trials undertaken in the aftermath of the Holocaust, many witnesses had yet to come forward to tell of their experiences (Sect. 5.4). However, because legal testimonies were deemed credible, they were seen as definitive and came to form the basis of many popular narratives.

Conversely, through the use of certain types of language and the exclusion of certain physical evidence, some official histories have sought to ensure that the impression of events that is created does not conform to popular perceptions of the Holocaust. For example, in the Channel Islands, the events of this period are described as the German Occupation, as opposed to the Nazi Holocaust, in spite of the fact that people were forced to live and die in the camps established on some of the islands, many of which were satellite camps of concentration camps in mainland Europe (Sturdy Colls and Colls 2013; Fig. 3.1). With reference to some sites of the Holocaust, there have been continued efforts to state that only work camps and not concentration or extermination camps existed in a given location, in an attempt to separate deaths caused through poor working and living conditions from systematic extermination (Aulich 2007). The suggestion as part of archaeological research that these camps form part of the history of the Holocaust is rarely welcomed. Other narratives may seek to suppress information about the experiences of particular groups, often in order to highlight the plight of another (McGrattan 2012). Therefore, where it is the purpose of archaeological surveys to bring these suppressed stories to the fore, it may prove difficult or impossible to gain the necessary approvals to carry out fieldwork. These issues are discussed further in Sect. 12.5, in the context of a discussion of how the results of archaeological surveys will be received and adopted.

Whatever the rationale for their creation, because of these official histories, it is often believed that the past is fully understood, that there is little need to engage in further study and that the Holocaust has been 'dealt with' so to speak (Meng 2010; Marrus 2000; Beder 2002). There is often a belief that

only historical research or the reappropriation of 'memory' can allow the past to be fully understood (Marrus 2000). This not only presents a potential barrier to archaeological work but also forces us to consider how a revival of interest in the Holocaust will impact upon associated communities and individuals. That said, archaeologists should not simply accept these narratives at face value. It is likely that the archaeological work of the nature suggested throughout this book will challenge or contest 'official histories' since it takes a broader view of both historical material and physical evidence (Chaps. 8–11). When we consider that many of these narratives have been upheld for almost 70 years, and whole memorial and museum complexes and curricula have been based around them, any such attempts to challenge them may be met with resistance (Sect. 12.5).

3.2.2   Counter-Narratives

As a final point, where there is an 'official' history, there are also counter-narratives. For example, to return again to the example of the Occupation of Alderney, a body of sensationalist literature has emerged as a direct response to the 'official history' of this period (for examples of the official history, see Cruickshank 1975 and Pantcheff 1981; for examples of sensationalist literature, see Freeman-Keel 1996; Steckoll 1982). The existence of these competing narratives or 'memory wars' can complicate archaeological research, given the myth and conjecture that will likely have arisen around the events in question (Cohen 2001, p. 241). Nora (1989) has highlighted that the 'democratization of history' may represent an act of resistance or a way of claiming ownership by oppressed parties who have previously been excluded from 'official histories'. Therefore, in some instances there will be a 'competition of victimhoods' (Barkan et al. 2007, p. 19); these may occur between nations previously at war, societies and different ethnic or religious groups. Archaeological research offers the possibility to deconstruct some of the myths that have been borne out of the opposing discussions between these competing groups. Through the reassessment of archival material and detailed examination of the physical evidence (Chaps. 5–11), it will be possible to re-evaluate the history of the places being examined. Through an assessment of how these narratives were constructed, it will be possible to gain a broader understanding of the cultural memory surrounding the events in question (Chap. 11).

3.3   Between History and Memory

The Holocaust sits between history and memory; it is not a 'closed' event, confined to the annals of history, but it is distant in terms of the amount of time that has passed (Harrison and Schofield 2010, pp. 4–5; Lang 1999). As van der Laarse (2013, p. 87) has argued, 'the past is not a foreign country but on the contrary still far too familiar'. The Holocaust is still within living memory for victims, perpetrators, witnesses and their families and, for many, the fate of their relatives and friends will remain unknown and perpetrators will not have been brought to justice. However, many people continue to attempt to trace what happened to their loved ones and personal stories continue to be shared. Although fewer in number as time passes, the occasional war crimes trial of Holocaust perpetrators will also thrust the events back into public consciousness and will bring to the fore painful aspects of the past for those connected to the events to which the trial relates (Sect. 2.3.2). Many communities continue to feel a sense of loss and have welcomed projects seeking to locate mass graves—various communities in the Ukraine can be cited as good examples (Desbois 2008; Golbert 2004; Fig. 3.2).

In other countries, the crimes perpetrated may still be considered recent in legal terms; in many East-
ern European countries for example, crimes carried out under totalitarian regimes are still deemed
worthy of forensic investigation (Ossowski et al. 2013; Jankauskas et al. 2005). The continued need
for knowledge and/or a desire to educate future generations means that, in some cases, archaeologi-
cal work that can contribute to this will be welcomed. For many, the physical evidence of this period
and the ability to locate previously unmarked sites will be seen as a vital step in commemorating the
victims.

3.3.1   The Painful Past

In other circumstances, people may find it too difficult to confront this period—there may be a com-
plete lack of desire to discuss the past and, therefore, archaeological work aimed at finding new
information will be unwelcome (Harrison and Schofield 2010). Other communities may be content
with the knowledge they have and their ability to hold commemorative services; it may be deemed
unnecessary to revisit this part of history in other ways. For others, they may feel little connection
to the Holocaust, owing to the fact that the events occurred outside their lifetime and their relatives
were not involved/affected. In these cases, there may be no desire to investigate the past and it may
be viewed with indifference, ignorance or as an aberration. Speaking about the excavation of a poten-
tial mass grave in Lieberose in Germany, one local stated to the media 'go ahead and write that we
country bumpkins don't think much of this talk of graves … All our taxes are being used and, in the
end, nothing will be found' (Meiritz 2009). Others may resent the legacy of the Holocaust and their
apparent obligations to perpetuate its memory (Ofer 2004).

  Perceptions of particular sites and events, and any archaeological work that is suggested in relation
to them, will likely also be influenced by whether or not they are perceived as being part of the Holo-
caust. For example, projects that focus on the physical remains of battlefields, aircraft crash sites and
fortifications dating to the Second World War are widespread (Moshenska 2013; Forbes et al. 2009).
Rarely is it deemed controversial to examine such remains. However, the fact that some of these forti-
fications may have been built by slave labour is often ignored to disassociate them with the Holocaust
and align them more closely with the conflict itself (Sect. 10.5). As the disagreements which formed
the basis of these conflicts have long been laid to rest, this allows for a degree of separation between
the past and the present which cannot be afforded when discussing genocide, particularly one for
which similar prejudices still exist. Therefore, whilst the Second World War will rarely be described
as recent, the Holocaust is still often seen as such. This in part explains the reluctance in some cases
to examine the physical evidence from this event specifically.

3.3.2 Living Witnesses

The fact that living witnesses survive means that, when undertaking archaeological work, we are dealing with a past that has modern relevance. This means that there are a number of issues that must be considered when devising methodologies, when undertaking fieldwork and when presenting the results of the project. These issues are discussed further in Chaps. 4–7 and 12 but are worthy of consideration here given the importance of acknowledging these issues in advance of instigating a project. Firstly, the implications of such work on the wellbeing of witnesses should be considered, particularly when their direct involvement is anticipated (Sect. 5.4). The stress caused by being asked to tell their stories, by revisiting sites where they were interred or faced persecution, or by witnessing the excavation of human remains, personal belongings and other buried materials, should be anticipated prior to the project and reviewed throughout. Many witnesses will of course welcome the further attention that archaeological research will bring to these sites and events, and particularly the role that it can play in education and commemoration. Many will have a valuable part to play in informing search strategies and in corroborating survey results (Sect. 5.4). However, the possibility of animosity by the witnesses towards archaeological work should also be considered. Many witnesses will, in the decades since the war, have been seen as the definitive source of information about a particular location or event. They may perceive archaeological work as a direct challenge to this position and as an intervention into what they perceive as 'their site'. When presenting survey results, archaeologists must also consider the fact that witnesses may challenge these findings if they contradict their testimonies (Sect. 12.5.2). Here, archaeologists can learn from the work of forensic archaeologists who face many of the same dilemmas when investigating recent crimes (Hunter et al. 2013).

3.3.3 The Modern Relevance of the Holocaust

The Holocaust continues to have considerable resonance in modern society in a variety of other ways. Perhaps the most notable after-effect is the ongoing conflict between Israel and Palestine. In addition to the fact that the conflict itself was borne out of territorial disputes which arose after the mass immigration of Jews into what became the state of Israel, Holocaust iconography and narratives continue to be used by both sides to demonize the opposition (Buettner 2011). Here, the Holocaust is a very raw and current issue. Similarly, Israel has often advocated new searches for evidence of the crimes perpetrated against Jews. Other countries on the other hand have not encouraged searches because of anti-Semitism. One need only look at other conflicts and genocides which have involved killings and territorial disputes—such as the Spanish Civil War, tensions between Gibraltar and Spain, and the Turko-Cypriot to name but a few—to realise that events can still remain extremely sensitive even when hundreds of years have passed (Bienkov 2013; Ferrándiz 2006; Papadakis 2005). Therefore, when this is considered, it is unsurprising that the Holocaust remains such a hot topic and that searches for physical evidence may be deemed controversial.

That said, in some places where anti-Semitism, racial prejudice and xenophobia are recurring issues in modern society, narratives, iconography and sites of the Holocaust continue to be used in an attempt to educate people and bring these issues to the fore. There also exist various international programmes aimed at linking the Holocaust to more recent genocides in places like Rwanda and the Sudan, which aim to prevent genocide and educate a variety of audiences about these events (e.g. Aegis Trust 2014). Some high-profile attempts to bring these issues to public attention include widely reported-on visits to Auschwitz-Birkenau by various European football teams, including the English and Dutch teams, in advance of the 2012 European Championship (van der Laarse 2013; BBC 2012a). A vast number of daily media reports continue to focus on the Holocaust. In cases where there

is a willingness to continue to discuss the Holocaust, and where its modern relevance is recognised, it should not be too big a step to utilise the results of archaeological work in education programmes (Sect. 12.3.7). Greater support for undertaking archaeological work in the first place is also likely to be found in these quarters.

3.3.4   The Implications of 'Doing' Archaeology

The very act of 'doing' archaeology may bring to the fore difficult and often painful memories, something that must be given adequate consideration before projects are embarked upon. The scientific and societal impact of carrying out research should be given equal attention and the potential for the work to cause upset and upheaval should be assessed (Field 2007, p. 228). Of course, there are many positive benefits in attempting to uncover physical evidence for the purpose of confirming, complementing or challenging historical narratives, one of which is the ability in some cases for archaeology to act as a reconciliatory tool between conflicting groups. However, archaeologists should also be aware of the potentially divisive nature of archaeological work or even the suggestion of it. The potential 'memory boom' caused by the examination of the past has the potential to result in the reappearance of old societal rifts. With regard to the Holocaust, this can be most readily seen in former Yugoslavia where the exhumation and commemoration of Holocaust victims contributed to war and genocide in the 1990s (Skinner et al. 2002). Only recently have such issues come to be considered within the field of heritage and memory studies. The important question asked by van der Laarse (2013, p. 15) in this regard—'how does one present trauma without producing another terrorscape and genocide?'—has to be considered at length when devising archaeological methodologies and when attempting to mediate between affected groups. It is important that the motivations for archaeological work are also made clear to avoid potential misunderstandings. Certain terminology can give the wrong impression for example. In the author's own work, the term forensic archaeology has often been misunderstood; on one occasion, when a forensic archaeological search was suggested, a certain party falsely perceived the intention of the work to be to collect further evidence to 'prove Germany's guilt', whilst on another occasion it was assumed that the only focus of the work would be to search human remains in order to prove mass atrocity (Anon. pers. comm.). In both cases, the association of forensic archaeology was with legal proceedings and missing people yet, somewhat ironically, there was the assumption that the projects were already biased towards 'proving' a particular predetermined theory or case.

Several other common responses to the suggestion of Holocaust archaeology by the author have been received that are worthy of discussion here. Questions concerning why this period is being examined instead of others when atrocities or mass death have occurred have often been asked: Why are the killings under the Stalinist or Japanese regimes not being examined instead? Do you not know that the British killed thousands in the camps in Africa? Why are you not looking for the victims of the recent disaster in the Philippines? Only a few hundred people died in a particular camp, whilst thousands died in another—why are you focusing on the one with fewer deaths? (Various Anon. pers. comm.) These are somewhat worrying responses in that, in trying to gain acknowledgement for other killings, there is a disregard for the lives of the people who died during the Holocaust. It is argued here that all atrocities should be examined fully (including the Holocaust) and that all killings (regardless of scale) should be acknowledged and investigated. On the basis that it is not possible for one person to examine all periods of history, it is hoped (and it is indeed the case) that other archaeologists will seek to examine these other sites of conflict thoroughly in order to allow the victims to be commemorated, the actions of the perpetrators to be documented and public knowledge of them to be increased. Having chosen to focus on the Holocaust, it is interesting however to examine what these responses reveal about attitudes towards this period of history.

One possible reason for such reactions is the fact that, as has been repeatedly mentioned, there is a general feeling that we know everything about the Holocaust because of the attention afforded to it by historians and it has come to dominate the history of the twentieth century (van der Laarse 2013; Krondorfer 2008). Another explanation lies in the way that some modern conflicts, genocides or disasters are investigated, and the level of (public) knowledge about them. For example, lack of intervention in in, and investigation of, the current genocides and conflict in northern and central Africa, the Middle East and Gaza in particular may offer one explanation for frustration surrounding investigations of the Holocaust. This sentiment has been expressed in a quote in Lowenthal (1998, p. 77) taken from some Israeli, Arab and Jewish children talking to relatives mourning those killed in the Holocaust: 'You are missing your families from 50 years ago, while my relatives are being killed today'. The inner workings of modern approaches to genocide are too complex to be discussed here. However, whilst no opinion is passed on these statements, there is an opportunity for archaeologists examining Holocaust sites to demonstrate why the investigation of *all* genocides is important and what lessons can be learnt from the past that may benefit the present and the future (Chap. 12).

3.3.5 Opposition

Of course, researchers should always be aware of the potential for archaeological work to cause animosity at a broader level. 'Visitors' to Holocaust sites can come from a diverse range of backgrounds, all of who will have differing views about archaeology (see Sect. 3.4 below). Moshenska (2009) has noted that, where research is not instigated locally, this can exacerbate feelings towards the researcher as an outsider (Merriman 2004). The latter is likely to be particularly true with regard to Holocaust sites, where investigations have seldom been instigated by the public. The nature of so-called hot heritage—that is, sites connected to conflict, genocide, atrocities or contested space (Uzzell 1989)—means that public engagement needs to be carefully considered (Chap. 4).

Periods of history about which there are 'contentious' memories may present investigators with a number of further problems (Hunter and Simpson 2007; Buchli and Lucas 2002). This may be in the form of the reluctance of witnesses to talk about their experiences, too many witnesses presenting conflicting opinions of the same events or sensationalist accounts (Hayes 2003). Equally, there is the potential for survivors to be 'fired by patterns of suspicion that scholars objectify their many years of agony, pain and torment' (Garber 1994, p. 3). Browning (1992) has commented that the Holocaust is one of the most controversial topics that a historian can address and Moshenska (2008, p. 165) has noted that those who attempt to challenge widely held perceptions of events are often 'attacked, marginalized or deliberately misrepresented'; such issues may be equally prevalent for archaeologists (Hunter et al. 2013). Additionally, genocide and political killings are by their very nature carried out covertly and on a large scale, often resulting in archaeologists facing political problems, potentially unsafe working environments and marginalisation (Hunter and Simpson 2007; Buchli and Lucas 2002). This will occur to a greater and lesser extent in some parts of Europe depending upon the extent to which societal tensions regarding the Holocaust exist. In the past, similar trends can be observed at other Holocaust sites where examinations of the physical remains have been undertaken. This demonstrates the continued poignancy of these events. Since the immediate post-war period, with the opposition to the Mission de Recherché's proposals to exhume the Holocaust victims at Belsen (Rosensaft 1979), through to the time pressures and political unrest caused by more recent investigations, such as Wright's excavations at Serniki, investigators approaching the material remains of the Holocaust have faced antagonism (Bevan 1994). Indeed, in light of the issues discussed throughout this chapter, pursuing archaeological work under the pressures imposed by the existence of these differences in opinion can make for an uncomfortable working environment.

3.4   Defining 'Communities'

In light of the issues outlined above, it is important that archaeologists identify the various communities that may be affected by their research. In particular, issues of ownership should be addressed before embarking on archaeological work. Such issues have been hotly debated in relation to public archaeology and it has been demonstrated that an understanding of cognitive ownership can highlight spiritual, familial, intellectual and cultural links, and associations that individuals and communities can have to sites (Boyd 2012). Additionally, McManamon (1991, p. 121) has highlighted the importance of understanding the 'many publics' affected by archaeological work whose opinions, needs and interests may vary considerably. When addressing such an emotive subject as the Holocaust, and in light of the diverse range of groups affected, considering all views is clearly imperative. However, accounting for the complex range of concerns and tensions that may emerge perhaps represents one of the greatest challenges to researchers.

So what do we mean by the term community with regard to the Holocaust? In the context of public archaeology, Tully (2009, p. 67) has highlighted the lack of synergy between the real and theoretical implications of the term community, in that it alludes to 'a sense of cohesion and solidarity created through a common interest in a shared locale'. In reality, there are many communities and affected groups, some of whom will have connections to, and an interest in, the site in question and some of whom who will not. It is such diversity that leads to sites becoming contested spaces, often culminating in an equally diverse array of historical narratives (Purbrick et al. 2007; Pollard 2007). As McGuire (2008, p. 23) suggests: 'sharing a common history does not mean that people have shared a common experience of that history'. At the broadest level, a distinction can be made between those communities and individuals who are present at the site under examination, either temporarily (e.g. visitors) or permanently (e.g. local residents), and those who are geographically removed (e.g. survivors and their families, or descendants of the affected area who no longer live in the locality and do not visit). With regard to the former, the term 'visitor' is equally an oversimplification of individuals that travel to heritage sites and, with regard to the Holocaust, this will include survivors, their relatives and those of the deceased, academics, educational groups, tourists and pilgrims. Similarly, descendants who lost loved ones during the Holocaust may visit, whilst those who witnessed the events or aided victims may also be encountered. Politics will often dictate whether heritage presents communities as a cohort of victims, perpetrators, observers or a combination of all of these groups. This has implications for both archaeological research and its use in future heritage and commemoration strategies. As regards the Holocaust, many affected communities are defined by negative experiences, for example survivor communities and victims' families, whose lives have been shaped by loss. When national or local heritage is also defined by atrocity, this can lead to resentment and judgement on both the part of the community themselves and external parties.

With all of these different communities, it is to be expected that differences of opinion and differing perceptions of sites will arise. The complexity of this situation is perhaps best summarised by Zubrzycki's (2009, p. 99) assessment of Auschwitz:

> Whereas 'Auschwitz' is, for Jews and the world, the symbol of the Holocaust and now of universal evil, 'Oświęcim' is for Poles the symbol of Polish martyrdom. It is also the symbolic terrain where Poles articulate their relationship to various Others: Germans, who created the camp; Russians, who liberated it; and especially Jews, with whom the Poles compete for ownership of the camp as a symbol of their own martyrdom'. Finally, Auschwitz is the dramatization and enactment of nationalist discourses which have shaped—and divided— Polish public life in the last decade.

These differing opinions can be problematic for archaeologists but many can be pre-empted through detailed historical research and through site visits (as outlined in Chap. 4).

In some areas, it may be extremely difficult to determine who actually makes up the local community. For example, in Serbia, Bosnia and Croatia, there has been no census since 1991 and so no up-to-date information is available concerning the make-up of the population in terms of gender, religious denomination or age. Smith and Waterton (2013) have also warned against simply placing everyone in a given area or religious, social or cultural group under the umbrella of 'the community'. They instead suggest that a number of sub-communities can usually be identified, each likely with differing views. In many cases, it can be observed that focusing only on the dominant voices within a community often resulted in the further marginalisation of those with different views. For example, it should never be assumed that the opinions of community groups, local societies and local government represent accurately the opinions of everyone within the area or religious, social or cultural grouping. It is important for archaeologists to conduct their own research in this regard in order to identify affected groups and individuals, and so assess their perceptions of a site or plans for archaeological work. Not to consider the opinions of all of these groups may result in the adoption of unsuitable strategies that will later offend and upset certain groups and individuals. Equally, to only take the 'official' view of a local government or other stakeholders may mean that those with positive opinions of archaeological work may be overlooked.

Interestingly, in the author's experience, many of the responses generated at state level and many of the concerns raised did not correspond to the feelings of the general public and visitors encountered 'on the ground'. Generally, the public is interested in archaeological work and this appears to extend that undertaken at Holocaust sites. Most commonly, observers are intrigued by the strange-looking equipment being used or the seemingly odd practices of archaeologists! As part of the author's own work at Treblinka, visitors have been positive about the fact that research is being undertaken. At other sites, such as Semlin and Alderney, people encountering the field team were generally interested in what was being done. Given the mixed use of many of these sites and their location within residential or commercial areas, some concerns were raised about what was being surveyed and whether or not the research would result in the land being developed. Other common queries included whether or not the work was being undertaken on behalf of the local government, the environment agency or other public bodies. When it was mentioned that the work was archaeological in nature, most people offered up information about their own recollections of the site in question or, indeed, other (usually ancient) sites in the area. The impromptu exchanges often yielded valuable information about the site that could not be gleaned through other means because it was not written down or recorded elsewhere (particularly where master narratives existed; see Sect. 3.2). Similarly, whether these responses related to the Holocaust, to archaeology more generally or to concerns was indicative of individual attitudes towards the area and its history (Chap. 7).

It should of course be remembered that communities are not 'homogenous and self-referential' (Smith and Waterton 2013, p. 53) and that 'cultural landscapes are not the product of sedentary urban societies' (Head 2000, p. 64). Therefore, in addition to the diverse range of issues specific to each site being examined, archaeologists are faced with the fact that a number of intrinsic factors (such as deaths and relocation) and extrinsic factors (such as political and economic change) will alter the demographic of, and influences upon, communities. Such changes can have a positive impact upon approaches to heritage and the acceptance of archaeological work. At Treblinka, for example, considerably greater value has been placed on the site by the current director and his team, as reflected by plans to enhance the memorial and increase the dissemination of information about the site (Edward Kopówka, pers. comm.). The issuing of permission for work at the site can also be seen to have been a result of a cultural shift. In Germany, new generations claimed to have 'broke the silence imposed by our fathers and conquered the memory of their crimes' (Friedrich 2004, cited in Moeller 2006, p. 110), paving the way for the later commitment to examining Holocaust sites to the same extent as other ancient ones (Sect. 2.3.3.1; Theune 2010). Conversely, however, a change of generation can

have a negative impact or can continue to perpetuate 'facts' about the events in question. Second-, third- and fourth-hand memories can be observed at some sites (Golbert 2004) and the perpetuation of these 'facts' is as a result of a long-standing political commitment to maintaining the official history formulated in the immediate post-war period. These issues can present considerable challenges to archaeologists (Sect. 3.2). Not only does it make distinguishing fact from fiction complex, but it also makes obtaining permission for work more difficult.

3.5   Religion and Sacred Spaces

The review of the history of genocide investigations in Chap. 2 highlighted the diverse approaches taken to the examination of Holocaust sites in the past. In very few cases has the physical evidence of this period been examined in its entirety, particularly where human remains are concerned. At first glance, it may appear that those investigating have failed to carry out a comprehensive search or that deliberate attempts have been made to suppress the physical evidence of this period. However, whilst this may be true in some cases, a detailed examination of the variety of the different religious and cultural views of the victims, survivors, descendants and other communities affected by the events makes it immediately clear why searches have been limited in number and scope.

When considering why the Holocaust requires an 'extraordinary response', archaeologists are referred to the fact that the Holocaust affected Jews (practising or by relation), Christians, Jehovah's Witnesses, atheists, Roma and Sinti, and people from various other belief systems and cultures. All of these groups have differing views regarding the commemoration of atrocity, death and burial that need to be accounted for when examining places connected to this period. An examination of current literature on the topic and field visits by the author to a range of sites across Europe reveals that considerable diversity exists both between and within these groups. What all religious groups have in common is the fact that the actions of the Nazis denied the victims, their families and their communities the right to carry out burial according to their beliefs. In many cases, the actions of the Nazis completely desecrated the deceased by disposing of the remains in a way that was completely contrary to an individual's beliefs. For example, the cremation of human remains is usually forbidden amongst those of Jewish faith (Green and Green 2006). For some religious groups, the location of Holocaust graves offers the opportunity for burial rites to be carried out, albeit belatedly, but for others it is more important 70 years on that the dead rest where they lie (see below). The different religious groups who were affected by, and continue to be affected by, the Holocaust are discussed below in order to outline the factors that archaeologists need to be aware of in advance of and during fieldwork. This list is by no means exhaustive as individuals from other faiths were also affected in certain parts of the world. Additionally, it is acknowledged that the level of conformity to these belief systems varies considerably across the world and between individuals. Whilst many people were deemed to be Jewish for example, this does not mean that they were practising Jews; this in itself presents a dilemma which is discussed more in Sect. 3.5.2 below. However, an attempt has been made to review the main faith groups and issues, with the advisory that consultation at the local level should still precede fieldwork. At the most basic level, all archaeological investigations at Holocaust sites should acknowledge that 'respect for the dead should form the core of ethical treatment of human remains' since 'respect for the dead is a feature of most world religions; it is also upheld by many with no specific religious beliefs' (English Heritage 2005, pp. 8–9).

3.5.1 Sacred Spaces

Some Holocaust sites have been preserved or perceived as sacred landscapes (Jacobs 2004). This belief is not confined to one particular faith and seems to centre instead on the notion that places where so many people were killed have a certain aura or cemetery-like feel to them (Podoshen and Hunt 2011; Fig. 3.3). This has resulted in the perception that they should remain undisturbed, protected and preserved in a memorialised form for eternity. Even when sites exist in a dilapidated state and locations remain unmarked, the sites themselves may still be viewed as sacred places by people visiting them. Therefore, if archaeology is perceived as being a destructive and invasive process that could threaten the sanctity of these places, then surveys are likely to be met with resistance (Sect. 1.3).

Particularly at sites where human remains are likely to be present, there may be concerns about the potential disturbance of the dead. The desire to let the dead rest undisturbed is reflected in the UN Commission on Human Rights: 'The right to rest in peace is a general principle of humanity which can further be reinforced by the international protection of private and family life' (Christians 2008, p. 19). Additionally, 'for the UN committee … the age of the human remains does not reduce the family relation but on the contrary, it *enlarges* it' (Christians 2008, p. 21). Potentially then, those that wish the dead to remain where they lie and the authorities that ensure these wishes are upheld may express more opposition to archaeological work the more years that pass since the Holocaust.

There have of course been cases where excavations of the remains of Holocaust victims have taken place, many of which were reviewed in Chap. 2 but which are worthwhile revising here. Historically, investigations into mass graves were undertaken in the immediate aftermath of the Holocaust or as part of later legal investigations (Wright et al. 2005; Gross 2001). Of the exhumations that have taken place since the war, the majority involved the remains of non-Jewish victims. In other cases, human remains have been recovered when they have been discovered serendipitously, for example in the course of building work (Susa 2007; Lisova 2007). Anthropological analysis of human remains has been undertaken using the same well-established methods used in forensic investigations or archaeological contexts in only a few cases (Mallet et al. 2014; Definis-Gojanović and Sutlović 2007; Susa 2007). A lack of understanding of what is now possible in terms of the recovery and identification of victims from this period offers one possible explanation as to why searches for, and the recovery of, victims have not been undertaken on a large scale. In the cases where human remains have been found, reburial has usually been rapid and scientific investigations have not taken place for a number of reasons, some of which relate to the belief that the remains should not be disturbed further (Sturdy Colls 2012). Therefore, it seems that there is an association of archaeology with disrespect for the dead and disturbance, which practitioners may struggle to change (Sect. 1.3). These issues are a recurring theme throughout this book owing to their prevalence when surveys have been proposed by the author. The non-invasive and minimally invasive methodology outlined in Chaps. 5–7 was formulated

Fig. 3.3 Memorial spaces at Mauthausen which have been appropriated as sacred places. (Copyright: Marta Tobolova)

as a direct response to these issues and in order to try and demonstrate the fact that archaeology can in fact contribute to respecting the dead and sacred sites often without the need to disturb them.

The sacred nature of a site may also result in it being placed beyond the realms of questioning regarding what and who is being commemorated. This trend can be observed at conflict sites from other periods. Baillie (2012, p. 17) highlights one such example in Vukovar, Croatia, where the result of the memorials established to commemorate Croatian losses has served, amongst other things, to 'buffer these subjects and sites from critique, rendering them beyond reproach'. This idea can be extended to include the impact that existing memorials can have on the overall perception of the history of a site. Often, where a memorial exists, this leads to the belief that the physical evidence pertaining to the events being commemorated are fully understood. Little attention is paid to whether or not the layout of a memorial, or indeed an entire memorial complex, accurately reflects how the site or feature was previously laid out. Whilst the presence of a memorial may fulfil religious and commemorative functions, it may further contribute to 'master narratives' that emphasise certain individuals and groups at the expense of others (see discussion in Sect. 3.2; Barkan et al. 2007, p. 14). Particularly where a memorial incorporates symbolic representations of structural elements, such as buildings or boundaries, public understanding of the extent and nature of a site may be warped (Fig. 2.6; Sects. 2.2.4 and 2.5). When archaeological work is suggested that seeks to question the popular perceptions of these sacred spaces, this may not also be welcomed and it can be a considerable challenge for archaeologists to convince relevant stakeholders that anything can be gained from examining surviving physical evidence. Some strategies for addressing these issues are outlined in Chap. 4.

When archaeological work is permitted, archaeologists must ensure that these beliefs are accounted for in the methodology employed. At the most basic level, the presence of a field team at a marked memorial site could potentially be seen as a disruption to commemorative practices. Indeed, where fieldwork is undertaken, the role of the site as, first and foremost, a commemorative space should be at the forefront of the methodology employed. Whilst it may sometimes be disruptive to the work being undertaken, the simple act of stopping work in an area where a commemorative service is taking place demonstrates that respect is being shown. After all, archaeological work should be undertaken with a view to contributing to commemoration, not to hindering it.

3.5.2   Jewish Halacha Law

When working in the field of Holocaust archaeology, archaeologists need to have a comprehensive understanding of Jewish beliefs, particularly with regard to death and burial, because of the large number of Jewish victims that were killed (Sturdy Colls 2012). When these beliefs are examined, it becomes immediately clear why large-scale searches and recovery at mass graves where Jewish victims are believed to be buried have not been carried out.

Governance on death and burial is provided by Jewish Halacha Law, a series of commandments derived from the Torah, rabbinical guidance and religious customs (Raphael 2009; Rosenbaum 1976). Judaism places particular emphasis on the sanctity of the human body on the basis that the body is believed to have 'been "loaned" by the Almighty' and due to the belief that it is tied to the soul (Green and Green 2006, p. 259). As Levine (1997, p. 128) argues, 'two of the most important commandments in Judaism are to honour the dead and comfort the mourner' and, as such, archaeological investigations of sites where Jewish victims are believed to be interred must respect this. Very little has been written in the past about the implications of Halacha Law on the investigation of graves, excepting a few retrospective reflections (e.g. Payne 2009; Rahtz 1995). Aside from articles by the author (Sturdy Colls 2012, 2013, 2014), little else has been written that addresses the implications of this in the context of the Holocaust (Polak 2001). One of the reasons for this is perhaps the complexity and

indeed flexibility of Halacha. When a review of previous investigations at Holocaust sites containing the remains of Jewish victims is undertaken, mixed messages appear concerning what actions are permitted. This discussion is intended to provide guidance for archaeologists who find themselves part of such investigations and highlight some common assertions of Halacha. However, it is strongly recommended that rabbinical advice be sought on a case-by-case basis due to local variations and the differing contexts in which work will be undertaken (e.g. legal, commercial or research contexts).

With regard to burial, Halacha Law stipulates that it should be the case that the 'dead rest in their place of burial' (Rosenbaum 1976; Rabbi Moses Feinstein in Rosensaft 1979, p. 164), irrespective of whether they are interred in 'an honoured place' or a 'wretched place' (e.g. a clandestine burial; XIII, 7, cited in Einhorn et al. 1997, p. 50). The Yerulshalmi states that 'corpses or skeletons may not be removed from an honorable grave to an honorable grave, from one unworthy grave to another, from an unworthy grave to one that is honorable and…from an honorable grave to one that is unworthy' (Geller 1996, p. 413). In a decision handed down by the Chief Rabbi of Israel on behalf of Orthodox Jews with regard to proposed excavations of archaeological tombs, it was stated that:

> The clearing of bones of the dead from their tombs is forbidden under Jewish Halakha, the Jerusalem Talmud and the literature of Jewish law…. Under no circumstances is it allowed to clear bones from their tombs for the purpose of any kind of research. (Rabbi Ovadia Yossef, Chief (Sephardi) Rabbi of Israel (Rishon Le-Zion) cited in Einhorn et al. 1997, p. 49)

This is due to the fact that it is believed that 'the deceased is the owner of his/her grave' and that their soul is tied to it; therefore, to disturb a grave is to disturb the soul of the person interred within it (Schudrich 2014). It is believed that this soul has 'consciousness and awareness' and thus any disturbance is felt in some way by the individual (Levine 1997, p. 101); this is confirmed by the fact that cemeteries are described as the 'house of the living' (Council of Europe 2012, p. 6). The importance of protecting the body and ensuring a grave is not disturbed can be seen in the measures taken during traditional burial rites. Where individuals have undergone amputations, where samples from the body have been taken or where a person has been victim of a crime or disaster that has resulted in the dismemberment of their body, all body parts will be buried. Where there is a chance that burial will take place in stages (e.g. because body parts or samples may be found at a later stage or because amputated limbs are buried before death), remains will usually be concreted over to prevent later disturbance (Green and Green 2006, p. 260). The desire for a 'perpetual burial place' and to rest in peace is 'neither optional or disputed' with regard to Jewish burials according to the Council of Europe and the European Court of Human Rights (Christians 2008, p. 8).

However, despite this, there are countless examples of instances where Jewish cemeteries have been desecrated or used for other purposes, sometimes resulting in the disturbance and/or removal of human remains (for examples, see US Commission 2005). One such example is Grodno in Belarus where an extension to a football stadium resulted in lorry loads of human remains being removed, despite the fact that the area was known to be a historically important Jewish cemetery (Doyle 2003). Protests at the international level failed to halt the work and no action was taken against the authorities, despite the fact that these actions were in breach of religious law surrounding the protection of Jewish sites (Council of Europe 2012). This clearly suggests that international and religious law continues to be ignored in many cases.

In the past, considerable opposition has also been raised against archaeological and non-archaeological work where the remains of Jewish victims were to be disturbed (Weiss 2003; Rosensaft 1979; Rahtz 1995). Historically, this has been due to the fact that practitioners have carried out invasive work in areas thought to contain graves, irrespective of the laws outlined above or without a consideration of Jewish beliefs. A variety to examples can be cited ranging from excavations of Jewbury in York in the UK (Rahtz 1995; Payne 2009) to planned works at tombs at countless sites in Israel

Fig. 3.4 An environmental archaeologist from the Natural History Museum, (London), undertaking sedimentary coring at Shapwick Heath Nature Reserve, (Somerset), as part of the Festival of British Archaeology, 2011. (Copyright: Dr Tom Hill)

(Breitowictz 1997–2010; Einhorn et al. 1997). In relation to the Holocaust, the Jewish community objected to proposed excavation works at Bergen-Belsen on the grounds that the remains of Jewish victims would be disturbed (Rosensaft 1979). Recent excavations (2010) in Romania of a mass grave discovered at Iasi, and the subsequent forensic tests carried out on the bodies of the victims caused anger amongst Jewish groups and prompted an official statement from The Committee for the Preservation of Jewish Cemeteries in Europe stating that 'this was the first time ever that a national government is openly declaring its intention to proceed in the disturbance of the graves of Holocaust victims' (Voz Iz Neias 2011). There are also a number of cases in which coring has been used as a means to locate graves and considerable opposition to this technique has emerged as a result. Perhaps the most publicised example is the excavation and coring work undertaken at Bełżec in the 1990s that resulted in uproar amongst the Jewish community and a potential lawsuit against the authorities that had authorised the work (Weiss 2003). Coring has since been seen by many in the Jewish (and archaeological) community as disrespectful and damaging (Michael Schudrich, pers. comm.; Hunter et al. 2013; Sturdy Colls 2012). As the European Agudas Yisroel (2008, p. 10) points out, 'any investigations of graves of their location must be made externally without disturbing the graves in any way or inserting any scientific instruments, pipes, wires etc. of any kind into the graves. It is strictly forbidden to remove the earth covering the graves'.

However, despite these issues and beliefs, coring continues to be used by some archaeologists as a means for locating mass graves and structures. This technique can be used to great effect in environmental archaeology and in the search for structural remains (Fig. 3.4). However, whilst some continue to argue the merits of this method for grave detection, it is argued here that many more suitable and effective techniques now exist that can be used (Chaps. 5–7). Additionally, this technique does not allow human remains (of any religious or non-denomination) to be afforded the 'basic dignity' they deserve (Haglund 2002, p. 244) and can often damage them. Coring results in considerable disturbance to the remains that are present; it potentially desecrates the remains themselves by cutting through them, it removes them from their context and it is potentially damaging to other evidence, such as clothing, personal belongings, tool marks, etc., contained within the grave itself. This can have a considerable effect on the ability to identify and analyse remains archaeologically or anthropologically should this need to be undertaken at a later date. Although in some cases coring has revealed that both skeletalised remains and soft tissue survive (Kola 2000), the samples it yields present only a snapshot of the condition of all of the remains within the grave and does not always result in the extent of the entire grave being determined. It is likely because this technique is widely used within

mainstream European and American archaeology that many deem it acceptable to use it when examining the remains of Holocaust victims (Balme and Paterson 2014). However, this method, along with excavation in many cases, contravenes Halacha Law.

There are other examples of cases where excavation of Holocaust graves (and indeed other Jewish graves) has taken place and to say that Halachic Law forbids all disturbance of human remains would be inaccurate. There have been circumstances where the recovery of human remains has been permitted and Halacha Law has been interpreted differently by ultra-Orthodox, liberal Jews, and all groups in between (Green and Green 2006). Where excavations have been permitted by the rabbinical authorities, it is fair to say that these exceptions to the rules have largely been limited to circumstances in which remains were under threat from natural or man-made events, such as flooding or construction works (Shulchan 'Arukh, Yoreh De'ah 363 and 364, cited in Einhorn et al. 1997, p 50; Schudrich 2014). In some cases relating to the Holocaust, human remains have been exhumed for rapid reburial in these circumstances. In other instances, such as when remains have been uncovered serendipitously, their presence has been confirmed by the rabbinical authorities and then the graves have been immediately re-covered (e.g. CNN 2001; Fig. 2.13). In cases where mass graves are discovered, when they are consulted, the rabbinical authorities will often assess the best course of action according to the particular circumstances. The decision as to whether the remains will be moved will be based on what is best for the deceased, not on what is more convenient for the living (pers. comm. Rabbi Michael Schudrich). For example, it is highly unlikely that bodies will be removed from graves because the modern population wants to build houses or plough a field; instead, it will be expected that plans for these activities will be modified to account for the presence of a grave and ensure it remains undisturbed.

Therefore, Halachic Law recognises a difference between excavation and exhumation. It should be noted that these definitions are different from the use of these terms by archaeologists (Skinner et al. 2003). The following definitions have been derived from literature and discussions with various rabbinical authorities, and offer some guidance on how to treat the remains of Jewish victims during archaeological investigations. Once again, local advice should still be sought if it is possible that the remains of Jewish victims may be encountered during archaeological works to account for the specific circumstances of the investigation.

3.5.2.1 Excavation

Serendipitous Discoveries: The accidental uncovering of remains during construction works for example.

It is likely that the remains will be re-covered by the rabbinical authorities and will only be exhumed if they are deemed to be under threat in their current location (see below). It is advisable to have archaeologists present if possible to provide expertise on the context in which the grave has been found and to record remains before they are recovered (if permitted). A suitable form of protection for the grave, e.g. concrete or a fence, should be added wherever possible**.**

> **Case Study 3.1: Serendipitous Discovery of Human Remains in Gvozdavka-1, Ukraine (Fig. 2.13)**
> In 2007, whilst laying gas pipes, workers came across human remains in the Ukrainian village of Gvozdavka-1 near Odessa (NBC News 2007). The grave was located near to a concentration camp that had been established by the Nazis in November 1941 (BBC 2007). Once the bones were found, excavation was immediately halted and the rabbinical authorities and international experts were consulted. Because the remains were not deemed to be under threat, they were immediately re-covered by the rabbis with a view to erecting a memorial and fence (Kiev Ukraine News Blog 2007).

Confirmation: The uncovering of a grave, and the remains interred within it, for the purpose of confirming its presence.

This is not encouraged in most cases due to the belief that 'the earth with which the grave is covered belongs to the deceased and no earth that covers the grave may be moved, as this would cause distress to the deceased and would be considered as being stolen from him/her' (Schlesinger 2008, p. 7). The use of non-invasive methods is instead preferred (Christians 2008; Chaps. 4–7 and below). Where excavation does take place, this should involve only the removal of soil or other overburden so that human remains are visible. No remains should be removed from the grave—'where a skeleton or skeletons are found in a place where they were killed or were buried, they may not be removed from that place' (European Agudas Yisroel 2008, p. 9). The grave should be rapidly re-covered in accordance with Halachic Law. A suitable form of protection for the grave, e.g. concrete or a fence, should be added wherever possible.

Recovery of Scattered Remains: The recovery of scattered remains (e.g. bones and bone fragments) that have never been buried in a grave.

According to Halachic tradition, these remains should be recovered, interred within a grave and afforded traditional burial rites (Rabbi Michael Schudrich, pers. comm.). This is an area in which archaeologists can make a considerable contribution to locating and commemorating the victims of the Holocaust in the future. It is considered to be an act of human kindness to collect scattered remains and bury them in a marked grave. A suitable form of protection for the grave, e.g. concrete or a fence, should be added wherever possible.

At many sites where the remains of the victims killed by the Nazis were dumped on the surface or left where they fell, there is potential to search for and recover scattered remains. This may form part of a systematic search effort, where the site is subject to a walkover survey and remains on the surface collected (Sect. 6.4), or it may take the form of the recovery of remains encountered during excavations of structures or other features within Holocaust landscapes (Sect. 7.5).

Case Study 3.2: Recovery of Scattered Remains at Treblinka Extermination Camp, Poland
During recent excavations of the gas chamber area at Treblinka extermination camp in Poland (undertaken by the author), scattered bone fragments, teeth, dentures and fillings were all encountered (Sturdy Colls 2014a). After seeking advice from the rabbinical authorities, these remains were removed from the ground and temporarily stored in a secure location. At the end of the fieldwork, the remains were buried in a grave by a representative from the Office of the Chief Rabbi of Poland. As these remains belonged to multiple individuals and were disarticulated, the decision was made to rebury the remains within the extermination camp area. This accounted for the Jewish belief that the soul remains tied to the body and allowed these remains to stay in close proximity to any other remains belonging to the same individuals that may exist in the area.

Exhumation: The removal of remains from a grave.

Many Rabbis believe that exhumation is against Halachic Law unless remains are under threat, in which case they may be removed to a new location under the guidance of the rabbinical authorities (see above)—'when a burial site is unprotected from robbers or natural forces, it is permissible to remove bodies to locations that are not so compromised' (Geller 1996, p. 415).

Case Study 3.3: Human Remains Uncovered by Erosion at Dobrzyn Nad Wisla, Poland
In April 2014, exposed human bones were discovered in the Jewish cemetery in Dobrzyn Nad Wisla by the CEO of Mimaamakim, an organization concerned with the preservation of Jewish heritage (Virtual Jerusalem 2014). The bones were exposed due to erosion caused by the nearby Vistula River. It was reported that, following construction work in the area, 'the river overflowed and the water made its way to the old Jewish cemetery nearby, causing serious damage to tombstones, and in some cases flooding graves and causing skeletons to resurface and be washed into neighboring fields' (Jewish Heritage Europe 2014). The discovery was reported to the Chief Rabbi of Poland who advised that the bones should be moved to the Jewish cemetery in Warsaw to protect them from further damage or loss. They were subsequently exhumed and reburied, with full Jewish burial rites, on the same day (Virtual Jerusalem 2014).

Some Rabbis have argued that the remains of Holocaust victims should be exhumed so that individuals can be provided with their own grave within a Jewish cemetery or so that their bodies can be buried in Israel, but in reality these types of exhumations have been rare (Polak 2001).

What should be clear from the discussion above is that archaeologists cannot simply employ standard methodologies at Holocaust sites where the remains of Jewish victims are thought to be interred. Some archaeologists have chosen to avoid excavating in areas thought to contain mass graves and have instead focused on locating structures and artefacts (Sturdy Colls 2014a, b; Theune 2011; Wijnen and Schute 2010). However, such a methodology can only be adopted, and indeed will likely only be permitted, where the locations of graves are known. In many cases, excavation of graves will not be permitted at all and any form of invasive work (even when it is aimed at locating structures) may be forbidden if there is a chance that graves will be encountered serendipitously. Fortunately a number of non-invasive methods are now available that can facilitate investigation of such sites whilst respecting the necessary religious laws (Chaps. 4–7). Awareness of these methods is increasing as demonstrated by the fact that the Council of Europe (2012, p. 4) has a specific statement in their recently adopted resolution concerning 'Jewish cemeteries' that encourages 'programmes for locating Jewish burial sites, using non-invasive technical devices (such as Ground Penetrating radar) and facilitate technical investigations and identification of sites'. Given the recent adoption of this resolution, it seems likely that further interest will be generated in locating and protecting these sites in the future. The legal obligations of states to protect Jewish sites and to ensure that Halacha is upheld are made explicitly clear in this resolution. Failure to leave graves undisturbed (except in circumstances where remains are threatened, as described above) breaches the terms laid down by the European Court of Human Rights with regard to the right of individuals to 'rest in peace' and have freedom of expression with regard to their religious beliefs (Council of Europe 2004, 2012, p. 13). However, these laws may not always apply if, for example, graves are sought in the course of legal investigations where human remains are considered to be evidence of a crime. Where some form of excavation or recovery of human remains is carried out, it is vital that rabbinical supervision is provided and/or that the remains are collected respectfully and reinterred according to rabbinical guidance.

In these instances, it should also be remembered that Halacha states that human remains 'may not be moved for the sake of tests that offend the dignity of the dead. They must be reburied immediately with due respect' (Rabbi Ovadia Yossef, Chief (Sephardi) Rabbi of Israel (Rishon Le-Zion) cited in Einhorn et al. 1997, p. 49). This stipulation negates the use of many of the techniques commonly employed by forensic archaeologists and anthropologists in individual or mass death investigations (Hunter et al. 2013). It also offers one explanation as to why there has never been a large-scale search for mass graves of the Holocaust for the purpose of identifying victims using DNA testing. However, as will be outlined in Sect. 7.5.2, once again this does not necessarily mean that some form of analysis

of the remains cannot take place utilising new, non-invasive methods. It must also be remembered that, where the excavation of scattered remains takes place, any material that once belonged to a body in some way, e.g. hair, dentures, fillings, etc., must also be reinterred alongside human remains (Green and Green 2006, pp. 261–262). This is because of the importance placed on respecting the whole human body (discussed above). Archaeologists are referred to the often-heated discussions that have surrounded the decisions to display hair, dentures and false limbs of Holocaust victims in the past with regard to these issues (Cole 1999; Ryback 1993).

With regard to commemoration of the Holocaust more broadly, archaeological research can play a key role in the Jewish culture of remembrance through the location of sites, graves and other forms of physical evidence (Yerushalmi 1982). For example, whilst it is not permitted to disturb the graves of the dead, Halachic tradition does stipulate that the dead should have a known grave (Jacobs 2004; Young 1994). Therefore, efforts to locate mass graves are likely to be welcomed where the work is non-invasive in nature.

3.5.3   Roma and Sinti

Immediately after the end of the Second World War, Yates (1949, p. 455) reported that 'it is more than time that civilized men and women were aware of the Nazi crime against the Romanies as well as the Jews…for these two people shared the horror of martyrdom at the hands of the Nazis for no other reason than they *were*—they *existed*. Although there have been a number of important works and initiatives that have sought to highlight the fate of the Roma and Sinti (also sometimes referred to as gypsies) in recent years, their experiences during the Holocaust are still discussed to a lesser extent (Ioanid 2014; Fonseca 2011; Stewart 2004; Hancock 1988). To the best of the author's knowledge, there have been no attempts by scholars to consider the beliefs of the Roma and Sinti concerning death and burial in the context of searching for victims of the Holocaust.

The exact number of Roma and Sinti killed during the Holocaust is not known but historians estimate that it was between 220,000 and 500,000 (USHMM 2013a). Many were killed in the camps but a considerable number of people were also rounded up in so-called actions before being shot and buried in mass graves (Fonseca 2011). Others were killed during ad hoc killings or died through ill treatment (Brearley 2001). Therefore, an unknown number of mass graves are believed to exist throughout Europe containing the remains of Roma and Sinti victims. As with many other victim groups, there has not been a widespread call to locate the remains of Roma and Sinti killed during the Holocaust. Equally, there have been no attempts to assess why this is the case. If such searches were to take place in the future, there are a number of issues connected to the Roma and Sinti belief systems that need to be considered.

Firstly, the issue of defining whether or not the Roma and Sinti even have a religion is a complex one. Some scholars have argued that they are without faith (Greenfeld 1977; Roberts 1836) but this is an oversimplification. Hancock (2005) provides a comprehensive overview of this argument and so this issue will only be discussed here in light of the implications of Roma and Sinti beliefs for archaeologists wishing to undertake investigations of graves. Depending upon where a particular Roma and Sinti group is from and (importantly) where they settle, their religion will vary. Many Roma and Sinti groups will adopt the religion in the area/country that they choose to live. Therefore, given migration patterns, the majority are Christian or Muslim but others will commit/convert to being Mormon, Jewish, Baha'i or 'any one of the non-indigenous faiths acquired, voluntarily or not, since arrival in the West' (ibid). Therefore, when considering whether to excavate graves of Roma and Sinti victims, it is necessary to consider the religion to which the specific individuals in questions may belong. This is of course usually extremely difficult, particularly due to the nomadic lifestyle of the Roma and Sinti community that has resulted in few material remains and written sources about individuals and groups

(Guy 2013). For cases where the victims were believed to have followed Christianity, Islam, Baha'i or the Mormon faith, there are no laws that indicate that a body should not be exhumed where unlawful burial has occurred; in fact, it is usually preferred that a body be exhumed, reinterred and afforded the relevant burial rites if a person has been killed unlawfully (see Sect. 3.5.4 for further discussion). In the case of Christians and Mormons, this will involve internment in sacred ground or, for Christians, cremation may be preferred. For Muslims and Baha'i, this will involve the cremation of the body/ bodies (Green and Green 2006) Therefore, whilst there have not been widespread programmes to search for these graves, many of the exhumations of Roma and Sinti graves that have taken place to date have been undertaken on this basis (Ioanid 2014). Specific cases where disturbance of Roma and Sinti graves or their exhumation is deemed necessary should be assessed on a case-by-case basis to ensure that the correct course of action is decided upon.

Secondly, in addition to/instead of conforming to the religion of the area where they settle, many Roma and Sinti will have 'deep-rooted spiritual beliefs', which are believed to have been derived from Hindu and other traditions in India (Kigar 2012). What makes this a complex issue is the fact that Hinduism itself and many localised spiritual beliefs vary considerably, even between different villages (Green and Green 2006, p. 279). For those solely believing in Hindu spiritual beliefs, it appears that there is a general belief in reincarnation of a person and the potential for them to experience a *Moksha* or 'release' from this cycle (ibid). There is also a general belief in Hinduism that 'so long as the physical body remains whole, the soul, which departs the body at death, will remain near it'; thus, the cremation of a person's body is preferred (Green and Green 2006, p. 283). For the Roma and Sinti community that believe in this, the continued existence of a body in a clandestine grave of the Holocaust means that the soul of the person remains trapped until burial rituals have been carried out. It is evident from research undertaken in this area that, even when Roma and Sinti have taken on one of the aforementioned established faiths such as Christianity or Islam, many still believe in this notion of the soul being tied to a grave (Kigar 2012; Hancock 2005). In fact, it appears that Roma and Sinti are generally scared of the deceased because they believe that they can travel between the worlds of the living and the dead (Davies 2002, p. 107). Knowing the location of graves is extremely important, often so 'preventative' measures—such as reinternment and the marking of the new burial site (sometimes through the planting of thorns)—can be undertaken by the community to stop the individual from returning as a ghost (Kigar 2012). The community want 'to have the dead firmly kept in their place and at a distance' and some have explained the adoption of established religion as a means by which to ensure that there is distance between the Roma and Sinti (who do not conduct the service themselves) and the deceased (Davies 2002, p. 107). Once again, this means that the location of Holocaust graves of Roma and Sinti victims could be deemed desirable in some cases.

It has been claimed in the past that Roma and Sinti do not commemorate the dead and do not have a culture of remembrance because they do not place importance upon places where killings, deaths or burials occurred (Fonseca 2011). The aforementioned fear of places where the dead are believed to dwell may offer one explanation as to why there is not an emphasis on place in Roma and Sinti culture. The nomadic nature of their lifestyle may provide another (Clendinnen 2002). That said, as Stewart (2004) has argued, as opposed to not remembering the past, the Roma and Sinti in fact do have a culture of remembrance but it is remembrance that is often without commemoration. Their memories of the Holocaust are shared primarily through dialogue as opposed to the ritualization of spaces or events. That said, in recent years, a number of initiatives have been launched with the support of Roma and Sinti communities to erect memorials to commemorate losses during the Holocaust (Fig. 3.5; BBC 2012b).

These approaches have several important implications for Holocaust archaeology. Firstly, when graves of Roma and Sinti victims are located, aside from any legal stipulations, it may also be deemed necessary to carry out a full exhumation in order to reinter the remains in a designated cemetery according to whichever burial rites the community believes to be the most appropriate. As mentioned previously, this may be difficult to determine, particularly if the same Roma and Sinti community

Fig. 3.5 The memorial to commemorate the Roma and Sinti which was opened in Berlin in 2012. (Copyright: Caroline Sturdy Colls)
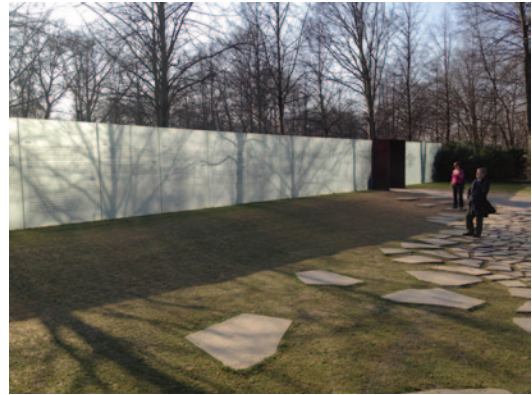
no longer exists in the area in question. Secondly, if the Roma and Sinti culture of remembrance places little emphasis on physical spaces and commemoration, then exactly who will be responsible for maintaining graves and any associated memorials in the future needs to be considered. It seems unlikely that members of the Roma and Sinti community will continue to engage in on-site commemoration events in the long term, based on the points raised above concerning their perception of burial sites. Thirdly, at sites where Roma and Sinti victims were interred and persecuted, but not necessarily buried, it is important to consider whether or not archaeological work aimed at characterising and commemorating will be welcomed by Roma and Sinti groups. In some cases, such work may be viewed with anger or indifference by communities who either do not want to remember or want to forget. Finally, to return to Stewart's (2004) point concerning an oral tradition amongst Roma and Sinti communities, archaeologists must consider ways to communicate with Roma and Sinti with a connection to the site being examined, both throughout the investigation and as part of the presentation of the project results. Indeed, traditional forms of memorialisation may not cater for the needs of these groups and suitable forms of dissemination that cater for this oral tradition must be considered (see Sect. 12.3 for further discussion).

3.5.4   Christian Views on Death and Burial

Many victims of the Holocaust practised Christianity most commonly as (but not limited to) Roman Catholics, Anglicans, Eastern Orthodox, Protestants and non-conformists (including but not limited to Methodists, Baptists, the Salvation Army, Lutheran and other free churches). These victims—who were classed as political prisoners, homosexuals, disabled and other so-called enemies of the Reich— were not persecuted because of their religion, but on the grounds that they were deemed to be a threat to the Nazi regime in some other way (Berenbaum 1990). Particularly in Poland, where the majority of the population was Catholic and where Polish people were systematically persecuted, large numbers of undiscovered graves exist which will contain the remains of Catholic victims. Others will contain the remains of other Christian victims.

Christianity in general raises no objection to the excavation of graves where the grave itself is under threat, when the victim(s) interred within it has/have been buried their illegally or where this is required under the rule of law (English Heritage 2005). Christians of most denominations believe that life is internal even after death and that the dead should be laid to rest in sacred ground (Green and Green 2006). Excavation of Holocaust graves therefore offers the possibility to move the remains of Christian victims to designated, consecrated burial sites. There are countless examples of archaeological excavations that have taken place the world over where bodies of Christian victims have been

exhumed (through legal channels). In many countries, protocols exist for the excavation of remains that are considered archaeological or ancient (Márquez-Grant and Fibiger 2012; see also Sect. 2.3.1). Likewise, in cases of recent disappearances or cases still deemed to be of forensic significance, there are no religious laws that would overrule civil law with regard to the need to locate missing people believed to have been buried (Hunter et al. 2013). In such cases, there is now the expectation that DNA testing and other forms of victim identification will be carried out (Ossowski et al. 2013). Case Study 3.4 provides one such example from the Second World War:

Case Study 3.4: Identification of Human Remains at Zagvozd, Croatia (after Definis-Gojanović and Sutlović 2007; Fig. 3.6)

In 2005, the remains of 18 individuals were recovered from a mass grave in the Dalmatian mountain range in Croatia. Historical research indicated that the bodies belonged to Franciscan monks and Croatian civilians from Herzegovina. The search was instigated by Franciscan Province of Herzegovina, the families of the victims and members of the local community. The police and district attorney were informed and then archaeologists excavated the bodies. Following this, they were then subject to anthropological analysis at a forensic institution. No known objections to this work were raised on religious grounds and, in fact, it was instigated to ensure that the 'friars' bones be buried in dignity' (Definis-Gojanović and Sutlović 2007, p. 521). DNA was extracted from the remains and comparative samples were obtained from living relatives and from the exhumed remains of those believed to be the relatives of potential victims. This resulted in the positive identification of three of the Franciscan monks. The remains were also analysed for signs of trauma and disease, which demonstrated that eleven of the victims died of gunshot injuries. Six victims had their arms bound by the perpetrators. The remains were ultimately reburied with full burial rites. This case demonstrates the value of archaeological and anthropological analyses of genocide victims. It highlights how much information can be gleaned even after a considerable amount of time has passed if excavation is permitted and where adequate ante-mortem information is available.

It should be noted that, although there may be no religious stipulations that prevent exhumation of Christian victims, 'following death, the physical remains should be treated with respect and reverence, even though ultimately it is the fate of the soul, rather than of the physical remains, which matters' (English Heritage 2005, p. 9). Aside from criminal cases, it should also be borne in mind that, where the events concerned are in living memory, individuals and communities might object on a

Fig. 3.6 The excavation of the bodies of Franciscan monks and civilians from Herzegovina killed by Yugoslav partisans. These excavations led to the successful identification of three of the bodies. (Copyright: Definis-Gojanović and Sutlović 2007)

personal level, particularly if it is felt that the site of the grave is already adequately marked. Graves may be seen as sacred and there may be no desire to disturb them through permitting archaeological investigations (Sect. 3.5.1). This should be borne in mind when investigating Holocaust sites and clear lines of communication opened up between affected individuals and groups should archaeological work be proposed.

3.5.5   Jehovah's Witnesses

It is estimated that around 1650 Jehovah's Witnesses were murdered by the Nazis during the Holocaust and thousands more were detained in concentration camps and prisons (USHMM 2013). Because of their refusal to conform to the Nazi's rule and their open objection to their actions, Jehovah's Witnesses were 'of all Christian denominations…the most severely and relentlessly persecuted group under NS [National Socialist] rule' (Garbe 2008, p. 5).

For Witnesses, 'the dead body has no special religious significance' once the 'breath of life has left it' (Green and Green 2006, p. 233, 234). They believe that death is final and that there is no afterlife; people are instead born into another life (ibid.). Funerary rites are deemed important and, as such, locating unlawful burials for the purposes of reinternment is desirable (Chryssides 2009). The disturbance of a grave for this purpose would theoretically be permitted, as there is no sense of disturbing the dead. However, as outlined above, consultation with religious groups is essential as this may vary depending upon the specific circumstances of the planned search and recovery works.

3.5.6   Victims' Opinions

A note discovered in a bottle buried in the rubble in Auschwitz-Birkenau proclaimed 'I have buried this among the ashes where people will certainly dig to find the traces of millions of men who were exterminated' (Salmen Gradowski, undated in Bezwinska 1973, p. 75). The author of this note was a member of the Sonderkommando. The certainty with which the author proclaims that the remains of the victims of the Holocaust would be searched for was one of the motivating factors behind the Holocaust Landscapes Project (Sect. 2.3.3.2). The author also asks 'Dear finder, search everywhere, in every inch of soil. Tens of documents are buried under it, mine and those of other persons, which will throw light on everything that was happening here' (Gradowski in Bezwinska 1973, p. 76). Despite the extensive amount of historical enquiry that has taken place in relation to this period, there still remain outstanding questions concerning the locations of many of the mass burials or body deposition sites throughout Europe, due to the fact that relatively few searches have been undertaken in proportion to the number of sites. Whilst investigations were conducted in the immediate post-war period, the majority of these focused on the collection of evidence for legal enquiries and not on the detailed examination of the physical evidence pertaining to the crimes committed (Sect. 2.2.2).

Additionally, this anonymous victim's assertion was not realised with respect to the Holocaust more broadly given religious stipulations (as outlined in Jewish Halacha Law) and the sensitivities still connected with this period. Assertions by victims that they wanted remains to be found (many of whom were Jewish) raises some interesting ethical questions about whose opinion should be respected when undertaking archaeological work. For example, to honour the wishes of the victims of the Holocaust and excavate the remains would go against Jewish Halacha Law. However, to ignore these views in order to comply with religious beliefs and the wishes of the modern population could also be seen as unethical. Therefore, deciding on how to approach graves from this period is not a simple task.

3.5.7 Differing Beliefs

Archaeological research can be further complicated by the fact that the remains of people from various different belief systems may be buried within the same graves. Due to the lack of historical information, it may be impossible to determine who the remains belong to. In some cases, the belief systems of the victims may be totally opposed to each other with regard to approaches to death and burial. For example, if we accept that, in broad terms, the Roma and Sinti do not have a culture of remembrance where place is important, then this is the polar opposite of the Jewish belief system, which asserts that the soul of a person remains bound to the place where their body is buried (see Sects. 3.5.2 and 3.5.3). Christianity does not have a particular aversion to the exhumation of a body when the person concerned has been the victim of a crime, yet Jewish Halacha Law has strict rules about bodies not being removed from their final resting place (see Sects. 3.5.2 and 3.5.4). Of course, as outlined in Sect. 3.5, these are broad assertions and variations exist even within groups of the same faith.

Certainly, these potentially conflicting views will represent a challenge for archaeologists where this kind of situation arises. There are no prescribed rules for how to deal with this situation. Thorough historical research in advance of in-field investigations should identify if it will be necessary to consider the opinions of multiple faith groups (Sect. 4.2). By consulting guidance, such as that provided in this chapter, and through researching the beliefs of those affected, archaeologists should also seek to pre-empt the concerns of affected parties. This is likely to be appreciated by these parties and the wider community as a whole since it shows respect on the behalf of the practitioner and a willingness to acknowledge the sensitivities surrounding the events in question. It will also ensure that archaeologists are fully equipped with knowledge about any issues during the detailed discussions with religious leaders and representatives of the different communities that should follow. This will allow the best course of action to be devised. Every situation that arises will likely be unique in terms of the faith groups affected and decisions regarding methodologies for fieldwork may be based on numerous factors. Examples include the areas of agreement between religious guidance, the proportion of people believed to be interred from each faith group, the environment in which the remains are believed to be located, the circumstances of discovery (Chap. 2) and the availability of non-invasive search methods (Chaps. 5–7). The worst course of action is to not engage in such discussions and to rush into undertaking fieldwork, particularly invasive work. Countless examples of where this has occurred can be cited and this has often caused irreversible damage to interfaith and state/public relations (for examples, see the controversy over the Old Jewish Cemetery in Prague in The Jewish Federations of North America 2014 and the Mamilla Cemetery in Jerusalem in Center for Constitutional Rights 2012). Instead, open, honest discussion and compromise should be facilitated wherever possible to assist in finding the best solution for all concerned.

3.6 Complexities

In summary, approaches to the Holocaust, and the physical evidence pertaining to it, will vary between different countries depending upon the extent of the suffering during this period, the religion or race of the affected groups (as compared to that of the modern population in a given area) and how comfortable people feel to discuss the darker parts of their past. These approaches will likely evolve in the future due to cultural and political shifts (Sect. 3.3). There are no hard and fast rules about how this period will be perceived but archaeologists should be aware that, however it is viewed, it is likely to remain a controversial topic given its place in Europe's recent history. The diversity of individuals and groups affected by the Holocaust, outlined in this chapter, certainly present archaeologists with a number of challenges.

This complexity raises a number of important questions when undertaking archaeological investigations. From an ethical standpoint, there is a general agreement in the field of archaeology that we should protect sites for the 'public good', yet given the many publics affected and the sensitive nature of sites relating to the Holocaust, it is unlikely to be possible to satisfy all parties (Carman 2005, p. 81). Indeed, in some cases such work will cause further conflict. How then do we account for the opinions and beliefs of all of these parties when devising methodologies and conducting archaeological fieldwork and, indeed, is it possible/necessary to do so? How do we determine whose opinion is more valid? Should the wishes of survivors and their families take precedence over those of the local community, which in themselves may be diverse, or vice versa? Is it ethical to attempt to draw attention to the past amongst communities that may feel little connection to the events in question? Should international, national or local views take priority? These are complex questions without simple answers and they are ones that must be considered on a case-by-case basis when archaeological work is proposed. Where such contestation exists, particularly where it has developed over a long period of time, changing popular perceptions through archaeological research can be even more difficult. This is particularly true where sensationalist narratives have already been developed and where these have been contested by those who have maintained the official histories to date (Sect. 3.2). Clearly, therefore, a consideration of ownership and the potential conflicts that may arise cannot be separated from the archaeological methodology. Indeed, these claims of ownership are what make 'spaces…become places, thus established territory' (Nash 1997, p. 1) and, as Shanks (1997, p. iii) posits, 'perception and belief may be very active in making the lived environment what it is for people'; thus, in order to fully understand a landscape, we must understand what it means to those who inhabit it now and in the past. Traditions, values, modes of expression and community composition have to be borne in mind.

3.7 Why Should We Respect Different Beliefs?

In drawing this chapter to a close, the question of why we should respect the various belief systems and opinions surrounding the treatment of Holocaust sites is one worthy of consideration. The author has often been at conferences and events where such a discussion has occurred; where people have aired their frustration at the impact that these different belief systems and opinions have on the ability to locate and excavate mass graves in particular. Many people, not only archaeologists, have expressed their anguish that Jewish Halacha Law prevents the exhumation of remains and the various sensitivities surrounding this period has made some communities wary about work seeking to locate the physical evidence. Particularly for people from different belief systems, where the location and re-internment of human remains buried in mass graves in particular is deemed acceptable (and often desirable), it can be difficult to comprehend why Jewish Halacha Law for example, forbids such activity.

In the author's opinion, it is imperative that these beliefs are respected. No matter how frustrating it may be to know that what is theoretically possible in terms of the location, recovery and identification of the victims differs from what is practically possible, the methodology chosen for investigation must account for the sensitivities surrounding this period of history. The Holocaust was the epitome of disrespect for the beliefs and opinions of others; therefore, in our approach to its investigation, we should endeavour to have the utmost respect for the beliefs of those affected by these events, even when/especially when they may differ from our own. Not to do so would be to further disrespect the victims, their families and their descendants. To acknowledge these beliefs demonstrates and engenders respect, something that will hopefully also be encouraged through accompanying education programmes (see Sects. 12.2 and 12.3.7). If the purpose of searching for and recording sites of the Holocaust is to further knowledge about the crimes, to commemorate the victims and to provide answers for those with a connection to the events (which it surely should be), then this should be done in such a way that avoids further conflict and prejudice.

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Part II

Methodologies in Holocaust Archaeology

Ethical Issues and Project Design

4

4.1 Ethical Practice

In recent years, there has been a greater understanding amongst practitioners of the ethical issues involved in the investigation of mass graves from recent genocides and the handling of human remains in mass-death scenarios (Bikker 2014; Nader et al. 2013; Varghese 2010; Steele 2008; Moshenska 2008; Williams and Crews 2003). Unfortunately, the need for a conscious effort to address these issues in policies, field practice and the literature has largely stemmed from mistakes made in the past. For example, in the aftermath of the Asian Tsunami in 2004, international policies regarding the recovery, storage and autopsy of human remains stood in complete opposition to the beliefs of the local community (Perera 2005). Practical decisions, such as the choice to store the bodies of the victims in local temples, had long-lasting effects, in that the community subsequently refused to enter the temples due to the belief in the continued presence of the dead (Perera and Briggs 2008). Learning from these mistakes, attempts are now being made to raise awareness of religious beliefs, gender roles, offensive colours, linguistic differences, cultural norms and community dynamics amongst investigators working in this area (Bikker 2013). Recommendations written after the Tsunami, amendments to the Geneva Convention and legislation suggest an ongoing commitment to ensure that methodologies account for such sensitivities in the future (Mass Fatality Planning and Religious Considerations Act 2012; ACPO 2011; Morgan et al. 2006; Home Office 2004). It is vital that archaeologists working in the field of Holocaust archaeology not only learn from the mistakes made elsewhere but that they also use current guidance on ethical practice to inform their work.

Through her work, analysing witness testimony, Brenner (2010, p. 5) has highlighted that 'to listen to the voices of the Holocaust dead is disturbing. They bring forth the atrocity of the Final Solution and compel us to consider unspeakably painful realities'. Through archaeological investigation, we are not only forced to confront the voices of the dead but also those of the living. Whilst the sensitivities may differ between the Holocaust and other genocides/disasters, what should be taken away from the points raised above is the need to research the local circumstances relating to the site being investigated and to consider, at length, groups and individuals likely to be affected by such work. An ideal investigation is one that anticipates the issues that are likely to arise and mitigates against them, as opposed to one that learns from its own mistakes. This chapter builds on the observations made in the previous one with regard to the sensitivities that surround the Holocaust and will highlight strategies to ensure that these issues are accounted for in future investigations.

4.2   Project Planning

4.2.1   Past, Present and Futures

When addressing Holocaust landscapes, or indeed any landscape of conflict or genocide, it is important to remember that we are not just approaching a physical landscape. These are landscapes where people have been killed, where they have suffered incomprehensible forms of torture, where they have lost loved ones, where they have witnessed the fragility of life and where they have been confronted with death. They are places where people have carried out horrific crimes, where people have willingly and under duress participated in persecution, and where attempts have been made to cover up or ignore the physical evidence of these atrocities. These landscapes will never be places that are frozen in time; we have to consider the fact that landscapes have evolved and sites have taken on new functions. We also have to recognise that we are dealing with memoryscapes and often with contested spaces (Levy 2006); spaces where conflicting opinions persist about both the events in question and how the site should be remembered; sites that mean different things to different groups and individuals; sites where memories of the dead and the lives of the living coexist (Chap. 3). Additionally, both the narratives and physical remains pertaining to this period continue to evolve as a result of social and political changes throughout Europe (Sect. 3.2). This means that this evidence has become masked, entangled and complicated by the histories written about the events and the physical changes that have taken place at individual locations.

Archaeology is about identifying layers that reveal information about events and interactions. Violi (2013) has suggested that landscapes are a mixture of real and authentic traces. Archaeological investigation has a key role to play in evaluating the physical evidence relating to historic crimes and assessing the extent to which this evidence has been manipulated (Hunter et al. 2013). In addition to physical evidence, archaeological investigations should also consider the competing memories surrounding specific sites and events as further evidence; as layers of their history that cannot be separated from the overall narrative of the place. Therefore, analysis of these layers should also be incorporated into proposed methodologies (Chap. 11).

Any attempts to examine Holocaust sites require a methodology that accounts for the sensitivities surrounding such investigations, allows the events in question to be examined in a way that is free of the myth and conjecture that has built up around them, and which permits a detailed analysis of the various complex evidence types that survive (Chap. 3; Sturdy Colls 2012). Before fieldwork can commence, permissions need to be sought, local tensions compensated for and any inhibiting factors to fieldwork addressed. The first stage in any methodology aimed at examining the physical evidence of any genocide or conflict situation should be to research the various sensitivities involved in the examination of this period of history. An overview of some of these potential sensitivities has been provided in Chap. 3. Therefore, they will not be repeated here but the reader is instead referred to this chapter before attempting to conduct work in this area. As every case will be different, it is important that the beliefs of specific groups affected by proposed research are assessed on a case-by-case basis. Table 4.1 outlines a possible approach to such investigations, and this methodology is discussed further below. Once such sensitivities have been identified with reference to the particular site being investigated, it is vital that these are considered when determining the practical application of other techniques or strategies that may subsequently be employed.

Table 4.1 Suggested methodology for assessing the context in which archaeological fieldwork is to be undertaken. (Copyright: Caroline Sturdy Colls)

Suggested methodology for approaching the political, social, religious and commemorative context of Holocaust sites		
Aims:		
To gain an understanding of the issues surrounding the examination of the site in question		
To facilitate the development of a suitable methodology for the specific circumstances of the investigation		
To obtain permission for fieldwork		
To facilitate cross-site comparisons		
Methods/techniques	*Sources*	*Outputs*
(a) Documentary research	(a) Historical records including, but not limited to, witness accounts, administrative documents, letters and scholarly research	(a) Information concerning site histories
(b) Site visits	(b) Sites	(b) Information about religious beliefs, sensitivities, concerns and opinions
(c) Discussions with affected groups and individuals	(c) Oral and written communication	(c) Identification of potential inhibitors to fieldwork
		(d) Information concerning the likely reactions to the suggestion that archaeological investigations may be carried out

4.2.2   Documentary Research

It is strongly recommended that, before any attempt is made to instigate projects at Holocaust sites, a considerable amount of research is done first to facilitate a "reading" of the political, social, religious and cultural landscape in which such work is to be undertaken (Chap. 3). First and foremost, thorough research should be carried out to identify those affected by the events—their belief systems, concerns and opinions about the site being examined. This can be achieved initially through the desk-based research that will be undertaken as standard in order to establish the historical background of a site and to provide source material to compare to in-field findings (discussed further in Chap. 5). Historical material- including legislation, archival material and secondary literature- can be examined in order to provide a thorough evaluation of a site's history, and treatment during and since the end of the Second World War. From this, those affected by the events at the site both at the time and since can be noted. The importance of the media should also not be underestimated for this kind of research (though its potential biases should be considered). Newspaper, online, televised or other forms of broadcasts can provide a timeline of modern attitudes towards the site being examined and demonstrate how these have evolved. Any surges in interest towards a site, acts of vandalism, memorial or commemoration activities, political debates or discoveries of new information can be documented. These may all reveal important insights into how particular communities view the location in question and thus any potential aids or obstacles to archaeological work. The earlier in the research process potential stakeholders can be identified, the more likely it is that they can be engaged with effectively. The earlier that any potential issues are acknowledged, the more likely it is that they can be mitigated against. An example is provided in Case Study 4.1.

Case Study 4.1: Desk-Based Assessment of Krychów, Poland

Krychów labour camp in Poland was a sub-camp of Sobibor. A review of historical materials reveals that this camp had several phases to its history and that the prisoners interred within it had slightly different experiences depending on who they were. It was initially constructed as 'a detention camp for Polish criminals' but became a camp for Romani and Jews in 1940 (ARC 2006). Some of the Romani were then deported from the camp to the Siedlce Ghetto after only a brief period of internment but many succumbed to hunger, cold and disease in the camp (Lewy 1999, p. 78). Many Jewish prisoners (men, women and children) were forced to undertake hard labour on farms or properties run by Germans. Some were eventually deported to Sobibor to "aid" Christian Wirth with the development of the killing processes there, whilst others died in Krychów or when the camp was liberated in 1943 (Arad 1987, p. 31). At various times throughout its history, the camp also housed Czech, Slovak, Dutch, Austrian and Ukrainian prisoners. Witnesses also commented on how some of the Czech Jews appeared to practice Christianity: 'I saw how during the transport to Krychów some of them stopped before the cross which was close to the street, and they crossed themselves and prayed. I saw also that some of them wore small crosses on the chest' (Leszczynski 2005). Some of the Polish and Ukrainian political prisoners were released from the camp in early 1942 'after their families paid for them' (ARC 2006). All prisoners were subject to harsh living and working conditions, and many were beaten and even killed for perceived misdemeanours by the German administration and Trawniki guards that oversaw the camp (H.E.A.R.T 2007). Only a few above-ground traces of the camp survive. However, there are various places connected to the site, such as the surrounding areas where the inmates worked, that are less tangible but which are still part of its landscape. A plaque was erected at the site in 2011 and memorial services, well attended by the local community, have been held to commemorate those that suffered in the camp (Nowy Tydzień 2011).

This overview of the history of Krychów was assembled from easily accessible secondary source material and archive documents available online. As well as highlighting the various phases of this site's history, this overview also allows us to identify issues that must be considered should in-field investigation take place. It shows that Jews, Jews who had converted to Christianity, Catholics from various countries and Romani were all persecuted in various ways. Thus, all of their belief systems need to be considered if the site were to be examined archaeologically. As all of these belief systems differ, this could be contentious, particularly if trying to locate the graves of the victims (Sect. 3.5). Knowing this allows archaeologists to approach the subject with caution and identify suitable religious and community leaders from whom to seek further advice. The fact that memorial services are held at the site suggests that the local community is aware of its history and want to commemorate the events. This willingness to acknowledge the past suggests that there would potentially be openness locally to a project aimed at finding out more about it (although this should be confirmed through further research). The memorial service was also well attended by young children, suggesting that at least the younger generation are educated about the events that took place. However, more research would be required to determine whether the views of those involved in the commemoration reflected those of any other subcommunities. What may be contentious, should a survey be considered, is the fact that the various farms and areas of land formerly used as labour sites will now have various owners, not all of whom may appreciate the increased interest in the site. Census and land ownership information could also be consulted to provide further clarification and to identify the demography of the area in terms of the racial and religious origins of the current population.

4.2.3   Site Visits

As will be argued in Chap. 5, initial site reconnaissance visits have many benefits when undertaking archaeological research. Of direct relevance here is the potential of these visits to provide valuable information about the specific circumstances and issues surrounding the site being investigated. Prior to undertaking fieldwork, spending time at a site will allow investigators to get a sense of both the physical and cultural landscape. The way a site is perceived by visitors may become evident, and interactions between different stakeholders may be observed (see Sect. 11.8).

Site visits can therefore facilitate:

a. An evaluation of what the formation and appearance of the modern landscape can tell us about contemporary and modern attitudes to the historic events (Chap. 11)
b. An assessment of how these attitudes may have impacted upon the survivability of contemporary physical evidence
c. The development of fieldwork methodologies that account for the sensitivities and belief systems connected to the events

Site visits will also assist in planning fieldwork logistics; for example, if it is evident that particular groups visit at certain times of day or memorial services are held, then the fieldwork schedule can be planned around this. Additionally, arriving at a site for the first time and asking immediately for permission to work there or, worse, arriving on the first day of fieldwork having never visited the site before is unlikely to be looked upon favourably by stakeholders. This will put the archaeologists involved at a disadvantage in terms of their understanding of how the site is used and perceived.

4.2.4   Discussions with Affected Groups and Individuals

When approaching a subject as sensitive as the Holocaust, effective communication is vital. Not informing those with a connection to the site, about the work being undertaken, serves to create a barrier between archaeologists and the community from the outset. Whilst informing the community about the work may bring to the fore many of the sensitivities and concerns that exist, this at least allows a project to begin and proceed with clear lines of communication. Honesty really is the best policy in these situations, and being transparent about the aims of the research will prevent speculation that may, in turn, prevent the work from going ahead.

Once clear project aims and objectives have been defined, a methodology for communicating with the variety of different groups and individuals affected by the work should be devised. Writing to stakeholders—including, but not limited to, religious leaders, community leaders, heritage professionals, local societies and groups—offers one possible form of communication. This will be essential in the long term in order to create a permanent record of proposals (see Sect. 4.4). However, face-to-face discussions may be more effective in the short term and offer the opportunity to both present and share ideas. As well as being aimed at the stakeholders listed above, such discussions should also seek to involve members of the public so as to get a sense of both individual points of view and collective perspectives from different subcommunities (Sect. 3.4). These discussions could take the form of formal or informal meetings, interviews or public presentations. It may be appropriate to include a formal presentation of the proposals for archaeological work followed by a question and answer session. Depending upon the nature of the site being examined, and the specific details of the events that occurred there during the Holocaust, consultation with local, national, transnational and international groups may be required. It should also be remembered that 'to define a community is not only to decide who is in, but who is out', and strategies to reach marginalised groups and individuals should be devised (Moshenska and Dhanjal 2011, p. 1). Whilst it will not be possible to accommodate

everyone's point of view, pre-fieldwork discussions can assist in devising fieldwork methodologies that account for the historical and scientific potential of the investigation whilst acknowledging the religious and commemorative importance of specific places. Further issues may become apparent in the course of applying for permission to undertake fieldwork, and these should be factored into methodologies (see Sect. 4.4).

It is important that communication with affected groups and individuals does not only take place in advance but that it is also maintained both throughout and following fieldwork. This will facilitate the monitoring of any emerging concerns, allow any logistical or practical issues to be accounted for and ensure that heritage and educational outputs are identified which would be of greatest value to relevant parties. As Bikker (2014, p. 38) has argued, 'providing relatives with…education about the identification process is an essential part of forensic investigations'. Therefore, the same information should be provided where possible in the course of archaeological investigations relating to the Holocaust, given that relatives of the deceased may want to understand the processes being undertaken to locate graves or other sites where their relatives suffered and perished.

Engaging with communities to assess the sensitivities surrounding the events being investigated is clearly extremely important. However, the wealth of local knowledge possessed about specific sites by local communities should also not be underestimated. Often discussions may yield valuable information about how sites have changed over time, what physical evidence has been visible/destroyed/moved in the past and information about widely held notions about the crimes perpetrated. In some cases, witnesses to the crimes may be identified, or relatives of victims and perpetrators may come forward (Case Study 4.2). Landowners, particularly farmers, will know the lay of their land intimately and may be able to offer insights into the location of specific features such as building foundations, vegetation change, depressions or artefacts. Local communities will often know folk stories about specific locations within their towns or villages, which may provide important leads when searching for clandestine burials in particular. The case study outlined below clearly highlights the benefits of opening up clear lines of communication with local communities.

Case Study 4.2: Locating Jewish Mass Graves in Poland (Nieradko 2014 and Schudrich 2014) (Fig. 4.1)

A project initiated by the Office of the Chief Rabbi of Poland is seeking to locate and mark mass graves of the Holocaust, many of which were hidden or destroyed during and after the Second World War. To date, around 15 sites have been examined using a combination of Ground Penetrating Radar (GPR), dowsing and interviews with witnesses. Local residents are routinely asked whether they know anything about the events that happened in the particular area being searched. In many cases, residents are able to point out specific locations because they either witnessed the crimes themselves or knowledge about them has been passed down over generations. The investigative team also regularly asks local people about places in their towns and villages where they were told not to go as children (many of which they still avoid). In many cases, the children had clearly been told not to visit these places because mass graves or other body deposition sites were located there.

   This approach has not only proved extremely effective for locating sites but also for fostering links between the Jewish and Catholic communities. The Rabbinical authorities have also been able to explain their differing beliefs with regard to death and burial, and stress why protecting the sites is important. By involving the local community in every stage of the process, it has been possible to erect memorials at many sites and to encourage the local community to

Fig. 4.1 Searching for mass graves in Poland with the help of the local community. (Copyright: Agnieszka Nieradko)

protect these places in the future. Many witnesses also reported that confirming the locations of the graves relieved the burden of the secrets they had kept for many years and provided definitive proof that their recollections were correct.

4.3   Methodological Considerations

As well as considering the implications of carrying out archaeological work, the implications of the methods that will be employed must also be considered in light of the sensitivities that still surround the Holocaust. It has been repeatedly stressed throughout this book that the traditional view of archaeological investigation is one centred on the destructive elements associated with excavation (Sect. 1.3). In the study of sociohistoric conflicts, this can raise concerns, which may inhibit research. This problem is particularly significant when investigating the archaeological sites of the Holocaust and Nazi Occupation of Europe, given the variety of religious, political, social, and commemorative issues surrounding the thousands of sites that exist.

4.3.1   Issues with Invasive Work

In the past, several concerns have been raised when archaeological work (particularly excavation) has been suggested, and archaeologists must consider the following implications when planning to undertake such research:

(1) Perceptions of archaeology—archaeological work is usually seen as an invasive process that, particularly when undertaken at sites of conflict, may open old wounds and bring to the fore unresolved issues through the investigation of physical evidence. Additionally, as Jacobs (2004, p. 311) has argued 'former death camps and massacre sites have increasingly become sacred ground where the performance of rituals and death rites mark and reclaim these surviving landscapes of violence and genocide'. Therefore, excavation of these sites may be seen as an unwanted intervention in these sacred spaces; the disturbance of the ground, and the structural and bodily

remains it contains, could be viewed as a form of destruction in itself, given that excavation has been acknowledged as a destructive process, even by archaeologists (Sect. 1.4; Fig. 2.12). In particular, the association between archaeology and the search for human remains likely offers another explanation for a degree of wariness and sometimes hostility when archaeological work has been suggested. Even when the intention of the work is not to excavate human remains at all, this may be expected, given these popular perceptions. In order to mitigate against such opinions, it is vitally important that archaeologists wishing to work in this area are clear about the methods they intend to use when approaching people with a connection to a site and that, where excavation is to be undertaken, appropriate strategies are employed that are matched to the specific research questions being asked (see below for further discussion).

(2) Jewish Halacha Law—The focus on archaeological excavation has often led to a conflict with Jewish Halacha Law, which strongly discourages the disturbance of human remains buried in mass or individual graves (for further discussion see Sect. 3.5.2). In the absence of a suitable methodology, many Holocaust sites where the victims were predominantly Jewish have failed to be surveyed, and the rabbinical authorities have been reluctant to grant permission for such work in light of the criticisms of these investigations. New strategies for the investigation of graves containing the remains of Jewish victims need to be devised to ensure that these sites can be marked and protected, whilst ensuring that religious law is respected.

(3) Conservation—A further reason why authorities may be reluctant to grant permission for excavation and, another reason that archaeologists must consider before embarking on invasive work, relates to the need to consider the conservation of the remains and artefacts that would likely be found. For example, at Sobibor, 45,000 artefacts were located as of June 2013, whilst, at Westerbork, a further 19,525 have been recovered (Mazurek and Haimi 2013; Wijnen and Schute 2010). Once removed from the ground, these artefacts require specialist conservation, to ensure that they do not degrade, and often specialist analysis, to reveal more information about their form and function. In an age where even sites as well known as Auschwitz-Birkenau are constantly battling for conservation funds to preserve the above-ground remains, and at a time of austerity, ethical questions must be raised over the need to excavate further structures and further artefacts. Whilst these items undoubtedly reveal important information about specific events and, in some cases, specific people, excavation should only take place if sufficient funding is in place to ensure that a detailed analysis can be conducted and when a clear, realistic vision for future protection and presentation of the material exists.

(4) Looting—the problem with illegal excavation and looting at Holocaust sites is a widely recognised issue amongst museum and memorial custodians. There are, of course, some clear benefits of archaeology in terms of bringing the physical evidence of the crimes perpetrated by the Nazis to the fore. However, by demonstrating that this evidence does survive, investigations may well encourage an increase in looting practices. This is a particularly problematic issue in relation to the camps where victims were stripped of their personal belongings and where it may be believed (almost always falsely) that caches of valuable items such as gold may be buried below the ground. At Westerbork, in the Netherlands, looting took place immediately after the excavation of the camp's waste pit; a number of items were undoubtedly stolen, whilst others deemed of little value were left scattered on the surface to be further damaged by the elements (Ivar Schute, pers. comm.; Fig. 4.2). Many items looted from Holocaust sites are subsequently sold on the black market, and, even if they are recovered by museum staff and other experts, they have been separated from the all-important context in which they initially lay. Looting can, of course, also result in the tampering of buried remains yet to be examined by archaeologists, thus both altering and potentially destroying the physical evidence, and presenting obstacles to its interpretation.

Fig. 4.2 The lead archaeologist of the Kamp Westerbork Archaeology Project points out evidence of looting following excavations at the camp's waste pit. (Copyright: Caroline Sturdy Colls)

(5) Archaeology and redevelopment—there is often an association with archaeological work and the redevelopment of sites. This trend can be observed with regard to archaeological sites from all periods, particularly in countries that operate a developer-pays policy in advance of building developments (Sect. 2.3.4; Fig. 4.3). With regard to conflict and genocide sites specifically, there may be assumptions made (sometimes correctly and sometimes incorrectly) that archaeological surveys will lead to the reinterpretation of sites through the creation of on-site forms of commemoration, including museums and monuments. However, the commemoration of the dark history of these sites as part of the Holocaust and the present and future uses are often at odds. It is often deemed impossible or undesirable to memorialise them through traditional mechanisms such as on-site museums and memorials.

Often this is due to the physical imposition such processes would have on the landscape and the cultural identity of the place and associated community in question. Therefore, archaeologists wishing to undertake surveys (both invasive and non-invasive) must consider the possible perception that archaeology is linked to development and appropriate methods of data presentation. It should be the intention to integrate any archaeological survey results into commemoration, heritage management or educational programmes, but it may be necessary to explore alternative strategies to the norm (Chaps. 1 and 12).

(6) Practicalities of fieldwork—in other cases, it may not be possible to excavate sites for a variety of practical reasons. Landscape change may be one such reason and may take the form of modern buildings, car parks, dense vegetation and even memorials/monuments. In some cases, the construction of a monument may have been expressly designed to ensure that no forms of ground disturbance could take place. For example, at Treblinka, the monument was placed over the areas believed to contain mass graves and structural remains, whilst at Bełżec the same trend can be witnessed (Figs. 2.6 and 2.8). In actual fact, such obstructions may prevent many forms of archaeological investigation, not only excavation. Where sites have taken on alternative functions since the Second World War, they may now be under housing, supermarkets, shops or

Fig. 4.3 An archaeological excavation required by law in advance of building work. (Copyright: Kevin Colls)

playing fields. Issues of health and safety also have to be considered. Where buried remains exist at a considerable depth (more that 1 m), excavation may become unsafe without adequate shoring, the remains and the ground may become unstable and the water table may be breached. In some parts of Europe, Holocaust sites may be located in areas that are active conflict zones or where considerable local opposition may exist with regard to their investigation. Therefore, alternative means of investigation may need to be sought.

4.3.2 New Approaches

Fortunately, technological and methodological advances means that archaeology no longer has to be solely centred on excavation. There are new possibilities for the investigation of evidence of the atrocities perpetrated during the Holocaust that enable different types of evidence to be thoroughly examined, interpreted and assimilated. In line with recent thinking regarding forensic archaeology in particular (Hunter et al. 2013; Hunter and Cox 2005), rather than relying solely on any one method, methodologies for examining Holocaust sites should draw on the wide variety of tools at their disposal.

In particular, the variety of non-invasive recording methods now available to archaeologists has increased considerably in recent years (Fig. 1.4). The methodological advantages of these techniques in terms of the abundance of evidence they can record was outlined in Sect. 1.4, and the range of techniques available are the focus of Chaps. 5–7. However, these techniques also have many advantages in terms of their ability to compensate for and respect the various sensitivities that surround the investigation of the Holocaust outlined in Chap. 3. Where excavation is not permitted, desirable or wanted, these tools offer the possibility to record and examine topographies of atrocity in such a way that the disturbance of the ground is avoided (Chaps. 5–7). At sites where Jewish Halachic Law forbids the disturbance of areas that may contain human remains, the use of non-invasive tools offers

the possibility to account for these beliefs. The use of non-invasive techniques may mean that access is granted to survey sites that would otherwise have remained inaccessible if excavation had been suggested. Possibly because these techniques do not physically dig up painful aspects of the past, they may also act as a mediatory tool at other sites where the Holocaust sits between history and memory (Sect. 3.3.1). At sites where excavation is to take place, these methods offer a valuable precursor and allow appropriate, minimally invasive excavation strategies to be devised based on clearly defined search areas. Non-invasive methods also offer the potential to survey large areas at micro-levels of detail. New and emerging technologies in the digital humanities field also offer the possibility for new forms of presentation of the results of such surveys, both in situ and in a virtual environment (see also Chap. 12). The advantages of employing an interdisciplinary approach which includes the use of multiple non-invasive survey methods have been demonstrated as part of the author's own work as part of the Holocaust Landscapes Project (Sect. 2.3.3.2; Centre of Archaeology 2014; Sturdy Colls 2012, 2013). Three case studies from this project are provided here in order to demonstrate the advantages of a non-invasive methodology and one that accounts for the sensitivities surrounding the investigation of the Holocaust using the approach discussed in this chapter. Further information about the specific findings as part of these projects is provided throughout the volume as appropriate.

Case Study 4.3: Finding Treblinka Project, Poland
In 2008, archaeological work was proposed by the author at Treblinka extermination camp as part of a doctoral research project. Prior to the submission of the fieldwork proposal to the relevant authorities, considerable research was done into the religious, political and cultural elements that related to the site and the crimes perpetrated there during the Holocaust. It became immediately apparent that traditional methods of archaeological excavation would not be suitable on the basis that the locations of the mass graves of the victims killed at the extermination camp were unknown. Any excavations there would run the risk of disturbing human remains, and it was anticipated that they would not be permitted in accordance with Jewish Halacha Law. Additionally, given the lengths that the Nazis had gone to in order to hide their crimes, and the lack of obvious above-ground remains, there was not enough information available to determine the locations of key camp features, such as the gas chambers or other buildings, from documentary evidence alone. Therefore, specific areas could not be prioritised for excavation even if this method was deemed appropriate.

Therefore, an interdisciplinary non-invasive methodology was devised that incorporated: comprehensive archival research (Sects. 5.3 and 5.4); the analysis of maps, plans and aerial photographs (Sects. 5.6, 5.9 and 5.12); interviews with witnesses (Sect. 5.5); the inspection and collection of airborne remote sensing data (Sects. 5.13, 6.1 and 6.2); walkover survey (Sect. 6.4), forensic search methods (Sect. 6.5), micro-topographic survey using differential GPS and total station survey (Sect. 6.6); photogrammetry (Sect. 6.8); geophysical survey (using Ground Penetrating Radar and different configurations of resistance survey; Sect. 7.2) and data analysis in a geographical information system (GIS; Sect. 5.14). The fieldwork plans were discussed with and approved by the Chief Rabbi of Poland, the museum authorities and the Conservator of Monuments. Arrangements were made to ensure that commemoration activities at the site would not be disturbed by the fieldwork, and work was not undertaken on Saturdays in order to respect the Jewish calendar. During the fieldwork and afterwards, regular contact was made with all of these parties to discuss the findings and their implications in terms of both the history of the site and commemoration.

The results of the survey are summarised in various case studies throughout this volume but, in short, work to date has allowed the locations of various camp structures, mass graves, boundaries and infrastructure to be located for the first time without disturbing the ground. This work has demonstrated that, contrary to popular opinion, a considerable amount of evidence survives in the former extermination camp area. The combined use of desk-based research, topographic and geophysical survey allowed hypotheses to be presented concerning the location of the gas chambers. Following the identification of the area in which corpses were buried and cremated, it was possible (in 2013) to carry out minimally invasive excavations in an attempt to test this hypothesis and the remains of the Old Gas Chambers were successfully located. No mass graves were disturbed during this process and an accurate plan of the site is emerging for the first time. In 2012, a project was also instigated at the penal labour camp, and a new plan of the camp has been created based on non-invasive survey methods alone. The approach adopted at Treblinka allowed the landscape of the extermination and labour camps to be extensively examined, whilst respecting the religious and commemorative importance of the sites.

Case Study 4.4: An Archaeological Assessment of Staro Sajmište, Serbia
In 2012, an archaeological survey was undertaken at Staro Sajmište, in Belgrade, Serbia, at the site of the former Semlin concentration camp (Sturdy Colls 2013; Forensic Architecture 2014). The camp opened in December 1941 and was initially used to inter and then murder Jewish and Romani women and children by transporting them in gas vans to the other side of the Sava River (Byford 2007). Around 7500 people were killed in this way and buried in mass graves. The camp then became a political prisoner camp where approximately 10,600 Communists, Chetniks and partisans were murdered, many of whom were shot at designated killing sites within its grounds (Jovanović 2012). The camp was built within the grounds of the Old Fairground, a complex of exhibition halls that were seen as the epicentre of Serbian entrepreneurialism and international trade (Cultural Heritage Preservation Institute of the City of Belgrade 2012). After the war, the area took on many different residential, commercial and artistic functions (Sturdy Colls 2013). Whilst some of the camp buildings were demolished, many survived and were used as housing, workshops and a restaurant (Fig. 4.4). Although two memorials exist in the region, the site is very much a 'Living Death Camp' (Forensic Architecture 2014).

To account for the close physical and emotional attachments of the local community to the area being surveyed, a number of measures were implemented to avoid confrontations or stressful situations for both the local community and the survey team. During the first period of fieldwork, lectures were delivered as part of an organised public event in order to outline the aims and methodology of the survey (CZKD 2012). Opportunities were provided for detailed questioning of the research team. At the site itself, a bi-lingual local expert was present at all times to discuss with the local community what the field team were doing and to address any concerns raised. This was especially important because the area of the former camp lies within a residential and commercial area, and many of the open spaces in between that were surveyed

Fig. 4.4 The residences and businesses in Staro Sajmište that occupy some of the former Semlin concentration camp buildings. (Copyright: Caroline Sturdy Colls)

were also recreational spaces. Many questions were raised by locals about the equipment being used. Given the many plans that have been created to redevelop the site in the past, it was important to be clear that the archaeological survey was not connected to construction work. Interviews were also conducted with members of the local community in order to record their memories and knowledge of the site (Fig. 4.5).

The combined use of desk-based research (Chap. 5), walkover survey (Sect. 6.4), laser scanning (Sect. 6.7) and GPR (Sect. 7.2.1) provided a comprehensive overview of the various layers of the site's history across its entirety (approximately 180,000 m^2). Excavation was not permitted but, had it been, then only a very small portion of this area could have been examined. Some areas would also have been inaccessible due to post-war developments. A post-fieldwork lecture was also delivered in Staro Sajmište, in one of the former camp buildings, in order to present the results of the survey to a large audience (Oktobarski Salon 2013; Fig. 4.5). This also allowed any comments and questions to be received, and new information about the site to be shared.

Fig. 4.5 Presenting the results of fieldwork at Semlin concentration camp at a public event in Belgrade. (Copyright: Forensic Architecture/Steffen Kramer)

Case Study 4.5: The Alderney Archaeology and Heritage Project, Channel Islands

In 2010, a programme of archaeological research was initiated on the island of Alderney in the Channel Islands (Sturdy Colls 2012). This work aimed to locate, record and present the physical evidence pertaining to the Nazi Occupation of the island between June 1940 and May 1945. This evidence consisted of the remains of a concentration camp, several labour camps, fortifications constructed by those deported to the island, graves of those who did not survive and an abundance of other evidence (Sturdy Colls and Colls 2014).

This period of history remains contentious amongst the local population. The majority of Alderney's 1500 residents were evicted from the island in June 1940 and were not allowed to return until the land had been de-mined and prisoners of war could be deported (Sanders 2005). The official narrative of the Occupation is one that focuses on the rebuilding of the island's community and infrastructure after the islanders returned (JAS L/C/14/C/5; JAS L/C/14/C/19; Cruickshank 1975). The Occupation is not deemed by many local people to be part of the Holocaust, and it is suggested by state organisations that Germans and not Nazis made up the island's administration. When an archaeological project was suggested that argued otherwise and which sought to bring the story of the slave labour programme to light, it was initially met with considerable opposition. Some members of the local community feared that focusing on the slave labour experience would lead to further sensationalist claims about large-scale mass murder akin to that in Auschwitz-Birkenau, and that it would lead to an increase in tourists wishing to visit the dark heritage sites.

To account for these concerns, a series of presentations were delivered both in advance and during fieldwork to the local community and historical society. The rationale for the project was explained. It was also made clear that the archaeological survey sought to record the remains present and to re-evaluate archival material pertaining to this period; not to prove a predefined theory, but rather to examine the physical evidence objectively. Members of the local community were also invited to visit the team during the fieldwork and participate if they wished.

A combined programme of non-invasive research methods are employed as part of this project including detailed archival research (Chap. 5), comprehensive analysis of aerial images and cartographic data (Sects. 5.9, 5.12 and 5.13), topographic survey using differential GPS and total station survey (Sect. 6.6); photogrammetry (Sect. 6.8); geophysical survey (using Ground Penetrating Radar and different configurations of resistance survey; Sect. 7.2) and data analysis in a GIS (Sect. 5.14). This has allowed hundreds of fortifications built by the slave labourers sent to the island to be recorded and has facilitated the detailed investigation of several of the camps and mass graves on the island. Many previously unknown sites have been located, revised plans of some of the known camps have been created and the relationships between the labour camps have been characterised. Excavation has yet to be permitted on the island but, like the other examples provided, the non-invasive approach taken has provided a more comprehensive record of the landscape and has acted as a mediatory tool between the research team and those with concerns over the intentions of the fieldwork. The skills of the visiting archaeologists were also utilised to survey a number of sites from other historical periods that the local community did not have the resources to examine in detail (Fig. 4.6). This project has continued over the last 4 years as a collaboration between the field team, local government and community.

Fig. 4.6 Surveying the remains of ancient sites in Alderney at the request of the local community. (Copyright: Caroline Sturdy Colls)

4.4   Practicalities

At the most basic level, understanding the context in which archaeological work will be undertaken, and selecting an appropriate methodology, is essential to allow it to go ahead. Whilst it may be theoretically possible to apply archaeological methods to Holocaust sites, there have been only limited investigations undertaken to date, and archaeological approaches to these landscapes have not become widely accepted (Chap. 1). The social, political, ethical and religious issues involved in studies of this period have undoubtedly been the major contributing factors to this situation. In terms of obtaining permission, this will also vary depending upon the circumstances in which the work is being undertaken. Some general key themes will be addressed here, but it is essential that investigators are aware that the specific issues involved in the examination of the individual sites are likely to differ according to the national, regional and local context.

Where archaeological work is carried out as part of planned development works, or where it has been instigated by the managers of a museum or memorial complex, this may be relatively straightforward. Where investigations are instigated by researchers, particularly from abroad, the process will likely be more complex. European member states adhere to the Valetta Convention 1992 (also known as the European Commission on the Protection of Archaeological Heritage) with regard to the protection of cultural heritage (Council of Europe 1992). Gaining permission for archaeological fieldwork in most European countries is regulated by further legislation which stipulates formal permission is required, usually from a governing body. For example, permission should be obtained in the Netherlands from Rijkdienst voor het Cultureel Erfgoed (RCE), in Serbia from the Ministry of Justice and in Poland from the Conservator of Monuments. Although not governed by legislation, permission may also be required from other individuals and organisations depending upon the nature of the work being undertaken, and the religious and cultural groups affected by it. These may include: directors of museums (local, regional and/or national), religious leaders (for example, Rabbis), research institutes in the country in question, cultural groups or societies (local or national historical societies) and private landowners. In some cases, permission will need to be granted by all of these individuals and organisations before fieldwork can commence. In the author's experience, in addition to the bureaucratic process, it is also advantageous to present fieldwork plans in person. Although this can make for a long and complex process, face-to-face discussions allow any questions to be raised and answered and any concerns to be aired. They can also act as a useful opportunity for the researcher to gain a greater insight into perceptions of the site in question and to identify any groups likely to be affected by the work (see Sect. 4.2.4; Case Study 4.4 and 4.5). This can then be factored into the fieldwork methodology and may form part of the discussion relating to the cultural memory of the site (see Chap. 11).

Fieldwork proposals may take the form of a proforma, and/or it may be possible to write an outline plan document. This document must include a clear scheme of investigation, outlining the methods to be used and why these methods have been chosen. The guidelines provided by the Institute for Archaeologists (IFA) in the UK provide a useful source, regardless of what country the work is being undertaken in, in terms of the contents of such a document (IFA 2012). Depending upon the archaeologists' country of origin, they may be bound by codes of conduct stipulated by professional bodies to which they belong. Membership of a professional body is one way to demonstrate competence. The competence of the investigator to carry out the proposed work will be an extremely important part of the decision-making process surrounding the granting of permission to carry out fieldwork (and so it should be). In some countries, it is a requirement to provide copies of formal qualifications, professional accreditation and membership, a CV and written references from other practitioners in the field. Additionally, it must be demonstrated that the work will be carried out according to any local, national or international guidelines and codes of conduct governing the ethical treatment of buried or above-ground remains (see Chap. 4.1 for further discussion of relevant guidelines). Written requests for permission, fieldwork plans and presentations need to account for the fact that, in many cases, it

is non-archaeologists who are being asked to grant permission. The language used must be jargon-free, and attempts must be made to explain methods and techniques with which the reader may be unfamiliar. This is particularly true when new technology is to be used as, for many, the perception of archaeology is one that centres on excavation and, in some countries, this technology may not be widely known. Statements regarding the sources of funding for the work are often also required; it is unlikely that permission will be granted if there is any doubt over the availability of funds to pay for the work and any conservation that may follow. The documents may also need to be provided in many languages, given the diverse range of (sometimes international) organisations that may need to grant permission or support the project.

Reference must also be made in the fieldwork plan to any sensitivities that will need to be considered and any religious laws that will be adhered to. Clear plans should be included outlining how the methodology selected will account for these issues. Permission will likely only be granted where it is demonstrated that such issues have been thoroughly considered and when the impact of carrying out the work is made clear. This impact will likely be measured not only based on perceptions of what the survey will potentially reveal about the surviving physical evidence and the subsequent contribution to historical narratives, but also in terms of the effect that doing the research will have upon individuals and groups connected to the site. Potential positive impacts were discussed in Chap. 1 and include the ability of the results to be used in the development of commemoration, education and heritage strategies. It should be borne in mind that the perceived value of archaeological work will vary depending upon the specific circumstances in which the investigation is being undertaken and the opinions of the communities that it affects (Carman 2005). Negative impacts may include the disruption fieldwork will cause at memorial sites, the upset caused by revisiting painful aspects of the past and the divisions that may be caused/revived between individuals and groups (see Sect. 3.3). At the sites where the author has worked, understandably, there was concern about the attention the work would generate, the disturbance it would cause at memorial sites, the implications of the results and the responsibility of issuing permission. Those with the responsibility for making the decision to allow the work to go ahead will need to weigh up the potential for these negative impacts to occur against the positive value of the fieldwork. By carrying out research into the potential for these negative impacts to occur in advance of applying for permission, the researcher can attempt to allay some of these concerns and demonstrate that the scientific and historical demands of the research have been measured in conjunction with a consideration of the sensitivities surrounding it.

Plans can then be devised to minimise disturbance, e.g. fieldwork could be undertaken at a "quieter" time of year, outside of holy days, religious festivals or commemorative events. Relevant parties (e.g. survivors, family members, the local community, religious groups, the media, etc.) can then also be informed about the nature of the work. The latter may be achieved through face-to-face meetings, public presentations, written communication or on-site information. Agreeing at the planning stages to have archaeologists on hand during the work to discuss it and hear any concerns voiced by visitors is also advantageous (Sect. 4.6). As well as how the fieldwork will be carried out, a key concern of those granting permission is also likely to be the plans to disseminate the results. Stipulations may be made about when fieldwork reports have to be submitted and to whom. Fieldwork plans should also include a clear outline of what material will be deposited with relevant museums, both in terms of written materials and any items found during fieldwork. As will be discussed in Chap. 12, the forms of dissemination selected should account for the needs of a variety of audiences.

Once permission has been obtained, archaeologists are then bound (often legally) to adhere to the strategy suggested. Therefore it is essential that they can adhere to plans created, particularly with regard to ethical conduct. Not to do so could have catastrophic implications, not only for the practitioner themselves and those who initially granted permission but also for the physical evidence being examined. Taking this into account, and all of the sensitivities discussed in this chapter, it is fair to say that Holocaust archaeology is not an area to enter into lightly.

4.5   Sites with Alternative Functions

Many sites of the Holocaust have been memorialised in some way and have museums or information that designates them as a protected site (to varying extents). However, many other sites are not marked and have taken on alternative functions since the end of the Second World War. At these sites, special consideration will need to be given to the modern activities that occur when planning to undertake fieldwork. Some sites may lie in areas of wasteland, forests or abandoned settlements. Others, though, will be situated within areas where, essentially, life goes on. Sites may have taken on residential, recreational or commercial functions (Fig. 4.4). In residential areas, people will likely not take kindly to archaeological work being undertaken when they feel that it may disrupt their daily lives, bring to the fore painful aspects of the past or result in the redevelopment of an area (Case Study 4.4). Former camp or ghetto structures may be occupied, and it may not be possible to survey their interior if current owners or tenants are opposed to this. Some areas that formerly housed camps or cemeteries have taken on recreational purposes, such as football pitches, playing fields, parks or holiday accommodation. Archaeologists need to account for these uses when undertaking fieldwork; important ethical questions can be raised over whether the investigation of the past should take precedence over life in the present. Also, archaeologists may face potentially hostile and awkward situations during surveys if people using these recreational areas ask about the nature of the work. For example, on Alderney, the location of a survey on the island's campsite, which formerly housed a labour camp, represented a potentially difficult situation in terms of explaining to holidaymakers exactly what was being surveyed (Fig. 4.7). In these situations, some people will, of course, be very interested to learn about the area's former history, whereas others will be shocked, upset or offended to hear it being spoken of. This is epitomised in the sentiments expressed by Maryna Shleimovych, a local resident interviewed in the course of archaeological investigations into the Soviet atrocities during World War II, who stated, 'here you are again with your graves! History has stuffed the whole earth with corpses! What do we have to do with this? Yes, I know that they shot people here once upon a time, but this was a long time ago, and I like strolling here' (Paperno 2001, p. 7).

Sites which have taken on commercial functions can be even more problematic. Many—such as working mines, quarries, factories and warehouses—may not be safe to enter to carry out survey work (Fig. 4.4). The presence of power lines, mobile phone and radio masts, gas pipes or other services may also limit survey capabilities and prevent access to some areas. In surveys undertaken by the author, cars, trucks, military vehicles and even horses have obstructed survey areas. In some cases, the owners were prepared to move them, at a time convenient for them; but in other cases, this was not possible. Firms may be reluctant to temporarily suspend their operations to allow surveys to take place, given the cost implications of doing so, and may see such work as negative publicity. The activities carried out within these commercial locales may also have significantly modified the landscape over time, depending upon the nature of the work undertaken there. Archaeologists must be mindful of this when interpreting survey results, although it may be difficult to assess if access to some areas is not permitted.

In all of these situations, opening up effective lines of communication is crucial. Through negotiation and compromise, it may be possible to satisfy all parties. When local communities or commercial firms are fully briefed about the purpose of the work, they are much more likely to discuss how it can be accommodated. This should be planned as part of the project methodology, rather than being something that is left until the field team has already arrived on site. These kinds of interventions are unlikely to be welcomed.

Fig. 4.7 The holiday campsite that now occupies the former location of Lager Norderney, a camp for Jews and political prisoners. (Copyright: Caroline Sturdy Colls)

4.6   Community Archaeology Strategies

The benefits of community involvement in archaeological work have long been stressed by archaeologists, heritage professionals, policy makers and community groups (Jackson et al. 2014; Smith and Waterton 2013; Atalay 2012; Moshenska and Dhanjal 2011). Community archaeology is usually aimed at increasing the engagement of people with their heritage or that of others, to foster a sense of ownership, value and community cohesion (Carman 2005). It also plays a key role in educating people about the past and, in recent years, it has been used as a form of reconciliation (Little and Shackel 2014), a means to tackle racism and prejudice (McDavid 2010) and a form of rehabilitation (Defence Archaeology Group 2014). It is a way for people to make new friends, to give something back to their community and to raise the profile of the places being examined. The success of community archaeology projects will generally depend on the circumstances in which such projects arise—whether they are carried out 'by the people for the people', with people but not instigated by them or with archaeologists acting as facilitators (Reid 2008).

Community archaeology has most commonly been undertaken at sites where the archaeological remains being examined relate to the distant past, where the sites are not contentious, and where divisions that may have existed in the past have long since healed. Therefore, questions need to be raised over how archaeologists engage community groups in the examination of heritage that is contentious, sensitive and, often, invokes wildly different emotions. Is it possible to draw on the cohesive benefits of community archaeology when what binds the specific groups who will be involved is loss, suffering or a desire for revenge? If so, how can community involvement be facilitated whilst ensuring that the remains being sought are treated with dignity and respect?

Archaeologists engaged in the investigation of Holocaust sites are often contacted by members of the public asking whether it would be possible to participate in future seasons of fieldwork. Such

requests clearly highlight the continued interest in this period in the public sphere. However, knowing how to respond to such requests can be difficult and initially community archaeology with regard to Holocaust sites appears incredibly problematic. Firstly, community archaeology (like archaeology more generally) has focused on excavation. The difficulties involved in the excavation of Holocaust sites have already been highlighted in Chap. 3 and Sect. 4.3.1). As Walls (2009) has argued, this association also contributes further to the public perception of archaeology 'as being restricted to a limited range of skills and techniques'. Secondly, the fact that investigations of Holocaust sites will generally involve examining human remains and other evidence of Nazi extermination means that it is often not appropriate to include members of the public in the recovery process. The nature of the remains being sought demands the highest levels of competency to recover them, thus it will not always be appropriate to utilise untrained personnel. When untrained personnel are used, work on-site would require very close supervision, which may not be feasible depending upon project resources. In some instances, the legal demands placed on search and recovery exercises will also preclude the involvement of anyone except trained archaeologists or forensic practitioners (Sect. 2.3.2). Similarly, whilst archaeologists working in this area should be prepared for the emotional impact of working at such sites, members of the public will likely not be. Finally, archaeologists working at Holocaust sites have usually been vetted in some way via the permission-granting process and will generally work in teams with people that they know that they are able to trust. When volunteers who were previously unknown to the field team are used, it will not be possible to evaluate at length individuals' motivations for wanting to become involved in such work; whilst some people would undoubtedly want to become involved for the same reasons that archaeologists felt it was important to carry out the work in the first place, others may have more sinister motivations. For example, archaeological projects may attract looters, illegal artefact traders, those opposed to the work in the first place, Holocaust deniers and members of Fascist or Nationalist organisations. Thus, the security of the field team has to also be given due consideration in relation to the use of volunteers. Archaeologists working in this area are referred to literature surrounding the use of volunteers in the investigation of mass graves of modern genocide for advice on these issues (Inforce 2012; Congram and Sterenberg 2009).

In recent years, there has been an upsurge of community archaeology projects that have taken place at sites of conflict. In many cases, it seems that if it is organised well, community archaeology at conflict sites can be incredibly effective (International Brigades Project 2014; BBC 2013; Moshenska 2009). By involving volunteers in projects, archaeological sites can become forums for education, debate and remembrance, as well as provide opportunities to address and overcome conflict between divergent parties (Wainright 2009; Moshenska 2009; Pyburn 2011). Unfortunately, methodologies of community archaeology are commonly practiced in conflict archaeology but are rarely discussed (Moshenska 2009); thus it is not really known how many of the challenges outlined above represent genuine problems.This is a real issue for researchers wishing to undertake such work and seeking examples of comparable situations. Instead of seeing this kind of engagement as something that is simply done and as something quite separate from the main methodology of archaeological projects, when addressing conflict sites it is imperative that it is integrated into project designs.

There are a handful of instances where volunteers have been utilised during archaeological work at Holocaust sites which are discussed below:

Case Study 4.6—Community Archaeology in Sobibor, Poland (Fig. 2.12)
Archaeological investigations at the former extermination camp in Sobibor have been carried out over the last 6 years (Mazurek and Haimi 2013; Sect. 2.3.3.2). The project is run by archaeologists from Poland and Israel, and is supported by a number of international organisations including Yad Vashem (Yad Vashem 2014). Since the very beginning of the project, local volunteers have participated in the excavations aimed at locating the structures and infrastructure of the camp. These volunteers quickly befriended the project directors and have returned year after year to participate. They have been trained and supervised by the archaeologists throughout the project to ensure that the remains being examined are thoroughly recorded. This approach has provided members of the local community with the opportunity to participate in research that they deem to be important, and it has provided the project directors with a dedicated, enthusiastic workforce (Wojczech Mazurek, pers. comm.)

The lack of an ability to excavate a site, or to involve the public in those excavations, does not preclude community archaeology provided that careful consideration is given to the ethical issues involved. The level of public involvement can be adapted to account for these issues and a number of other techniques exist for facilitating the involvement of volunteers and communities.

A recent project undertaken at Westerbork, in the Netherlands, demonstrates future possibilities for community outreach with regard to Holocaust sites, as outlined in Case Study 4.7.

Case Study 4.7: Community Archaeology at Westerbork, the Netherlands (Fig. 4.8)
In 2010 and 2011, archaeological excavations were undertaken in the area of the former transit camp at Westerbork at the request of the memorial museum that oversees the site (Schute 2013; Wijnen and Schute 2010). The excavations were carried out by professional archaeologists. However, following the excavations, volunteers were recruited to assist in washing and cataloguing the 19,525 artefacts that were recovered. This took place at the Westerbork Museum and was overseen by the lead archaeologist on the project. These volunteers played a crucial role in the conservation of the items found, particularly as it would have been practically impossible for the archaeological team alone to have processed all of them in the time available. The project brought together a diverse range of volunteers who wanted to contribute to what they deemed to be a very important project aimed at raising awareness of the camp (Ivar Schute, pers. comm.).

The artefacts recovered during the excavations, alongside others housed in the museum's archive, were also taken by archaeologists to the homes of elderly residents in the area. The aim of this was to increase awareness of the research being undertaken and to record any information possessed by the local residents about the items (Ivar Schute, pers. comm.).

Other possibilities to involve volunteers include their participation in walkover surveys and site logging where above-ground remains exist. This is particularly suitable at sites connected to the slave labour programme where above-ground fortifications may exist in large numbers over a large area. Here volunteers can make a significant contribution to locating sites which it would, otherwise, take several more field seasons to record if only professional archaeologists were involved. Volunteers can also assist with recording other standing buildings or the conservation of known structures. For example, a number of successful schemes in Poland involve the cleaning of monuments and structures

Fig. 4.8 Community archaeology at Westerbork, in the Netherlands. (Copyright: Ivar Schute)

by prisoners and youth groups. At Treblinka, prisoners cleared off vegetation from the barrack foundations at the labour camp in advance of a topographic survey of the site undertaken in 2012. Other non-invasive community archaeology projects have been undertaken with regard to conflict archaeology more generally and show the potential to use these methods in the investigation of Holocaust sites. For example, Beale and Beale (2012) undertook a community archaeology project which involved volunteers undertaking 'computational photographic techniques' to catalogue gravestones and memorials the results of which were made available through open-source software. The increased availability of photographic and mapping apps opens up further possibilities to involve volunteers in this type of recording in the future (Sects. 6.4 and 6.8).

If direct involvement in the fieldwork is not appropriate, then archaeologists should consider other ways that their work can be communicated to those visiting the site in the short term. This may be undertaken informally, through discussions with visitors who approach the field team, and it may be necessary to have a translator as part of the group to facilitate this. Alternatively, a more active approach could be taken (and is desirable). Outreach activities—such as on-site tours, lecture programmes, workshops, information boards and the like—can be used to inform the public, disseminate knowledge and, where necessary, to discuss concerns surrounding the work being undertaken. Public engagement at Holocaust sites, where it is possible and ethical, should be encouraged; thus facilitating access for those who wish to learn more about the research being undertaken. It may be appropriate in some instances to conduct these activities off-site or at least away from the area where the work is being undertaken, in order to account for issues like security and looting. Additionally, this may be more appropriate for sites where visitors wish to commemorate loved ones and where such practices may be disturbed by outreach activities. Thus, as with the nature and application of archaeological methodologies, the concerns of the various groups who will visit the site in question, or be affected by the work being undertaken, must be central to approaches adopted for public engagement.

Archaeologists involved in any community archaeology must also think about the longevity of such projects; they must question what will be the legacy of the project after they have left? (Moshenska and Dhanjal 2011, p. 4). Rather than these events being one-off occurrences, they should think about how such activities can be repeated and how the interest fostered by them can be drawn upon to ensure that the sites in question are protected in the future. After archaeological projects have been completed, it will be others who will be responsible for maintaining sites. Work undertaken by the Office of the Chief Rabbi of Poland, outlined in Case Study 4.2 serves as an example of

best practice in this area, in that searches for mass graves engaged members of the local community, and strategies were developed to ensure that the sites will be protected by those same community members in the future.

4.7 Defining the Field

In light of the discussion in this chapter, what perhaps defines the discipline of Holocaust archaeology is not only the ability of the archaeologist to understand the historical events of this period and the associated material culture that was generated, but also the capacity to understand the complex range of issues associated with these events and its aftermath. Such an approach has a dual benefit in that it allows for a more comfortable working environment (or at least for one where the researcher understands the potential issues that may arise and can attempt to mitigate against them), and it allows important information to be derived concerning cultural memory, as reflected by both opinions about the site and the various physical and metaphorical layers of its history.

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Desk-Based Investigation

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5.1 Interdisciplinary Methodologies

The events of the Holocaust had a dramatic impact upon the landscape of Europe and left behind a complex body of evidence in relation to the crimes perpetrated during this period. The traces of the camps, ghettos and burial sites of the Holocaust remain as physical reminders of the suffering and horrors of these events. Archaeological research has the potential to bring this often neglected and ill-understood evidence to the forefront of public consciousness, thus re-reminding us of these events and their impact upon society. The variety of techniques and methods now available to archaeologists offer the possibility for both detailed landscape assessment and the analysis of the physical evidence from this period at microlevel.

The three chapters that follow (Chaps. 5–7) will review the latest methods and technology, and will highlight novel approaches to their application. This discussion will mainly draw on a methodology devised as part of the Holocaust Landscapes Project, a research project devised by the author which aims to characterise the physical evidence of the Holocaust using an interdisciplinary approach centred on the assimilation of data derived from archival research, archaeological survey and cultural memory studies (Centre of Archaeology 2014; Sturdy Colls 2012a, b; Sect. 2.3.3.2). The methodology and associated discussion of the key considerations presented in these chapters, although framed in the context of the Holocaust, will also be relevant to archaeologists addressing other genocides and conflicts in the contemporary past, as well as other sites where the subject matter being considered is contentious or sensitive. It is not suggested that all methods and approaches be applied at every site. There are some techniques that should be employed as part of every investigation and these are indicated in the discussion. However, methods should be selected on a case-by-case basis based on the nature of the site being investigated and the specific circumstances in which the work is being undertaken. This chapter will focus specifically on the various desk-based techniques that should be considered in advance of the in-field methods outlined in Chaps. 6 and 7.

5.2 Project Planning

Any professional archaeological investigation should begin with a desk-based assessment of the site being examined. There are many published guidelines on how to complete such assessments, with many expressing the minimum requirements in terms of the provision of suitably scaled location plans, descriptions of the site's history and other information such as the geology of the area (Institute for Archaeologists 2012; English Heritage 2008). However, where the luxury of time exists, it is rec-

Table 5.1 Suggested methodology for conducting desk-based assessments in advance of archaeological fieldwork at Holocaust sites. (Copyright: Caroline Sturdy Colls)

Suggested methodology for desk-based assessments		
Rationale:		
This methodology will allow the following to be derived:		
Information concerning the historical context of the site in question, e.g. why and how it was constructed, who administered it and how it fitted into the Nazi regime as a whole		
Information concerning the known or 'official' histories of the site in question		
Material concerning the extent and nature of site in question (in the past and present)		
Material that can be compared to archaeological data		
Methods/techniques used	*Sources used*	*Outputs*
(a) Documentary research	(a) Scholarly research and historical records located in worldwide archives and libraries including but not limited to witness accounts, plans and architects' drawings; administrative documents, letters, notices, drawings, court transcripts and other evidential material; reports of post-war investigators	(a) Analysis and presentation of primary research material; comparisons of witness plans; cross-reference key dates and information with aerial photographic analysis (below); overlay plans onto aerial images; identify likelihood that features will survive below the ground; identify possible locations of features
(b) Cartographic analysis	(b) Maps (contemporary and modern)	(b) Georectification of maps with other data types (historical and archaeological); map regressions using historic, contemporary and modern maps
(c) Photographic analysis	(c) Ground-based photography; aerial reconnaissance (contemporary and modern); satellite imagery	(c) Dataset of georectified aerial images (contemporary and modern); annotated aerial images; annotated satellite imagery; 3D visualisations of ground-based imagery and aerial images
(d) Analysis of video footage	(d) Video footage recording during World War II and afterwards, including that created by post-war investigators and documentary filmmakers	(d) Identification of possible features and their locations, e.g. structures, mass graves and boundaries; analysis of practices of post-war investigators
(e) Analysis of other forms of media and art	(e) Examples include sculptures, artwork, drawings and models	(e) Identification of the appearance of individual sites and structures. Analysis of stories/events to which the physical evidence relates

ommended that such desk-based investigations go over and above these minimum requirements with regard to investigations surrounding historical events still within living memory. In fact, in an ideal world, this stage of research should be equivalent to research undertaken by historians in terms of archival searches and, if possible, the collection of original testimonies. A wide variety of documentary, cartographic and photographic sources should be consulted in order to provide a detailed overview of the events being investigated and to assist in characterising the landscape where fieldwork will be undertaken. Table 5.1 outlines a recommended methodology for conducting desk-based assessments at Holocaust sites and the main methods outlined will be discussed in more detail below.

There is considerable value in returning to original primary sources as part of archaeological investigations of Holocaust sites. Firstly, with many sites, particular narratives have been established as a result of the 'remembered' past or through historical enquiries. As discussed in Sect. 3.2, there may be official narratives and counter-narratives that have been formulated from the configuration of particular sources and the suppression of others. A review of primary material can assist in making

an informed decision about how site-specific or general Holocaust narratives have been constructed; it can allow archaeologists to cut through the rhetoric of official histories and establish the extent to which primary source material has been manipulated to facilitate the construction of such narratives. It ensures that any information that did not find its way into such narratives is identified and allows its importance to be assessed in terms of an understanding of the physical evidence of this period. In particular, as part of the author's research, it has often been observed that, whilst written records from archives may be referred to with regard to particular sites, maps and plans created of the same sites that exist within the archive may not have been published and interrogated at length. This is demonstrated by Case Study 5.1:

Case Study 5.1: Desk-Based Assessment of Alderney, Channel Islands

In 2010, a programme of research was initiated on the island of Alderney in the Channel Islands to examine the events of the Nazi Occupation (Sturdy Colls and Colls 2013; Sturdy Colls 2012a; see Case Study 4.5 for background). This research involved extensive archival research and a non-invasive archaeological survey. The events of the Occupation remain controversial because thousands of slave workers who were sent to the island to work on the construction of fortifications as part of the Atlantic Wall building programme, many of whom died on the island. Two main schools of thought could be identified in the published literature about the Occupation. The first largely ignored the stories of the slave workers, instead choosing to focus on the evacuation and liberation of the island (Cruickshank 1975), whilst the second suggested that the crimes perpetrated on Alderney were comparable to those perpetrated in Auschwitz-Birkenau (Steckoll 1982).

Therefore, it was deemed important to conduct extensive archival research in order to determine whether either of these schools of thought had a factual basis, to chronicle the evolution of these narratives and in order to re-examine the original primary sources from an archaeological, as well as historical, perspective. A wealth of material was located in the National Archives in the UK, local archives in the Channel Islands and other archives in Europe. Over the course of several years, this material was analysed in detail.

This revealed an abundance of unpublished and unknown information including witness testimonies, maps, plans, administrative records and aerial imagery (Sturdy Colls 2012b). It demonstrated that there was basis to the claims of mass graves on the island, due to the location of a considerable number of witness testimonies attesting to this as well as plans and photographs. It showed the extent of the atrocities perpetrated in the camps and how the Nazis had employed an 'annihilation through work' policy against many prisoners. It also revealed the extent to which the British government had known about the crimes, through the discovery of a number of reports and even a spy map which documented many of the Nazi-built installations on the island including the camps (Fig. 5.1). The archival material also attested to the ways in which this information was suppressed after the war and how it was the declassification of some items that led to the more sensationalist counter-claims that have emerged since. More information about the research in Alderney can be found in Sturdy Colls and Colls 2014 and Sturdy Colls 2012b.

In light of the observations regarding the construction of narratives (Sect. 3.2), analysis of primary sources should not just be restricted to those dating to the Holocaust; material relating to the post-war years should also be examined in order to identify how such narratives have developed. Additionally, these sources will reveal how the landscape has evolved over time. This landscape change has
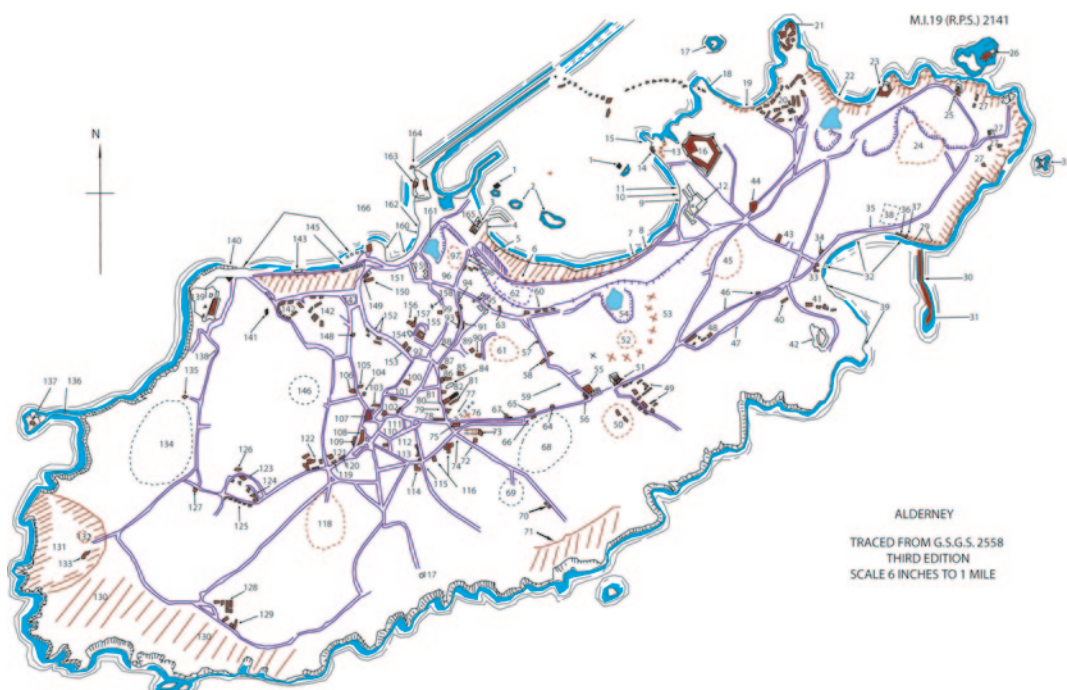
Fig. 5.1 A map produced by British spy division M.I.19 which was located as part of the Alderney Archaeology and Heritage Project. (Copyright: Caroline Sturdy Colls)

important implications for what evidence will survive and an awareness of it should inform fieldwork methodologies (Sect. 11.1).

The second reason for returning to primary source material as part of archaeological investigations is the ability of archaeologists to interrogate this evidence in a different way to historians. Historians will generally be concerned with facts and figures concerning historical events; they will be interested in what happened, to/by whom and they will endeavour to understand why such events occurred. When interviewing witnesses, they will usually be concerned with specific instances. All of these are of course crucial in understanding historical events and will be an invaluable starting point for archaeologists. In fact, this information may inspire archaeological examinations in the first place. However, archaeologists will also be concerned with specific details such as the location and appearance of particular buildings (in minute amounts of detail) and the extent of, for example, roads, railway platforms and mass graves. By conducting such research, alongside the analysis of secondary material, it allows the individual or team conducting the fieldwork that follows to understand specific events and the layout of the places to be investigated.

Additionally, the examination of historical sources from an archaeological perspective—be they maps, plans, photographs or documentary sources—allows new questions to be asked of old material, thus resulting in new insights into the events that took place. Assessing known historical sources with knowledge of construction and demolition processes, an understanding of stratigraphy and geology and comprehension of the dynamics of the burial environment can allow new information to be derived from archival sources. For example, it may be possible to identify from primary sources what happened to a particular camp when it was closed or liberated. In historical accounts it is often stated that the camps were completely destroyed and that the subsequent functions that they assumed completed altered the landscape. By returning to primary sources and examining the specific details

of the demolition and subsequent landscape change, it may be possible to determine the true extent of landscape modification and the potential for physical evidence to survive in the modern landscape. From the author's experience, an examination of the primary material often reveals that the extent of the destruction of a site is not as extreme as is often presented in historical accounts and, as such, there is the potential to locate buried remains (Sect. 9.4).

Additionally, given the declassification of documents and the digitisation of archives in recent years, new primary source material is being made available for study. In some cases, this new material may further confirm existing historical accounts. In others, it may facilitate a more detailed analysis of the extent and nature of the physical evidence relating to specific sites and landscapes. Of particular value will be maps, plans and aerial images that may, sometimes for the first time, reveal the layout of a particular camp or the location of a clandestine burial site (Sects. 5.6, 5.9 and 5.12). In other cases, when dealing with forgotten, unknown or unmarked sites, no historical research may have ever taken place and so such investigations may be the first of their kind. This is another reason why archaeologists have to be competent in archival research when addressing Holocaust sites as, initially at least, their role may well be more akin to that of a historian.

5.3   Documentary Evidence

Documentary evidence pertaining to the Holocaust comes in a variety of forms, including administrative documents, letters, underground and government intelligence reports, witness accounts, court transcripts, plans and maps, all of which have the potential to reveal important information about the nature of the events themselves and the alterations to the landscape that occurred. This material may have been written/recorded by Holocaust victims, perpetrators, bystanders, administrators, post-war investigators, family members, friends, liberators or some/all of the above.

When examining a particular site, it is unlikely that all of the documents relating to it will be contained within the same archive. Given the geographic scope of the Holocaust, evidence will be spread across various global archives and may exist in many different languages. Different archives will have different levels of accessibility and documents may remain classified in some but not others. These issues can pose considerable challenges for researchers from the outset. However, where such evidence can be identified and gathered together, it can reveal important insights into the nature of a site from different perspectives. Whilst it may seem like a considerable task for archaeologists to research sites in this level of detail (particularly when work is being undertaken in a commercial context; see Sect. 2.3.4), not to do so will likely mean that considerable amounts of information that will assist in search and recovery will be missed.

5.4   Witness Testimonies

Whilst some historians have seen testimonies by survivors as historical sources that act as a 'living form of commemoration of war' (Gilchrist 2003, p. 2), there is a strong case to argue that Holocaust testimonies should also be seen as witness accounts pertaining to a known crime. Indeed, in mass grave investigations in the Balkans, for example, witness testimonies have been described as the 'cornerstone' of search (Schmitt 2002, p. 3). Whether provided by the survivors, by those who did not survive, the perpetrators, bystanders or liberators, these sources can be utilised in the same way in the investigation of Holocaust sites.

A large number of published survivor testimonies now exist in the form of popular books and video footage. These accounts can often offer valuable insights into personal and collective experiences.

Some accounts will make no more than passing references to specific places but others may provide extremely detailed accounts of locations and even specific buildings. Depending on the specific witness' circumstances, it may be possible to derive detailed information concerning the extent and nature of camps or ghettos, as well as concerning the appearance and form of barracks, fences, administration buildings and the like. This information will greatly assist in assessing the findings of archaeological surveys as well, determining the potential for remains to survive in the modern landscape. Accounts that discuss the witnessing of burials are particularly useful, since they may provide information concerning the way in which the grave was excavated and backfilled, its size and overall form, the number of people believed to have been killed and any attempts by the perpetrators to hide the evidence of their crimes. Where structures were demolished by/upon the order of the Nazis, witness testimonies should be examined for any information concerning the ways in which buildings were pulled down, what happened to the building materials that were removed and if/how the area was covered over. When these testimonies were written, it was perhaps not the intention to discuss the physical evidence relating to the events being described. However, information regarding this may still be present.

There also exists a large body of witness testimony that has been collected since the end of the Second World War for use in judicial proceedings. These testimonies and supporting documents submitted alongside them should be consulted as part of any investigation of a Holocaust site. Many testimonies were provided in the years immediately after the war, when the events were fresh in the minds of those delivering them. Often witnesses were asked about the locations where the events that they were describing took place and it is possible to locate detailed descriptions of certain places as a result. This varies by location, depending on whether the trial in which evidence was given focused on a specific place/atrocity or whether it tried to establish the broader scale of the crimes committed. Testimonies by perpetrators are most commonly found as part of court proceedings. Their accuracy will of course be dependent upon the perpetrator's desire to evade prosecution and the amount of knowledge the individual had about specific locations. However, it is often possible to find evidence relating to the layout of particular camps, the form and function of specific buildings, and the digging of mass graves alongside information concerning official and unofficial policies of extermination, the purposes of specific camps and ghettos, and the ways in which traces of the crimes were hidden. It is possible to locate extremely frank testimonies of perpetrators that address these points, where no attempt is made to hide the acts undertaken, and in fact, where they seem proud of their actions. These testimonies—where the amount of information provided is very detailed, despite the fact that it would have been in the interests of the perpetrator to lie to avoid prosecution—will often yield information of interest to archaeologists. For example, Franz Stangl provided an extremely detailed account of Treblinka at his trial, including a plan of the camp, despite the severity of the charges levied against him and the fact that this evidence would contribute to a successful prosecution (Sereny 1995). This information continues to be consulted during archaeological works at the site.

The amount of information available about specific locations in court proceedings will also depend very much on the deemed relevance of the information to the prosecutor. For example, during the Nuremberg trials, Treblinka survivor Samuel Rajzmann offered to enter a plan of the camp into evidence (IMTN 1947). This plan would of course be invaluable to an archaeologist or other investigator trying to determine what the site would have looked like and how killing processes were carried out. However, in the case of this trial, the plan was deemed not to be relevant by the court and so it was not submitted. This once again highlights the dichotomy between historic investigations and those that archaeologists in the present may wish to carry out. On the positive side, however, a meta-analysis of this material can further highlight the attitudes towards the physical evidence of the Holocaust over time and may offer explanations for popular perceptions of the events and places to which they relate (Chap. 11).

Many witness testimonies have been collected for other purposes, for example by historians or Holocaust-related organisations. These make up a significant part of the body of evidence that attests to specific events and experiences. Again, the purpose for which the material was collected can affect the information it contains and its use as part of archaeological investigations. In many instances, given the diminishing number of people who lived through this period, witness testimonies will only be available in the form of archived transcripts, videos or sound recordings. This may be a source of frustration in that this only provides access to the information that the witness thought it pertinent to state and which the interviewer deemed it important to ask about. Such questions may well be quite different to those that archaeologists would have asked. It is rare to find interviews that solely focus on points relevant to archaeologists at length, e.g. the location and appearance of specific buildings and graves, descriptions of construction and demolition processes, attempts to hide the crimes, body disposal practices, etc. However, many testimonies will allude to such points and may provide a starting point for search. Another source of frustration may be the fact that witness testimonies will exist across multiple worldwide archives. It can be a laborious task to locate and analyse all of these testimonies that relate to the particular site being investigated, but this is usually well worth the reward that comes from doing so. Whilst individually such sources may not provide sufficient detail, a collective analysis of multiple testimonies may provide a body of material capable of informing search strategies and which can then be compared to evidence located through in-field investigation.

5.5   Interviews

In order to overcome some of the issues surrounding the lack of specific information provided in witness testimonies, where possible, archaeologists should endeavour to interview witnesses face-to-face in order to ask different questions. Before embarking on this, as with any interview, it is vitally important to consider the impact of this sort of questioning in relation to the physical and mental health of the witness in question. This should also be monitored throughout the questioning and the interview terminated if it becomes apparent that the witness is experiencing distress. An abundance of literature exists regarding interviewing witnesses in criminal investigations and archaeologists should consult this prior to undertaking interviews since the acquisition of first-hand accounts will likely be the area that is rarely encountered in archaeological investigations (O'Mahony et al. 2012; Lord and Cowan 2011; Stover 2011; Gudjonsson 2010). In particular, taking witnesses back to the locations being investigated may be especially rewarding in terms of gaining additional information to inform searches and the revision of historical narratives. Being present at the site where the specific events being recalled actually took place may trigger suppressed memories and allow them to point out the locations of particular buildings, fences and other features. It may result in being able to place particular instances or events in specific areas, for example the location of mass graves, executions or ill-treatment. The success of interviewing witnesses first hand can clearly be seen at Serniki where the witness, 'nearly half a century later, but without hesitation…pointed to the floor of the forest and told the team that they were standing on top of bodies that had been buried no deeper than three metres' (Bevan 1994, p. 53). It is clear that the location of the grave in this case was well known by local villagers but that formal identification did not take place until these questions were specifically asked. On a larger scale, the work of Patrick Desbois and Yahad-In-Unum has relied heavily on the willingness of witnesses to point out potential burial locations (Desbois 2008, 2014; Fig. 3.2). Clearly, such an approach requires the investigator to build up trust with the people being interviewed.

Speaking to witnesses throughout archaeological searches is also desirable, given that the discoveries made as part of fieldwork may also act as a memory trigger. For example, when Treblinka survivor Samuel Willenberg was shown artefacts and building materials uncovered as part of archaeological

work at Treblinka, this triggered memories concerning the appearance of the camp and the experiences of the victims. Thus, as Gilchrist (2003) notes, the increased urgency with which it is deemed necessary to record such accounts is justified, as many testimonies will be lost as the events leave living memory.

As a final point on written witness testimony, it should be remembered that witnesses may not always have witnessed the Holocaust itself, but rather the evolution of particular sites afterwards. For example, they may have seen structures being knocked down, they may have themselves taken material from camps in order to rebuild their own homes (see Sect. 11.5), they may have witnessed the construction of memorials or the planting of trees, or they may have observed or been aware of exhumations of human remains in the post-war years. Witnesses may be long-term or short-term residents of an area, staff at museums or even regular holidaymakers. It is vital that this evidence is also collected in order to build a picture of how the landscape may have evolved and/or features may have been preserved.

5.6   Plans

In addition to written evidence, various maps and plans drawn by witnesses are available to archaeologists examining Holocaust sites. These sources offer a key visual tool for investigations and exist in a variety of different forms depending upon who created them. Many of these sources will already be in the public domain, published as part of survivor testimonies, court proceedings or research works. However, it may be possible to locate previously unseen plans of sites in archives. Where it is possible to meet with witnesses, it may also be possible to ask them to draw these plans from memory, though the amount of time that has passed needs to be borne in mind in terms of their reliability.

Perhaps most common are plans drawn by witnesses of the camps. These plans include those drawn by camp survivors, bystanders and perpetrators, either as private personal recollections, as evidence during post-war trials or in the course of their duties. These plans may indicate the layout of structures, roads and fences which, even when not to scale, may provide key starting points for search strategies as shown in Fig. 5.2. Particularly, when key reference points shown in these plans still exist in the landscape, it may be possible to make preliminary estimates of the locations of features and target-specific areas for further in-field investigation (Fig. 5.3). These plans and those drawn by witnesses can also form a useful guide during walkover surveys (see Sect. 6.4).

Plans drawn to scale are less common, though they do exist in various forms. During the war years, plans were created by various surveillance divisions based in various countries. These plans were sometimes created by operatives who had actually visited the area in question but, more often than not, they were based on interviews with witnesses, use of existing mapping information and the analysis of aerial photographs (Sect. 5.12). The level of information provided on such plans will of course vary depending upon their purpose. For example, a plan of the island of Alderney—created by the British M.I.19 intelligence division using testimonies of Dutch fishermen and escapees and aerial images—shows the location of identified fortifications, camps and infrastructure (Fig. 5.1; Case Study 5.1). This is accompanied by a key which outlines additional, often anecdotal, information about each feature. This map has been used during walkover surveys on the island in order to identify the locations of these features and to determine whether any traces of them remain. The limited amount of information about individual features, however, means that it is of limited use for detailed analysis, and other sources have been drawn upon such as contemporary and modern maps, aerial images and other forms of testimony. Conversely, plans of individual locations created from aerial images and other reconnaissance information may be extremely detailed, particularly when these areas were situated within strategically important zones. The size of the area covered by these plans is extremely
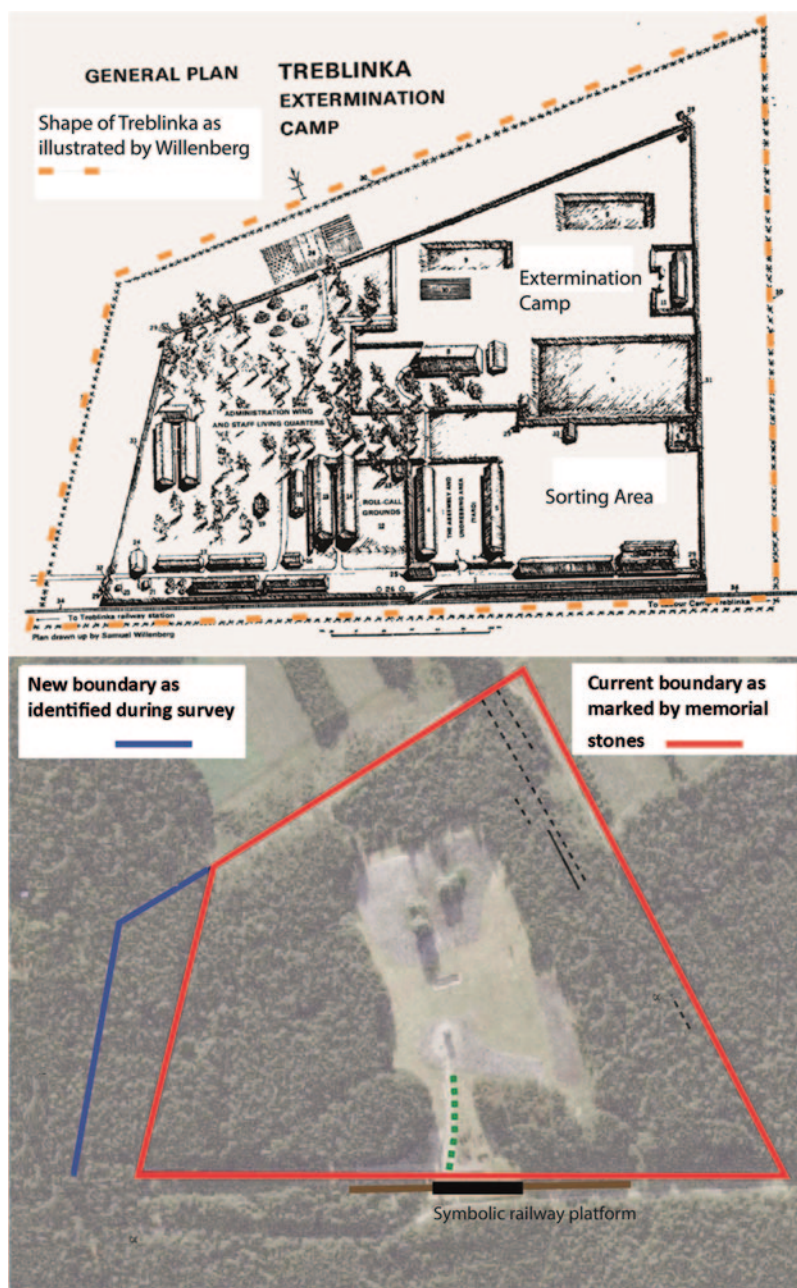
Fig. 5.2 A plan of Treblinka extermination camp drawn by survivor Samuel Willenberg. The plan contains reference points which were located in aerial images and on the ground during archaeological surveying techniques. This process confirmed that the northern boundary of the camp area (as marked by modern boundary stones; *red line*) is 50 m to the south of the actual camp limits (*blue line,* left hand side of the image). (Copyright: *top,* Samuel Willenberg; *bottom,* Google/Caroline Sturdy Colls)

varied and depends on the location and its perceived strategic importance. Architects' drawings, in the form of blueprints created during the war years, do exist for some locations and continue to be discovered. For example, the discovery of blueprints of Auschwitz-Birkenau in a flat in Berlin in 2008 has
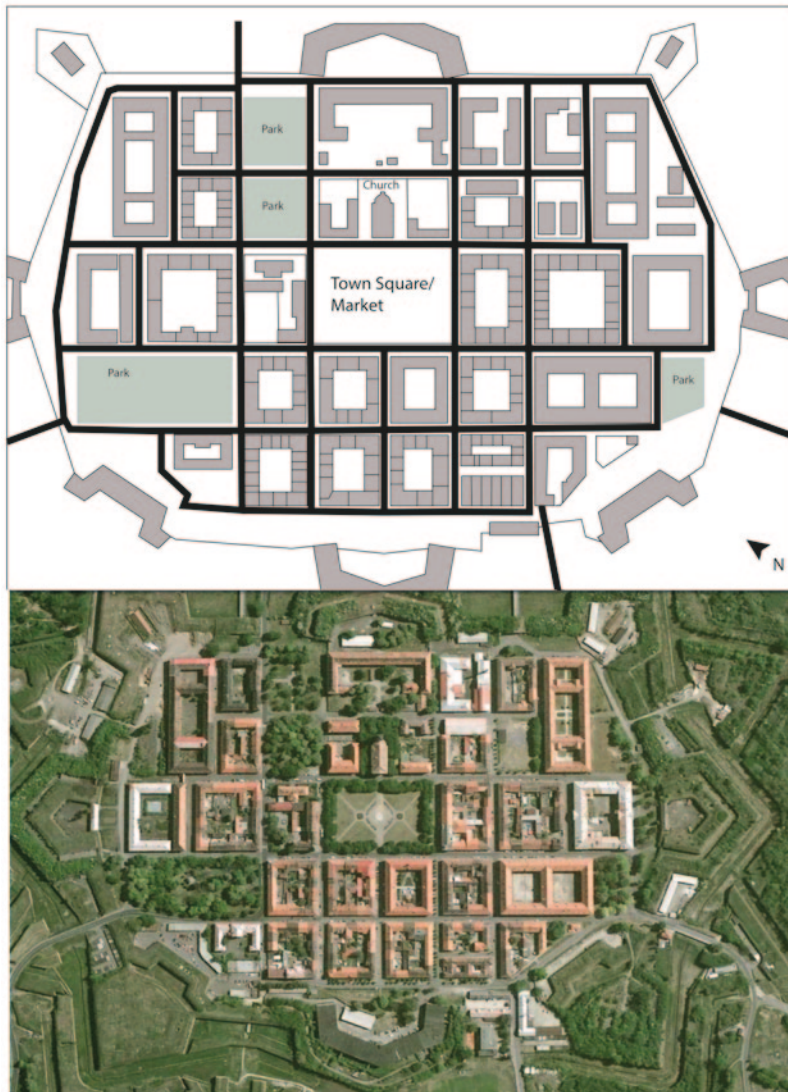
Fig. 5.3 A plan of the Terezin ghetto (*top*) compared to a modern aerial image (*bottom*). (Copyright: Caroline Sturdy Colls/Google)

provided an unprecedented insight into the layout of the camp (Kirschbaum 2008). Many architect's drawings are plans of specific buildings, e.g. gas chamber facilities, crematoria or other purpose-built structures; thus, they are most useful for characterising features as opposed to locating them. After the war, scaled plans were sometimes drawn by architects and legal personnel who visited sites for the purposes of collecting evidence for prosecutions of war criminals. Depending upon the focus of their investigations, these plans are often of the camps and show features such as boundaries, key buildings and mass graves as well as the locations of excavations undertaken by investigators (Fig. 5.4).

Some of these plans are extremely detailed and were created using measured survey methods. For example, the plan of Stutthof concentration camp created by a Polish medico-legal team clearly shows surviving structures, those that had been demolished and much of the infrastructure of the camp (Fig. 5.5).

Plan Treblinka

a	Main railroad track from Kosów—Treblinka
b	Side rail to the gravel pit
	Side rail into the camp
c	Hard-surfaced road leading into the camp
f	Road to the labour camp
d	Cobbled street into the camp
o	Well
ι ι	Pine forest containing the buildings for the guards
▲	Burned-down basement
i	Destroyed house of the Ukrainian guard
j	Area of cremation, 1,80 hectares
∧	Tank obstacles
oooo	Location of excavations
abcd	Boundary of the camp
k	Area of unloading of transports and burial of cadavers
l	Cultivated land

Podziałka 1:2000

Fig. 5.4 A plan of Treblinka extermination camp created by post-war investigators, showing the location of key features and areas that were excavated as part of their investigations. (Copyright: Łukaszkiewicz 1946)

Any plans created after the war should be collated, as should any predating the camp, ghetto or mass graves' existence, in order to create a visual site history (see Sect. 5.9 for more information on site histories). Collating plans before the site's existence will demonstrate how the landscape evolved and how any existing structures or landscape features were affected by, or incorporated into, the camps and ghettos (Fig. 5.8). Plans of other sites of a similar nature should also be consulted, particularly for sites where above-ground remains are absent or scant. For example, plans of Sobibor were consulted by the author when investigating Treblinka, since this site was modelled on Sobibor when it was constructed (Sturdy Colls 2012b; Chrostowski 2004).

5.7 Availability and Reliability

It is of course also important to be aware of the shortfalls with witness testimonies and plans in all of their forms (Sects. 5.1–5.6). The availability of these sources will vary considerably between different sites. This is due to various factors. For camps where death rates were high and, thus, the number of survivors was low, few written records may have been created by those sent there. At Bełżec, for example, only one person survived, wrote about their experiences and drew a plan of the camp (Reder 1999). This plan was one of the few sources available to archaeologists during their work at Bełżec in the 1990s (Kola 2000). Conversely, for camps where the turnover of inmates was high, few plans exist as people were only interred temporarily before being sent on to another camp or ghetto; therefore, at these locations, people often did not spend enough time there to become familiar enough with the layout to create plans. In other cases, such documents may well have been created but they did not survive or they have lain unnoticed or inaccessible in archives. The recent announcement that Holocaust-era documents in the Vatican archives may be declassified reminds us though that new information has the potential to come to light at any time (Haaretz 2014).
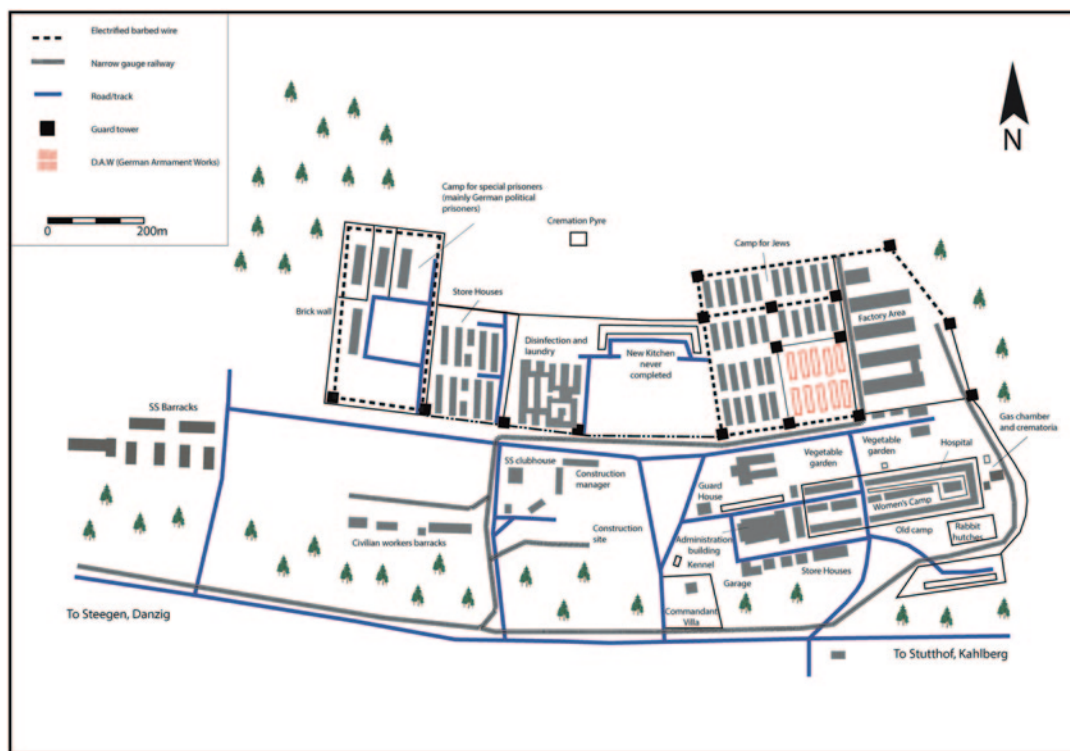
Fig. 5.5 A plan of Stutthof concentration camp created by post-war investigators. (Copyright: Kevin Colls/ Łukaszkiewicz)

With all sources, questions need to be raised concerning who produced the material, why did they do so, in what circumstances, what is being referred to, what is not and when was the record created? The circumstances in which the record was created require further consideration with regard to determining the value of sources for archaeological investigations. Many survivor testimonies were written as personal memoirs, as evidence of the crimes that had been perpetrated and as a record of the experiences of individuals, their families, friends and acquaintances. Some were written during the Holocaust, others have been written since, and some as many as 70 years after the events being described. Personal testimonies written without third-party intervention (in the form of an interviewer or ghostwriter, for example) are also likely to differ considerably from sources derived from interviews, particularly those collected in a judicial setting (see discussion above). In some instances, only particular types of sources may be available and this may warp the historical narrative of the place. The destruction of documents by the Nazis, the classification of others on the grounds of sensitive information or the loss of this information since the war offer just some of the potential reasons why evidence may not be available.

When addressing sources with a view to locating evidence in situ, other questions have to be raised depending upon the source. For example, if the reliability of a witness plan of a camp is to be accessed, it is important to consider the level of access the witness would have had to different parts of the camp: Could they merely see buildings or burials from a distance or were they able to enter the buildings and stand next to the burial sites? Did they only have access to some areas but still they attempted to draw/describe elements of the camp they did not see based on other peoples' knowledge or rumours they heard? To what extent has artistic licence been used with regard to the appearance of

certain features (something which will be influenced by the witness' drawing skills and profession)? How accurate is the scaling of certain features and has this potentially been affected by the witnesses perspective, age, height, etc.? It is also important to consider the amount of time that has passed since the plan was drawn and the state of mind of the person drawing it.

In the past, such factors have not always been considered: certain plans have been seen to be highly accurate because of who created them or because they are seen as the only surviving source of evidence. For example, a plan of Treblinka approved by 'both surviving prisoners and living members of the camp personnel' at Stangl's trial has been seen, alongside other witness plans of Treblinka, as the most definitive evidence of the camp's layout (Fig. 5.6). However, this plan and many others differ in shape from the layout of the camp suggested on the ground and by aerial images (Chrostowski 2004, pp. 32–33; Sereny 1995). This position has likely arisen as a result of the belief that no further physical evidence survives at Treblinka and, as such, historical sources are seen as the definitive point of reference. The same approach could be seen at Bełżec prior to archaeological work at the site, which confirmed that the grave locations at this site differed from those shown on survivor Rudolf Reder's plan (O'Neil and Tregenza 2006). Therefore, witness plans should be used as a detailed starting point for archaeological investigations in order to confirm or contest their accuracy. It must be remembered also that witness plans usually capture particular locations at a single point in time and so they should be used alongside other sources such as maps, aerial images and field survey data in order to attempt to characterise the landscape over an extended period of time (Sects. 5.9 and 5.12).

When taking witnesses back to locations where specific events happened, it is also important to remember that their perspective may be warped by the modern appearance of the landscape; buildings may well have been demolished, the overall layout and function of sites may have changed, reference points in the landscape (such as trees, buildings, roads, etc.) may no longer exist. Memorial landscapes which in some way attempt to replicate certain features (such as buildings, railway platforms or
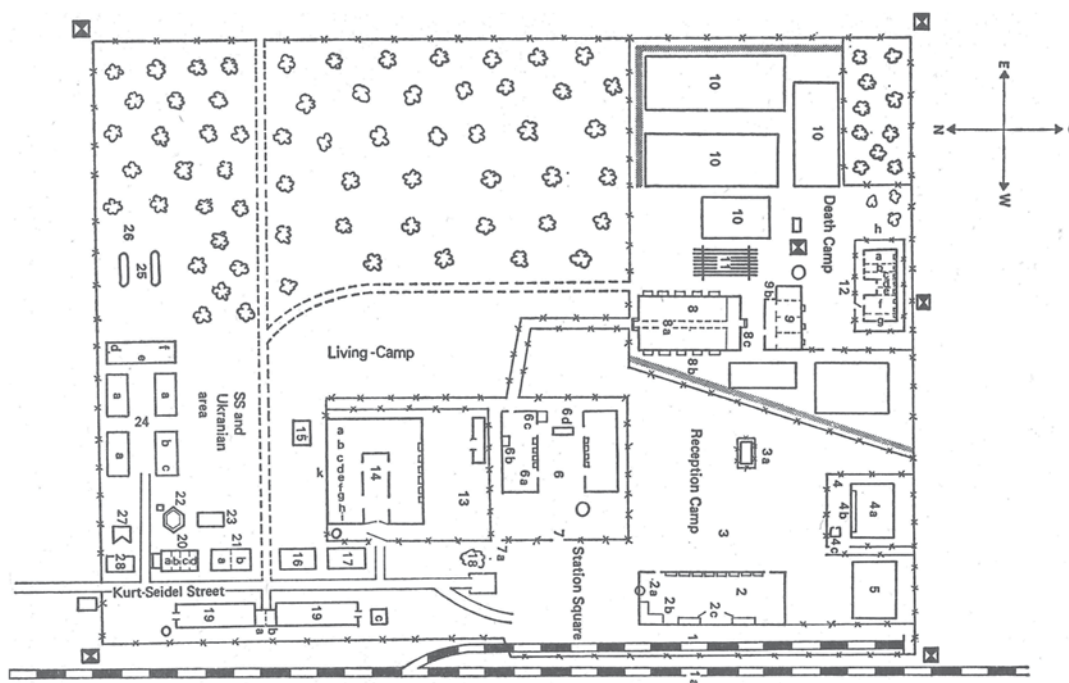
Fig. 5.6 A plan of Treblinka extermination created by camp commandant Franz Stangl at his trial in the 1960s. (Copyright: Gitta Sereny)

roads) may disorientate witnesses or cause them to make inaccurate claims about the locations of other features (Sect. 12.5.2; Fig. 5.7). Earthworks, mounds of spoil, depressions and visible building remnants may be a draw to witnesses who, given their location and focus on the traumatic events that they are being questioned about, may assume that they are contemporary to these events. This is a trend that has been witnessed in a forensic archaeological context when witnesses have returned to scenes of crimes to indicate the location of burial sites (Hunter et al. 2013). The effect of time, fading memories and the distress caused by returning to such places can also have a confusing effect.

In other instances, witnesses may 'recall' events and details of landscapes when in fact the "memories" of these are not their own. Golbert (2004, p. 214) notes that this is a problem encountered frequently in closed communities, particularly those which have changed little since the 1940s, and he records an event where one member of the community tells a collective story of Holocaust killings on behalf of the whole area. The Serniki Investigative Unit also noted the inconsistencies between witness accounts of the same event and how many people recounted details they had been told by others as their own memories (Bevan 1994, pp. 30–31). At the most extreme, 'survivor/bystander testimony' may be provided by people who in fact had no connection to the events in question or by perpetrators attempting to assume the role of the victim. The motivation for this increasingly popular trend may also stem from the desire to make money from the publication of testimony or from the individual's desire to gain attention or sympathy (Walters 2013). Whatever the motivation, such false or distorted testimonies present problems for both historians and archaeologists alike in terms of the verification of any truthful elements. Such complications, when added to the contradictions in other witness testimony, represent another reason why locating and characterising physical evidence, free of these biases, is so important.

As well as the issues with individual sources, as Hayes (2003, p. 332) notes, 'an abundance of eyewitness testimony complicates as well as clarifies, since it comes in many languages and from numerous, necessarily partial and time bound perspectives'. Historians have of course long faced the issues surrounding establishing which sources are the most accurate where a number of conflicting

Fig. 5.7 A contemporary building located within the area of the former Semlin camp in Belgrade. This structure is often mistaken for an original camp building owing to its dilapidated appearance. (Copyright: Caroline Sturdy Colls)

testimonies exist. Often, with regard to the points being considered by archaeologists, there has been little clarity over who is correct; that in fact may be the very reason for archaeologists' involvement. For example, more than 20 different plans exist showing the layout of Treblinka extermination camp and the points of accuracy in these plans have long been debated by historians (Sturdy Colls 2012b). Whilst there has been some agreement over the fact that some elements of some of the plans are more accurate than others, usually owing to the witness' level of access to particular areas of the camp, no one definitive plan of Treblinka has been created. This is of course one of the key reasons why archaeological work is necessary—to confirm the accuracy of these plans and to seek clarity concerning the overall form and extent of the camp. However, these conflicting testimonies can still cause problems and practitioners need to be aware of these biases when dealing with witness accounts and utilise a wide range of complementary documentary evidence.

5.8   Data Presentation and Analysis

For sites where multiple plans and multiple testimonies exist, digital technologies can assist with interpretation and can allow the similarities and differences between them to be mapped. Scanning original primary sources and digitising them offers the possibility to enhance the quality of the witness plans and to layer them in Geographical Information Systems (GIS). These sources can then be compared to each other, and similarities and differences can be identified. They can also be merged with other forms of evidence—such as maps, aerial images and field survey data—in order to characterise individual features and assess the accuracy of individual sources. Further discussion concerning GIS is included in Sect. 5.14.

5.9   Cartographic Data

As well as written (or drawn) forms of evidence, there exists a body of visual material that should be consulted in order to characterise Holocaust landscapes. Firstly, obtaining detailed and appropriately scaled cartographic data forms an essential part of any archaeological investigation. Prior to the commencement of fieldwork, recently produced maps provide an initial insight into the nature of the modern landscape in which the site being sought is located. This is an important step for a number of reasons. Firstly, it allows the terrain type to be characterised, something which is important in terms of assessing the geology, contours and ground cover of the potential survey area. Secondly, initial analysis of such maps may allow key search areas to be identified and prioritised based on how accessible particular areas are or their position in relation to other visible remnants. Maps can also be used to assist with planning fieldwork logistics. This is particularly useful if the site to be surveyed is abroad or located some distance away from where field teams are based. It may be possible to decide on the amount of manpower required to search the selected areas, to select appropriate tools and methods and to determine the practicalities of getting to and from the site. During fieldwork, these same maps assist with initial reconnaissance visits in terms of allowing archaeologists to get a sense of their surroundings and facilitating the location of key landscape features.

The acquisition of historic mapping information should also be a standard search procedure. These historic maps may take many forms, including physical maps (showing landscape features), topographic maps (showing contours and elevations) or thematic maps (e.g. geology, land use or vegetation maps). Depending on their purpose, these maps will vary in terms of scale and the features shown. Some maps will have been produced for recreational use, others for transportation, whilst others may be of military grade. By obtaining and comparing historic maps, it will be possible to identify

how landscapes have changed over time. This collection of maps can be used alongside other forms of visual imagery (see Sect. 5.12 below) as part of map/imagery regressions that allow site histories to be created (Fig. 5.8). An example of this is shown in Fig. 5.8 where a witness plan of Semlin camp in Serbia is compared to other historic mapping data. These map regressions can assist in the characterisation of large-scale landscape change, identifying how specific structures have been modified, demolished or constructed over time, and revealing how road, rail and other transportation networks have developed. Topographic maps, for example, may reveal how ground levels have changed or remained constant, and may provide an insight into how the landscape was used by the perpetrators to hide their crimes (Sects. 6.5 and 9.4). Geology maps will not only assist in planning what survey methods to use and what excavation strategies to employ, but they may also provide an insight into whether it was physically possible for perpetrators to have buried human remains in a given area due to the nature and proximity of the bedrock. These types of maps are commonly used by forensic archaeologists for this purpose (Hunter et al. 2013). Localised mapping, in the form of planning application documents or historic environment records (HERs—where they exist), can also be used in conjunction with these maps to build up a fuller picture of landscape development.

In some cases, it may even be possible to acquire maps created during the Second World War; these may have been created by a variety of organisations, including the home and occupying forces, and will again vary in their levels of detail. Military maps may be particularly useful for identifying when specific fortifications or other military installations were constructed. In some cases, these maps even show Holocaust camps and help pinpoint where they were located (Fig. 5.1). Map regressions will also allow informed decisions to be made about how likely it is that physical evidence of Holocaust
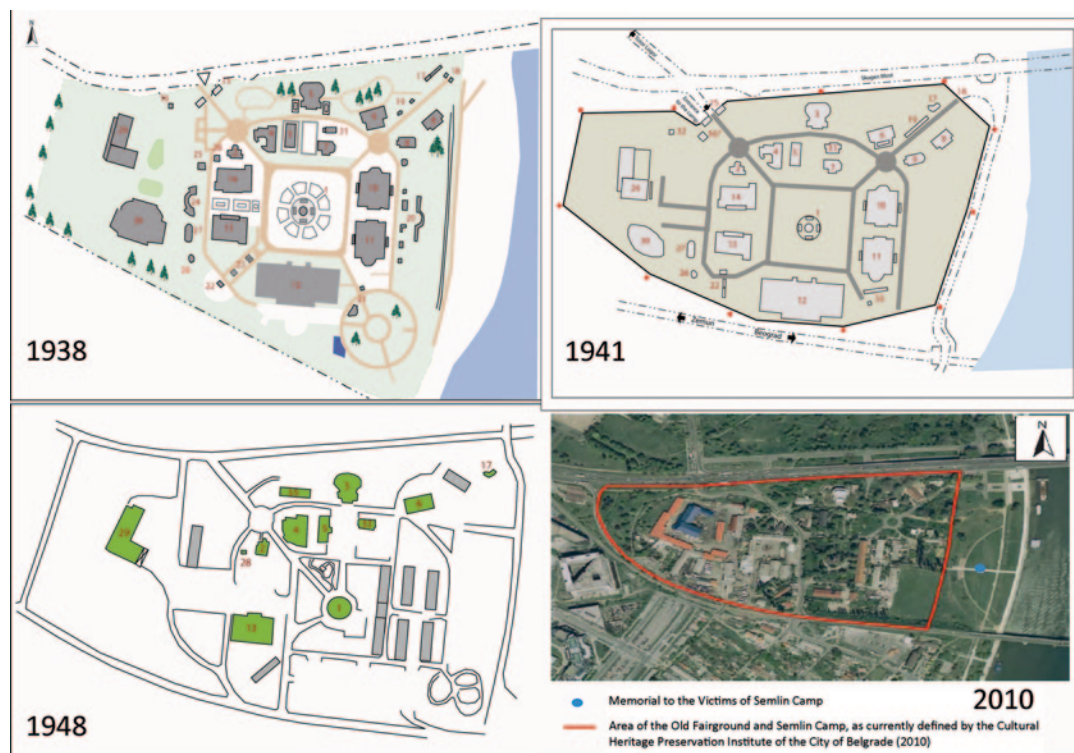
Fig. 5.8 A map regression of Staro Sajmište showing how the landscape and structures that formerly housed the former Semlin camp have evolved over time from the 1938 Old Fairground to the present. (Copyright: Caroline Sturdy Colls)

sites will survive in the landscape, in light of the landscape modifications that have occurred since. They will help assess in what form such evidence may survive and this will inform what methods are selected for further analysis. Where it is not possible to survey certain areas or where little/no evidence is shown to exist following in-field survey, these maps may also be used to show why this is the case.

The quality of mapping data will of course vary between different countries across Europe. Whilst some countries will have detailed, well-ordered, widely available mapping data, others will not. The scale of available mapping data also varies between different countries and even different sites. As well as differences in the quality of paper-based mapping, for more recent mapping, there also remains considerable variation in terms of the availability of digital data. Having digital mapping tiles makes the integration of other types of survey data much easier in GIS (see Sect. 5.14). It facilitates the georeferencing of aerial photographs, satellite imagery and other non-spatially referenced survey data (see Sect. 5.12). However, in some countries, such material may be classified for military use only, it may not show features deemed important in an archaeological context, and it may be costly if available only via subscription (Hunter et al. 2013). All of these factors must be borne in mind when planning fieldwork methodologies.

5.10   Photographic Data

Much has been written about the photographs that survive from the Holocaust due to their significance as one of the remaining visual sources of the events (Struk 2003, Sweibocka 1995; Reinartz and von Krockow 1995; Milton 1986). However, the potential of these images when used as part of archaeological investigations has been given little attention. Photographs dating to the Holocaust can be divided into two groups—those taken by the Nazis to record their activities and those that were taken by others to prove that such crimes were taking place. With regard to the first group, although taking photographs of killings was banned by the Nazis' Order No 4/43 on 2nd February 1943, photography was permitted for official purposes, which included the logging of victims entering the concentration camps (Sweibocka 1995, p. 34). Therefore, for a handful of camps, such as Sachsenhausen, Buchenwald, Auschwitz-Birkenau, Stutthof and Mauthausen, images are available that highlight the terrible living and working conditions within the camps (Struk 2003, p. 102). Other photographs were taken for propaganda purposes and were even used on postcard sets showing Nazi victories or the internment of prominent figures (Milton 1986). Additionally, there are many examples of photographs that were taken by camp personnel, such as those taken by Kurt Franz in Treblinka or those taken by a Schutzstaffel (SS) division under the command of SS officer Tauber, who distributed such images to friends and family (Büchler 2003; Milton 1986). For the most part, these images do not directly show mass killings (although there are examples of those that do) but instead show, for example, personnel (e.g. SS guards, Wehrmacht soldiers, etc.) and the buildings where they lived and worked.

Other photographs were taken covertly by those attempting to document and expose the crimes perpetrated by the Nazis. These include those taken by the resistance movement and by British and American photographers who sent the images back to their home countries to prove the extent of the Nazi crimes (Struk 2003). Some images were found buried or hidden in the aftermath of the war, whilst others were handed over to Holocaust museums years later, such as the well-known Auschwitz album (Sweibocka 1995, p. 41; Hirsch 2001). Therefore, these images are more readily available to archaeologists than those taken by the Nazis, as many of these were destroyed towards the end of the war.

In the first instance, these images sit alongside other archival materials located as part of desk-based assessments to provide the historical background to a site being investigated by archaeologists.

Following this, contemporary images can potentially be used by archaeologists to identify the locations of structures, fences or other features of interest by establishing the camera position (Fig. 5.9). In some instances, photographs may show landscape features which may indicate grave locations. Such indicators have been proven to be useful in modern forensic investigations, such as the Moors Murders case in the UK (Staff 2013; Hunter and Cox 2005, pp. 55–57). Once potential locations have been established using photographs, this can then be confirmed using an appropriate combination of survey and/or excavation methods discussed in the chapters which follow (Chaps. 6 and 7). Simple walkover survey (Sect. 6.4) may be sufficient to identify remnants of the feature in question with the aid of the photographs and additional mapping material. It may be possible to take photographs from the same position in the modern landscape when sufficiently recognisable features are present in the background of the contemporary image (Fig. 5.9). This offers another opportunity for different

Fig. 5.9 Photographs of Longy Common cemetery in Alderney taken in 1945 (*top*) and 2010 (*bottom*). Landscape markers can be used to establish the camera position of the original image. (Copyright: Alderney Society/Caroline Sturdy Colls)

layers of the site's history to be compared to each other and for the extent of landscape change to be characterised.

Beyond identification of locations, photographs can also be used for feature characterisation. With regard to structures in particular, this may be the only means through which their overall appearance can be determined. Where traces are visible above the ground, indicators in the image may be sufficient to match the image to the remains. Similarly, once remains have been identified through survey or excavation, comparison to images may assist in determining their form and function. Building materials, the shape of the feature and its configuration can be compared as per the photographs. In some instances, it may also be possible to create digital reconstructions of specific features using photographs and these can be to scale when the locations and dimensions of features have been determined through other forms of survey (Sect. 5.12). Such reconstructions may also have an important role to play in both interpretation and educational dissemination of the archaeological survey results (Sect. 12.3.3).

5.11 Media and Art

As well as the acquisition of material via the traditional route of archival research, it is also sometimes possible to obtain sources that will be useful during archaeological investigations from other types of media. Documentaries, films, drawings, paintings, sculptures, news and newspaper reports, when available, may also provide valuable insights into the nature of Holocaust landscapes and the physical evidence pertaining to this period. Film footage and documentaries may exist that date to the Holocaust whilst others may post-date it; thus, there is the capacity to locate sources that show specific places during this period—what they looked like, how they functioned, etc.—but also to consult visual records of how these places changed over time. Where it exists, film footage of post-war investigations will also be very useful in that it will assist archaeologists with their understanding of the nature of any prior searches that have been conducted and will also reveal how the landscape looked at the time of such investigations. One example includes scenes from Claude Lanzmann's Shoah which highlight the fact that parts of the Treblinka extermination camp were not covered in trees when the film was made in the 1980s. Similarly, an examination of films and other media reports can offer explanations as to why particular sites have been perceived in particular ways; these materials have often played a role in cementing the iconography of the Holocaust, which in turn has led to the widespread affiliation of surviving sites as only those where standing, above-ground remains are present.

Drawings, paintings and sculptures may also complement other information provided by witnesses regarding the appearance of the camps, the locations of mass graves and the nature of killing and torture. Their use will of course vary depending upon their nature. For example, whilst Jankel Wiernik's model of Treblinka can be used alongside other witness plans of the site to establish the layout of the extermination camp, the individual sculptures created by Samuel Willenberg are a visual record of specific instances in the camp connected to specific locations within it (Sturdy Colls 2012b).

Of course, it is important to distinguish between factual and non-factual sources of this kind. However, that is not to say that non-factual sources should be entirely discounted as part of a body of material collected about a particular site. These types of sources can reveal a lot about the perceptions of particular places and many are interesting in that, even if they are not accurate, they can reveal what people think is the 'truth'. Thus, they may offer a further insight into the cultural memory associated with the site in question. They also provide a visual record of the human stories to accompany the places that will hopefully be recorded during archaeological survey.

5.12   Historic Aerial Imagery

'Time spent in reconnaissance is seldom wasted' is an adage that has become well-established in military operations (Price 2003, p. 7). However, this notion is also true when researching the archaeology of conflict on two levels. Firstly, detailed intelligence gathering, as well as remote and ground reconnaissance, allows us to build up a complex picture of the evidence relating to the Holocaust and Nazi Occupation of Europe. Secondly, the material to which Price (2003) refers (military intelligence data obtained during times of conflict) not only represented time well spent with regard to its capacity to provide strategic data for the armed forces, but it also has secondary benefit in terms of the information it can provide years later with respect to structures, fortifications and other sites connected with the war. The untapped potential of reconnaissance material (which includes aerial photographs, reports from spies, witness accounts and intelligence data) to reveal information about recent archaeological sites has only recently been identified in light of the declassification of much of this material in recent years (Price 2003).

In particular, aerial photographs pertaining to the Second World War and subsequent conflicts have the potential to make a significant contribution to the identification of sites relating to the Holocaust. Whilst modern aerial images have long been used in archaeological contexts (Hunter and Ralston 2006; Killam 1990), until recently, the use of military aerial imagery has been predominantly restricted to use by military historians attempting to identify fortifications or bomb damage or by postwar investigators locating unexploded ordinance (Cowley and Stichelbaut 2012; Ferguson 2008). Yet vegetation growth/colonisation, shadow and lighting conditions at the time that the photographs were taken may offer the opportunity to identify landscape features largely invisible from the ground (Hunter and Cox 2005). A number of useful guides on aerial photograph interpretation exist which are recommended in advance of image acquisition (Hanson and Oltean 2013; Paine and Kiser 2012).

When specific sites are being investigated, historic aerial imagery should be sought. This will allow the extent, layout and nature of camps, ghettos and execution sites, and the features contained within them to be characterised. These features might include building foundations, tracks and roads, pits and disturbances such as mass graves. As well as above-ground features, aerial images should be examined for evidence of buried remains through the analysis of distinctive vegetation. This can be undertaken in the same way that crop marks would be analysed by archaeologists looking for ancient remains (Paine and Kiser 2012). Aerial images can be annotated using illustration software to produce detailed plans which can be used to enrich historical narratives, as well as guiding further in-field investigation (Fig. 5.10; Sect. 12.3.3).

In the same way as map regressions will involve the collation of all available material relating to the site in question, so too should searches for aerial images. Such an approach will allow these images to further complement site histories being created as part of desk-based assessments (Sect. 5.9). Multiple images of the same site from different periods allow the different layers of a site's history to be identified (Fig. 5.11). These images can be physically layered in GIS to facilitate comparison with each other, and with cartographic and field data. Because these images can be georeferenced to other forms of spatially accurate data within a chosen coordinate system, it is possible to achieve high levels of accuracy in terms of the overlaying of these images (Fig. 5.11). This, in turn, facilitates more accurate feature identification and will inform in-field strategies. Further information on the assimilation of data and the value of doing so in GIS is provided in Sect. 5.14.

Where possible, images should be collated that date to the period before, during and after a site's use in order to catalogue in greater detail its evolution. It may be possible to identify key events such as exactly when a camp was built and/or when it is was demolished, when a grave was excavated and when it was covered over, or when roads and railway networks were expanded. It is important to recognise that the site being investigated will not have remained static throughout its existence; for example, camps were made bigger and/or downsized, and graves were used for burial but were then
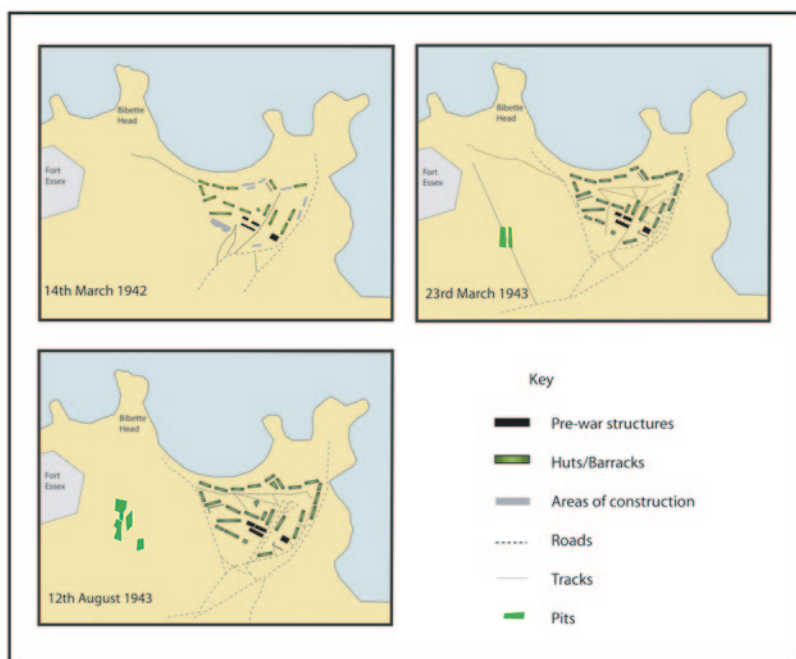
Fig. 5.10 Annotations of aerial images of Lager Norderney which show how the camp developed during its period of operation. (Copyright: Caroline Sturdy Colls)

Fig. 5.11 Georectified aerial images of Alderney. (Copyright: Caroline Sturdy Colls)
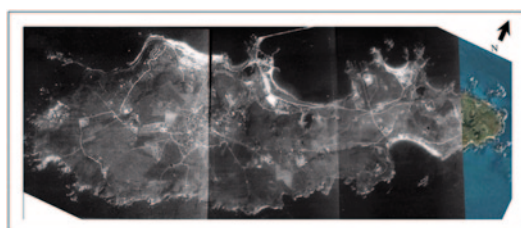
re-excavated and the bodies removed. Whilst it is quite common for historical accounts of specific camps to only include one plan, showing it usually at the peak of its period of operation, archaeological accounts can provide a much richer picture of the site and the narrative relating to it when an array of images are analysed (Fig. 5.10).

Particularly when documentary sources are few in number, these aerial images may be the only means by which to chronicle this development. In many instances, it may also be possible to confirm or contest historical information. For example, aerial photographs of Semlin in Serbia confirmed the extent to which the camp was modelled on the layout of the Old Fairground that already existed at the site (Fig. 5.8). Conversely, analysis of aerial images of Lager Norderney on the island of Alderney demonstrated that it was actually constructed in 1942, not 1941, and that its demolition began in March 1944 not July 1944 as had been suggested by historians (Fig. 5.10). Using images that date to after the site's period of use may also highlight further landscape change in the years between then and the present. Unlike map regressions (Sect. 5.9), aerial images will show both natural and anthropogenic landscape change. This will be useful information during in-field investigation, particularly when only non-invasive search is to be carried out, as it will help distinguish between those features that relate to the Holocaust and those that do not.

Fig. 5.12 A historic aerial image of a potential labour camp on the island of Alderney overlaid onto a modern aerial image (*top*). The structures visible in the image were no longer visible on the surface (*top inset*) and they were located using Ground Penetrating Radar (GPR). (Copyright: Caroline Sturdy Colls/Google)

As well as using aerial images for the investigation of specific known sites, there is also consider-able value in using them for the location of unknown/undocumented sites. This may be undertaken across a specific region or in relation to sites of a particular typology. In the first instance, analysis of aerial images may also allow a 'dot' to be placed on a map for the first time, as it were. For example, analysis of aerial images of Alderney during the Nazi occupation allowed a number of small camps to be recorded for the first time in addition to those already documented (Fig. 5.12). Ideally, analysis should go beyond a simple mapping exercise in order to build up a detailed record of not only the number of sites but also their extent and nature. Once again, GIS offers a suitable platform in which to carry out this kind of analysis (Sect. 5.14).

The increased availability of aerial images now more readily facilitates this kind of analysis. The re-cataloguing and digitisation of the National Collection of Aerial Photography in the UK, for example, which was acquired by the Royal Commission on Ancient and Historic Monuments of Scotland (RCAHMS), has opened up a wealth of material for study. The continued digitisation and de-classification of other collections around the world will also facilitate easier access for researchers in the future. Recent developments in aerial photographic analysis also provide the possibility of producing detailed three-dimensional (3D) models of the information contained within the images. Currently, this can be achieved by annotating aerial images in specialised illustration or 3D modelling software, such as various programmes with the Autodesk suite (e.g. CAD, Maya) or Google Sketch Up (Fig. 5.14). In the not too distant future, automatically generated 3D models generated from aerial images will likely become the norm, thus providing highly detailed dataset that can be quickly and efficiently analysed (Chris Going; pers. comm.).

Of course, aerial photographs, like all sources, are not without limitations. Availability still remains one of the biggest challenges with regard to images of Holocaust sites. Sweibocka (1995, pp. 43–44) has noted that a fundamental problem with contemporary aerial photography is that they were often only taken in areas close to military targets and cameras were switched off once the target area was photographed. In the case of some sites, images have never existed as no sorties flew over or no images were captured in the region in which they were located (Ehlers 2009 e.g. Treblinka). In other areas, images may be available only for particular time periods for a variety of reasons. For example, certain areas that contained execution sites or camps may have been considered to be of military importance only for a specific period of time; thus, images may only exist up to a certain point in the war. In other areas, no-fly zone restrictions were imposed on both the British and German air forces and those of their allies during certain time periods. For other areas, images may well have been taken but they were subsequently destroyed or remain classified. When images are available, they will have been taken at varying scales and they will have varying degrees of image distortion depending upon the angle at which they were taken (Paine and Kiser 2012). Therefore, the role that aerial imagery plays in methodologies will be varied depending upon the site being studied.

5.13   Modern Aerial Imagery and Satellite Data

In addition to historic aerial imagery, there are considerable advantages to collating modern and post-war imagery. Other 'layers' of the history of Holocaust sites can also be derived from the analysis of various forms of airborne remote sensing data. This includes satellite data, as well as recent high-resolution aerial imagery captured by aircraft or drones. The recent availability of this imagery offers the potential to derive information about the nature of surviving physical evidence in a given area as well as facilitating the characterisation of the modern landscape and the identification of key search areas (USGS 2014; Parcak 2009; Trier et al. 2009; Kouchoukos 2001). Therefore, this imagery has a role to play in planning search strategies and fieldwork logistics. The type of satellite or aerial imagery utilised by archaeologists will depend upon the type of landscape being examined and the features that may be encountered within it (Parcak 2009). Like all archaeological techniques, it will not be appropriate, possible or useful to utilise every dataset available and so suitable methods should be selected on a case-by-case basis.

For all investigations, it is valuable to make use of the wealth of shuttle data and aerial imagery now available through online platforms, such as Google Earth, NASA's World Wind or Bing Maps. These data are easily accessible and should be utilised as a first step in characterising the modern landscape. As Myers (2010, p. 456) states, these platforms have 'shifted the relationship between archaeologists and remotely sensed data', doing away with the need for laborious manual searches

in archives for this type of imagery, at least in the first instance. These online tools, along with other global and national datasets, provide opportunities for landscape analysis in advance of fieldwork; surviving archaeological remains visible from the air can be assessed, historical imagery can be examined in order to monitor man-made and natural landscape change and images can be used as base maps for GIS packages (Myers 2010). These online platforms often combine shuttle data (such as SPOT and Quickbird data; see below) with high-resolution aerial imagery, depending on the locale. Simple tools, such as Google's historic imagery tool, open up the possibility for more rapid, cost-effective analysis of historical data, although it is currently available in a small number of locations across the world. The use of such data for assessing conflict and internment sites has been demonstrated in recent years, particularly at sites where access to carry out fieldwork may not be granted long or short term (Hritz 2008; Stone 2008a, b; Thomas et al. 2008). An abundance of high-resolution imagery has been made available on online platforms as part of the INSPIRE Geoportal programme initiative, funded by the EU. This platform has also opened up access to high-resolution datasets, which include satellite, shuttle, aerial and cartographic data, for EU member states, e.g. Geoportal for Poland and Géoportail for France. Over time, more and more imagery is becoming freely available online across a variety of areas. For example, in the past, data have been made available publicly after being captured in response to particular disaster scenarios or even for publicity footage (The Geo-Information Book 2012). A variety of other forms of shuttle data and high-resolution aerial imagery are now available. An overview of the main types is provided in Parcak (2009).

The nature of satellite imagery analysis will be dependent upon the remit of the research being undertaken. Visual analysis may be sufficient in some cases where features are clearly visible or where the purpose of consulting the images is to provide a rapid search tool in order to identify the locations of features that will be examined in more detail in the field. The latter may be the case for example as part of searches undertaken in the course of legal investigations (Sect. 2.3.2). As with aerial imagery, outlines of buildings, walls, fences, ditches, earthworks and graves may be clearly visible (in the forms of structural remnants, depressions or vegetation change) where they exist both above the ground and below the ground. In many circumstances, it will be advantageous to carry out additional processing of the imagery to increase the contrast, isolate bands of data, filter the data, examine changes in land cover or carry out various forms of feature classification based on spectral signatures (Liu and Mason 2009). Particular imagery and processing methods may be more useful depending on the remains being sought. For example, it would be particularly useful to analyse LANDSAT and/or SPOT data where remains that are known to be buried are being sought and where they may exhibit themselves as vegetation change, e.g. mass graves, buried building foundations, etc. Because LANDSAT also highlights contrasts between different types of vegetation, soil types and geology (Parcak 2009, p. 58), it is also useful for eliminating possible burial sites through the identification of areas where the geology means that it would have been too difficult/impossible to excavate (Hunter et al. 2013). Certain imagery (e.g. ASTER) will only be useful for detecting large features and so it should not be used as part of searches aimed at locating more discrete features such as graves, fences, ditches and the like (Bonnici et al. 2013). It may also be desirable to combine various forms of satellite imagery to provide a more detailed impression of the landscape and to have an increased chance of successfully identifying features. For example, draping historic and contemporary aerial imagery or high-resolution Quickbird data over shuttle radar topography mission (SRTM) data will provide a 3D view of the landscape at high resolution (Parcak 2009).

Satellite imagery and high-resolution aerial imagery are particularly useful where the aim of the survey is to examine and locate a large number of features over a given area; therefore, it will be of particular value when examining sites which have never previously been recorded archaeologically. If possible, imagery taken across different seasons should also be analysed to facilitate the identification of any areas of distinctive or absent vegetation which may only be visible at certain times of the year

(Parcak 2009). Identified features can be marked and annotated in GIS or other forms of specialist software viewers (e.g. GRASS), and maps produced. The layering capabilities of such software can allow other forms of imagery, such as historic aerial imagery (Sect. 5.12) or annotated witness plans (Sect. 5.6) to be added and compared to further aid feature characterisation. With some datasets, it will be possible to create digital terrain models (DTMs) of the area under investigation. These models provide a more realistic representation of the landscape, provide the context for future survey data and allow complex relationships between features and the surrounding topography to be assessed (Sect. 6.6). As computing and data acquisition capabilities develop, the collection and analysis of satellite remote sensing data will likely increase in the future, thus offering further opportunities for landscape analysis.

In the past and present, satellite data and high-resolution aerial imagery have been collected routinely by satellite surveillance or scheduled flyovers, often for the purposes of landscape mapping, environmental monitoring or security. Data are made available by a number of agencies; some international such as US Geological Survey (USGS), some local such as environment agencies or cartographic units (e.g. NCAP, NERC or the Environment Agency in the UK, the Dutch Topographic Service or Wageningen in The Netherlands, Centralny Ośrodek Dokumentacji Geodezyjnej i Kartograficznej in Poland). To obtain the highest resolution data it is often necessary to pay for its use and primary negatives may need to be viewed for some data types (e.g. CORONA). The availability and resolution of the data will of course be affected by the date on which it was taken and the political circumstances in the country concerned. For areas under military surveillance, the data are likely to be more abundant and more detailed, but for that reason, it may remain classified in some circumstances.

Where recent airborne imagery is not available at a sufficient resolution, it is also possible in many European countries to commission flights by private organisations to capture suitable images. Subject to the acquisition of flight permits, images can be captured relatively quickly by small aircraft with mounted cameras. If possible, archaeologists should endeavour to actually fly over the site themselves in order to get new perspectives on the landscape. Interactions between the site in question and natural and man-made landscape features may become apparent, such as attempts at camouflage using the off-road and rail networks. Again, opportunities to do this and to acquire modern imagery will be very much based on the area in which the research is being undertaken.

5.14   Geographical Information Systems

Data gathered during archaeological surveys are commonly assimilated into GIS in order to facilitate the layering and comparison of different data types (Chapman 2006). Many references have been made above to the ways in which specific data types can be added to GIS, but at the most basic level, various types of maps, plans, aerial photographs, satellite data and survey data that can be represented in 2D or 3D can be assimilated (Ch'ng et al. 2014; De Roo et al. 2013). GIS is essentially a database that allows graphical data to be layered, annotated, merged, overlaid and interrogated (Gillings 2007; Chapman 2006). By layering historic and modern maps, it is possible to create a map regression, which will show the development of the site in question over time (Fig. 5.8). Depending upon the data that are examined, this data layering can facilitate the identification of features, their characterisation and enhancement. For example, by layering an aerial photograph over a modern map through a process of georectification (see Sect. 5.12), it is possible to further characterise the evolution of the landscape and, if the maps are attached to a coordinate system, determine the likely location of the remains of these features. Figures 5.13, 5.14 show two of the possibilities for overlaying maps and aerial photographs of camp landscapes in order to determine where detailed field survey should be undertaken. GIS also makes feature identification and characterisation possible and provides the op-
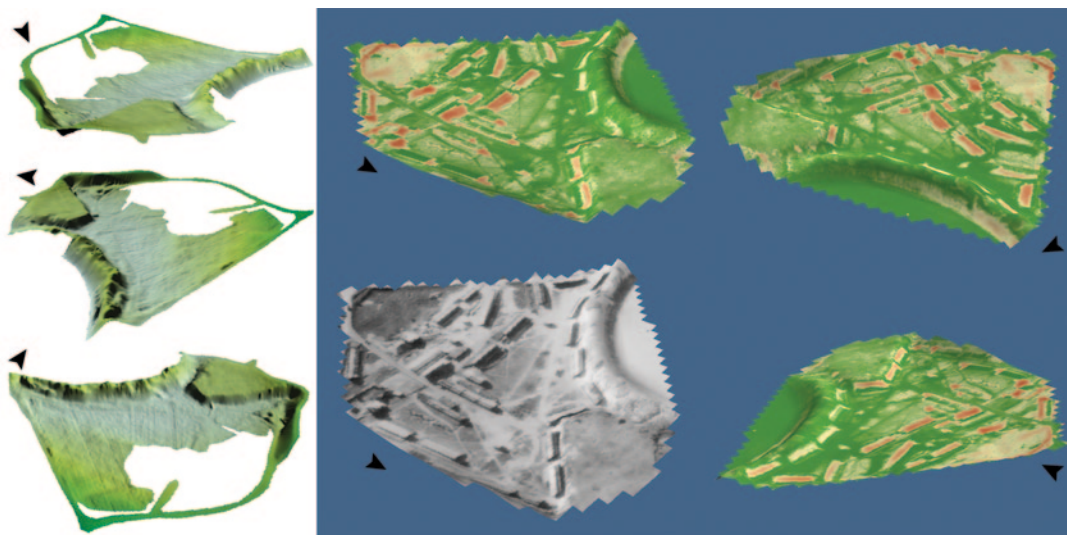
Fig. 5.13 Digital Terrain Model (DTM) of the site of the former slave labour camp at Norderney, the Channel Islands. (Copyright: Caroline Sturdy Colls and Kevin Colls; aerial photograph reprinted from RCAHMS: National Collection of Aerial Photography aerial.rcahms.gov.uk)

Fig. 5.14 Integration of aerial images, topographic data and field survey data illustrating a 3D reconstruction of the former Norderney slave labour camp. (Copyright: Caroline Sturdy Colls and Kevin Colls; aerial photograph reprinted from RCAHMS: National Collection of Aerial Photography aerial.rcahms.gov.uk)

portunity for the production of revised maps and plans within the same interface. Drawing on research in archaeology but also crime mapping, it is possible to use GIS as a tool to interrogate layered data (Kang et al. 2014; Hu 2012; Chainey and Ratcliffe 2005). Predictive modelling can allow possible

burial locations to be identified, land use to be characterised and feature types to be highlighted (Balla et al. 2013; Sect. 6.5). Thus, in the context of the Holocaust, this may assist in identifying previously unmarked mass graves, characterising forced labour sites or locating internment sites. Using elevation data, GIS viewshed analysis can allow the intervisibility between sites and buildings to be determined which could be used to analyse what was visible from specific camp areas or from specific buildings within the ghettos. 3D models can be generated using specific data types (Fig. 5.14) and a central database of different data types can be compiled for posterity. Whilst GIS is primarily a research tool, it can facilitate the creation of exported maps and images that can be used for the dissemination of survey results. Increasing online hosting capabilities also open up greater possibilities for its use for education, heritage management and conservation. Possible forms of data presentation and dissemination are discussed further in Chap. 12.

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Above-Ground Field Investigations

<div style="text-align:right">**6**</div>

6.1 Non-invasive Approaches

Archaeological fieldwork no longer needs to focus solely on excavation owing to the variety of non-invasive survey techniques that are now available. Of these methods, many offer the opportunity to examine above-ground evidence. This evidence may take the form of physical traces of past activity, such as building materials, objects or earthworks. Elsewhere, differing vegetation and depressions may be indicative of buried remains. There are many advantages to employing a non-invasive approach to the analysis of sites and features either instead of, or before excavation, and these are outlined in Sects. 1.4 and 4.3. Essentially, these techniques offer the opportunity to record and analyse macro- and micro-scale evidence pertaining to a site, and they are non-destructive. Many of these methods can also be employed should excavation take place in order to provide a detailed record of any evidence found.

This chapter provides an overview of a variety of non-invasive methods which are particularly suited to early-stage in-field investigations. Some of the techniques outlined here have long been used by archaeologists, forensic scientists, criminal investigators and geographers, whilst others are emerging technologies that provide new opportunities to investigate Holocaust landscapes in the future. When in-field survey is permitted, due consideration should be given to the development of a methodology that meets the aims of the research and the practical demands of the project. Where possible, a variety of the techniques below should be selected in order to ensure that different evidence types can be recorded. In many cases, the limitations of one method can be compensated for by employing another (Sect. 1.4). As outlined in Chap. 5, when a detailed desk-based assessment has been undertaken prior to commencing fieldwork, the comparison of historical and archaeological information derived from non-invasive survey may yield new information about specific sites, structures, graves and people.

6.2 Light Detection and Ranging

Airborne laser scanning has been seen as revolutionary in terms of the ability to acquire highly accurate elevation data of the earth's surface (Opitz and Cowley 2013; Lui and Mason 2009; Capozzoli et al. 2013). More commonly known as light detection and ranging (LiDAR), this technique measures the height of the ground surface by sending continuous pulsed-laser beams from sensors mounted on either an aircraft or satellites (Crutchley and Crow 2010). This allows it to record 20,000–100,000 points per second, thus generating large-scale Digital Terrain Models (DTMs) of the earth's surface (Fig. 6.1). Integrated photograph capture also means that high-resolution aerial images can be

Fig. 6.1 Light Detection and
Ranging (LiDAR) survey
data collected at Treblinka
extermination camp in Poland
(*top*) and the same image
with the vegetation removed
(*bottom*). (Copyright: Caro-
line Sturdy Colls)
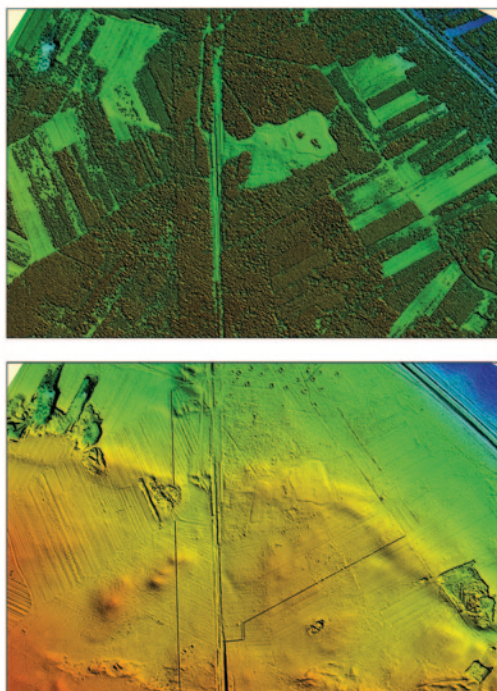
collected simultaneously. These data can be extremely valuable as part of archaeological investiga-
tions as they facilitate both detailed landscape characterisation and the identification of individual
features. This method is significantly faster than ground-based survey in terms of confirming the ex-
istence of a large number of features in a chosen area. These include natural features, transport infra-
structures, structures and earthworks. Depressions caused by the presence of buried remains may also
be visible. Where data are collected at an adequate resolution, it will be possible to assess any features
recorded in terms of their shape in plan, to measure their size and to analyse their relationship to any
other features recorded in the vicinity. Depending on the circumstances and remit of an investigation,
LiDAR can be used to create databases of features where visual analysis, data filtering and classifi-
cation is carried out (see the discussion of these techniques in Satellite Data section in Sect. 5.13).
Data can be merged with other sources within a Geographical Information Systems (GIS) or other
specialist software—such as historic and modern aerial imagery, cartographic data and satellite im-
agery—in order to assist with the location and characterisation of individual features (Sect. 5.14).
The generated data can also be used to determine which other survey methods should be used in
the field, where excavations should be carried out and how fieldwork logistics will be organised.

   One of the key advantages that LiDAR offers over other remote sensing technologies is its abil-
ity to propagate the signal emitted through vegetation such as trees. This means that it is possible
to record features that are otherwise invisible or inaccessible using ground-based survey methods
(Fig. 6.1). This makes it particularly useful in areas of woodland where tree canopies will inhibit the
use of GPS technologies for recording positional data (see Sect. 6.6), and the density of vegetation
may prevent the use of geophysical techniques requiring open, even terrain (see Sect. 7.1). In fact, in
some circumstances, it may represent the only practical technique capable of recording surface and
shallow subsurface features. As with all techniques, LiDAR has its limitations. In practical terms, the

extent of signal penetration through tree canopies will be dependent upon the type and density of the trees present. Additionally, the cost of acquiring LiDAR data will be affected by the availability of existing datasets and the location of the survey. For some European countries, LiDAR datasets may already be available for use as part of archaeological investigations. Examples include the Natural Environment Research Council (NERC), and the Environment Agency in the UK, ISOK in Poland and Forest Laboratories in the Netherlands. This type of data are sometimes collected by different agencies for the purpose of landscape management and environmental monitoring. The extent of coverage will depend on the country in question as will whether or not the data are freely available or must be paid for. Undoubtedly, however, digital data files will still represent a more cost-effective way of acquiring LiDAR data, since commissioning a flight can be expensive. Flight restrictions may apply in some countries and so it may not be possible to acquire LiDAR data for every country where research is being carried out (Parcak 2009).

Despite its advantages, LiDAR has been underused in the investigation of Holocaust sites; in fact, the only known LiDAR survey of a Holocaust site was undertaken by the author at Treblinka in 2013 as outlined in Case Study 6.1.

Case Study 6.1: LiDAR Survey in Treblinka, Poland

After 6 years of intensive non-invasive archaeological survey at Treblinka extermination and labour camps in Poland, it became apparent that certain areas of the former camps remained poorly characterised owing to their location in dense woodland. Based on archival research and the locations of other structures, it was suspected that a number of camp buildings and other features were, as yet, unlocated and that they likely survived within these forested areas. In 2013, a LiDAR survey of the entire area of the former camps was commissioned. In some areas, the LiDAR signal was unable to propagate through the dense tree canopy. However, across the majority of the site, it was possible to 'remove' the tree layer from the LiDAR data, thus revealing the 'bare earth' of the former camp area (Fig. 6.1). This revealed the presence of hundreds of features associated with the former camps and with the later occupations of the area. Several structures were visible as were earthworks and depressions. The characterisation of these features will take several years owing to the need to verify the extent and nature of each on the ground.

However, a number of features were targeted as a priority for investigation immediately after the survey had taken place. These features were visible as depressions in an area near to marked mass graves. They were each located in the field, and their above-ground appearance was documented. It is highly likely that these features would not have been recorded had a LiDAR survey not been carried out. Although they were visible on the ground as depressions, they were very subtle (Fig. 6.2). Also, the fact that they were located in dense woodland prevented the use of geophysical or other remote sensing techniques. Minimally invasive excavations confirmed that all three of the features prioritised for investigation were mass graves which had never before been marked. These results clearly demonstrated the value of using LiDAR for the investigation of Holocaust landscapes and, in the future, its application at other sites should be considered by investigators. Further research regarding the application of LiDAR survey for the large-scale detection of Holocaust sites, such as mass graves and massacre sites, is currently underway as part of the Holocaust Landscapes Project (Centre of Archaeology 2014).

Fig. 6.2 The unmarked features visible in Light Detection and Ranging (LiDAR) data in the area of the execution site at Treblinka labour camp (*top*) and the appearance of one of them on the ground (*bottom*). These features were all confirmed to be mass graves following walkover surveys and minimally invasive excavations. (Copyright: Caroline Sturdy Colls)

Fig. 6.3 A drone survey. (Copyright: Robert Mandel)

6.3   Unmanned Aerial Vehicles

With the rapid development of unmanned aerial vehicles (UAVs; also known as drones) for capturing still images and video, it seems likely that this will become an increasingly popular means by which to acquire imagery of the modern landscape at the time archaeological surveys are undertaken (Fig. 6.3). Although they have their roots in military technology, it is becoming increasingly easier to acquire UAVs for commercial survey work. As well as a number of specialised firms that have developed highly sophisticated UAVs and software, there exists a popular culture of do it yourself (DIY) UAV construction which has, in a small number of cases, been adopted by archaeologists (Fernández-Hernandez et al. 2014). Because of the ability to self-build and due to the fact that they are unmanned, small and battery operated, UAVs represent a more cost-effective means by which to collect aerial imagery by comparison to aircraft. They can be automatically programmed to fly a particular flight path, to allow for systematic line or gridded search, or they can be flown manually (Mozas-Calvache et al. 2012). One limitation of their use is that they require GPS satellite reception to function, and the loss of lock mid-flight can not only hinder the survey but also severely damage the drone itself. The integration of sonar into more advanced models means that UAVs can negotiate any obstacles

or unexpected entries into their flight path (Nilssen 2013). Weather conditions do remain a problem when using UAVs. However, this is true of many digital survey methods.

A variety of cameras can be attached to UAVs and image quality will be dependent upon the choice of camera. Where rapid sequences of images are taken, it is possible to create a 3D-terrain model of the ground using photographic stitching software, thus offering clear advantages over traditional 2D aerial imagery (Koutsoudis et al. 2014; Carrivick et al. 2013; Westoby et al. 2012). This technique, known as structure from motion, has been shown to generate comparable results to airborne LiDAR (Sect. 6.1; Green et al. 2014). This technique has been used to good effect in a number of environmental and geographical projects (Fonstad et al. 2013). Feature identification and detailed interrogation of the landscape can be conducted using the datasets generated. Therefore, the large-scale, rapid identification of the surviving remnants of camps and execution sites is now a possibility using this technology. Of course, as with the use of aircraft, the use of UAVs will be dependent upon the country and area in which the survey is being carried out, since airspace and the use of reconnaissance equipment may be restricted in some areas. There has already been considerable debate about the ethics behind the use of UAVs, in that they are covert and can be made, purchased and flown by almost anyone (Schlag 2013; Dolan and Thompson 2013).

As part of the Holocaust Landscapes Project, research is currently being carried out to assess the potential of such surveys as they have yet to be widely used at Holocaust sites. (Centre of Archaeology 2014). Because of their cost-effectiveness, UAVs also offer the possibility to carry out multiple surveys over an extended period of time to assess deterioration of identified features, changes in land use and threats to above- or below-ground remains (Green et al. 2014). This means that they can be used at known sites as part of conservation strategies. Additionally, video cameras can also be mounted onto UAVs, the images from which can also be used to assess issues relevant to the conservation of the site. This material can also be used as part of digital heritage tools, media and educational material in order to juxtapose the modern landscape with the historic one (Sect. 12.3.3; Channel 5 2013).

6.4   Walkover Surveys

In order to assess the extent and nature of sites for survey, walkover surveys should be carried out in advance of all other in-field survey methods. In the first instance, this will involve familiarising oneself with the landscape. At all of the Holocaust sites examined by the author, it was during this early stage that many key unrecorded features were observed (Fig. 6.4). Any features that are observed should be recorded, in both written and photographic form, so that they can be returned to during systematic survey and documented thoroughly. One possible approach at this stage is to use current

Fig. 6.4 A buried structure discovered at Lager Norderney as part of an initial walkover survey. (Copyright: Caroline Sturdy Colls)

memorial maps, plans created by witnesses and/or aerial photographs as the starting point for search (where available). This will be particularly useful where the remains of a camp or fortifications spread over a large area are being sought to ensure that all known features are identified. Where features such as mass graves or structural elements are being sought this approach can also be taken if documentary or photographic material exists to facilitate it. This approach initially involves walkover survey to determine whether or not the remnants of features marked on the maps can be located on the ground, and whether further features not recorded on the maps or photographs are visible. Where traces are located, in the form of structural remnants, vegetation change or other evidence, they can be highlighted for further survey using either a differential GPS (DGPS) system or total station (Sect. 6.6). Where no traces are visible on the surface, decisions can be made regarding whether the area in question should be surveyed using geophysical techniques or, in invasive projects, if excavation should take place.

Systematic walkover survey should take place, and this will facilitate the detailed recording of all features observed in the landscape. There are various guidelines on how to carry out such reconnaissance; the Institute for Archaeologists (IfA) (2010) and English Heritage (2007) guidelines in the UK both serve as worthy examples. Archaeologists should also consider using line or gridded searches, like those employed by crime scene investigators, in order to ensure that all of the search area is thoroughly investigated (Dupras et al. 2011, p. 27). Depending upon the aims of the survey, the size of the area and whether or not the features in question have ever been recorded previously in any form, this walkover survey may be limited to logging GPS locations, dimensions, descriptions of above-ground features, taphonomic indicators (see below) and present land-use details within the defined search areas. This allows a database of sites and typologies to be created (Fig. 6.5). This information can be easily integrated into local Sites and Monuments Records (SMR) or similar site databases (where these exist), and will provide a useful overview of all of the features present within the survey area. Specific features may then be targeted for further investigation and, when features are analysed in both spatial terms and in terms of their appearance, comparisons can be made with maps, plans and other cartographic data.

Traditionally, walkover survey combines data logging (through GPS, handwritten notes and proforma) with photography to create a database of sites. Excepting the use of the GPS, this approach does not rely on technology but rather the ability of the user to adequately record the nature of features. However, there are now a variety of applications and hardware available that have the potential to speed up survey and make data logging more accurate and detailed. At the most basic level, the use of tablets and mobile phones offers the opportunity for digital recording in the field, thus removing the need for the duplication of handwritten records upon returning to the office. Where these are Wi-Fi enabled, data can also be transferred 'back to the office' and backed up to prevent loss. The use of these may, of course, be limited by the availability of such equipment, the weather and GPS/Wi-Fi service. A number of apps for use with these devices also offer the opportunity to create more user-friendly data capture methods, many of which also have equally user-friendly outputs. There are many examples of apps which allow the user to record the geographic location of photographs taken on smartphones, tablets or GPS-enabled cameras (known as geotagging). As shown in Fig. 6.5, the ability to add information to these photographs and to present them on online mapping platforms such as Google Maps or Bing means that instant, spatially accurate and widely accessible site databases can be created and shared (if required/appropriate).

The recent development of a number of survey apps, which allow the user to custom design input forms, also opens up new possibilities for rapid, digital in-field walkover surveys and the creation of online site repositories (e.g. FieldGB, Polldaddy, iGIS). Because these data have already been collected in online-compatible platforms, this will assist in the development of online dissemination tools as projects progress (Chap. 12). Again, however, these apps usually rely on adequate Internet service provision; something which is not always available in remote locations. A number of offline
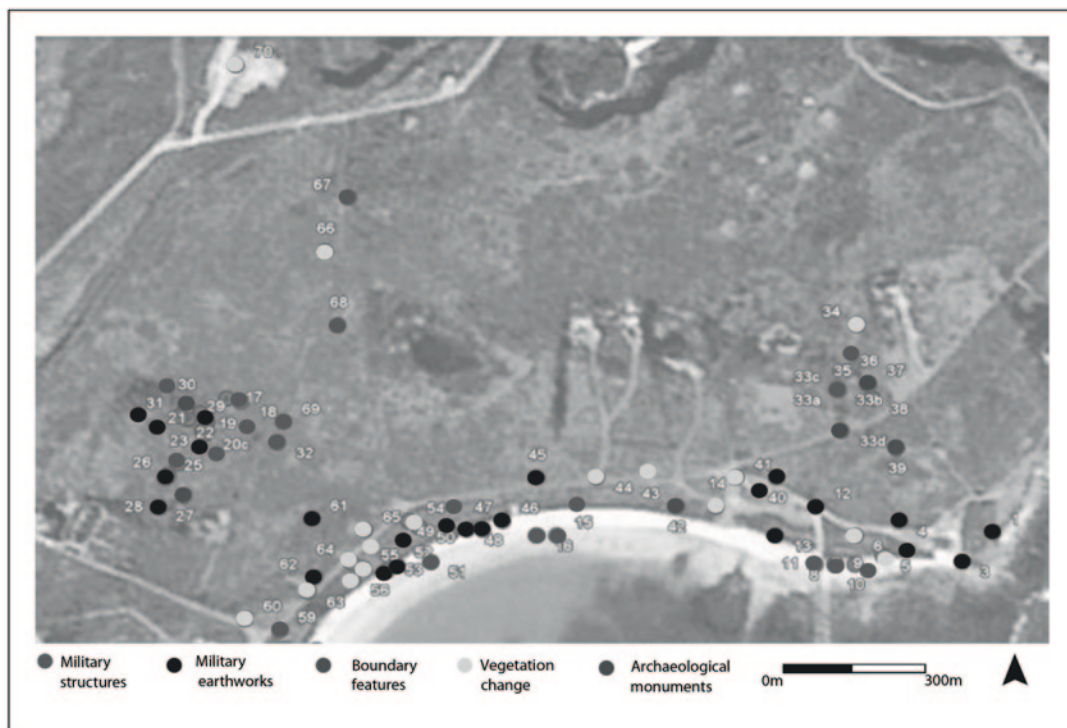
Fig. 6.5 A map of fortifications built by slave labourers which was created using data recorded during a walkover survey of Longis Common on the island of Alderney. (Copyright: Caroline Sturdy Colls)

apps have been developed in recent years which alleviate this problem, allowing data to be stored locally until such a time when Internet backup is available.

The problem remains that most of the alternative technologies do rely on specialised equipment and reception, unlike traditional manual methods. In open, inhabited areas this may be less of a problem but in remote, densely forested areas manual methods currently remain the best option. Developments in the use of local wireless networks and radio frequency identification (RFID) technologies offer some hope for the future in terms of techniques which are not bound by such restrictions, and archaeologists should follow developments in other fields such as engineering and technological science for the latest innovations in this area (Ficco et al. 2014; Nguyen et al. 2014). Given that RFIDs can be used to track clothing, products, pets and even burials in natural burial grounds, it seems likely that they will eventually be another tool available to archaeologists for the mapping of sites, features and artefacts.

6.5   Forensic Archaeological Search

Fundamentally, the Holocaust was a crime. Therefore, working on this basis, it may sometimes be possible to draw on forensic search techniques to assist with locating mass graves, cremation pits and other body disposal sites present within Holocaust landscapes. Forensic archaeology is now a field in which well-established protocols for search and recovery exist based on several decades of development in domestic and mass-grave scenarios (Hunter et al. 2013, Chap. 8). Drawing on these protocols and the archaeological techniques outlined in this chapter, search areas and graves can be defined,

targeted and examined at micro-level. Whether or not graves are to be excavated, it will be possible in many cases to identify the ways that they were constructed, the likely condition of the remains within them and how the grave and remains have interacted with the landscape in which they were found. Additionally, whilst the Holocaust may be considerably larger in scale than those crimes commonly encountered by forensic archaeologists, many of the principles of offender and burial scenario profiling can also be employed during search and recovery (Rossmo 2000; Sturdy 2007). Aspects of the behaviour of those who perpetrated these crimes, although possibly masked through deliberate, natural or man-made landscape change (Sect. 11.2), may be derived from an assessment of the landscape and grave(s). It may be possible to assess burial and disposal patterns, and analyse the diversity of actions and experiences of the victims and perpetrators, as reflected by the equally diverse archaeological record associated with them. Characterising the context in which remains are deposited is also an important stage in the analysis of crime scenes more broadly and is particularly crucial with regard to the Holocaust where graves were often situated within wider landscapes of persecution. Forensic archaeological methods that focus on assessing the behaviour of perpetrators also make it possible to examine the camps and ghettos more broadly in terms of what their architecture reveals about the Nazi extermination plans in theory and in practice (Chap. 6).

Some of the key forensic techniques that can be used in conjunction with the other archaeological methods for the analysis of Holocaust landscapes are discussed below. This discussion is far from exhaustive and the reader is referred to Hunter et al. (2013) and Jackson and Jackson (2008) for further methodological discussions of forensic techniques.

6.5.1   Search Techniques

Burial-scenario profiling has been widely used by forensic archaeologists in the search for buried or concealed remains and is based on predicting decision making and movement of perpetrators across a given landscape (Hunter et al. 2013). Based on both statistical datasets and experience, several assumptions are usually made about perpetrators attempting to conceal a body. The first that has often been observed within forensic archaeology is that perpetrators usually operate on the principle of least effort; the minimum amount of time necessary is spent on the construction of the grave or disposal site, and minimum contact with the corpse(s) is maintained in order to reduce the chance of alerting others to the crime committed (Rossmo 2000). This is of course relative to the resources and time available to carry out the disposal. Broadly speaking it is assumed that perpetrators will want to dispose of a body quickly and in a manner that is easiest for them. In some cases, this will involve digging shallow graves, as opposed to one which are '6-ft under'; in others it will involve the perpetrator making use of existing landscape features, such as quarries, ravines and ditches. In other instances, where the perpetrator has access to a mechanical excavator or to an isolated location for example, this will likely factor into the decision-making process concerning where to dig a grave, particularly if the crime is pre-planned. Ruffell and McKinley (2008, p. 134) have also devised the 'influence of locality' principal, highlighting the importance of geography in relation to the choice of deposition site. Factors such as the perpetrator's access to a vehicle, the vicinity of the killing site to any areas of woodland or other concealed deposition sites and local geology should all be considered when attempting to identify possible burial locations. Secondly, it can usually be assumed that perpetrators do not want the deposition site to be discovered. As well as influencing their choice of burial location, this will often lead to attempts to hide their crimes in other ways. Some notable examples include attempts to destroy the body (or bodies) through burning or the use of perceived accelerators to decomposition, e.g. quicklime, chemicals, fertilizer, etc. These trends can all be observed with regard
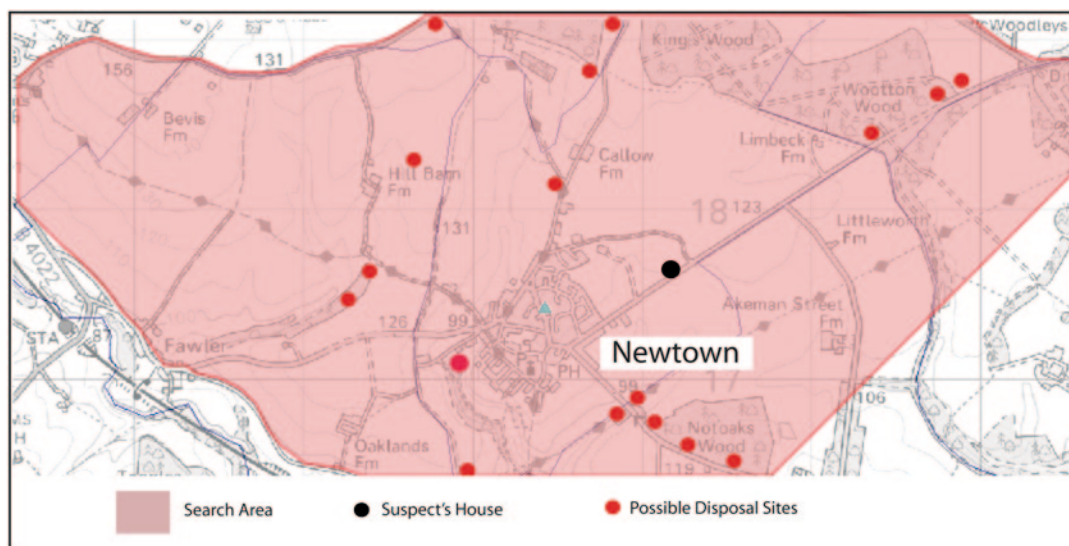
Fig. 6.6 The locations of possible burial sites in a forensic archaeological search (place names have been changed for anonymity purposes). (Copyright: Caroline Sturdy Colls)

to the Holocaust (Sect. 10.6) and, as such, burial-scenario profiling may make a worthy contribution to its investigation.

Initially, burial-scenario profiling can be carried out through desk-based research (Chap. 5). Contemporary source material and witness interviews may assist in the identification of potential burial sites and may yield important information about offender behaviour. By re-evaluating written and oral testimonies from archives, and where possible interviewing survivors, with a focus on information relating to the possible location of disposal sites, it may then also be possible to pinpoint sites of map. Consequently, these sites can then be examined on the ground. Maps will also be invaluable for identifying the most likely locations that perpetrators could have used to conceal human remains. Figure 6.6 provides an example from a forensic archaeological search but similar maps could be produced when searching for graves of Holocaust victims. It is known, for example, that the Nazis sometimes made use of natural landscape features such as woodlands, ravines, quarries to dispose of their victims, and it may be possible to pinpoint such features on a map (Sect. 10.6). Search strategies can then be devised based on a system of prioritising these areas. Prior to this, regressions are essential to ensure that any assessments of the way that the perpetrators used the landscape are based on what the landscape looked like at the time the crimes were perpetrated, as opposed to how it looked at the time the search is carried out (Sects. 5.9 and 5.12). In the case of Holocaust sites, this landscape change will likely vary depending upon whether or not the site has been made into a museum, preserved as it was upon its abandonment, whether it has become dilapidated or been redeveloped for an alternative purpose. Whichever circumstances exist, the time that has elapsed since the Holocaust means that sites where burials are sought need to be treated in a similar fashion to domestic cold case reviews which are often undertaken by forensic archaeologists (Hunter et al. 2013, Chap. 5).

The locations that are identified through this desk-based process can then be assessed in the field and may be discounted or prioritised for further search based on their appearance. A technique called Winthropping, which is sometimes used by forensic archaeologists, can also be used at this point (Hunter et al. 2013; Killam 2004). This method centres on an assessment of the probability that a burial occurred in a given area based on the markers within the landscape and the ability to navigate them. Winthropping may allow further locations to be identified or discounted. By assessing the positions

of certain landscape features, e.g. pathways, roads, trees, rocks, etc., it may be possible to assess how perpetrators may have moved through a landscape and selected burial locations. Common trends with regard to offender behaviour have been noted by practitioners involved in both mass grave and individual grave investigation which have demonstrated that this can be an effective technique when limited landscape change has occurred across a search area (Cox et al. 2007, p. 207). This technique is not exclusive only to the burial of human remains as it can be used to locate other clandestinely buried items and to determine likely locations of other features connected to clandestine activities, e.g. the locations of certain buildings, torture and killing sites, hiding places, etc.

6.5.2   Forensic Taphonomy

Once in the field, a number of indicators may also be visible that suggest the presence of buried remains. With regard to human remains, the excavation of a grave and the covering of it represent interventions in the landscape that will leave a visible trace. Similarly, human remains and other buried material will interact with the environment and the environment will, in turn, interact with buried materials. This too will produce visible changes to the landscape. The same is true of materials that become buried following, for example, their abandonment or demolition.

   Since the publication of two seminal works by Haglund and Sorg (2002 and 1997), the appreciation of the value of these indicators in the location of buried remains has increased considerably, as has the study of the degradation of the remains themselves. This area is often referred to as forensic taphonomy and, thus, the indicators as taphonomic indicators. Hochrein (2002, p. 46–47) has identified six taphonomic indicators with respect to buried human remains; 'tool marks; bioturbation; sedimentation; compression-depression and internal compaction'. Some of these indicators can also occur as a result of other forms of ground disturbance including the presence of buried structures and other features below the subsurface. It may be possible to detect these indicators during walkover survey (Sect. 6.4), as part of the analysis of aerial imagery (Sect. 5.12), or during the excavation process (where this is permitted).

Bioturbation

The burial of a body, a number of bodies or other forms of ground disturbance will have a direct impact upon the flora and fauna growing in the area (Figs. 6.7 and 6.8; Hunter and Cox 2005). The abundance of particular plant species in a given area or a lack of growth can be indicative of disturbance to the subsurface, the extent of which will be affected by the nature of the buried remains and the effect that they have on the nutrients in the soil (Hochrein 2002). As Hunter and Cox (2005, p. 31–32) argued 'when a grave is dug, the soil is aerated, looser and will have more moisture in it and this may result in vegetation changes and a higher level of growth but if the body is placed in a bag or the grave filled with solid matter, growth may be inhibited'. Buried cremated remains may also have an inhibitive effect on vegetation, given that the burning process removes all moisture and nutrients from bone, particularly when cremation has been undertaken in situ (as occurred in some cases during the Holocaust; Fairgreave 2008). If structural remains are present, dependent upon the nature of the material from which they are constructed, the vegetation will most likely also be inhibited, whilst the presence of an in-filled pit or dugout building foundations, containing more moisture, will likely facilitate growth (Haglund and Sorg 2002). Figure 6.9 shows such an effect where the edges of barrack foundations are defined by the different vegetation on top of them.

   Additionally, a number of stress-tolerant ruderals, such as nettles, have been noted to colonise on both individual and mass graves, which can aid the identification of such features during visual site inspection. Where this vegetation change takes place over a large area, it is also possible to identify

Fig. 6.7 A possible mass grave at Treblinka extermination camp shown on ground-based and aerial photographs where vegetation clearly defines its edges. (Copyright: Caroline Sturdy Colls/Google)

Fig. 6.8 An area characterised by a low-lying lichen and dark-grey sandy soil indicative of ground disturbance. (Copyright: Caroline Sturdy Colls)

Fig. 6.9 Barrack foundations defined by the presence of distinctive vegetation. (Copyright: Caroline Sturdy Colls)

it from the air, in both aerial photographs and, more recently, in satellite images, although like site inspections, this will be affected by season and light (Hunter 1996; Fig. 6.7). Additionally, bioturbation includes the effects of animal burrows and man-made activity, such as ploughing on the landscape—factors which can both aid and hinder the identification of archaeological features and graves (Hochrein 2002).

Subsequently, it is essential for archaeologists to have a thorough understanding of the nature of vegetation in the survey area, as well as knowledge of local animals and other potential sources of landscape change (Hunter 1996). This can be obtained through the acquisition of historic maps, aerial and ground-level photography as well as ecological literature and data, and documentation from the planning process.

Tool Marks and Sedimentation

It may be possible to identify the edges of buried remains because of natural or man-made processes that have left a lasting impression in the landscape. The excavation of a grave or the digging of a hole will result in the production of tool marks that mirror the shape of the tool used. Upon the excavation of the grave, it may be possible to identify what implement was used to dig (Hunter et al. 2013, Fig. 3.4). Figure 6.10 demonstrates how defining the edges of a grave is also possible using geophysical survey. In other cases, sedimentation may occur whereby a lack of moisture in the soil may result in the cracking or drying of the edges of a feature, thus revealing them (Hochrein 2002). This may enable features to be identified, their size to be determined and tool marks to be observed. This effect will most often be seasonal and so the ability to detect this indicator will be largely dependent upon the time of year that the survey takes place or the weather conditions. Outlines of grave, buildings and other buried features may be apparent when this occurs and these can be subsequently recorded using field survey methods or prioritised for excavation.
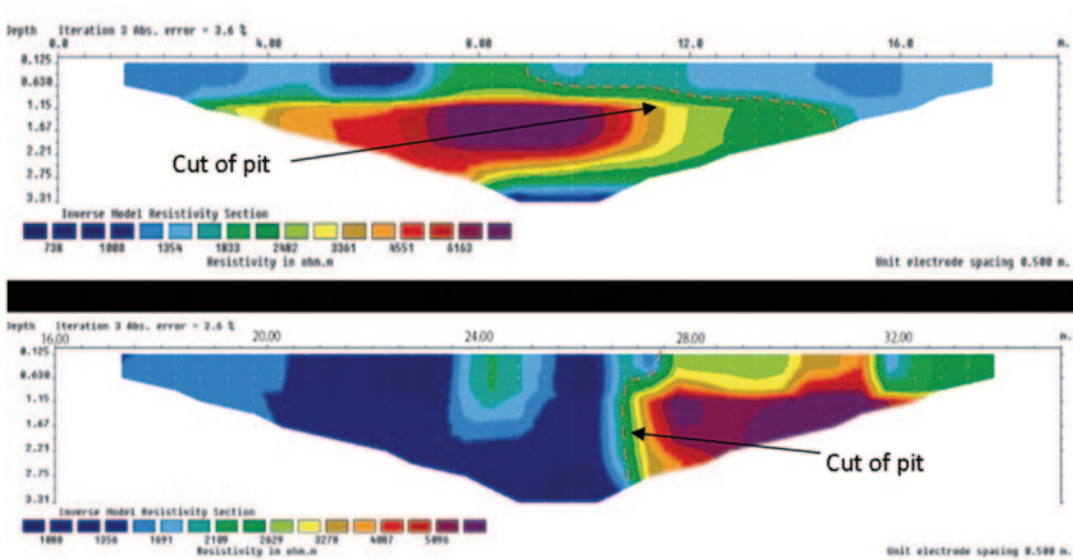
Fig. 6.10 Electrical imaging results for the survey of a feature identified at Treblinka extermination camp (top, western edge and bottom, eastern edge of feature). (Copyright: Caroline Sturdy Colls)

Compression/Depression and Internal Compaction

Reder, a witness from Bełżec extermination camp noted in the immediate post-war period, 'I saw whole rows of graves that were already full and piled high with sand. It took some time for them to subside to a lower level' (Reder 1999, p. 124). Almost certainly, without realising, Reder was alluding to the presence of taphonomic markers now widely acknowledged by forensic archaeologists as strong indicators of the presence of a grave. Hochrein (2002, pp. 60–61) has identified two levels of compression and depression: The first when 'freshly dug fill settles in a grave' and the second, known as internal compaction, when a body decomposes and the cavity collapses. These effects will be exacerbated in mass-grave scenarios and will vary, based upon the condition of the remains upon burial and the number of bodies present within a grave (Hunter 1996). Depressions may be detected through systematic ground searches (Sect. 6.4), aerial imagery (Sect. 5.12) or, using more recently developed technologies, such as digital kinematic GPS systems, capable of detecting subcentre microtopographic change (Sect. 6.6; Hunter and Cox 2005). Some will be clearly visible on the surface (Fig. 6.11), whilst others will be more subtle and may be first observed in LiDAR or satellite imagery before being located on the ground (Fig. 6.1). Given the changes to the properties in the soil, it may also be possible to detect these taphonomic changes using an array of geophysical techniques (Sect. 7.2; Pye and Croft 2004; Buck 2003; Nobes 2000). These indicators may also be visible when other buried features are present, and it is their comparison to witness testimony, documentary and photographic evidence that will make it possible to characterise the potential nature of the depressions, e.g. whether they relate to potential mass graves or other buried remains. For example, the identification of a series of depressions in Alderney in the area surrounding the known slave workers' cemetery led to the recording of these features and their comparison with aerial imagery, witness testimony, site plans and other documentary and photographic materials (Case Study 7.1 and 9.3 this volume). This research indicated that it was highly likely that these features represented unmarked mass graves and their extent and nature was further confirmed using geophysical survey methods as invasive work was not permitted (Sturdy Colls and Colls 2013).

Other Indicators

Human or natural activity above the ground can also cause other taphonomic indicators to be visible. For example, pathways and notable vegetation change may be created by regular use of an area by people, animals or vehicles. Embankments, mounds of earth or forest clearings may also exist which have different ground cover and topography to their surroundings. These features should also be recorded as what is a pathway or unidentifiable earthwork now may well have been something else in the past. Examples of successful feature identification using this approach are outlined in Sect. 11.7.

Fig. 6.11 Mass graves at Donja Gradina, in Bosnia-Herzogovina, which are characterised by depressed ground and differing vegetation. (Copyright: Caroline Sturdy Colls)

6.5.3 Recording Taphonomic Indicators

In the field, these indicators should be recorded through systematic walkover survey, with their out-lines being surveyed using a total station or GPS. Similarly, where depressions or sedimentation occur, detailed topographic survey should be considered using a DGPS (Sect. 6.6) to allow these features to be recorded in three dimensions. Taking this approach allows for the integration of digital data pertaining to the taphonomy of the site with cartographic, photographic and other archaeological data. This will allow the recorded responses to be correlated with this material in order to determine its extent and the nature of the buried features they potentially represent (Fig. 6.12).

Of course, some of these taphonomic indicators may relate to later activity, which may be uncon-nected to the function of the site during the Holocaust. Indeed, taphonomic indicators, themselves, can mask the location of buried features, depending upon the nature of the landscape, the time elapsed and subsequent man-made and natural landscape change that has occurred (Killam 2004). Archae-ologists attempting to examine taphonomic indicators, in both historic and forensic examples, must combat these issues by undertaking a detailed desk-based assessment and site reconnaissance and by gaining a detailed understanding of the events that may have led to landscape change. Where thor-ough research is undertaken, it should be possible to distinguish between the different phases to which these indicators relate. As will be argued in Chap. 11, any such interventions in the landscape still form part of the later history of the site, which in some cases may be indicators of collective memory and local, national or transnational attitudes. Therefore, recording them in their entirety remains an important part of the archaeological process.
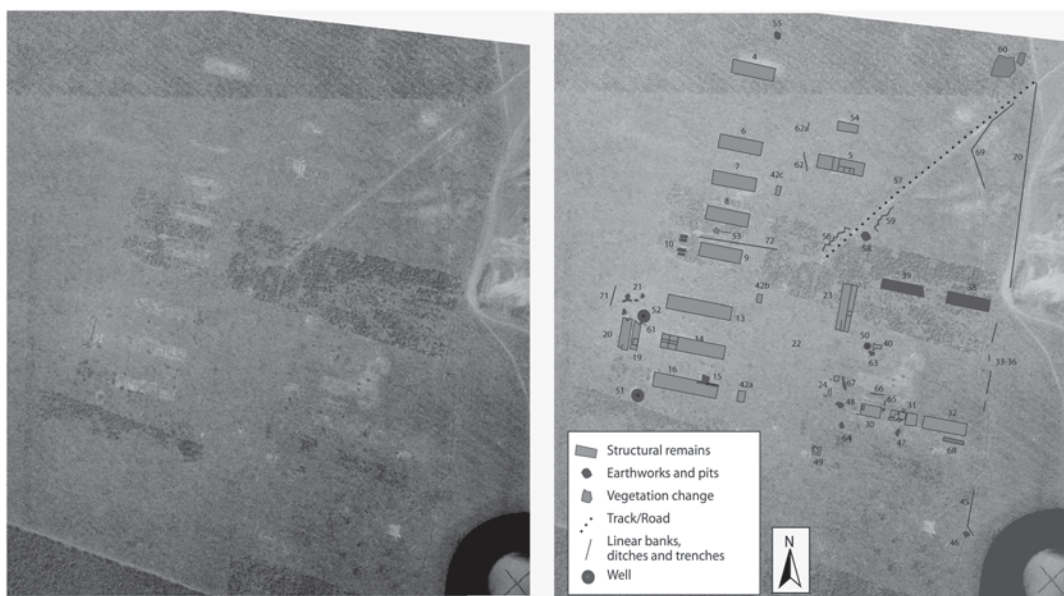

Fig. 6.12 Above-ground structural remains and taphonomic indicators in the form of vegetation and topograph-ic change at Treblinka labour camp overlaid onto an aerial photograph taken in 1945. (Copyright: Muzeum Walki i Męczeństwa w Treblince/Caroline Sturdy Colls)

6.6   Global Positioning System and Total Station Survey

Before considering the breadth of features that may be encountered within Holocaust landscapes (Chaps. 8–10), it is worthwhile to comment further on the survey equipment that can be used to record them. That said, this section only provides a summary of the technical aspects of the equipment and for a more detailed review, the reader is referred to Drewett (2011) and Howard (2006). Over the past three decades, landscape survey techniques have advanced rapidly (Ainsworth and Thomason 2003). Archaeologists now have at their disposal a number of current sophisticated survey methods, such as total stations and kinematic DGPS, which are capable of mapping sites to sub-centimetre accuracy.

Global Positioning Systems (GPS) are now a key part of everyday life, from those used in vehicle satellite navigation systems, to those contained within smartphones, tablets and laptops. GPS technology has also revolutionised archaeological field recording, making it possible to rapidly record highly accurate positional data through a variety of mediums. Several grades of GPS are now available to archaeologists which are capable of providing different levels of accuracy and detail, the selection of which will be largely dependent upon the aims of the survey (Royal Geographical Society 2005). What are known as low-grade and medium-grade systems are available in the form of hand-held devices which will allow individual or sequential positions to be recorded, often with accuracy levels being between 2 and 5 m. One of the advantages of these systems, particularly where they are also Wi-Fi-enabled, is that these data are often almost instantly displayed on freely available mapping software, and it can be automatically entered into data collection forms on mobile phones or tablets (Fig. 6.5). Thus, these devices are particularly suited to walkover surveys (Sect. 6.4).

For more detailed field survey, higher-grade systems are available in the form of kinematic DGPS. DGPS has several advantages over lower-grade GPS systems in terms of accuracy and detail as it is capable of recording microtopographic change to sub-centimetre level, which can facilitate the production of three-dimensional DTMs. This system uses DGPS to record data in real time, at the speed walked by the surveyor (real-time kinematic; RTK; Leica 2002). It comprises of a 'space segment (satellites), control segment (ground stations), and user segment (the instruments used by surveyors)' (Howard 2006, p. 73, Fig. 6.13). Range-finding triangulation is applied to data sent from available satellites to a roving unit, in order to generate geodetic positional data (Royal Geographical Society 2005). This rover constantly receives correctional data from the 'control segment' or base station in order to plot the XYZ data that is required to record positional and elevation data (Howard 2006, p. 24; Chapman 2006).

Although DGPS can have many benefits, it is also important to be aware of potential problems that may affect its level of accuracy. Obstructions such as trees or buildings, atmospheric conditions and satellite availability will limit its accuracy and in most cases prevents its use. Therefore, a total station (Fig. 6.14) can be used in conjunction with DGPS as required. Total stations are not generally suitable for large-scale detailed recording due to their laborious nature, particularly compared to DGPS but, in some cases, it may be necessary to use them as a stand-alone survey method if GPS satellite lock cannot be achieved. A total station 'incorporates distance measuring using a laser or infrared beam, along with internal/external electronic data logging' in order to measure the position of features selected by the surveyor relative to the total station (Royal Geographical Society 2005, p. 182). Consequently, it can be used to conduct a subjective survey of specific features, resulting in the production of a plan view of the points logged, which can then be integrated with other survey data (Kvamme 2006). Feature coding can also be used to assist with post processing. The combined use of DGPS and total station survey will ensure that the shortcomings of one method can be compensated for by the other, thus resulting in a detailed, highly accurate dataset for even difficult-to-access parts of the sites examined. This is demonstrated in Fig. 6.12 where many of the features were in the forest.

Fig. 6.13 A differential kinematic GPS system (foreground) and total station (background) being used to collect topographic survey data at the former Semlin camp in Serbia. (Copyright: Caroline Sturdy Colls)

Fig. 6.14 A total station survey being conducted at Treblinka in Poland. (Copyright: Caroline Sturdy Colls)

During field survey, these techniques allow archaeologists to undertake various forms of recording:

1. **The position of visible features can be recorded either in terms of their coordinates (using GPS) or in relation to each other (using a total station).** Many features relating to the Holocaust do not even appear as a 'dot on a map' since they have either never been recorded or they were recorded prior to the advent of technology that allows this to be undertaken accurately. This is particularly true of areas containing mass graves, massacre sites or large numbers of fortifications or other features constructed by slave workers. The majority of the latter will not have been deemed archaeologically important in the past and so will rarely appear in Sites and Monuments Records or their equivalent. Other features such as artefact scatters, spreads of rubble and masonry, areas of vegetation change and fence/gate posts can also be recorded in this way.

   Recording the position of visible features, either in terms of their coordinates (using GPS) or in relation to each other (using a total station) should be undertaken as part of initial walkover surveys of sites (Sect. 6.4; Fig. 6.5). This information can then be added to site databases and/or represented cartographically to demonstrate the distribution and character of sites. A step as simple as recording the position of a feature or site may have important implications in terms of its protection and recognition of its significance, as well as in terms of the archaeologist's ability to identify spatial and typological trends in the data collected.

2. **The shape and size of various types of features (structures, vegetation change, earthworks, etc.) can be recorded in plan (GPS and total station).** In order to create a more detailed record of features visible above ground, field survey techniques can be used to record taphonomic indicators (Sect. 3.3) and to create plan drawings. Of course, it is possible to create such plans manually, using a planning frame or off-set planning, but this is likely to be too laborious an approach when examining a large number of features over a given area. Instead, the outline of features can be logged digitally and finalised in software such as Computer-Aided Design (CAD), GIS or Adobe Illustrator (Figs. 6.15 and 6.16).

   These plans are valuable as stand-alone representations of individual features, and they can be produced in 3D depending upon the nature of the remains being recorded. Features such as structural elements (walls, scatters of rubble or masonry, building foundations, etc.) can be recorded in this way alongside areas of notable vegetation change (Sect. 6.5.3). These plans can also be overlaid onto modern and historic aerial imagery and cartographic data in order to assist in identifying what they are. For example, if only a partial area of concrete is visible on the surface, recording its outline and overlaying this onto a historic aerial image may reveal its full extent and, thus, its nature. If excavation is permitted, plans can be created of excavated materials also.

3. **Data can be collected that can be used to create DTMs and to identify subtle topographic change that may be consistent with the existence of buried remains (DGPS).** Producing a DTM will be useful in circumstances where topographic features are visible on the surface and where an area is thought to contain buried remains but appears flat to the naked eye. In the case of the former, producing a DTM will allow the extent of the topography to be modelled in 3D as a permanent record. Where topographic features were an important part of the topography of camps, ghettos or massacre sites, recording them in such a way can facilitate other forms of analysis such as viewshed analysis or predictive modelling (Sect. 5.14). For sites where few or no remains are visible to the naked eye, producing a DTM may reveal subtle changes in topography caused by the presence of buried remains due to the ability of the DGPS to record to sub-millimetre accuracy. Examples of this can be seen in Figs. 6.13, 6.14 and 6.17 where the remains of where the landscapes of Lager Norderney and Treblinka were recorded and various features indicative of buried remains and other camp features were observed. It is recommended that DTMs created with ground-based remote-sensing methods be undertaken using a DGPS as opposed to a total station as it represents a much faster and accurate technique (De Reu et al. 2014).
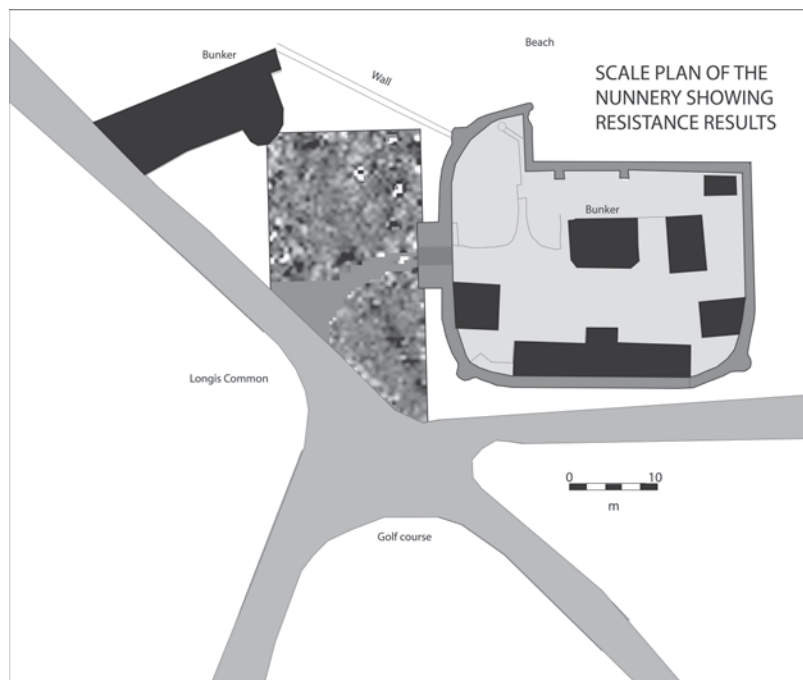
Fig. 6.15 A plan drawing of buildings at the Nunnery Roman Fortlet in Alderney showing surviving sections of the original fort plus medieval and German modifications. The results of a geophysical survey undertaken in 2012 are also shown. (Copyright: Kevin Colls)

In order to create DTMs of a chosen area, it is necessary to establish a survey grid in which narrowly spaced transects will be walked using a DGPS system. The narrower the gap between transects, the more detailed the DTM will be. Similarly, the operator can select the sample interval at which GPS points will be recorded along each transect (by distance or time), again with a closer sample interval providing a more detailed DTM. Particularly when trying to detect subtle features, such as the depressions caused by mass graves or smaller structures, a closer sample interval is recommended. Identification of these depressions can assist in determining where to carry out geophysical survey or excavation as the search progresses.

4. **The positions of landscape features that are also visible in modern and historic aerial imagery and maps can be recorded to facilitate the georeferencing of images in Geographical Information Systems (GIS) (Sect. 5.14).** The assimilation of non-spatially referenced data, e.g. aerial photographs and some forms of mapping data, will only be possible through the georeferencing of such material to spatially accurate field data in GIS (Sect. 5.14; Fig. 5.11). In some instances, where digital base maps are not available (as is the case for some Eastern European countries), then this field data will form the cornerstone of these GIS systems. This data assimilation can be achieved through the recording of features in the landscape that are also present within the maps and aerial photographs. For this reason, it is recommended that such features are recorded first during systematic survey. Examples include unchanged roads, buildings, natural landscape features, such coastlines, lakes and rivers, and anthropogenic features such as quarries. With the latter examples, it must be borne in mind that erosion and further anthropogenic activities can result in modification to the shape in plan of these features which may result in the inaccurate positioning of images. Therefore, the use of more stable features is encouraged and will allow images to be georeferenced more accurately. The more points on the images that can be georeferenced to landscape
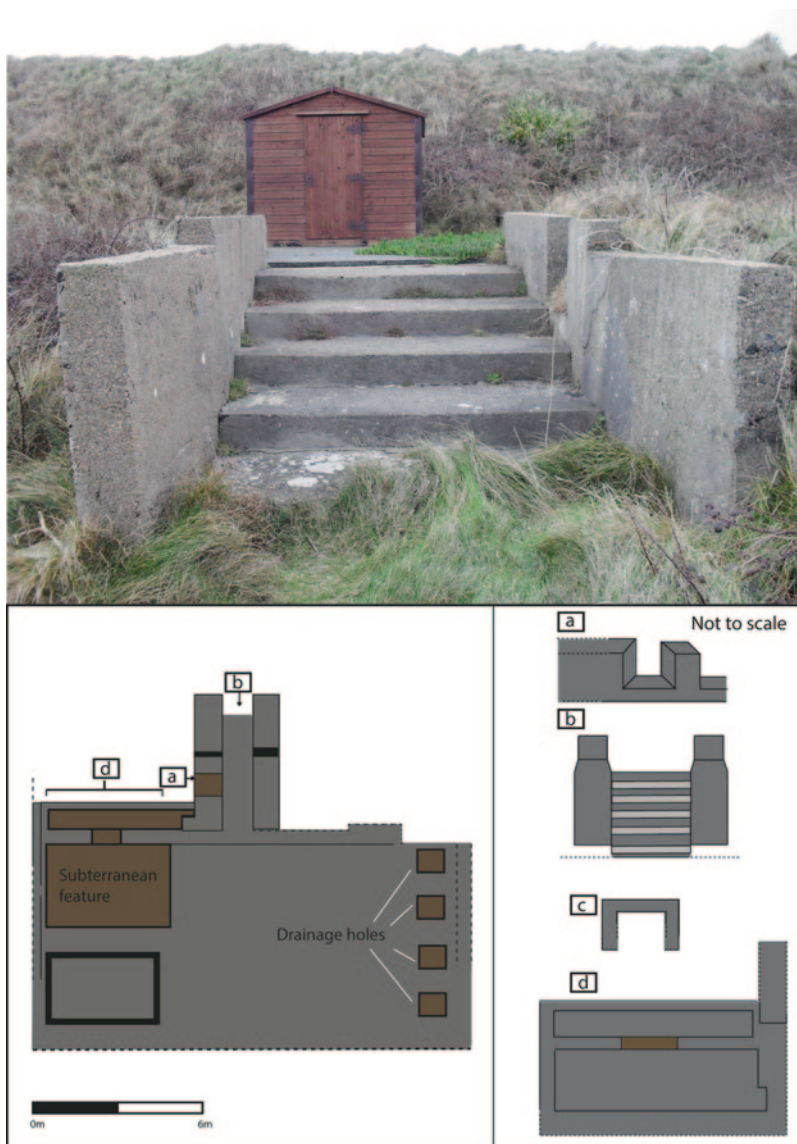
Fig. 6.16 A 2D and 3D illustration of structural remains from Nordeney produced in AutoCad software based on site point data collected by GPS and total station survey. (Copyright: Caroline Sturdy Colls)

features, the more accurate the positioning of the image will be and this should be central to the field methodology employed.

Similarly, the recording of seemingly modern landscape features also has another advantage in that, in many cases, it later becomes clear that these features actually formed part of the Holocaust landscape. For example, roads, boundaries and structures that originally formed part of the infrastructure of the camps often survive in the modern landscape, sometimes with later additions, sometimes unmodified (Sect. 9.3). Even when such remnants do not relate to the period being investigated, recording them allows the different layers of the site's history to be documented and allows plans of the different phases of activity there to be created. Add to this the layers formed by documentary, photographic and other forms of evidence, such an approach allows a form of
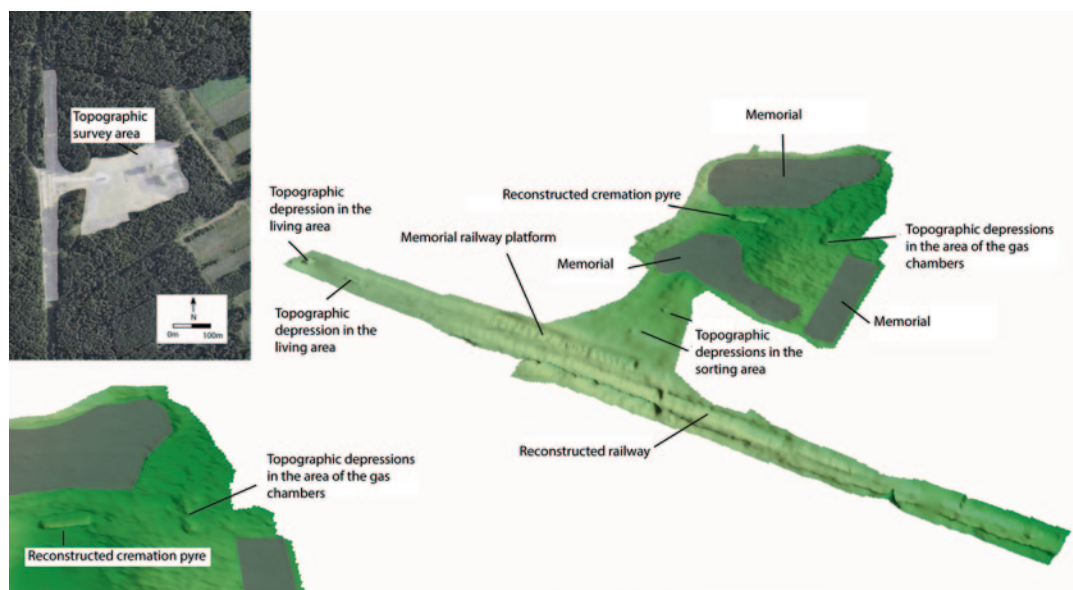
Fig. 6.17 Topographic digital terrain model (DTM) of the Treblinka extermination camp landscape which reveals the presence of many buried features. (Copyright: Caroline Sturdy Colls)

'virtual excavation' to take place and provides a broader spatial and temporal understanding of the site's development.

5. **The position of buried or destroyed features visible on maps, aerial photographs or in geophysical survey data can be located on the ground.** When it is possible to georeference aerial photographs or contemporary plans to modern survey and mapping data, this then opens up the possibility to identify the GPS coordinates of contemporary features in GIS. Following this, these coordinates, and thus the locations of the features (and possibly also visible traces of them), can be located on the ground. For example, the symbolic railway platform at Treblinka was thought not to represent the full extent of the platform at the time when the camp was in operation. Locating the full extent of this platform had important implications for the overall camp layout, and so aerial images were georeferenced to contemporary mapping data (Sect. 5.12). It was then possible to view the original extent of the railway platform and to take coordinates of this position from the modern base map being used. These coordinates were then programmed into a DGPS system, and these positions were located on the ground. This showed how the former platform area related to the modern landscape and helped target the search for structures in the immediate vicinity (Sturdy Colls 2014). Locating the positions of features visible in photographic or documentary evidence with such a high degree of accuracy was not possible prior to the development of GIS and other sophisticated mapping programmes. However, it is now possible to overlay images and obtain coordinate information from even the simplest of online mapping programmes, making this a relatively simple task to complete.

6. **To record the positions of search areas.** During subsequent stages of fieldwork, DGPS and total stations can play an important role in recording the positions of geophysical survey grids, site boundaries or areas of excavation. Maps of these locations can then be created and non-spatially bound data can then be georeferenced to other sources such as aerial images and maps.

6.7   Laser Scanning

Laser scanning collects XYZ data in the form of a point cloud through the emission and return of multiple pulsed-laser beams (Nesi 2014; Vosselman and Maas 2010; Fig. 6.18). As well as collecting positional data, laser scanners are also capable of collecting colour and intensity values, and it is now common to find scanners that integrate 360° photography with point data (Guarnieri et al. 2013; English Heritage 2011). Since they operate on the basis of triangulation, time of flight and phase comparison, scanners do require line of sight between them and their target (English Heritage 2011, p. 8). Scanning time will vary dependent upon the resolution required and the equipment being used—as a general rule, the more points that are collected, the longer the data acquisition time will be and, in turn, the longer the post-processing of data will take. Advances in the accompanying software means that post-processing of laser scanning data is getting much faster and opens up the possibility

Fig. 6.18 A laser scanner in use in the area of the former Semlin camp, Serbia. (Copyright: Caroline Sturdy Colls)

of broader dissemination of these previously large datasets which were impossible to host anywhere other than on specialised servers.

Whilst many Holocaust sites have been demolished, traces of many still remain above the ground. At many sites where existing buildings were modified to accommodate inmates or house materials, structures survived after the war and many were put to alternative uses. Other purpose-built sites survived for a variety of different reasons and may also survive in a modified form today. In these instances, laser scanning offers the possibility to record above-ground remains. Laser scanning is capable of recording individual buildings or entire landscapes, through the movement of the scanner between different nodes set up around the survey area (Figs. 2.11 and 6.19). Equally, scanners are able to record the micro-level detail of individual objects, depending upon the type of scanner being used, since both free-standing and hand-held scanners are available.

Therefore, the use of laser scanners has several benefits in the context of Holocaust archaeology and heritage. Firstly, a permanent, three-dimensional digital record of structures, landscapes and objects can be created (Fig. 6.19). This dataset preserves the site or object by way of record as it was at a particular point in time; thus, even if it is modified, manipulated or demolished, a record of it will exist. The dataset can be used as a form of dissemination, something which is now increasingly possible given advances in software and online-hosting capabilities. It can be used to highlight the history of a place to a wider audience, even allowing virtual tours of structures to take place and online 3D catalogues of objects to be created. Secondly, this record can be used to identify the various phases in a site or object's history through macro- and micro-level analysis of any modifications it has undergone in the past. From these data, it may be possible to identify subtle trace evidence not visible to the naked eye, e.g. graffiti, tool marks, engravings or modifications to its materials, and to create 3D representations of what the site would have looked like at any point throughout its history. Thirdly, laser scanning data can play a key role in the conservation of sites and objects, particularly when it is undertaken repeatedly over an extended period of time. The data collected may enable conservators to take measurements and to identify the extent of any erosion or modification that is taking place.

Fig. 6.19 A laser scan of the area around the Central Tower at Semlin camp, Serbia. (Copyright: ScanLAB Projects)

The ability to print objects in 3D using laser scanning data also means that it is possible to reproduce individual objects, to create highly accurate models of sites and produce framework models to be used in redesigns or planned modifications (English Heritage 2011, p. 5). Finally, where above- and below-ground remains exist, the combined use of laser scanning with techniques such as geophysical survey offers the possibility to merge datasets and create highly accurate 3D representations of the various layers of site's history (Fig. 2.11).

> **Case Study 6.2: Laser Scanning at Staro Sajmište, Serbia**
> The combined use of laser scanning and Ground Penetrating Radar (Sect. 7.1) was employed at Staro Sajmište in Serbia where the former Semlin concentration camp buildings were recorded alongside the modern landscape context and the below-ground traces of the site's past. This resulted in a complex dataset which could be interrogated in order to reveal the site's pre- and post-war past alongside its wartime story (Fig. 6.19). The dataset also made clear many of the relationships between these different layers and showed how the site had been modified over time. Several of the former camp buildings were still in existence and were recorded in their current form. This could then be compared to archival material to demonstrate how the structures had been aesthetically altered. Original traces of other camp buildings, infrastructure and features were also recorded using a combination of walkover survey, laser scanning, geophysical survey and topographic survey, and this facilitated the production of a revised plan of the camp. This survey revealed just how much evidence of the camp was still visible above the ground, in spite of the constant occupation and modification of the site in the years since the Second World War.

6.8 Multi-Photo Photogrammetry

A cheaper, more accessible and somewhat less labour-intensive alternative to laser scanning is multi-photo photogrammetry. This is essentially the ability to overlap and stitch together multiple images relating to a scene or object (Kersten and Lindstaedt 2012; Brutto and Meli 2012). The technology behind it is perhaps best known through applications (apps) such as Photosynth which have recently made it possible for anyone who has a smartphone or other sort of camera to stitch together overlapping images (Uricchio 2011). The successful creation of stitched images relies on adequate camera positioning and, although mobile phones and hand-held cameras may be faster and cheaper, a number of specially designed 360° cameras exist that increase accuracy. Where enough images are taken, the end result can be a 360° tour of a site or high-resolution panoramas and scenes (Fig. 6.20). Alternatively, 3D DTMs can be created when multiple images are taken from the air by aircraft or UAVs (Koutsoudis et al. 2014; Carrivick et al. 2013; Sects. 6.1 and 6.3). These methods are increasingly being used by archaeologists because they are easy to use, cost-effective and less intensive to process than other digital recording methods such as laser scanning (McCarthy 2014; Sect. 6.7). They have also been increasingly used in community archaeology for the same reasons (Sect. 4.6). Using these dense multi-view 3D reconstructions (DMVR), it is also possible to obtain 'three-dimensional measurements from two-dimensional data (i.e. images)', something which can be useful for characterising the extent of features captured in the images (Barnes 2011).

Fig. 6.20 Multi-photo photogrammetry of Treblinka extermination camp which provides a 360 degree tour of the site. (Copyright: Dean Northfield and Caroline Sturdy Colls)

These techniques are slowly beginning to be used with regard to Holocaust landscapes as a form of preservation by record or as a means to analyse complex landscapes or objects. For example, in order to record frescos under threat because of the demolition of the building in which they were housed, multi-photo photogrammetry was employed by the author in Alderney. This is described in more detail in Case Study 10.2. The same technology was also used to create 360° records of some of the fortifications built by slave workers sent to the island and also high-resolution images of inscriptions made by some of them inside these structures (Sect. 10.5). Objects recovered during excavations at Treblinka are also being photographed and the images stitched using this method to enable 3D representations of these items to be created. This technique offers a suitable alternative to laser scanning, given that the ultimate aim is to present these 360 ° renders as part of an online catalogue, where file sizes are of concern. Elsewhere, these techniques have been most commonly used in the production of virtual tours of memorial landscapes and museums (e.g. Anne Frank House 2014; Jacobs undated). These forms of presentation are discussed in more detail in Chap. 12 as a means of disseminating archaeological results.

6.9   Building Recording

As this chapter clearly demonstrates, archaeology is not only concerned with ruined and buried remains. Archaeologists can make a significant contribution to the analysis of standing remains. With regard to the Holocaust, this includes those buildings which survived largely intact and which still

Fig. 6.21 The Nazi military complex Krampnitz Kaserne, which contains remnants of both Nazi and Soviet habitation. (Copyright: Caroline Sturdy Colls)

exist in the modern landscape. Here, traditional methods of building recording can be utilised alongside detailed searches of a building's interior in order to identify different layers of its history. Building recording can include measured survey of the building's interior and exterior, and the subsequent production of CAD models or other 3D/360 ° representations derived from laser scans or photography (Letellier and Eppich 2011; Andrews and Blake 2003).

By adopting a strategy which could be defined as indoor excavation, it may also be possible to locate hidden evidence. In the case of buildings, layers of wallpaper, wood, carpet, fireplaces and the like take the place of layers of soil in a conventional excavation. Searching under floorboards may prove fruitful, as items may have been dropped (knowingly or unknowingly) or hidden and never recovered. This kind of indoor excavation may yield deposition layers which may be dateable, depending upon the type of materials found. Other types of floor surfaces should also be searched for the presence of such items although, depending upon the nature of the floor, geophysical survey or archaeological excavation may need to be undertaken. Items may well be located in other crevices or storage areas, such as attics, cellars, window frames, built-in cupboards and cubbyholes. Any items recovered can be examined using the variety of techniques commonly used by archaeologists in the post-excavation phase of their work, many of which are outlined in Sect. 7.4. If the nature of the walls of a building allow, it may be necessary to search within them for hidden items or evidence of how the building functioned. For an example of this, see Sect. 10.3.

Depending upon the nature of the building being searched, stylistic features may also remain that allude to its function (Fig. 6.21). Examining different layers of paint or wallpaper, both visually and through scientific techniques, may also be productive, particularly where graffiti or other additions have been made, e.g. paintings or motifs. This evidence can be recorded in situ using high-resolution

photography or laser scanning (Sects. 6.7. and 6.8). Case studies where these techniques have been used are provided in Chap. 10 in order to demonstrate what the evidence recorded by such surveys can reveal about the Holocaust.

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Below-Ground Investigations

7.1 Assessing Buried Remains

Because of the Nazis' attempts to hide their crimes and landscape change since the end of the Second World War, much of the evidence of the Holocaust has been deliberately or naturally buried or concealed. Once a thorough assessment of any surviving above-ground evidence has been undertaken (Chap. 6), various methods can be employed to assess what lies below the ground. Assessing this evidence need not mean that invasive work has to be undertaken, given the variety of geophysical techniques that now exist. Equally, when invasive work is undertaken, it should be remembered that a wide range of evidence types can be recovered and analysed through various novel methods derived from archaeology and forensic science. This chapter provides a review of the methods that should be considered when assessing buried remains and the specific challenges associated with them when addressing the physical evidence of the Holocaust.

7.2 Geophysical Survey

The use of geophysical methods for the detection of buried remains first occurred in the 1940s but it was only in the last few decades that their use in archaeological and forensic work has become commonplace. In 1993, Greene (1993, pp. 48–49) argued that geophysical survey 'is often used within known sites to suggest areas where excavation may be most profitable'. However, geophysical survey can make a far greater contribution to investigations of buried remains and these techniques are now acknowledged as much more than simply a precursor to excavation (Gaffney and Gater 2003). In fact, in some circumstances, they may represent a more appropriate, practical and ethical solution. This is particularly true with regard to the Holocaust where the disturbance of human remains may be forbidden (Chap. 3.5.2). Under the right circumstances, with the appropriate equipment and with a skilled operator, geophysical survey techniques can allow buried remains to be located, measured and characterised, often in three dimensions.

In basic terms, geophysical survey techniques react to and record the different physical properties of the ground, the subsurface and any interventions in it. These interventions include graves, structural remains, backfilled pits and ditches, sewage lines, surfaces such as roads or pathways and voids alongside natural occurrences such as tree roots and geology. There are a number of techniques available which detect different properties: for example, resistance survey measures resistance, Ground Penetrating Radar (GPR) detects electromagnetic properties and magnetometry detects magnetism and changes in the earth's magnetic field. Some are active methods, which actively emit a signal into

the ground and record the response, whilst others are passive and measure pre-existing physical attributes. It is important to stress that no geophysical method will reveal conclusively what is below the soil; buried features are represented as anomalies that must be interpreted (Cheetham 2005). This will be based on knowledge about the site gained through the desk-based assessment process and the experience of the geophysicist. The detection of buried features relies on there being a contrast between any anomalies and the surrounding subsurface. This contrast may be more apparent when using certain geophysical techniques, e.g. magnetic anomalies will be more readily detected using magnetometry (Sect. 7.2.3). Using other techniques, this contrast may not be visible at all and, thus, it may appear that no features are present. Other issues to consider relate to the likely depth of anomalies since different geophysical techniques have different depth detection ranges; for example, some types of resistance survey can only detect up to 1 m, whilst GPR is more suited to the detection of deeper features, depending upon the antenna used.

There are a whole host of geophysical survey methods that exist, many of which are utilised mostly by engineers and in mining. Those most commonly used in archaeological and forensic contexts are discussed below to demonstrate their value for Holocaust archaeology when attempting to detect buried features and graves. Only a summary is provided here and the reader is referred to Conyers (2013), Hunter et al. (2013), Cheetham (2005), Pye and Croft (2004) and Gaffney and Gater (2003) for further discussion of the theoretical and practical aspects of their operation in relation to archaeology and forensic investigation.

7.2.1   Ground Penetrating Radar

Having been described as the 'most flexible and potentially most effective' geophysical technique, GPR has often been seen as the 'de facto' non-invasive technique in both archaeological and forensic contexts (Cheetham 2005, pp. 85–86; Fig. 7.1). Much of this has stemmed from its use in famous murder investigations and its portrayal in the media, as well as its ability, unlike other geophysical techniques to view data in real time, e.g. as they are being collected (Hunter and Cox 2005; Cheetham 2005). GPR is based on recording the reflections or attenuations of electromagnetic signals that are continuously emitted from a roving antenna (Davenport 2001). These reflections or attenuations are affected by the physical properties of the subsurface and any buried features within it; 'the stronger the differences between the electrical properties of two materials, the stronger the reflected signal in the GPR profile' (Watters and Hunter 2004, pp. 22–24). A number of different antennas are available to facilitate data collection at different depths and resolutions, depending upon the requirements of the survey. Whilst higher-frequency antennas are capable of achieving greater depths (up to 20 m), lower-frequency antennas provide better resolution over a shallower area. Within the discipline of forensic archaeology, 400–500-MHz antennas are deemed most appropriate owing to the fact that 'they provide an excellent compromise between depth of penetration and vertical resolution of subsurface features' by surveying to a depth of around 5 m (Schultz 2007, p. 21). One of the greatest advantages of GPR over other methods is its ability to be used over solid materials. Therefore, it can be used over concrete, brick and other hard surfaces as well as over grass and earth. This means that it can be used to detect features buried underneath structures, paved areas or tarmac, something which is a distinct advantage at sites which have been modified since the Holocaust and where foundations or graves may exist underneath later developments (Fig. 7.1).

By surveying a number of transects over a given area, it is possible to create both reflection traces and 3D profiles of the subsurface, which offers another advantage over other geophysical methods (many of which do not facilitate 3D survey with ease or at all; Conyers and Goodman 2004). Additionally, the recording of the two-way travel time of the reflected signals—that is the time it takes

Fig. 7.1 Conducting a GPR survey over a Jewish cemetery that was believed to exist beneath a modern road and car park. (Copyright: Caroline Sturdy Colls)

for a pulse to be transmitted and reflected back to the antenna—facilitates approximate depth analysis allowing potential features to be located in both the horizontal and vertical planes (Conyers and Goodman 2004). Therefore, it may be possible to locate and determine the size and composition of structural remains and other buried features without disturbing the soil (Fig. 7.2). GPR can be used over large or small survey areas and may be used to locate individual discrete features such as graves, postholes or pits, as well as larger features such as building foundations, ditches and backfilled tunnels. However, in order to do so, it is important to select the correct traverse interval, based on the remains being sought; too wide a distance between survey lines could result in subtle features such as individual graves and postholes being missed, whilst too narrow a distance may be far too time-consuming and unnecessary if large structures are being recorded. Wand and other agile versions of GPR antennas are now opening up the possibility not only to record buried features in difficult terrain but also to survey standing buildings (Goodman and Piro 2013; Ruffell et al. 2014). This has been successfully carried out at Mauthausen, where a GPR survey of one of the gas chambers revealed important information about how it functioned (Theune 2010). The availability of GPR devices with integrated Global Positioning Systems (GPS) also facilitates faster surveying, allows simultaneous Digital Terrain Models (DTMs; Chap. 6.6) to be produced and makes it easier to relocate recorded features for further survey or excavation.

Of course, this method is not without its problems. Owing to the configuration of most GPR systems, which include an antenna that needs to be flat against a surface, this technique cannot be used in rough terrain or amongst high vegetation. In some circumstances, it may be possible to avoid this problem by mounting the antenna onto a vehicle or other mobile device, though again this will not solve the issue if trees and other obstacles exist. Recent advances in technology mean that "snake" antennas may soon become more widely available, making it easier to navigate such objects (Francke 2012). The second problem with GPR is that it will not operate effectively in all geological conditions. Whilst the common perception that GPR will not work at all in clay environments has proven to be false on a number of occasions, it is true that highly reflective or waterlogged environments may
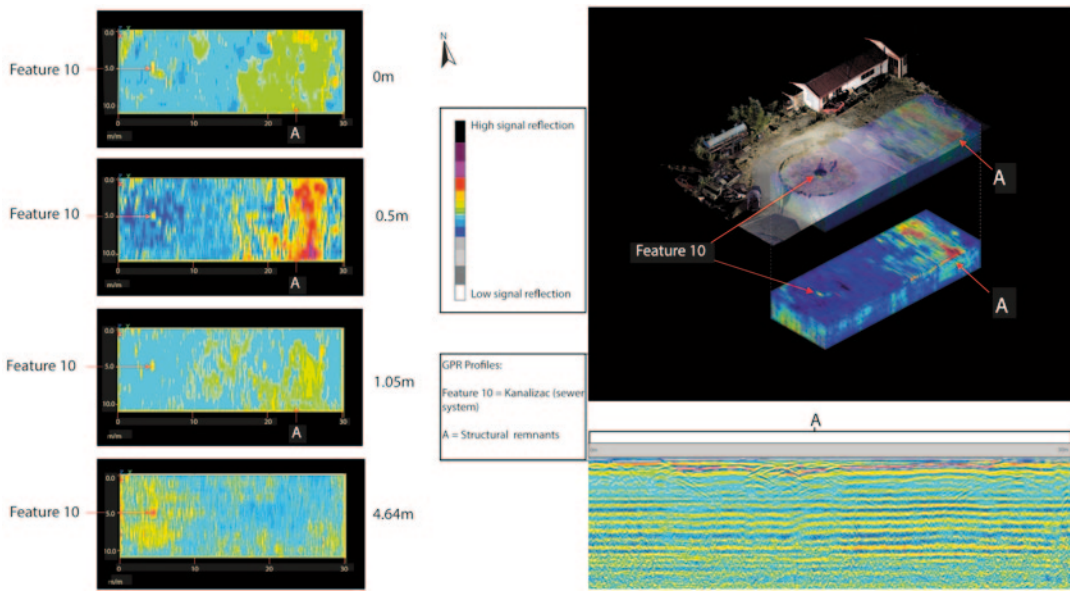
Fig. 7.2 Ground Penetrating Radar (*GPR*) survey results from Semlin camp in Serbia. GPR data can be viewed as vertical or horizontal time slices/profiles (*left* and *bottom right*) or assimilated to form 3D images (*top right*). (Copyright: Caroline Sturdy Colls/ScanLAB Projects)

result in inaccurate or warped datasets (Linford and Linford 2004; Weaver 2006; Urban et al. 2014). However, experienced users should be familiar with these issues and should be able to adjust their survey strategy accordingly.

7.2.2 Resistance Survey

Resistance survey operates by passing an electrical current through the ground and measuring the varied resistance presented by different soils and different materials buried within it (Gaffney and Gater 2003). Although the degree of resistance will vary based on the probe configurations used, the geology and environmental conditions around the time of the survey, generally speaking solid features such as walls, will exhibit high resistance whilst water-rich features such as ditches will be low-resistance features (Schmidt 2013). The amount of resistance highlights the contrast between the surrounding subsoil and buried features, which is what makes them identifiable (Cheetham 2005). A variety of probe configurations are available and these configurations will impact upon the speed of the survey and the depth of penetration. A common configuration for archaeological survey is the twin-probe array whereby the combination of mobile and remote probes allows for parallel or zig-zag traversing in a grid pattern. This method is suitable for relatively quick and easy data collection (Fig. 7.3; Paradopoulos et al. 2006).

The ability to survey areas rapidly using this configuration may highlight the presence, or lack, of anomalies before other more detailed and laborious methods are applied to targeted areas (Scott and Hunter 2004). Although this method can only achieve shallow depth analysis (often around 1 m), it is capable of defining both large and discrete features within this range and its potential at both forensic and archaeological sites has been repeatedly demonstrated (Pye and Croft 2004; Schmidt 2013). Building foundations, graves, ditches, pits, services and buried surfaces may all potentially

Fig. 7.3 Twin-probe resistance survey. (Copyright: Caroline Sturdy Colls)

be identified using twin-probe resistance survey providing they are present within this depth range. Depending upon the extent to which features survive and are identifiable in the datasets, it may be possible to determine their length and width, to explore relationships between features and to create plans of particular areas, e.g. camps, ghettos or killing sites. Case Study 7.1 provides one example:

> **Case Study 7.1: Resistance survey at Longy Cemetery, Alderney**
> Following Hitler's decision to fortify the Channel Islands, thousands of slave workers were sent to the island of Alderney. A historical overview of this process was provided in Case Study 4.5. Some of the slave workers who died of ill-treatment or who were executed were buried in a cemetery on Longy Common, a large undulating area of grassland on the south-east coast of the island. The bodies were reported to have been removed by the German War Graves Commission in the early 1960s and the area of the cemetery was left unmarked. Resistance survey was initially undertaken on the Common in an attempt to relocate the cemetery and to determine whether any traces of the graves remained. This method was selected because of its speed and ease of data processing in order to rapidly locate the cemetery. Survey grids were established based on archival research and the analysis of aerial imagery. The resistance survey led to the successful location of the cemetery (Fig. 7.4).

Its boundaries are clearly visible in the data, as are the rows of individual graves. Two potential mass graves were also observed and these are discussed further in Case Study 9.3. This survey demonstrated the fact that resistance survey is a suitable method for rapid feature identification and that the geophysical signature of graves and other features remain detectable even after a considerable amount of time has passed and when bodies have been removed from the ground. Using more probes allows higher-resolution data to be collected often at a greater depth but the logistics involved in data acquisition means that this will be a far slower approach. Therefore, using more probes is better suited when specific features are targeted; thus, they must have been identified through other means first, e.g. walkover survey, twin-probe resistance survey, aerial imagery, etc. Possible survey techniques using more probes include gridded survey or recording cross-sections through features. The latter is useful when particular characteristics of a feature are sought. For example, if it is the intention to locate and
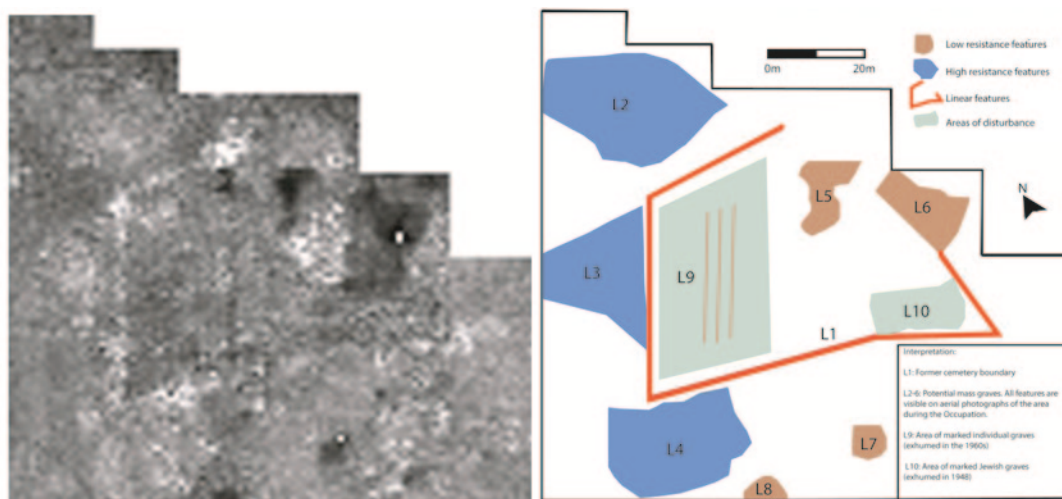
Fig. 7.4 Resistance survey results from Longy Common which clearly show the slave workers' cemetery and several suspected mass graves. (Copyright: Caroline Sturdy Colls)

define the edges of a grave, as shown in Fig. 6.10, probe spacing along with the traverse and sample intervals used should be defined based on what features may potential be detected (see GPR above). For example, a common traverse and sample interval for archaeology is 1 m × 1 m, when structural remains are being sought. Smaller intervals will certainly be required, however, if subtle features such as individual graves are the focus of search. The smaller the traverse and sample interval, the higher the data resolution will be but the more time intensive the survey will become. Once again, decisions over survey strategy should be made on a case-by-case basis for the individual areas being examined.

As with all survey methods, the use of resistance survey in the field can be limited by a number of factors. Firstly, the area needs to be free of obstructive vegetation, and it must be possible for the current to pass through the ground surface, thus precluding its use in very dry soils, waterlogged or frozen areas and on solid materials such as concrete (Cheetham 2005). Secondly, whilst the resistance range of some features can be estimated (for example, walls will display high resistance), the resistance of other features is not always consistent (Killam 1990). To cite one relevant example, several forensic archaeologists have noted that graves are generally displayed as low-resistance anomalies. However, owing to the aeration of the soil caused by the burial process, high-resistance readings may also occur because of the impact of the decay dynamic, the presence of large body masses and even the season in which the survey has been undertaken (Killam 1990; Watters and Hunter 2005; Cheetham 2005). Subsequently, such issues need to be considered during post-processing, particularly when classifying features.

7.2.3 Magnetometry

Magnetometry is a method that has been favoured by archaeologists (most often working in rural environments) in the past (Bevan and Smekalova 2013), but one which is not commonly used by forensic archaeologists (Hunter et al. 2013; Fig. 7.5). In both cases, this is due to the fact that it is highly sensitive to magnetism. This means that it can detect the magnetism of buried objects and any changes in the earth's magnetic field caused by disturbances such as excavation or actions such as burning.

Fig. 7.5 Magnetometry survey being carried out using a fluxgate gradiometer. (Copyright: Caroline Sturdy Colls)

This has been favoured by archaeologists when attempting to detect ferrous objects, infilled pits and ditches and structures where the building materials have been fired (Oswin 2009, Fig. 7.6). However, the ability to detect these properties also means that magnetometry will be affected by magnetism from surrounding objects such as fences, pylons, pipes, brick structures, vehicles or even any metal on the surveyor. This will distort the survey data and make it impossible to distinguish buried anomalies. At sites where large amounts of buried metal exist, as is the case at many ex-military sites, recorded data may also be too "noisy" to identify individual features. Therefore, the use of magnetometry in urban environments is impossible in most cases and limited only to rural ones free of such objects.

These factors also make the use of magnetometry at Holocaust sites both valuable and problematic. At many sites, it will be of considerable value to detect disturbances caused by the excavation of mass and individual graves, pits, ditches and structural remains. Evidence of burning may exist at many sites, for example, as a result of attempts by the Nazis to hide their crimes (through the burning of buildings and the cremation of victims' bodies) and due to resistance activities such as fire damage caused by the revolts in some of the camps. Magnetometry would be the best and in most cases the only way to detect such burning without excavation (Fig. 7.6). That said, many Holocaust sites have been transformed into museums or memorials, or redeveloped in other ways, and so large amounts of surrounding magnetism may be present. Also, the destruction of many sites was so intensive that the amount of burning, ground disturbance or buried ferrous material may be so great that the data may once again be too distorted to detect individual features. Thorough research in advance of survey can help determine whether magnetometry is suitable for use on a case-by-case basis.

Various types of magnetometry equipment exist and method selection should be based upon the aims of the survey. In archaeology, the most commonly used device is the fluxgate gradiometer which facilitates rapid survey over large areas. Post-processing of these data is relatively fast and data can be viewed in a variety of plot formats to aid feature identification (Fig. 7.6). Survey data are collected in transects, most commonly in a grid format, and the spacing of these transects must be based on the nature of the remains being sought (see GPR above). Like resistance survey,

Fig. 7.6 Magnetometry results showing linear boundary features and three small areas (*top left*) of significant magnetic anomalies that probably represent buried metal objects. (Copyright: Kevin Colls)
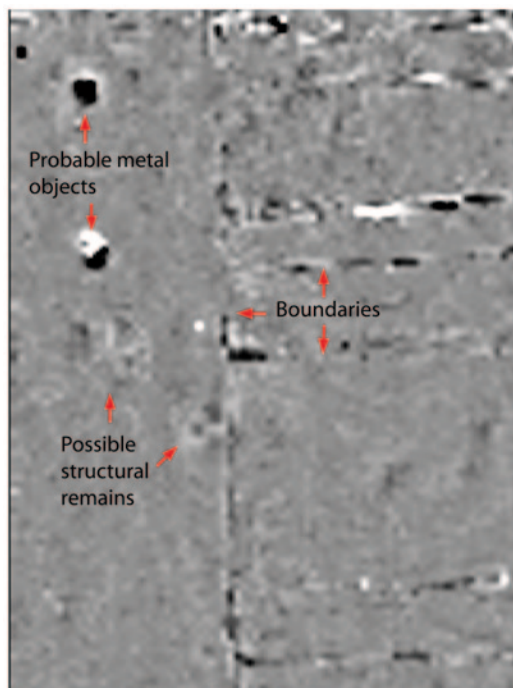
magnetometry can only record to shallow depths and so it should not be used as a standalone method to avoid missing any features present at greater depths. Like GPR, certain magnetometry devices can also be mounted onto carts and can have integrated GPS (Sect. 6.6). Further discussion of the considerations that should be borne in mind when carrying out magnetometry survey can be found in Bevan and Smekalova (2013).

7.2.4   Other Methods

A variety of other geophysical methods exist that may also be useful when examining Holocaust sites but which will likely be used less frequently. This is mainly due to the fact that these techniques target very specific materials or because they are more suited to detailed examination of known features. For example, metal detectors may be used in some circumstances if it is suspected that metal objects may be present in association with other evidence (Thomas and Stone 2009). The skill of dedicated metal detectorists should not be underestimated and in some circumstances it will be highly beneficial for them to work alongside trained archaeologists to undertake searches. However, the use of metal detectors, particularly by untrained personnel, should be treated with extreme care as this equipment detects very specific types of materials and its use can encourage unsystematic excavation practices that serve to remove objects from their all-important context. If they are to be used, it should be to narrow down search areas. For example, if it is suspected that a large cache of weapons is buried in a given area or that graves may contain bullets, metal clothing or jewellery, metal detectors may help to highlight potential locations. Rather than excavating only where a signal is detected, archaeologists should then revert to other survey methods or will carry out systematic area excavation so that *all* evidence contained within the given area can be examined equally. If their use is deemed necessary, then metal detectors like all techniques should be used as one part of a well-defined search and

recovery strategy and should complement other methods. For example, they are particularly useful to scan excavated soil to ensure that no small metal items are missed during the recovery process. Gravitational survey or sonar may be useful in some circumstances where voids and cavities are being sought. These methods have been used to great effect in the identification of crypts, tombs and caves (Panisova et al. 2013). These techniques will be of greatest value when it is suspected that these types of features exist at a site, in contrast to GPR and resistance survey which can be used to survey large areas to detect a variety of different features. As technology develops further, it is likely that geophysical survey methods will continue to advance. The fusion of different remote sensing technologies into single pieces of equipment will undoubtedly increase the speed and accuracy of surveys and will continue to dramatically reduce processing time afforded to collected data.

7.2.5   Method Selection

The selection of the correct geophysical method is vitally important and should be reviewed for each individual area to be surveyed; the differing nature of different areas across the same site may demand that a range of techniques be used. English Heritage (2008) provides a useful guide on how to select the most appropriate geophysical method for different survey areas and types. The issues with each of the techniques described above can also be compensated for by the use of multiple geophysical techniques because, as Kvamme (2003, p. 439) argues, 'surveys with multiple methods offer greater insight because buried cultural features not revealed by one may be made visible by another'. For example, resistance survey (Sect. 7.2.2) may allow rapid surveys of an area to be carried out and provide a detailed record of shallow subsurface features. This could then be followed up by a more detailed, time-intensive GPR survey (Sect. 7.2.1) to examine any remains that are located at a greater depth. A consideration of the current land use, geology, the likely size of the target, its physical properties and its likely depth as well as vegetation and pedology should all be made prior to the commencement of the survey and when selecting appropriate equipment to use (Gaffney and Gater 2003; Fenning and Donnelley 2004). This is important as choosing inappropriate methods can result in an apparent lack of archaeological remains, where in fact they have just been missed through human error. Certain techniques may also be poorly suited to the environment to be surveyed and this should be identified prior to survey. For example, finding out whether a lot of metal, such as railings, pylons and the like, exists in a given area prior to carrying out a magnetometry survey is vitally important as this kind of background "noise" can completely distort survey results and mask any buried features that may be present (Sect. 7.2.3). Knowing what the terrain is like before conducting a survey is also important as certain equipment needs to be in direct contact with the ground surface to operate, something which will be impossible if large amounts of vegetation or trees are present.

Case Study 7.2: Non-Invasive Approach of the Holocaust Landscapes Project
As part of the Holocaust Landscapes Project, the author utilised a variety of geophysical survey techniques alongside other non-invasive methods. Firstly, this was undertaken to ensure that all features present were recorded fully. For example, at Treblinka a rapid resistance survey was undertaken across a large portion of the site but this was then followed up by a GPR survey in order to determine whether further remains existed at a greater depth. It was fortunate that this approach was adopted, since many of the building foundations present at the site (including the gas chambers) were shown to be located at a depth outside of the range of the resistance meter (Fig. 7.7). The use of GPR also allowed 3D scans of the buried remains to be derived. Following the large-scale survey across the site, resistance survey with multiple static probes was then
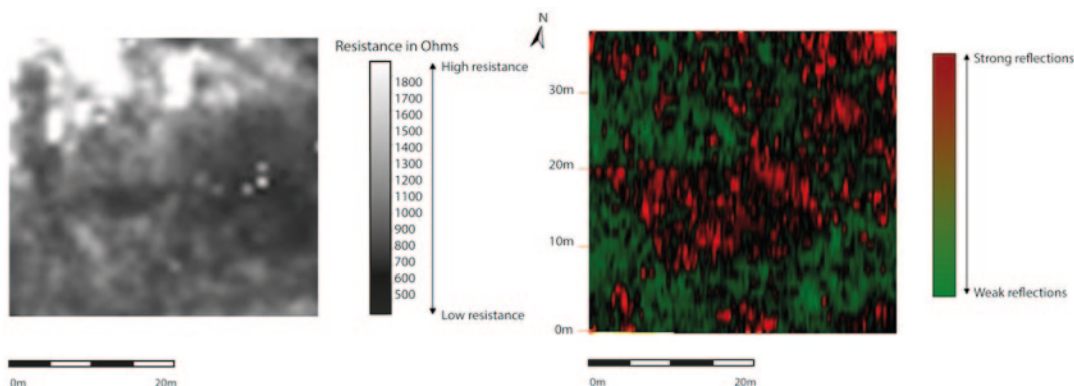
Fig. 7.7 A comparison of resistance and GPR results collected at Treblinka. The image on the *left* shows the resistance survey which did not detect the structural remains that were visible in the GPR results (*right*). (Copyright: Caroline Sturdy Colls)

undertaken in order to further characterise individual features (Fig. 6.10). Elsewhere at this site and at others in Alderney, the thickness of the ground cover meant that GPR was impossible or extremely difficult and so resistance survey was the only option. For example, at Longy Common (discussed in Case Study 7.1) resistance survey was employed first before the decision was made to use GPR as this method was easier on the undulating terrain. Conversely, at Semlin in Serbia, GPR was the only suitable geophysical method on the basis that the majority of the site has been redeveloped and covered in concrete or other solid materials. Magnetometry has not yet been employed as part of this project, owing the large amounts of metal that was likely present at all three of the locations examined. The decision concerning which methods to use was made on a case-by-case basis based on the practicalities of search and information derived from archival research concerning the likely nature of the remains being sought.

7.2.6 Managing Expectations

Popular perceptions of geophysical survey, often derived from the media, often mean that it is necessary to manage the expectations of various groups connected with research. This is not an issue that is exclusive to the investigation of the Holocaust; it will likely exist in many cases where such work is being commissioned by a client or where the outcome is awaited by a community. The association of geophysical methods with the detection of "bodies" can be particularly problematic, as can the assertion outlined above that geophysics detects buildings, sewers, etc. as opposed to anomalies that need to be interpreted. Many people are often disappointed when the results of geophysical surveys are shown to them as they expect to see clear outlines of individual bodies or perfectly clear plans of structures. Here, it is down to the surveyor to explain the reality concerning what survey results will look like, preferably before the survey even begins, and to find alternative ways to disseminate results that make them more understandable for the general public (Chap. 12).

The practical uses of geophysical equipment may also not be entirely understood by those not trained in its use. There is often the belief that 'one size fits all', particularly with regard to GPR survey which has most commonly been presented in the media in relation to forensic archaeology (Cheetham 2005). For example, during a recent project, the commissioning parties wanted GPR to be

used in an urban area. Having seen the results of a GPR survey at another location, which was predominantly open fields, they believed that its application could be of use for the detection of remnants of a former Holocaust camp. However, the client had not accounted for the fact that it was not possible to survey a large part of the urban area given that much of the site now consisted of residential buildings and workshops. Therefore, the client was initially disappointed with the proposed areas that were to be surveyed as they had hoped that the whole area of the former camp could be covered with the GPR survey. Instead, the benefits of using other methods were highlighted which would complement the GPR survey and a much fuller picture of the former camp ultimately emerged than if only GPR had been used.

Where no features are detected using geophysical methods in a given area (because no features survive/exist there), this may also be viewed with disappointment by interested or commissioning parties, such as museums, memorial centres or research partners. Of course, there are instances where the limitations of the equipment, poor equipment selection, equipment failure and bad planning could mean that no remains are found when in fact they do exist. This presents a considerable problem, particularly with regard to Holocaust denial debates (Sect. 12.6) and this is why it is important to have trained personnel carrying out such surveys. In circumstances where no remains have been found because no remains exist, it is important to stress to interested parties that the fact that nothing was found was not a 'failure' on behalf of the archaeologists. Rather the survey was a success because it served to eliminate an area from the investigation. Just as in forensic archaeology, this elimination of areas forms an important part of search strategies (Hunter et al. 2013). Additionally, it is important to stress exactly what has been surveyed and what has not. For example, if nothing is found in one area but it is impossible to survey another because of obstructive vegetation or buildings, then this does not mean that no buried remains exist, only that no buried remains exist in the area that has been surveyed. Pre-empting some of these issues prior to carrying out surveys will help prevent problems later. Therefore, managing expectations, where possible, should be a key consideration when designing search strategies.

7.3 Excavation

Following a detailed historical analysis of a variety of source material and a scientifically rigorous analysis of a landscape using non-invasive methods, it may in certain circumstances be appropriate or necessary to carry out excavations. Excavation has long been, and remains, at the core of most archaeological projects due to its unique ability to reveal the exact nature of what is buried below the ground. Equally, however, it has long been recognised by archaeologists that excavation is destructive and, as such, any credible archaeological project will conduct excavation only according to a well-defined brief which seeks to answer robust research questions. Details of how to excavate are not discussed here, as an extensive body of literature already exists on this topic (Greene and Moore 2010; Drewett 2011; Dupras et al. 2011; Hunter et al. 2013). Instead, the various considerations that should be borne in mind when carrying out excavations will be reviewed, with specific reference to the practicalities of undertaking such work with regard to the Holocaust.

Firstly, as has been mentioned repeatedly throughout this book, anyone wishing to conduct an excavation at a Holocaust site should be aware that it may in fact be prohibited. This may be due to a whole host of different reasons—Jewish Halachic Law (Chap. 3.5.2), the sensitivities surrounding this period of history (Chap. 3.3), the desire to let the dead rest in peace (Chap. 3.5), insufficient funding and a lack of resources, obstacles such as later structures or infrastructure or because a site lies within a protected area, to name but a few. Therefore, it should never be simply assumed when devising methodologies for the investigation of Holocaust sites that excavation will be allowed. It is

important to establish whether in fact it is wanted or indeed needed given the variety of alternative methods that are now available, as outlined in this chapter and Chaps. 5 and 6. Early discussions with the authorities that have custodianship of the site in question and with the affected individuals and groups discussed in Chap. 3 will allow any issues surrounding excavation to be determined early on and methodologies can be adapted accordingly. In instances where excavation is not permitted, needed or wanted, this is where the non-invasive methods outlined throughout this chapter and Chaps. 5 and 6 will provide a suitable alternative when multiple complementary methods are selected.

7.3.1   Rationale for Excavation

In instances where excavation is permitted, it is important to establish the rationale for carrying out such work and its remit. In some cases, excavation may be specifically requested, for example by site custodians, state authorities, public institutions or survivors and their families. Excavation may become a necessity because of planned developments, threats to the site (natural or anthropogenic) or other external demands. In these instances, it is vital that archaeologists are, firstly, involved and, secondly, that they have a well-defined methodology in place that is guided by clear aims and objectives. In other cases, excavations may be identified as necessary through research work. Specific research aims may relate to locating specific features such as mass graves or specific buildings, or they might stem from a desire to create a revised plan of a particular site based on archaeological analysis of the area. It might be the aim to collect evidence against a particular perpetrator or in relation to a specific event. Other aims might be broader, focusing on what physical evidence can reveal about the nature of the Nazi extermination policies, daily life in the ghettos or the resistance of inmates. Whatever the aims, it is important to first ask the question: Can excavation make a significant contribution to achieving these aims or would other techniques be more appropriate? For example, creating a revised plan of a particular camp will likely be impractical if a methodology centres on excavation alone given the fact that it is almost unheard of for an archaeological excavation to cover an entire site. Because excavation is likely to be small scale, at least relative to the overall area of a camp or ghetto for example, it is best used to achieve more specific aims, such as characterising individual buildings or features. There are some questions that can only be answered through excavation, such as what materials particular buildings are made from or how many bodies are contained within a grave. If permitted, it is where these questions are the focus that excavation has clear advantages over other techniques. Similarly, there are no other techniques that will facilitate the recovery and analysis of other buried objects, such as personal items and trace evidence (Sect. 7.4).

7.3.2   Excavation Strategies

The strategy adopted during fieldwork will be crucial to the success of the excavation. There is an abundance of guidelines regarding excavation strategies to which archaeologists can refer, and indeed to which they may be bound, depending upon the country in which they are working (e.g. Institute for Archaeologists, UK, Archaeological Institute of America, Australian Archaeological Association). Initially, in practical terms, factors such as available funding, resources, time and the circumstances of the excavation—e.g. whether it is being undertaken in a legal context, for research purposes or as part of the planning process (Sect. 2.3)—will also come into play when devising strategies. The perimeters will likely be unique to every situation encountered and it should not be assumed that the circumstances will be the same at every Holocaust site examined. Whatever the circumstances, when excavation strategies are being planned it is vital to ensure that the points raised regarding the religious

and ethical implications of undertaking such work are fully understood and that methodologies are adapted accordingly. The reader is referred to Chap. 3 for further discussions concerning these issues and Chap. 4 specifically for suggestions about developing fieldwork methodologies more generally. Excavation strategies must also conform to the legal requirements of the country in question (Chap. 2).

In research terms, strategies will be strongly influenced by whether the purpose of the work is to excavate the whole site, a portion of the area, whole buildings or graves or smaller test pits. In the first instance, the excavation area itself should be selected based on thorough historical research and the analysis of available cartographic, documentary, photographic and airborne data (Chap. 5). The nature of the remains being excavated will also affect the strategy chosen. The sheer size of a site may make it impractical to excavate the whole area and instead a series of strategically placed test pits may be more appropriate. The fragility of the remains being examined also needs to be considered to ensure that excavation does not in fact end up destroying the remains. Safety is of course another key concern, particularly when there is the potential for unexploded ordnance, unstable underground structures or contaminated ground to be present. Thorough planning and research can help identify and minimise the risks posed by these circumstances. Human remains, for example, will need to be approached differently than structural remains, as discussed further in Chap. 5.5 above.

Most excavations will involve stratigraphic excavation or excavation in spits in order to establish a time sequence of events that led to the deposition of certain materials (Drewett 2011; Fig. 7.8).

This will however vary dependent upon the training of the archaeologist carrying out the work and the nature of the remains being excavated. A detailed review of these different excavation strategies is provided in Balme and Paterson (2014). Whatever strategy is adopted, evidence should only be removed from the ground following detailed in situ recording, which will include photography, contemporaneous note taking, digital recording (using laser scanners, 360° photography, total stations and/ or GPS; Greene and Moore 2010). It is this record that provides the evidence and permanent record of what the burial environment contains, something that is particularly important given the destructive nature of excavation. In some cases, block lifting may be more appropriate in cases where fragile materials such as bones, shoes or clothing are present (Fig. 7.9). Excavation should focus not only

Fig. 7.8 Excavating a stratigraphic sequence of layers to establish a timeline of events. (Copyright: Kevin Colls)

Fig. 7.9 A shoe found at Treblinka which was subsequently block-lifted because of its fragile nature. (Copyright: Caroline Sturdy Colls)

on material evidence buried within the ground but also upon the nature of the layers within it. Soil type and the nature of any other deposits should be thoroughly recorded using an appropriate context recording method. In cases where graves are present, it is particularly important that the grave itself is afforded as much attention as the remains within it given that much can be documented about the way in which the grave was excavated from its overall form and any tool marks present (Sect. 6.5.2). Soil sampling and sieving strategies should also be considered at length. In cases where it is suspected or known that small items such as jewellery, buttons, teeth or bone fragments may be present, sieving of all of the removed soil may be necessary. Sieving and sampling may also help to recover other evidence types such as hairs, fibres, ballistics evidence, entomological samples and pollen, which may reveal important insights into the nature of the crimes perpetrated. Here, practitioners are referred to the approaches taken by forensic archaeologists with regard to sampling and sieving in order to ensure that the maximum amount of evidence is recovered (Hunter et al. 2013, Chap. 7).

Some excavations will be bound to specific areas because the existence of certain buried evidence is already known. For example, once areas containing potential mass graves have been located using non-invasive methods, it may be decided that excavations are permitted only in areas away from them. This will allow them to remain undisturbed whilst permitting the nature of other remains, such as structures, to be examined further. An example is provided in Case Study 7.3.

Case Study 7.3: Searching for the gas chambers at Treblinka extermination camp, Poland (see also Case Study 4.3   for background information)
After 6 years of non-invasive research, the landscape of Treblinka extermination camp was mapped, buried remains were identified and areas containing mass graves were located. In order to identify the nature of some of the apparent buried structures in the extermination camp, it was necessary to carry out small-scale excavations. Because the locations of several mass graves had been determined in previous field seasons using geophysical survey methods, it

was possible to avoid excavating in the areas known to contain the remains of Jewish victims. This meant that the work could be carried out in accordance with Halachic Law (Sect. 3.5.2). Small-scale excavations were instead carried out in the area believed to contain the Old Gas Chambers, as indicated by archival research and geophysical survey (Sturdy Colls 2012, 2014a 2014b). Specifically, GPR survey had indicated the presence of buried structural remains measuring 22 × 15 m (Fig. 7.10).

Given its rectangular shape in plan, it seemed likely that this feature was in fact the foundations of a structure. In order to confirm the nature of its construction materials, and thus hopefully its exact nature, minimally invasive excavations were undertaken. This approach confirmed the presence of the Old Gas Chambers and allowed the bricks, tiles and other materials used to build them to be confirmed (Sturdy Colls 2014a). This minimally invasive approach also prevented considerable disturbance to the remains. Having confirmed the nature of the remains, this information can be used alongside that gained from the non-invasive surveys to plan a larger-scale excavation strategy if required, to address necessary conservation requirements and to ensure that sufficient funds for the analysis and preservation of both artefacts and construction materials are in place. Therefore, this approach provides multiple opportunities to investigate the physical evidence, whilst limiting the impact upon it.

7.3.3   Managing Expectations

As with other techniques discussed in this chapter, it is important to manage the expectations of stakeholders with regard to what excavation can achieve. As already mentioned, it will not be possible to excavate everything. Excavations are time-consuming and are generally limited by funding, resources and the time of the year. Some areas may be inaccessible due to later developments or may have been destroyed through natural or man-made landscape change. As with geophysical survey, it is vitally important that search areas are defined based on background research to avoid digging in the wrong place or falsely eliminating an area. It is important to be clear that excavation will reveal only *some* of the evidence that exists at a given site; some may exist outside of the survey area, some may remain inaccessible and some may have been destroyed. It is highly unlikely that excavation will be able to answer questions concerning the number of victims who were killed at a given site, particularly with regard to the Holocaust. This is because some areas may not be excavated in their entirety (e.g. due to excavations being only confirmatory), the number of bodies located within a grave may not be representative of all of the victims killed and further bodies may have been taken elsewhere or disposed of in alternative ways, e.g. cremated or ground to ash. This is perhaps one of the biggest challenges facing archaeologists working in this area, particularly given the ways in which this information may be manipulated as part of Holocaust denial debates (Sect. 12.6). Archaeologists need to be clear about what is practically possible and impossible to find, and to evaluate the potential for further evidence to exist based on thorough desk-based research.

7.4   Post-Recovery Analysis and Conservation

Before undertaking any excavation work, it is also important to consider the post-recovery requirements of a project. It is often here that the greatest costs are encountered and it would be unethical, and against archaeological standards in most countries, to undertake an excavation without having sufficient funding in place to cover the costs of post-excavation analysis and conservation. Indeed,
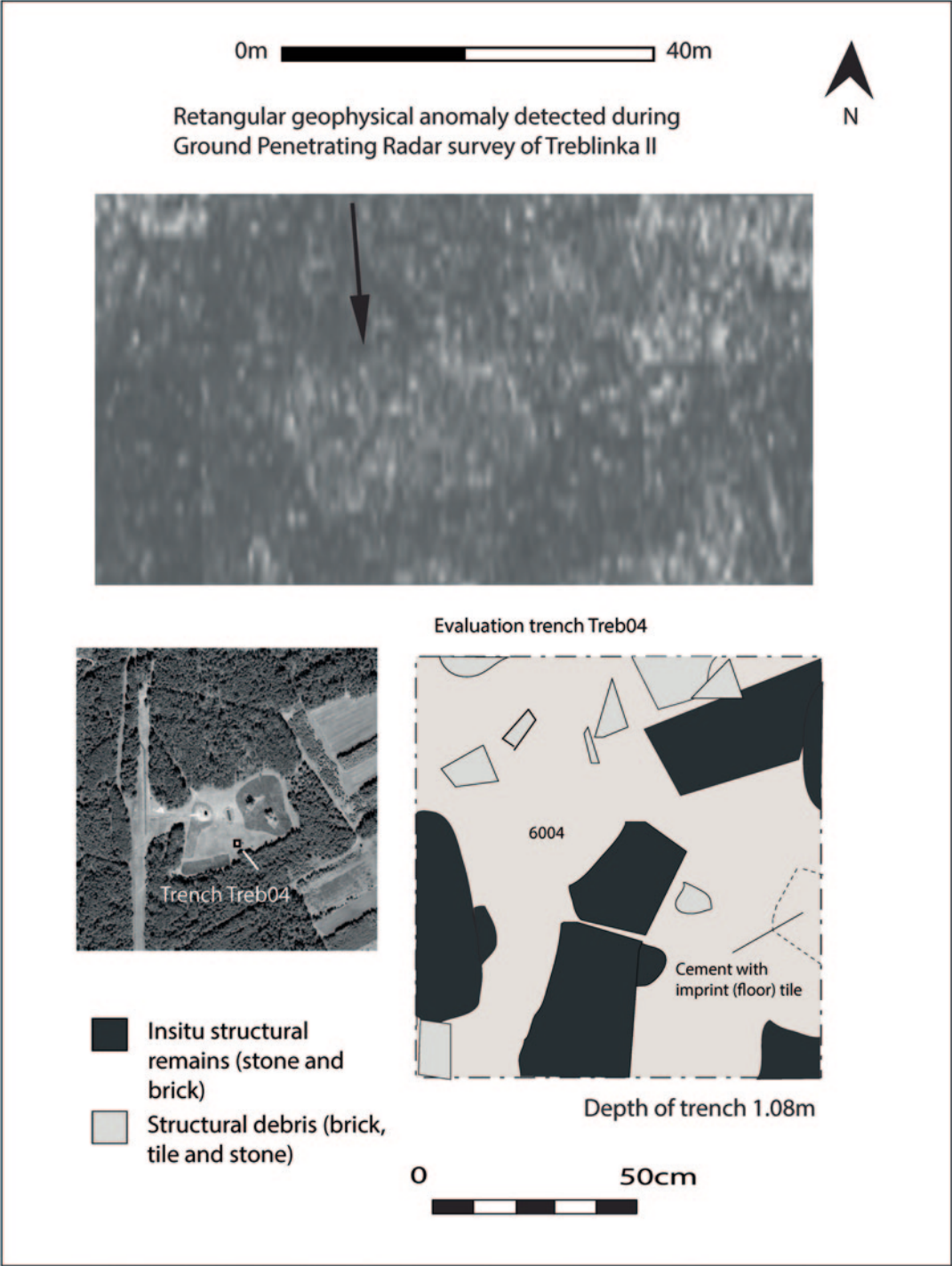
Fig. 7.10 Ground Penetrating Radar (GPR) results indicating the presence of structural remains (*top*), the location of the anomaly overlaid onto a Google Earth image of Treblinka extermination camp (*bottom left*) and a plan showing the foundations of the Old Gas Chamber in a test pit which was excavated at the western end of the GPR anomaly (*bottom right*). (Copyright: Caroline Sturdy Colls/Kevin Colls)

permission for most projects will likely not be granted if this is not in place. These issues should also be considered if surface remains are encountered during the course of non-invasive surveys (Sect. 6.4). Post-recovery analysis most often includes the examination of individual objects found to determine their nature and provenance. A variety of specialists from different fields may be required to undertake the analysis of items found at Holocaust sites as human remains, textiles, metal, jewellery, ballistics, porcelain, tiles, bricks and other construction materials may all be found alongside a whole host of other potentially unexpected items (Sect. 8.9).

Schute (2013, p. 10) highlights several problems with the analysis of material culture found at Holocaust sites: 'determination', 'method of analysis' and 'dating'. Because of the relative infancy of Holocaust archaeology and the broad geographic location from which items may have been received, there exist few specialists in the classification and dating of items. This means that the analysis of items found may prove complex and expensive. In many cases, it will be difficult to classify particular objects to anything more than broad categories and it may not be possible to identify exactly what individual items were used for, particularly those that have been damaged. Similarly, the dating of items is particularly complex and sometimes even impossible as items could have been in use for extended periods of time throughout the twentieth century (Fig. 7.11).

Many traditional methods of analysis of finds used in archaeology are also not useful when dealing with more recent items. Many items may have been taken, reused and/or looted from Holocaust sites and determining the provenance of items will be particularly complex when they have been found on the surface during walkover surveys (Sect. 6.4), rather than buried in stratified deposits. That said,

Fig. 7.11 Items found during excavations at Treblinka, some of which are difficult to date and some which bear manufacturer's marks. Items include: a cup (*top left*), beer bottle tops (*top centre*), a metal canteen (*top right*), a spanner (*middle left*), a section of brick wall from the gas chamber (*middle centre*), a Nivea crème tin made in 1938 (*middle right*), hair slides (*bottom left*), a key (*bottom centre*) and a cooking pot (*bottom right*). (Copyright: Caroline Sturdy Colls/Kevin Colls)

many items may have dates written on them, bear information about their manufacturer or are of particular styles that were only used during a particular period of time (Fig. 7.11). Through desk-based research, the comparison of finds recovered from other Holocaust sites, it may be possible to characterise individual items and provide information about their origin. Museums and conservation experts at sites such as Auschwitz-Birkenau and Majdanek have vast experience in classifying items found in the camps or donated to them since the war. Comparisons can also be made with the items held by these museums. The expertise of militaria collectors should also not be overlooked particularly in relation to items belonging to Schutzstaffel (SS) and army personnel. A body of expertise is also being built up by archaeologists engaged in this kind of work, given the large number of items that are often discovered during excavation, and comparisons of the materials found at different sites is being undertaken more regularly (Schute 2013; Wijnen and Schute 2010). The various finds databases that have emerged from archaeological projects also provide a valuable resource (e.g. Buchenwald and Mittelbau-Dora Memorials Foundation 2014) .

The long-term conservation and storage of these items also needs to be considered; again, depending on the nature of the item, this may prove costly and time-consuming. However, the information that can be gleaned from post-excavation of individual objects certainly makes this a worthwhile process. In some circumstances, it may be possible to identify the origin, manufacturer and even the owner of individual items, providing previously undiscovered and untold stories from this period that can be used for commemoration and educational programmes (Chap. 12; Fig. 7.11). As well as individual items, the analysis and long-term conservation of structural remains also needs to be considered: Will structural remains that are uncovered be removed? Will any form of chemical testing be carried out upon them? What impact will this have on them? Will the remains be left exposed? Will they be recovered? Will the area be marked after excavation? If so, how? These are all important questions to which it is vital to know the answer before excavation begins to ensure that the correct specialists and funds are in place to facilitate whatever options are chosen.

7.5   Excavating Human Remains

The excavation of human remains is worthy of more detailed consideration here, even though (or perhaps because) it has rarely been undertaken with regard to the Holocaust to the same standard as mainstream archaeological or forensic investigations. Of course, it is now well known from forensic investigations and the investigations of mass graves from more recent conflicts that it is possible to recover and analyse human remains in terms of the cause and manner of their deaths and to determine identity. Anthropological analysis, aimed at determining the ancestry, sex, age and pathologies of individuals, is also well established in these arenas and in mainstream archaeology. Over the last three decades, it has been aptly demonstrated that it is possible to collect deoxyribonucleic acid (DNA) samples from skeletalised human remains, even when a considerable amount of time has passed since death (Adler et al. 2011; Allentoft 2013; Case Study 3.4). As part of the author's role as a forensic archaeologist, such an analysis is often a standard part of the forensic process when the body of a missing person is recovered or when legal exhumations are undertaken (Hunter et al. 2013).

Yet such analysis has rarely been undertaken with regard to victims of the Holocaust. Where attempts have been made to do this, like projects involving excavation more generally, they have been met with resistance (Sects. 2.3, 2.5 and 3.5). One reason for this relates to the need to respect Jewish Halacha Law with regard to not disturbing human remains. It is also forbidden to carry out any form of scientific testing on human remains under these laws; hence this has rarely been undertaken either (Sect. 3.5.2). Even when the victims are not Jewish, the recovery of human remains and subsequent analysis of them may be opposed for a variety of reasons. In some cases, the remains of the victims

are seen as sacred, whilst there may be opposition to the fact that many scientific tests carried out on bone mean that it has to be destroyed. Also, the belief that it is not possible to obtain DNA after such a long time may also be influential, as may the belief that the Nazis managed to successful destroy human remains. Thus, it may be believed that it is impossible to find or conduct tests on them (for further discussion surrounding these perceptions, see Sturdy Colls 2014b).

7.5.1   Body Recovery

There have been instances where exhumations of victims of the Holocaust have been carried out, where remains have been partially removed or where scattered or cremated remains have been excavated (Sects. 2.2 and 2.3). In the future, such practices may well happen again, particularly as a greater amount of time passes since the Holocaust and as more remains are found serendipitously in the course of development works. Equally, although many excavations have been met with resistance in the past, it is hoped that the increased awareness of the issues surrounding Holocaust archaeology and the continued development of this field based on a consideration of these issues will mean that excavations carried out in the future will be done so ethically and based on a greater appreciation of the value of carrying out such work. There will of course be instances where the excavation of human remains is wanted in order to provide answers and closure for the victims' families (Beder 2002; Williams and Crews 2003; ICMP 2014), and in order to 'give back the names and faces' of the individuals who were killed (Jasinski 2013). Many religious groups will not be opposed to the recovery of human remains, particularly if there is a chance that individual identities can be established (see Sect. 3.5 for a summary). For humanitarian or legal reasons, it may also be deemed necessary to locate the victims of genocide. Where exhumations are permitted, similar work in forensic archaeology attests to how much information can be gleaned from the analysis of mass and individual graves (for an overview, see Hunter et al. 2013). Excavation of mass or individual graves is not just about finding human remains but rather it is about examining the scene of a crime. In forensic archaeology, it is widely acknowledged that the grave is the place where the victims, offenders and body disposal meet and it is here that the most physical evidence concerning these deaths can be obtained when excavations are carried out (ibid; Hunter and Cox 2005). Excavations may yield vital information concerning the number of victims, the circumstances of their deaths (collectively and individually) and, ultimately, the identities of individual people. It is also during this process of excavation that offender profiling can be most effectively carried by examining what the physical evidence can reveal about the actions of the perpetrators (Sect. 6.5).

When human remains are to be excavated, it is vital that specialists in the recovery of human remains are employed to ensure that the maximum amount of information can be gleaned. Various international standards provide clear guidelines on the ways in which human remains should be excavated, recorded and handled after exhumation (McKinley and Roberts 1993; BABAO 2013). It is imperative that these are followed to ensure that the victims are afforded the dignity and respect that they deserve (Haglund 2002). National legislation may also be in place that stipulates how the discovery and exhumation of human remains should be handled, and archaeologists working in Holocaust archaeology in a research arena should be aware that these laws will vary between different countries (Chap. 2, this volume). In some countries, it will be necessary to inform a pathologist of the discovery before proceeding, in others the excavation can proceed just like any normal archaeological excavation (Marquez-Grant and Fibiger 2012). The exact way in which remains are recovered will be dependent upon whether or not they are skeletalised, whether soft tissue is present, how fragmented the remains are and whether or not they have been subject to any burning or chemical modification (Schmidt and Symes 2011; Porta et al. 2013). Various excavation and recovery strategies may in fact

be required as it is common for remains in a variety of different conditions to be present within mass graves. Mass grave excavations in particular can be logistically extremely complex, as remains may be intermingled and disarticulated. Perpetrators may also have made various attempts to destroy the evidence within the grave. Practitioners unfamiliar with these scenarios will likely find them extremely challenging and should certainly seek advice from, and preferably involve, those who have been involved with this kind of recovery work on previous occasions. No two mass graves will be the same but Blau and Ubelaker (2009) and Cox et al. (2007) provide useful overviews of the different types of scenarios that may be encountered based on many years' experience of working in modern mass grave investigation.

Recording these complex assemblages can also be challenging and will require a slow, methodical approach. Remains should always be recorded in situ, using a minimum combination of proformas specific to human remains, photography and plan drawing. Any other material contained within the grave should also be recorded in detail and it may be necessary to utilise specific proformas for different evidence types, e.g. clothing, footwear, hairs, fibres, etc. Ideally, high-resolution photography or laser scanning will be undertaken to record the remains in detail, as well as the context in which they are situated (Sects. 6.7 and 6.8). If the remains are to be removed, forethought needs to be given to how this will be achieved. For example, block lifting or sieving may be required depending upon the condition of the remains (Barker 2005). The latter will be essential when remains are fragmented or when they are cremated. McKinley and Roberts (1993) provide a very useful guide to the handling and recovery of fragmented and cremated remains. Storage of the remains also needs to be thoroughly planned in advance of excavation to ensure that they are stored not only in an ethical manner but also in materials which will not result in damage or degradation. A useful guide to the storage of human remains is provided by the British Association for Biological Anthropology and Osteoarchaeology (BABAO 2013). If the remains are to be stored temporarily on-site before reinternment or transportation to laboratories then adequate, secure storage solutions need to be confirmed before work begins. Long-term storage will likely be dictated by plans for further testing of the remains and whether (and how) they will be reburied. If remains are to be reinterred at the site from which they were excavated but in a different location, it may be necessary to confirm first that this reburial will not disturb any further remains that exist in this area. Here, consultation with local and religious authorities is vital to ensure that all parties are aware of exactly what the plans and timeframe are for these stages.

7.5.2   Confirmatory Excavations

With regard to the Holocaust, it is more common that the aim of excavations will be to confirm the presence of mass graves to enable them to be marked and the victims commemorated. Families of the victims and custodians of memorial sites may deem it sufficient that graves are marked and the victims are commemorated collectively. Archaeological investigations may play a role in locating such graves. This work may involve only the limited excavation of a site, for example the removal only of the turf or of enough material to confirm that human remains were present. Here, stripping techniques used in forensic archaeological search are particularly useful, whereby only the layers covering human remains are removed to confirm their presence (Fig. 7.12; Hunter et al. 2013). In forensic situations, excavation would normally continue after the arrival of the pathologist but, with regard to the Holocaust, if this confirmation is sufficient in terms of the project brief, then excavation could cease at this point. The simple removal of turf and overburden may be sufficient to confirm the presence of remains, particularly where the overall dimensions of the grave are known as a result of the application of remote sensing and geophysical methods (Fig. 6.1). Such a

Fig. 7.12 Stripping method commonly used in forensic archaeology to confirm the presence of a grave. (Copyright: Caroline Sturdy Colls)

method can also allow the dimensions (length and width) of a feature to be determined, given the visible difference in soil colour and consistency that will be evident when buried remains are present compared to the surrounding geology of an area. Valuable information concerning the nature of at least some of the human remains contained within the grave can still be gleaned using such an approach, particularly if detailed in situ recording is carried out using laser scanning and high-resolution photography (Fig. 7.13). These techniques can facilitate detailed analysis of any trauma or pathologies evident on the remains that were visible, and may even allow further anthropological analysis, in form of age and sex estimation to be carried out, depending upon the condition and visibility of the remains.

Case Study 7.4: Minimally invasive excavations at the execution site at Treblinka labour camp, Poland

The confirmatory approach outlined above was adopted at Treblinka labour camp. Here, excavations were carried out at the execution site associated with the labour camp to confirm if mass graves existed in the woodland, the presence of which had been indicated by a Light Detection and Ranging (LiDAR) survey of the area. A detailed discussion concerning the ways in which these graves were located is provided in Case Study 6.1. Although the sizes of the features were known from the LiDAR survey, it was unclear whether the pits actually contained human remains. Excavation was also necessary because the density of the forest negated the use the geophysical survey methods. Detailed desk-based research indicated that these graves most likely contained the remains of Catholic Poles but it was also possible that Jewish victims were buried there. Therefore, advice was also sought from the rabbinical authorities. A strategy was adopted whereby excavations would be carried out to confirm the presence of mass graves, rather than exhume the remains of the victims. The overburden on top of three potential graves was removed and a small test trench was excavated in each. When bones were uncovered, most
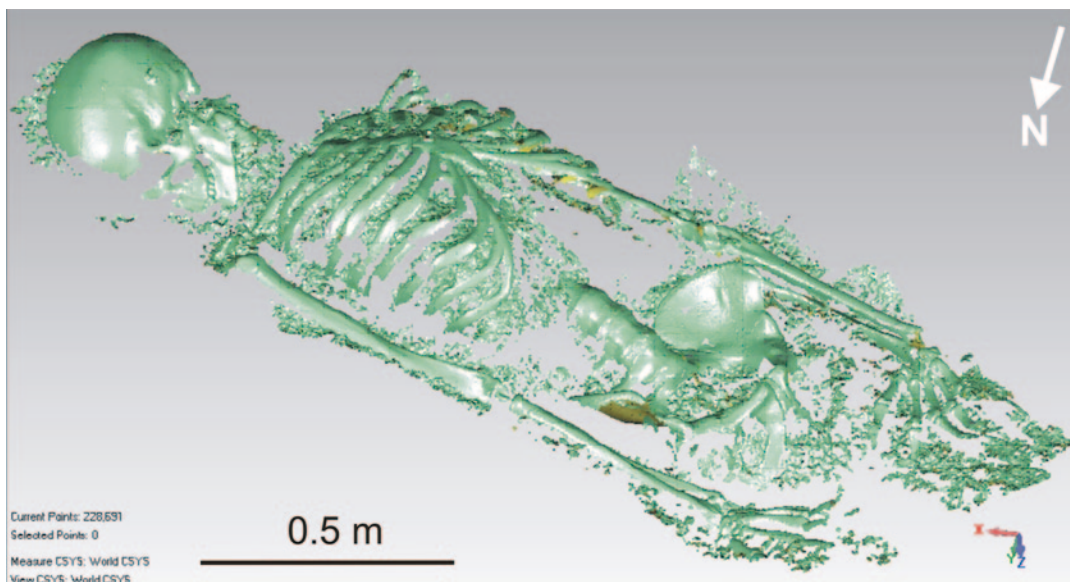
Fig. 7.13 High-definition laser scans of human remains undertaken whilst the remains were in situ in a grave. (Copyright: Mick Britton)

were left in situ but some were temporarily removed in order to determine whether further remains were present beneath them. Excavation only continued until it could be confirmed that multiple individuals were present within the grave (Fig. 7.14).

Once this was confirmed, all of the remains were immediately reinterred on the same day. Therefore, these excavations were minimally invasive. This strategy allowed the remains of these graves to be marked and had the added advantage that, should there be calls for the remains to be exhumed to facilitate identification, this will still be possible since the majority of the remains were not disturbed. The bones that were recovered were thoroughly documented and signs of trauma and pathologies were recorded and photographed.

7.5.3 DNA Testing

Where DNA testing can be carried out, it may facilitate the successful identification of individuals under the correct set of circumstances. Crucially, the success of DNA analysis is dependent upon the acquisition of sufficient samples from the unknown individual and comparative samples from family members (ICRC 2009; Sozer 2014). The large-scale extermination of multiple generations of the families during the Holocaust means that comparative samples may not be available in all cases. Whilst a large-scale programme of identification similar to that employed in the former Yugoslavia is certainly theoretically possible in relation to the Holocaust, in practical terms it seems unlikely given the religious, financial and logistical implications of its undertaking. It seems more likely that DNA testing in the future will be carried out only at isolated sites, where there is a desire to do so and where religious law permits it. There have been a few examples of this with regard to graves dating to the same period as the Holocaust in recent years. For example, recent excavations at Powązki Cemetery in Warsaw have the aim to 'give…[victims] back their names and faces' through the exhumation of victims of totalitarian regimes and DNA sampling (Ossowski et al. 2013; Jasinski 2013). Another example was provided in Case Study 3.4. There have been many reported instances of victims of the Holocaust

Fig. 7.14 Excavating and recording the human remains located in a grave at the execution site south of Treblinka labour camp. Most of the remains that were uncovered were left in situ. Some were removed to establish whether multiple individuals were present in the grave. (Copyright: Dean Northfield)

being discovered serendipitously in the course of building works or other forms of land development. Some of these instances have resulted in DNA samples being taken, though this has been very much dependent upon the country and circumstances of their discovery (Sect. 2.3). In the future, as technology continues to develop, it is hoped that more efforts will be made to identify Holocaust victims.

7.6   Geochemical Testing

A number of geochemical testing methods may also prove useful in some cases when examining Holocaust sites and a considerable body of literature now exists concerning these techniques (Hopkins et al. 2000; Tibbett and Carter 2010; Khodakova et al. 2013). Recent advances in burial research now offer the possibility to examine soil samples for the presence of human material such as lipids, cadaverine and putrescine, which may be indicative of the presence of human remains within a search zones (Bull et al. 2009; von der Lühe et al. 2013; Stadler et al. 2012). Although not suitable for use over large areas, these techniques may prove useful in targeted search areas. The ability to take soil samples will again likely be dictated by whether any objections are received on religious or ethical grounds, and these issues should be considered on a case-by-case basis if this kind of testing is to be proposed (Sect. 3.5). Chemical testing may also be carried out on building materials recovered from Holocaust sites. Most commonly, this has been conducted using methods such as Fourier Transform Infrared Spectrometry (FTIR) in order to determine the presence of Zyklon B or carbon monoxide in gas chamber remnants (Markiewicz et al. 1994; Sturdy Colls 2014a). Techniques such as FTIR, X-ray

powder diffractometry (XRD) and X-ray fluorescence (XRF) spectrometry may assist in determining whether materials have been burnt, covered in hazardous substances or exposed to substances intended to degrade them, e.g. lime (Hansel et al. 2011; Icove et al. 2012; Schotsmans et al. 2012). If the provenance of bone material is uncertain then, in cases where testing is permitted, there exist a number of recently developed and emerging dating methods that could be employed in the future to determine how old human remains are. A detailed summary of these methods, which include bomb-curve dating, crystallinity index and ribonucleic acid (RNA) analysis is provided in Hunter et al. (2013, Chap. 7). Analysis of isotopes in bone material may also prove useful for establishing the geographical origin of individuals if permitted (Meier-Augenstein 2011). The reader is referred to Mallett et al (2014) for further details concerning methods that could be used if the analysis of human remains is permitted.

Conclusion

The various methods that have been outlined in Chaps. 5–7 demonstrate how archaeological methodologies can benefit from drawing on a wide range of techniques. Doing so opens up the possibility to record and characterise a wide range of evidence types both below and above the ground, whilst providing new ways to analyse and present historical source material. As stated at the beginning of Chap. 5, it is not suggested that all techniques be employed or that the same methods be used at every site. In fact, instead, archaeologists should devise methodologies on a case-by-case basis as some techniques will not be practical, available or permitted at every site that is investigated. Equally, this list of techniques is not exhaustive as technology and practices are constantly evolving. Particularly as new developments are made in engineering, communication technologies and the digital humanities, further techniques will likely emerge. Archaeologists should follow these developments closely, so that innovative approaches can be employed alongside the more traditional, well-tested forms of analysis. In terms of combating stereotypes, this approach provides another way of demonstrating that, whilst archaeologists might be concerned with examining the past, in terms of methodology, we look firmly to the future!

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Physical Evidence of the Holocaust

8

8.1 Introduction

Schama (1995, p. 26) has argued that 'we are accustomed to think of the Holocaust as having no landscape—or at best one emptied of features and colour, shrouded in night and fog, blanketed by perpetual winter, collapsed into shades of dun and grey'. In fact, the landscape of the Holocaust is incredibly diverse, comprising a complex network of sites and features that are interwoven through the movement of people and the role they played in Nazi extermination policies. Some of these sites have been widely discussed in historical terms—for example, the extermination and concentration camps—but others have rarely been considered in terms of what they can tell us about the events of this period. Therefore, as well as challenging the temporal scope of the Holocaust (Sect. 2.1), it is also important to reconsider what constitutes the physical evidence pertaining to it. This naturally leads on to a consideration of what an examination of this physical evidence can reveal as part of archaeological investigations. Some of these evidence types have already been alluded to in the previous chapters but this chapter will explore this topic in more depth.

It should be remembered that the Holocaust was a spatial event. Nazi extermination and internment policies were inherently linked to the geography of Europe. Therefore, through an analysis of the landscape, it becomes possible to understand more about the logistics of the crimes perpetrated. In fact, Nazi policies were so reliant upon the successful movement, confinement and concealment of people within this landscape, and the experiences of people caught up in these events were so dependent upon the places where they found themselves, it can be questioned how is it possible to outline the history of the Holocaust without a consideration of the physical evidence within this landscape? Because of the interconnectedness of many places where crimes were perpetrated, it is also important to examine the material evidence and its configuration at local, national and international level. The sites of the Holocaust are also crime scenes. When investigating contemporary crimes, the consultation of witness testimony and documentary evidence alone would be insufficient to allow an investigation to reach a satisfactory conclusion (Monckton-Smith et al. 2013). In fact, physical evidence is seen as the cornerstone of forensic investigation on the basis that 'every contact leaves a trace' (Houck 2009; Locard 1920). The same is true of historic crime and there is no reason why these traces should be viewed as any less valuable. These traces range from large-scale landscapes through to individual objects; from clearly defined sites through to minute chemical or biological indicators (Sturdy Colls 2012a).

There is often a focus on the large number of deaths during the Holocaust and processes of internment. However, the Convention on the Preservation and Punishment of Genocide (1948) states that the following constitute genocide:

a. Killing members of the group
b. Causing serious bodily or mental harm to members of the group
c. Deliberately inflicting on the group conditions of life calculated to bring about its physical destruction in whole or in part
d. Imposing measures intended to prevent births within the group
e. Forcibly transferring children of the group to another group

In addition to mass killing, the Nazis carried out forced sterilisation, the transportation and separation of children from their parents, experiments conducted by Nazi doctors and torture. Therefore, other physical evidence, spaces and places exist which are connected to these crimes and they should not be forgotten.

The remainder of this chapter provides an overview of the evidence types that could, and should be, considered by archaeologists in the course of their examinations of Holocaust sites. As will become apparent throughout the discussion, many sites do not easily fit into any one category and the configurations of evidence at almost every site will differ. However, the purpose of this discussion is to highlight the complexity of this evidence, to challenge popular perceptions of it as appropriate and to bring to the fore evidence that may have not been acknowledged previously in any great depth. Previous archaeological investigations are referred to and potential future methodologies are briefly mentioned as appropriate in order to highlight the contribution that archaeology can make to the study of this period. These two topics were discussed at length in Chaps. 2 and 5, respectively.

8.2   Internment Camps and Sites

In March 1933, Dachau concentration camp opened in order to inter political prisoners, including Social Democrats, Communists and Jews, as well as criminals (Marcuse 2001, Fig. 8.1). The form of the camp, which included 'standing cells', experimentation areas, shooting ranges, and a 'death chamber', alludes to the fact that the camp system was designed around humiliation, degradation and execution (Winstone 2010). By the end of 1933, there were already over 100 camps in operation that were intended to house 'real and imagined' enemies of National Socialism (Megargee 2009,

Fig. 8.1 Dachau concentration camp. (Copyright: Caroline Sturdy Colls)

p. XXXIII). Many people, who were classed as political prisoners, were detained under 'protective custody' and were housed in prisons and/or camps for varying periods of time (Topography of Terror 2014). Others were housed in concentration camps or at torture sites (White 2009, p. 5). The notion of 'Arbeit macht frei/Work Brings Freedom' was developed in this same year (1933) when the camps were billed as 'political re-education centres' for people deemed to be a threat to the Reich (White 2009, p. 8). White (2009, p. 5) has classified these places as 'sites of improvisation'; many did not have barbed wire fences, barracks or guard towers but were instead housed in buildings taken over specifically for the purpose of internment, e.g. schools, hospitals, prisons, etc. Many of these early sites were established in Germany close to major industrial areas and this facilitated the use of prisoners for forced labour aimed to increase the efficiency of the Reich (Jaskot 2000).

As the perceived need to inter minority groups increased, many of the early camps were closed or modified, and a new system developed under the Inspectorate of Concentration Camps (Allen 2005). Scholars argue that it is only at this time that the concentration camp system developed (Orth 2009). The increase in the number of concentration camps also 'coincided with the radicalization of the regime and notably the increasing importance of the SS, under Heydrich Himmler' (Marrus 2000, p. 127). The creation of the SS-Death's Head battalions (Totenkopfsturmbanne) was an attempt to ensure that it was solely the SS who had control of the concentration camps, as opposed to the various other institutions that had controlled the early camps described above (Orth 2009, pp. 184–185). Many of these camps conformed to what has been described as the 'Dachau Model', which was characterized by 'permanent camps, outside legal supervision, unsparing brutality towards inmates, and tortuous labor' with defined systems of camp governance (White 2009, p. 7; Orth 2009, p. 185). Initially, these were established within Germany and Austria at places such as Sachsenhausen, Buchenwald, Mauthausen, Flossenbürg and Ravensbrück between 1936 and 1939 (Wachsmann 2009, Fig. 2.1). Further camps were then established across the whole of Europe as the desire for labour and the persecution of minority groups increased. It is at this point (1937–1938) that the marking of prisoners in the camps began and one of the key purposes of these internment sites was 'racial general prevention' (Orth 2009, p. 186). A large-scale labour programme had also been created under the direction of Organisation Todt, leading to the construction of labour camps to accommodate workers (Christopher 2014).

In 1941, deportations to Majdanek and Auschwitz-Birkenau began, and large-scale labour programmes were created including those under the control of the notorious I. G. Farben (Hayes 2001). In 1942, the concentration camp system was rearranged and attempts were made to increase the amount of labour undertaken by internees (Orth 2009). This led to the creation of an abundance of sub-camps from 1942 to 1945 throughout Nazi-occupied territory. Some camps continued to be branded as labour camps for the duration of the war and were administered by the Wehrmacht or Organisation Todt (Jaskot 2000). The people sent to these camps comprised a mixture of volunteers, 'volunteer or you will be forced types' and forced labourers (IWM MISC 2826 189/1–2-a). In the majority of camps—whilst work did mean that people survived perhaps a little longer—its arduous and, often impossible, nature meant that in reality work meant death (USHMM 2013a). Therefore, graves are often found in association with internment camps as people often died through ill-treatment or were killed for being ill, insubordinate or for no particular reason other than the guards wanted to kill them. At the end of 1942, the term 'Vernichtung durch Arbeit/annihilation through work' was first used explicitly as more and more prisoners were transported to the camps to participate in forced labour (Kaienburg 1990). As Orth (2009, p. 190) has argued, 'the rise in value attributed to the labor force did not increase the survival chances of the concentration camp prisoners. On the contrary, the SS valued the labor force even less because it had mass supply'. The number of labour, reception and transit camps increased considerably in 1945 as the Nazi administration attempted to bolster the economy to prevent the loss of the war and relocated internees on a huge scale (ibid). The overcrowding, increase in harsh labour and ill treatment that internees experienced also led to a high death rate in this period (Wachsmann 2009).

Concentration camps were not only built to provide labour pools. It is true that some of the camps were constructed to allow specific labour to be undertaken, e.g. the construction of fortifications along the Atlantic Wall and the building of roads during the early period of National Socialism by prisoners from the Prussian camps. However, others were built as concentration camps and the labour that was undertaken was a by-product (White 2009). Additionally, many camps were not intended to house people in the long term. En masse systematic killing of camp inmates began in 1941, firstly as a measure against overcrowding and then as a way of killing those people deemed 'unworthy of life' such as the disabled, Russian Prisoners of War and Jews (Browning 2005, p. 185). Sites like Semlin in Serbia were established for the purpose of temporary internment before inmates were transported in gas vans, murdered and buried in mass graves on the other side of the Sava River (Byford 2010). At Majdanek in Poland, the length of an individuals' internment varied but the majority were ultimately sent to the gas chambers or shot as part of organised mass executions (Kranz 2007). At Risiera Di San Sabba in Italy, gas vans, 'death cells', strangulation and clubbings were used to kill between 3000 and 5000 people, following visits by Odilo Globocnik and Operation Reinhard personnel (Winstone 2010). Many concentration camps had gas chambers and crematoria, and many were designated as camps for specific groups that the Nazis' had targeted for extermination. Many sites were also classed as transit camps or temporary holding centres where people would be held before being transported to the extermination camps (Megargee 2009, Fig. 8.2).

By the end of the war, it is estimated that over 20,000 internment sites had been created (USHMM 2013b). Although internment sites were often assigned to a particular category by the Nazi adminis- tration, e.g. concentration camp, 'protective custody camp', labour camp, etc., these names often did not reflect the diverse treatment of internees. For example, some people deported to concentration camps did not experience internment but were instead murdered en masse. Many people were sent to labour camps but very quickly died because of either ill-treatment or execution. Therefore, although the term death camp has been used to describe a particular type of camp where large-scale systematic murder was carried out (Sect. 8.3), it could be argued that many other camps could also be branded

Fig. 8.2 The area that housed Kamp Westerbork, which was designated as a transit camp. The area now contains a memorial and radio telescopes. (Copyright: Caroline Sturdy Colls)

Fig. 8.3 The labour camp at Gross-Rosen where 40,000 people were killed. (Copyright: Piotr Peszko (*left*)/Mariusz Szcygiel (*right*))

as death camps given the crimes perpetrated within them and the certainty that death would occur for many people who were sent there (Fig. 8.3). At the very least, the majority of these sites can be branded as killing sites.

Recent work by the US Holocaust Memorial Museum (USHMM) has further demonstrated the diverse nature of these sites. Some labour sites could be more readily defined as factory camps, construction camps or subterranean camps, where internees were forced to excavate underground structures (Megargee 2009). Others were predominately used for other purposes—such as prisoner-of-war (PoW) camps, youth camps, resettlement sites, prisons, ghettos or assembly camps—but inmates were still required to undertake forced labour. Some camps where large numbers of people were interred, although they may have been branded as concentration camps, were in fact mass mortality camps (where people were left to die, rather than being deliberately killed; ibid). Within the camps, various zones existed which were designed to demonstrate power, ensure control, facilitate internment and/or mass murder, and to represent hierarchies (Sofsky 2013). For example, the separation of the administration and the prisoners was standard and the division of internee groups also occurred in many camps, for example some housed so-called Jewish, gypsy, Russian and women's camps (for an example, see Ruhe 2009). In some camps, attempts were made to separate arrival, living quarters and execution areas (for an example see Fig. 5.2). This is particularly notable in the death camps which were divided into zones known as the reception camp, living camp and death camp. Therefore, treatment between and within individual internment sites varied considerably depending on the reason why a person had been interred, the administration responsible for inmates and the time period in which the detention took place. Identifying these different zones and divisions through the physical evidence can help gain a further understanding of the complex movement and interactions between people in these areas.

The physical evidence pertaining to these internment sites is, therefore, equally as diverse. As noted above, many sites were not constructed 'from scratch', but were instead located in existing structures such as:

- Prisons, e.g. at Brandenburg an der Havel and Eutin in Germany (Mayer 2009, pp. 50–51; White 2009, pp. 75–76)
- Factories, e.g. Gräfenhainichen in Germany (White 2009, pp. 84–85), Risiera Di San Sabba in Italy (Winstone 2010), Nord-Pas-de-Calais (Roberts 2010), Starachowice (Browning 2004)
- Castles, e.g. Hohnstein and Kislau in Germany (White 2009, pp. 97–99; Borgstedt 2009, pp. 102–103);
- Military bases, e.g. Auschwitz I (Rees 2005)
- Houses, e.g. the camp for Moroccan prisoners in Alderney (Sturdy Colls and Colls forthcoming); schools and prayer houses, e.g. Bud in Norway (Jasinski 2013)
- Exhibition halls, e.g. Semlin in Serbia (Forensic Architecture 2014)

Unlike many of the purpose-built camps, blueprints and architects' plans often survive for these sites and many of these buildings survive to present day (Fig. 5.8). Many sites that were purpose-built were also often built of more durable materials than the extermination camps, owing to the fact that many were designed to exist in the longer term. Camp landscapes incorporated a variety of buildings including (but not limited to) barracks, villas/houses of camp commanders, living quarters for the camp administration, offices, kitchens, laundries, storehouses, garages, workshops, guard towers, stables and even swimming pools. Structures (and their foundations), graves, boundaries, banks, ditches, defences, fences, gates and infrastructure (e.g. roads, pathways, train lines, sewers) may all survive above or below the ground. As many of the concentration camps were modelled on the 'Dachau Model', it is possible to establish patterns in the functions of many sites which are similar (Megargee 2009, p. XXXIX). If we can establish a pattern in their function, then we can also establish patterns in their physicality. In some camps, the same types of barracks were used or influence was taken from Classical architecture (Scobie 1990). Whilst not all of the camps look similar, the need to maintain control over the inmates, the nature of punishments and executions, and the practicalities involved in housing large number of people will have influenced their layout (Benz and Distal 2005). Indeed, many scholars have analysed in detail the distinctive architecture of the Nazi regime which was designed by Albert Speer to emphasise the power the regime held (politically, economically and in military terms), to instil fear, to create a sense of omnipotence amongst those under its control, and to stress the regime's Nationalistic focus (Thies 2014; Jaskot 2000; Taylor 1974; Sect. 9.2). Where above- or below-ground remains can be detected, similar forms of analysis can be taken by archaeologists (Forensic Architecture 2014). Indeed, it must be remembered that when structural remains are located, they are not just structures; they are in fact symbols and evidence of the crimes perpetrated which have the potential to reveal new insights into the lives, work and deaths of the inmates within the camps, and the lives and work of the guards. This is discussed further in Chap. 10.

Those sites that were intended to be temporary labour camps were often constructed of flimsy, readily available materials which would be sufficient to house inmates for a matter of weeks. Many of these camps did not even have names—or at least none are documented—and their discovery is often reliant on brief mentions in documentary sources or recognition in aerial images (Sturdy Colls 2012). However, when labour sites can be located, this may assist in determining the location of these temporary camps (Sturdy Colls and Colls forthcoming; Case Study 8.1; Figs. 5.12 and 8.4). Other temporary camps consisted of fenced off buildings such as pre-existing shops and houses. Many of the larger concentration and labour camp sites were used over extended periods of time and so had many phases to their existence (Sect. 9.3). Many were operational until the end of the war and so were either liberated prior to their destruction or abandoned just before liberation. At sites which were abandoned quickly, there was often not enough time to thoroughly destroy the evidence of their existence, as had been the case with the camps that had closed earlier in the war, e.g. the Operation Reinhard camps (Sect. 8.3).

Fig. 8.4 Camps located on Alderney according to a survey by M.I.19 carried out in 1944. (Copyright: Caroline Sturdy Colls based on PRO WO106/5248B)

Case Study 8.1: Locating Internment Camps on Alderney, Channel Islands

During desk-based research into the history of the Occupation of Alderney, a map created by British spy division M.I.19 was located. A redrawn copy of this map is shown in Fig. 5.1. Several of the features on this map were labelled as camps for certain groups of prisoners, e.g. Moroccans, political prisoners and Organisation Todt workers. Some were located in existing structures that had been fenced or walled off, whilst others were contained within temporary barracks. Whilst the location of four of these camps was already known, no mention of the other five was found in other documentary evidence. A large collection of wartime aerial photographs of Alderney was available for study which, at times, provided almost a daily record of the evolution of the Occupation landscape. Analysis of these images demonstrated that barracks and building foundations had existed in some of these areas for a very limited period of time. A further possible camp, which was not marked on the M.I.19 map, was identified from the aerial images. The pre-existing structures alluded to on the map were also visible, but it was not possible to tell from the images what their purpose was. Walkover survey was undertaken to locate the positions of these camps on the ground and evidence for all of them was located in the form of standing buildings, walls, concrete foundations and other structural remnants (Fig. 8.4). Geophysical and topographic survey was also undertaken at another site identified on aerial photographs in order to determine whether concrete foundations still survived. Several were positively identified below the ground (Fig. 5.12). Archival research is ongoing in order to try

and determine the exact nature of these structures and how these temporary camps functioned. Like the four main camps on the island, these camps are geographically dispersed. Some appear to have been built for convenience near to areas where fortifications were being built, whilst others took advantage of existing, available structures.

Because many of the camps were connected to labour (in its various forms), these sites also formed part of a wider landscape which comprised the places where the actual labour was carried out, the often complex transport routes that moved people and goods, and the places where inmates were buried (Sect. 8.7). They also formed part of a large network of interconnected labour sites, since many people were moved from one labour site to another. The total number of labour camps across Europe (and beyond) is unknown, not least of all because the lines are often blurred between what can be called a concentration or labour camp. The labour sites themselves are equally diverse in nature. Some were already in existence, e.g. quarries, and camps were deliberately located nearby to facilitate their exploitation (Sturdy Colls 2013). Other camps were constructed near to labour sites so that they could be used as 'annihilation through work' sites. For example, Mauthausen was constructed near to a large granite quarry where workers were forced to run up 168 "Stairs of Death" and many died from exhaustion and harsh working conditions (Jennings 2009). Mauthausen was also built near to the town and had supplies delivered by local tradesmen and women. The people who died there were even sent to the town crematoria in the camp's early period of operation (Horwitz 2000). One of the reasons that the full extent of the brutality in camps like this is not known is because many were branded as 'work camps' or 'prison camps' because local leaders did not want their area tarnished with the image of the camp's brutality; thus they ignored the fact that 'labor itself also led to death' (Sofsky 2013, p. 7). Many camps were constructed near to roads or railways, some to facilitate the movement of people and goods, others to allow inmates to work on their improvement (Jones 2013). Conversely, new camps were constructed in areas designated for new construction programmes, for example those connected to the building of fortifications along the Atlantic Wall (Sturdy Colls and Colls 2014; Jasinski 2013, Fig. 2.13). Therefore, the fortifications and infrastructure constructed as part of these labour programmes should also be seen as forming part of the body of physical evidence connected to the Holocaust (Sect. 10.4 and 10.5).

8.3   Extermination Camps

The history of the extermination camps in Poland—Chełmno, Bełżec, Sobibor, Treblinka and Auschwitz-Birkenau—is well documented by historians (Webb and Chocholatý 2014; Montague 2012; Rees 2005; Gutman and Berenbaum 1998; Arad 1987). Chełmno was constructed in 1941 in the grounds of a disused manor house 30 km north-west of Łódź in Poland (Krakowski 2009). Originally constructed as a solution to a 'local problem', the implementation of mass murder by gas here (in gas vans) served as a blueprint for the development of the gas chambers at extermination and concentration camps elsewhere in Europe (Montague 2012, p. 7). The decision taken at the Wannsee Conference to carry out the Final Solution, commonly defined as the plan to annihilate Jews across Europe, facilitated the need for mass extermination centres, which would be under the control of Operation Reinhard staff (Baxter 2010). In Spring 1942, SS Hauptsturmführer Herman Höfle was sent to find suitable locations for the Operation Reinhard camps which, as Arad (1987) states, were selected according to three criteria:

- Their proximity to railway lines, to enable the transportation of the victims to the death camps

- Their remoteness, to ensure that the true purpose of the camps was not revealed
- Their proximity to the occupied territories of the Soviet Union, to ensure that the victims believed they were being transported to the East

Additionally, the camps had to be close to Lublin, as this was where the headquarters of Operation Reinhard were located (Muzeum Walki i Męczeństwa w Treblince 2011). These camps were constructed by the Nazis in order to carry out large-scale mass murder, the means by which were 'perfected' over time. What have been described as 'industrialised' methods of killing were developed within the boundaries of these complexes and millions of victims were killed over incredibly short periods of time (for example Treblinka was only operational for 10 months; Bartov 1996). The construction of new gas chambers and crematoria on an unprecedented scale at Auschwitz, in the complex known as Birkenau saw the transition of this camp from a labour camp to an extermination centre in the Spring of 1942 (Rees 2005, Fig. 8.5). The exact number of victims will probably never be known but historians have estimated that at least 1.3 million people were killed in Auschwitz-Birkenau, 800,000 in Treblinka, 500,000 in Bełżec, 250,000 in Sobibor and 150,000 in Chełmno (Berger 2013; Montague 2012). Although popular perceptions of the Holocaust have continued to centre on Auschwitz-Birkenau, as Gilbert (1987, p. 287) points out, 'fewer Jews were to be killed in Auschwitz-Birkenau than at the other four death camps combined, but far more Jews were to survive Auschwitz-Birkenau, having been 'selected' for slave labour, than were to survive the four death camps'.

With the exception of Auschwitz-Birkenau, very little was known about the appearance of these camps after World War II. This situation has arisen for various reasons. Firstly, the Nazis went to great lengths to hide the traces of their crimes, both during their periods of operation and when they were abandoned. Witnesses were killed and buildings were demolished. In particular, the Nazis tried to destroy the remains of the victims they killed; burying remains in mass graves, cremating the corpses, grinding the bones and spreading them for fertilizer (for an example see Blobel 1947). In reality, these efforts did result in the total destruction of *some* of the physical evidence at these sites but also the perception that all of the evidence was destroyed. Secondly, having been closed down in 1943 (Treblinka, Sobibor and Bełżec) and 1945 (Chełmno), these camps were not liberated by British, American or Russian forces but were instead largely demolished much earlier (Reilly 1998; Arad 1987; Abzug 1985). Given the nature of the crimes perpetrated at these sites, they had a finite lifespan and thus, they were not built to be permanent; the camps at Treblinka, Sobibor and Bełżec for example, had no accommodation in which to house the people sent there except barracks for those tasked with burying

Fig. 8.5 The vast extermination camp at Birkenau. (Copyright: Caroline Sturdy Colls)

the bodies. This was because the sole purpose of these camps was extermination (Arad 1987). The only solid structures within the extermination areas at the camps at Treblinka, Sobibor and Bełżec were the gas chambers; all of the other reception buildings (e.g. sorting and undressing barracks) and the places where the Sonderkommando slept were reportedly built from wood (Schelvis 2014, p. 103; Macdonald and Sereny 1996, p. 56). Thus, when they were taken down upon the camps' abandonment, this also resulted in the perception that the camps had been entirely destroyed.

However, it should be remembered that these camps had a considerable presence in the landscape. They consisted of a complex configuration of structures (and their foundations), graves, boundaries, banks, ditches, defences, fences and infrastructure (e.g. roads, pathways, train lines, sewers) which could not be so easily erased. Archaeological investigations at all of the death camps have allowed such remains to be located and recorded, and have highlighted the equally diverse range of objects that can be found in association with these structural remains (Sturdy Colls 2014a, b; Haimi 2012, 2013; Państwowe Muzeum Auschwitz-Birkenau w Oświęcimiu 2013; Pawlicka-Nowak undated; Sect. 2.3). As more work is undertaken at these sites, comparison of the evidence found is becoming increasingly possible and the implications of this evidence in terms of the Final Solution can be considered. In all cases, archaeological work has demonstrated inaccuracies in popular perceptions of the sites; the locations of features such as gas chambers, boundaries and barracks have been shown to differ from those presented on witness and post-war plans. In light of the recent discovery of the gas chambers at Treblinka (Case Study 7.3) and Sobibor, it is likely that in the coming years more will be learnt about the nature of extermination (Sturdy Colls 2014a; Wojczech Mazurek and Yoram Haimi, pers. comm.). Archaeological surveys have demonstrated that considerable evidence does survive at these sites, indeed so much so that projects have been undertaken over the course of several years (e.g. over 6 years at Treblinka and Sobibor, and 27 years at Chełmno). Whilst on paper, these camps appeared to be extremely 'efficient', archaeological research has shown that they were often chaotic and rules regarding the destruction of corpses and other evidence, were often not observed (Sturdy Colls 2014b; Kola 2000). Many witness testimonies allude to the fact that killing practices were extremely disorganized, particularly in the early stages of the camps' existence, and that ad hoc shooting took place because the gas chambers could not cope with the sheer number of people who were being transported (Kogon et al. 1993). With the exception of Auschwitz-Birkenau, crematoria were also not built at these camps and so the cremation pyres used instead did not have sufficient capacity to facilitate the cremation of all of the people killed (Arad 1987). Hence, bodies continued to be buried directly into mass graves in many cases. Archaeological research at all of the extermination camps has yielded information about body disposal patterns that counter popular narratives on this topic. This issue is discussed at length in Sect. 10.6. It should also be remembered that, although they were not labelled as such, many of the other camps described in Sect. 8.2 above could be branded extermination sites since people were systematically murdered there.

8.4 Ghettos

In September 1939, Reinhard Heydrich, Chief of the Reich Central Security Office, announced that he wanted to ensure that Jews were concentrated in the cities and removed from the countryside (Reinhard Heydrich's Instructions to Einsatzgruppen leaders, 21 September, 1939). Having decided that the plan to deport Jews and other 'undesirables' to Madagascar was not viable, a plan was devised which involved the concentration of Jews into ghettos located in Poland (Browning 2005). It was suggested by the Nazi administration that this would prevent the spread of diseases by these 'undesirables' and allow other areas to be Aryanised (Browning 2012, p. XXIX). Initially, Jews were expelled from western Poland to ghettos in the east but the expulsion of Jews from elsewhere in Europe soon fol-

lowed (Gilbert 1987). The deportations were halted and restarted several times throughout 1939 and 1940. Initially, the ghettos were numerous so people were not concentrated into very small areas as the name ghetto suggests, and many ghettos were extremely disorganised (Browning 2011). Particularly in the early years of the war, the ghettos were used as labour pools. A notable example is the Łódż ghetto, which housed 162,000 people following the announcement of the ghettoization decree on the 30th April 1940, many of whom were selected to carry out labour in the district (ibid). Other ghettos, like Brzeziny in Poland, were also referred to as 'a working ghetto' (Iskov 2011, pp. 45–47). October 1940 saw the creation of the Warsaw ghetto and the internment of 400,000 people in an area that was a third of the size of the city (Engelking-Boni and Leociak 2009). Here, and in many of the other ghettos in eastern Poland, Czechoslovakia, the Soviet Union, Ukraine, Lithuania, Latvia and Hungary, tens of thousands of people died of hunger and disease, whilst others were executed or committed suicide. Many ghettos also continued to supply labour for the Reich (Bejarano and Boasson 2010). Browning (2011) has argued that, although the ghettos did serve to reduce the Jewish population of Europe because of the terrible conditions experienced within them, this was not their original purpose. It was not until 1942 that the ghettos would become inherently linked to the implementation of the Final Solution, acting as temporary holding centres before people were sent to the camps 'to camouflage German intentions, and create the illusion of long-term viability among the victims' (Browning 2011, p. XXXIII). In 1942, deportations began to the Operation Reinhard camps—Bełżec, Sobibor and Treblinka (Berger 2013; Arad 1987).

In terms of the physical evidence of ghettoization, it is perhaps more complex than that pertaining to the other sites of the Holocaust. The locations of ghettos were often based on pre-existing settlement patterns, e.g. Jews were confirmed to Jewish districts within towns and cities. Therefore, houses, shops and other businesses became living areas for those forced to live there. Essentially, whole urban landscapes became Holocaust landscapes and all of the material elements within these areas became part of a body of physical evidence connected to Nazi crimes. Whilst many of the ghettos had fixed walls and fences, many others, particularly in the early period of ghettoization, did not (Dean 2005). In other areas, such as the Bełchatów ghetto, located in the Wartegau region of Poland, the boundaries of the ghetto were clearly marked but the ghetto was not actually enclosed (Zegenhagen and Fishman 2011, pp. 41–43). Therefore, it may be difficult to assess the effectiveness of these boundaries in terms of their ability to prevent people from leaving the ghetto. Other ghettos are easier to define, having consisted of existing pre-war Jewish settlements, or because the locations of the ghetto walls are known since they survived until the end of the war. Many remain in part or are marked in some other way, acting as memorials for those who died and suffered within them (Fig. 8.6). It may be possible to relocate the walls or fences that do not survive using historical maps, documentary evidence and in-field survey (Chap. 5–7). The size of the ghettos also varied considerably, with some being confined to particular buildings, streets or camps, and others covering many square kilometres. As well as the physical remnants of the ghettos, the maps and plans which demonstrate 'urban planning' also form part of the body of evidence connected to them, making it possible to assess what could be seen from inside and outside the ghetto, how enclosed the people inside would have felt and to what extent the boundaries formed a kind of surveillance to further control the internees (Cole 2003, p. 8). Some ghettos even had camps within them, e.g. the Budapest Ghetto, thus blurring the lines further between the different types of sites (ibid). Death was a regular sight in the ghettos, and many places on the streets or within buildings became execution sites or temporary body disposal locations (for examples, see Corni 2003).

In terms of what may survive today: Of course, buildings may have been destroyed and replaced, objects long since removed and locations transformed irreversibly from their wartime appearance, owing to the rapidly developing nature of towns and cities. It will not be possible in many cases within urban areas to search for and/or recover buried evidence as part of archaeological surveys but that does not mean that other types of examinations cannot be carried out. Additionally, this demolition

Fig. 8.6 A surviving section of the wall of the Kraków Ghetto. (Copyright: Caroline Sturdy Colls)

material in itself represents an important part of the evidence of the ghettos. It represents evidence of an event in itself and it also contains the remnants of other evidence, such as objects, manuscripts, the rubble of buildings and in some cases human remains, as outlined in Case Study 8.2.

Case Study 8.2: The buried remains of the Warsaw Ghetto

Because of the way that the Warsaw ghetto was destroyed, in the course of two uprisings, much of the rubble was simply levelled in order to facilitate the rebuilding of the city. Only a handful of buildings remain which were in existence when the ghetto was operational and only a few other traces exist in the form of places like the Umschlagplatz (where people were held before being deported to the death camps) (Fig. 8.17). The construction of new buildings limits access to many parts of the former ghetto area and, thus, the ability to employ some archaeological techniques. However, because of the levelling, the city literally lies on the remains of the ghetto and a considerable amount of evidence will exist within the demolition layers. This evidence includes human remains belonging to those who died in the ghetto or who were killed during the uprisings. Excavations undertaken during the recent construction of the Museum of the History of Polish Jews in Warsaw revealed several skeletons of people who had died as a result of being crushed when the building above had been destroyed, crushing the cellar in which they were hiding (Butnick 2013). In other areas, excavations undertaken as part of the extensive metro construction works or street improvements reveal the layers of the ghetto. It is possible to identify clearly a destruction layer, which shows evidence of burning and the destruction of property. The recent discovery of buried documents during construction works in central Warsaw demonstrates how much subterranean evidence may still be found (Urzykowski 2014). These documents have duel value in that, once conserved, they may reveal further written information about life within the ghetto. In the future, archaeological surveying and monitoring of construction work could allow more of the physical evidence of the ghetto to be recorded.

Fig. 8.7 Original tiles in a dilapidated building that was once part of the Warsaw Ghetto. (Copyright: Caroline Sturdy Colls)

Many of the testimonies that we have concerning life in the ghettos have come manuscripts that have been found in the rubble since the end of the war, including those now contained within the Ringelblum Archive (Shapiro and Epsztein 2009). It is likely that much of this type of evidence will be discovered unexpectedly during the course of future construction works in the former ghetto area given the current lack of initiatives aimed at examining these places. In cities like Warsaw and Łódż which were so heavily damaged, recording the remains of the few buildings that survived from before the war, which would have formed part of the ghetto landscape, is also important. As many of these original buildings remain in a dilapidated state, the pressure to redevelop them places them under constant threat. Many also contain important pre-war Jewish heritage in the form of original tiles and architectural forms which will be lost if the buildings are demolished (Fig. 8.7). Here, building surveying, 360° photography and laser scanning have an important role to play in preserving these sites by way of record (Sect. 6.7 and 6.8).

8.5   Euthanasia Sites

Although less-widely discussed than the Nazi camp system, the mass murder of the disabled in hospitals and special 'facilities' resulted in the deaths of over 70,000 people (Friedlander 1997; Sect. 2.1). In 1936, the Reich Committee for the Scientific Registering of Serious Hereditary and Congenital Illnesses was created, an event that would pave the way for the confinement, sterilisation and eventual extermination of people deemed 'unworthy of life' (Burleigh 2002, p. 101). This programme would come to be known as the 'Euthanasia Aktion' or 'T-4' programme, due to it being devised at Tiergarten 4 in Berlin (Evans 2002). Euthanasia of children was undertaken first, followed by a programme that targeted adults in the summer of 1939 (Longerich 2010). Some people were killed by lethal injection, others through starvation. This policy was first implemented in a number of mental hospitals throughout Germany before being expanded into an area of Poland known as the General Government (Burleigh 2002). Six killing centres were established at Brandenburg, Grafeneck, Hartheim, Bernberg, Sonnenstein and Hadamar which operated from January 1940 until August 1941. As the war progressed, many killings took place at remote locations in the vicinity of these facilities and elsewhere (Felder 2013). The killings were halted in 1941 because of negative public opinion towards them but euthanasia continued in hospitals and other killing centres such as Risiera di San Sabba in Trieste, where around 5000 people were killed in a former rice warehouse (Friedlander 1997). Even at the hospitals where the killings had supposedly stopped, so-called wild Euthanasia was carried out, with individual doctors and nurses continuing to select people for execution (Browning 2005, p. 192). At Meseritz-Obrawalde, it is estimated that around 10,000 people were killed, the majority of whom died after the supposed suspension of the killings (Benedict and Chelouche 2008; Benedict et al. 2007).

Therefore, the buildings in which these killings occurred form part of the Holocaust landscape. These buildings were typologically diverse—many had been monasteries, manor houses and castles before being designated as hospitals, asylums and, ultimately, killing centres (Fig. 8.8). Within these complexes existed bedrooms, killing rooms, offices, garages, gas chambers and crematoria. Some of the killing centres were surrounded by fences warning people to keep out, whilst others were arranged to give the appearance that they were operating like normal hospitals. At some, elaborate attempts were made to hide the crimes, whilst at others people were killed in view of the population. For example, at Chelm Lubelski hospital, 2000 people were shot with machine guns openly for the hospital staff and surrounding population to see and hear, whilst other victims were killed covertly through other means (Montague 2012; ARC 2006). The locations where the victims of the Euthanasia Aktion were buried also form part of this landscape. Some victims were buried in individual or mass graves, whilst others were cremated (Burleigh 2002). During excavations in Hartheim, archaeologists recovered a large number of cremated remains from a pit close to the building and the personal belongings of some of the victims were found from a second pit nearby (Theune 2013; Klimesch 2002). At some of the euthanasia centres, false graveyards were created in an attempt to deceive relatives and the outside world into thinking that patients had died of natural causes and had been given a proper burial (for an example see Wojewódzki Szpital Neuropsychiatryczny im. Oskara Bielawskiego w Kościanie 2009). The reality was that many of these graveyards were empty, containing false graves with crosses bearing the names of the victims, whilst their bodies were really buried in mass graves or cremated. Other executions and burials took place away from the hospitals and asylums. Some victims were transported by road to the chosen execution site and shot. For example, in East Prussia, 1558 asylum patients from Allenberg, Kortau and Tapiau were loaded onto trucks and killed by a special SS unit between 21st May and 8th June 1940 (Burleigh 2002, p. 129). Others were killed in the gas vans

Fig. 8.8 Hartheim Castle in Austria, which housed a euthanasia centre during the Holocaust. (Copyright: Caroline Sturdy Colls)

(Bachrach et al. 2004). Dr Henryk Florkowski provides an account of the execution of mentally ill patients in Kosciań:

> patients were exterminated and between 15th to 22nd of January 1940, 534 patients were murdered. They were first stupefied with morphine and scopolamine injections and gassed in special car chambers at the forest nearby Jarogniewice. The bodies were buried in collective graves. (Wojewódzki Szpital Neuropsychiatryczny im. Oskara Bielawskiego w Kościanie 2009)

Although many of the former euthanasia centres have memorial plaques detailing the events that took place there, and some exhumations were carried out after the war, the majority of the euthanasia and associated killing sites have not been examined in detail. Further mass graves are likely to survive in the forests around these facilities. The variety of non-invasive and invasive methods outlined in Chaps. 5–7 offer the possibility to examine these sites in detail and to locate the graves associated with them. On the basis that the victims killed in many of the euthanasia centres were named in documentary records (many even had a death certificate), if excavation were to be permitted then identification of the remains of these victims should be easier compared to those who were transported clandestinely.

8.6   Killing and Disposal Sites

As well as the killings that occurred in the camps and ghettos, it is estimated that around 3.5 million people were executed elsewhere (Pohl 2013). Many of these executions took place following round-ups in villages, towns and cities across Europe. These round-ups were undertaken by the Einsatzgruppen—specially assembled teams whose sole purpose was to carry out executions—or by the military police and army (Angrick 2008; Langerbein 2004). These executions saw people most commonly being shot or pushed alive into mass graves, which were usually situated on the periphery of inhabited

Fig. 8.9 The Rotunda at Zamość where prisoners were executed and buried in mass graves. (Copyright: Caroline Sturdy Colls)

areas. In Khmelik in the Ukraine, 300 men were rounded up on the basis that they would be sent to undertake forced labour but they were then immediately shot (Gilbert 1987, p. 183). In Zagrodski in Belarus, people were forcibly removed from the ghetto and taken by truck to a mass grave at the base of a nearby hill (Yosselevska 1961). These are just two examples from thousands of similar executions. Many executions took place in woodlands or isolated areas of land to avoid detection, but others were undertaken less covertly as a form of intimidation. For example, in Riga in Latvia, Jewish men, women and children were forced into the synagogues and chapels at cemeteries before being burnt alive (Lumans 2006). It was quite common for mass graves to be dug within Jewish cemeteries, the gravestones having first been desecrated (for examples see US Commission 2005, Fig. 1.3). This is an example of dual genocide, in that the places that cemented the identity of a particular religious group were also destroyed alongside the people from that group (Convention on the Prevention and Punishment of the Crime of Genocide 1948). When examining these sites, it is possible to locate execution sites alongside the pre-war heritage of the Jewish communities of Europe. Some executions were carried out directly at mass graves but often, natural landscape features were also used as convenient burial sites. For example, between the 27th July and 11th August 1941, the Waffen SS murdered women and children by forcing them into the Pripet Marshes in Belarus in the hope that they would sink into the soft ground and become buried (Arad et al. 1999, pp. 414–415). It was common for executions and burial to occur in ravines, such as those in Yalta (Crimea) where 2000 people were shot, Zdolbunov (Soviet Union) where 2000 people were killed and the better-known Babi Yar where it is estimated that 33,000 people were murdered (Yad Vashem 2014; Burakovskiy 2011; Sect. 10.6).

Executions also took place elsewhere as part of specific actions or in an ad hoc fashion by particular divisions or individuals. For example, between July 1940 and July 1944, between 6000 and 8000 people were executed by firing squad in the grounds of the Rotunda in Zamość in Poland, following temporary imprisonment in cells around its circumference (Rzeźniak 2007; Fig. 8.9). They were then buried in mass graves around its periphery. As part of the so-called Harvest Festival (Erntefest) on 3rd November 1943, 18,000 people were taken from the camp at Majdanek and executed in the forest at Krępiec (Kranz 2007). This site had already been regularly used as an execution site for people rounded up from the Lublin region (Kuwałek 2007). Many executions also took place in the vicinity

Fig. 8.10 The Ghetto Field in Łódż where some graves of people who died in the ghetto remain unmarked. (Copyright: Caroline Sturdy Colls)

of the camps, resulting in whole areas being designated as burial sites. One such example is the execution site that exists in an area of woodland to the south of the labour camp at Treblinka where further unmarked graves have recently been discovered during archaeological investigations (Sturdy Colls 2014a; Case Study 6.1). Elsewhere, at Łódż a so-called Ghetto Field was created where the remains of people who died in the nearby ghetto were buried, reportedly in individual graves (Fig. 8.10). Non-invasive survey could help locate the remaining unmarked graves in this field and at thousands of other killing sites throughout Europe. What these examples make clear is the fact that many Holocaust sites had multiple functions and cannot so easily be placed into a single category; camps were linked with execution sites, execution sites were linked to graves, and many sites changed their function over time. However, what all of these executions do have in common is the fact that the perpetrators stood face-to-face with their victims and that, for one reason or another, they thought it necessary to kill them.

The scale of these operations was such that tens of thousands of these execution sites exist across Europe. In many cases, the locations of the mass graves connected to these executions have been lost over time and many remain unmarked. The work of Yahad In-Unum and the American Jewish Council has allowed the locations of around 800 sites to be recorded in recent years and has further highlighted the brutal nature of the killings, although few exhumations have been carried out. (Desbois 2014). The size of individual graves varies depending upon the planned and actual number of people killed at a given location. However, it is argued here that execution sites are worthy of investigation whether or not one person or tens of thousands of people were killed on the basis that every murder is a crime. Therefore, archaeologists and other investigators should not only focus on trying to find the biggest grave sites. To ignore the smaller ones somehow diminishes the deaths of fewer people and further contributes to the creation of a hierarchy of atrocity (Sturdy Colls 2012).

The physical evidence that may be found at these killing sites is not only confined to mass graves. The sites where the execution took place and where remains were buried may be geographically separate, but both will need to be located in order to fully understand the nature of the crimes committed.

Fig. 8.11 The symbolic
memorial on the River
Danube which commemo-
rates the people whose
remains were deposited
in the water by the Nazis.
(Copyright: SF)

At the places where people were killed, it may be possible to identify the exact location where this took place by locating spent ammunition and/or bullet holes. During an archaeological investigation of the shooting range at Herbertshausen, archaeologists uncovered many skull fragments in an area close to where victims were known to have been handcuffed to wooden posts (David 2003). This revealed exactly where many people had been killed. Other features connected to the executions may also be identifiable at sites that were designed as execution sites, e.g. buildings where coffins or weapons were stored, walls, fences or look-out posts. For executions that took place within towns and villages, witness testimonies may allow specific buildings or areas to be located in the modern landscape. An examination of these places may provide information about how the execution was carried out. It may be possible to corroborate or disprove testimonies concerning the visibility of the execution site, which may have implications for who may have been a witness or bystander (Sect. 5.4 and 5.7). Regarding graves, it may be possible to locate individual or mass graves using the variety of methods used by forensic archaeologists in the course of searches for human remains (Sect. 6.5; Hunter et al. 2013). Depending upon the methods employed, it may be possible to produce evidence regarding the size of the grave, the number of bodies interred within it, whether it was excavated by hand or by machine, and whether it was excavated in a hurry or it was pre-planned. If excavation is permitted, it may be possible to recover human remains, clothing, shoes, personal items, ammunition and a variety of other material that may have been deposited into graves. The value of examining individual objects that may be found at Holocaust sites is discussed in more detail in Sect. 7.4 and 10.7. It may also be possible to analyse the ways in which the perpetrators attempted to hide the traces of their crimes by analysing surface vegetation, soil chemistry or through the excavation of different layers of material.

What can be termed a killing site is almost infinite and historical material alludes to examples of more unusual execution locations and body disposal sites. Some of these sites can be examined archaeologically. For example, the fortifications where some labourers were reportedly dumped into wet concrete on the island of Alderney in the Channel Islands will be examined using Ground Penetrating Radar in the future (Sturdy Colls 2012). Endoscopes and robotic cameras will also be used to examine wells and tunnels where human remains and other materials are believed to have been deposited here and at other sites. Other killing and disposal sites demonstrate how, in some cases, the remains of the victims were hidden permanently with no possibility of recovering them; for example, the farmers' fields where remains were spread as fertilizer or the bodies of water, such as the River Danube, into which the remains of victims were dumped (Horwitz 2000). Whilst the physical evidence may have been destroyed at these places, locating and marking them may still be deemed important because of their symbolic significance (Fig. 8.11).

8.7   Infrastructure

8.7.1   Railways

The railways played a crucial role in the implementation of the Holocaust (Jones 2013). They are what connected many of the camps, ghettos, cities, towns and villages where genocide occurred. Tracing their routes and examining the logistics behind the Nazi regime can assist in understanding the journeys and experiences of individuals and groups of people, as well as the motivations of the perpetrators (for route maps of the railway network and deportations, see USHMM 2014). It can help locate sites and individual features, explain the rationale for the construction of particular sites in certain places, and demonstrate how, in spatial terms, sites were connected.

The first role that the railways played in the implementation of genocide was to become inaccessible to certain people. A ban on travelling on the railways was one of the restrictions imposed upon Jews and other people deemed inferior to the Master Race (Nuremberg Laws 1935). Thus, they became symbols of a loss of free will. Following the abandonment of the Madagascar Plan, the railways became an integral part of the Nazi's plan to deport large numbers of people to Eastern Europe (Browning 2011). The extent of this is shown by the fact that many of the camps were situated according to their proximity to railway lines (Arad 1987; Sect. 8.3).

The railways were used to transport people, belongings and supplies (Gigliotti 2009). The images of people being packed into wooden boxcars and being transported to the ghettos and camps is one way in which the Holocaust has become embedded in public consciousness (Zelizer 2001). Gigliotti (2006) also argues that the railways also played a key part in the notion of Nazi efficiency and banality. Dixon (2013, p. 126) has argued that 'deportation also provides the link to the built environment and aspects of monumentality, from ghettos with austere and utilitarian façades to camps with monumental and foreboding appearances'. What is less-widely recognised is the fact that these boxcars (or cattle cars as they are more commonly called) in many cases became killing sites (Fig. 8.12). The sheer number of people crammed into such a tiny space resulted in deaths through suffocation, starvation, dehydration and other means. They became places of suffering as people were subjected to inhumane conditions. They became places where people accepted their fate—evidenced by the singing of the Kaddish or the reciting of prayers—and places where people refused to accept it (Gigliotti 2009). Inside these boxcars, a diverse range of experiences were lived and a vast range of emotions felt. Lenie de Jong van Naarden explains her journey with members of the Frank family travelling from Westerbork in the Netherlands to Auschwitz-Birkenau:

Fig. 8.12 A boxcar at Radegast. (Copyright: Nivellen 77)

everyone was dead tired. And then the tension: what would happen next? Perhaps the train would crash? There might be a bombardment; we were hoping for that…. It was simply a death train. People died [while] underway, and there were many dead when we arrived. (Lindwer 2011, p. 147)

Although many boxcars no longer exist, drawing on witness testimony and an analysis of those that do survive, it is possible to determine how the architecture of these spaces facilitated genocide. Here, persecution was physical, in terms of the utilising of the boxcars to transport large numbers of people, and mental, in terms of how the architecture restricted peoples' movement, their willpower, their physical strength and, thus, their power to resist. One of the main foci of archaeological investigation is the examination of physical evidence (in various forms) in order to find out information about peoples' lives. It is about the linking of experiences with places. By examining the railways from their largest scale to the smallest of spaces connected to them, and by considering physical spaces alongside witness testimonies, this is possible.

It should also be acknowledged that, despite the terrible conditions people were forced into, the Nazis still attempted to utilise the railways as means of deception. The fact that people were told to bring along personal belongings because they would be taken to work 'in the East' was accompanied by the use of fake railway stations, ticket booths and information signs at some of the camps (Sect. 9.4.3). As Jones (2013, p. 4) has argued, 'railway platforms were among the last things that people ever saw'. Some people were even transported in regular train carriages and served meals in order to cement the lies that they had been told regarding their destination (Arad 1987). This concept of deception is discussed in more detail in Sect. 9.4.3.

As well as these common functions of the railways, there exist a number of other aspects that are rarely considered which provide further links between places and allow new sites to be located. The areas adjacent to the railway lines throughout Europe should also be considered part of the landscape of the Holocaust. Witnesses attest to the fact that these areas were sometimes lined with people; some shouting to those inside the boxcars, warning or taunting them concerning their fate, others offering much-needed food and water (e.g. Jaegermann 2004). Others took the money and belongings of those inside without delivering the promised supplies (Willenberg 1989). These areas also became the sites of escape and freedom, as some people attempted to flee the trains and they became massacre sites as some people were killed trying to do so (e.g. Lewis 2000). The railway stations and places where trains stopped offered the possibility of information. In some cases, witnesses were able to determine where they were and/or where they were going—by seeing signs showing place names, by examining the surrounding landscape or by speaking to people (Knoller 2004; Krzepicki 1979). Therefore, these places could become places of speculation, hope and despair. These places were also places of uncertainty and discomfort as people were made to wait in incredibly cramped conditions without any sense of when the train would move on.

It should be remembered that the same trains that bought people into the camps and ghettos also transported materials from them, mostly in the form of the personal belongings of the people sent there and any materials produced through slave labour. Therefore, an examination of them alongside the places to which they travelled is essential in order to consider how they facilitated exploitation and provided materials to sustain the Reich. In only a handful of cases, such as that of Abraham Krzepicki from Treblinka, the return of these full wagon loads also offered the means to escape from the camps disguised by the goods on board (Krzepicki 1979). The railway lines also transported German soldiers across the Reich and Hitler even had his own train which doubled as a command centre (Jones 2013). Thus, the railways played a key role in the logistics of the Nazi administration and facilitated the rapid movement of the Führer and his staff to key strategic locations. As the train and associated tunnels that it used also provided a safe-haven for Hitler, the railways also played a protective role, which is ironic given the complete opposite treatment afforded to those interred within the boxcars.

Forced labour was also undertaken along the railway lines, as part of construction programmes or in order to carry out repairs. These sites, which were located across Europe and even as far afield as North Africa (e.g. the Trans-Saharan railway project), should be recognised as sites of slave labour in the same way as the camps where forced labour took place (Gilbert 2002, p. 56). Many of the camps where forced labour took place and where local materials were exploited also had narrow gauge railways. These railways were used by the labourers to transport materials, much of which would be loaded onto mainline wagons for shipment throughout the Reich. Examples include the narrow gauge line at Treblinka which was used to transport sand and gravel removed from the quarry adjacent to the labour camp, and the same type of line at Ravenbrück housed tipper trucks which the female forced labourers used to move materials and goods (Jones 2013). Figure 5.5 demonstrates that Stutthof also had such a railway and when its location is considered in relation to other structures in the camp, its function as a body disposal vehicle becomes apparent.

Many of the railway lines utilised by the Nazis will still be in existence, either as operational lines, disused remnants or as part of memorial sites. Drawing on historic maps and walkover survey, it is relatively easy to plot the locations of these lines. Spatial analysis using Geographical Information Systems (GIS) also offers the possibility of examining the relationships between the railways and the sites that they connected in more detail. By drawing on witness testimony and landscape survey, it may also be possible to locate features such as stations, mass graves or other locations situated in the areas near to the lines.

8.7.2   Roads and Pathways

Although the railways are seen as the iconic symbol of the mass deportations during the Holocaust, the road network was also used to transport people for a variety of purposes. Roads were used by vehicles transporting people to the camps where railways did not exist or when they were overloaded. They were also used to as a means to transport people who were to be killed at execution sites or in the gas vans. People were forced to walk along roads and pathways to get to forced labour sites (Fig. 8.13). Existing roads and pathways were used, and new pathways were forged, when people were forced to go on the death marches (Blatman 2011). Bodies were sometimes transported by trucks to deposition sites, where designated burial sites had been created. This was the case on the island of Alderney where there were two cemeteries used to bury the slave workers (PRO WO311/11; Case Studies 7.1 and 9.3). Locating and mapping these routes can help understand the movement of people and determine the locations of execution sites and graves along them (Sect. 6.5.1). Roads within cities, towns and villages, and within the camps, also influenced the movement of people and what individuals could see of the surrounding area. For example, Giordano and Cole (2011) have mapped the movement of people along the roads within the Budapest ghetto in order to examine their daily lives and the interactions they may have had.

Roads also played an important role in facilitating the large-scale executions carried out by the Einsatzgruppen and Wehrmacht. Beorn (2012) has argued that 'towns and cities located on the main high speed highways were among the first to be targeted at least partially because they were the easiest to get to'. By examining these road networks, it is possible to chart the routes taken by these killing squads and to better understand the spatiality of the killings (ibid). Knowledge concerning the locations of these roads may also help target search areas when attempting to locate mass graves connected to these killings (Sect. 6.5.1).

Some roads were also labour sites, where people were forced to undertake work of varying degrees of intensity and where their overseers governed them with varying degrees of brutality (Sect. 10.4 and 10.5). Many of these roads can be seen as sites of oppression and suffering (Sect. 9.2). A few roads

Fig. 8.13 Forced labourers on the island of Alderney. (Copyright: Caroline Sturdy Colls)

maintain a physical imprint of the people who were sent to work there which should be of interest to archaeologists. The best example of this is the Chemin des Juifs (the Jews' Road) in Nord-Pas-de-Calais, France where a 4-km stretch of road built by slave workers bears the footprints of 'hobnailed boots, cleated worker's clogs, barefoot prints, horse's hooves, and the pawprints of dogs' (Roberts 2010, p. 73). Roberts (2010) has provided a comprehensive analysis of these prints, demonstrating how saboteurs were forced to work barefoot in the concrete as a punishment, and highlighting the proximity of guards' and workers' footprints. Here, as with many sites throughout Europe, these slave labour sites were temporary stops on the road to the death camps, since many people were subsequently deported there to be killed once they were no longer required or if they disobeyed orders.

8.7.3   Sewers, Privies and Waterways

Sewers and waterways existed in the ghettos and some of the camps. Some pre-dated the construction of the latter, whilst others were built specifically when the camps were built. Some pre-existing sewers and waterways continued to function, whilst others were cut off, worsening the living conditions of those living in the areas where this occurred. The availability of adequate sanitation was a life or death matter as poor conditions almost guaranteed the spread of typhus, dysentery and other life-threatening diseases. Maps and plans of these sewer networks can allow potential evidence to be located. Where no maps or plans exist, locating sewers using geophysical techniques or through excavation may be desirable, in order to gain a better understanding of the infrastructure that supported the camps in particular. Excavations recently conducted at Auschwitz II examined the course of sewers, water pipes, ditches, culverts and drainage systems in order to gain an insight into the water management systems that supported and ensured the sustainability of the wooden and brick barracks located nearby (Państwowe Muzeum Auschwitz-Birkenau w Oświęcimiu 2013). If above-ground buildings no longer exist, locating sewage or water pipes may also allow the potential locations of the structures to which they relate to be determined (Forensic Architecture 2014; Sturdy Colls 2013). This was undertaken at Semlin camp in Serbia as shown in Fig. 7.2. Whilst the primary purpose of the sewage system was to dispose

Fig. 8.14 Monument to people who utilised the sewers in the Warsaw Ghetto to avoid detection by the Nazis. (Copyright: Caroline Sturdy Colls)

of waste, grids, manhole covers and privies offered the opportunity to dispose of other materials. Myers (2008) has highlighted the archaeological potential of privies in the camps, where inmates may have accidently dropped items or where they may have disposed of clandestine objects. He has also suggested that these areas may have been used as 'opportunistic evidence dumps' and thus they 'might provide a fascinating window into the final hours of the Nazi era of the camp' (Myers 2008, p. 243). Only searching for and/or excavating these features could reveal what objects may lie within them.

Sewers were also an important transport link in the ghettos, allowing people to move from one area to another, avoiding detection (Sterling 2005, p. 23). They also became places of refuge for those who hid to avoid deportation to the camps. The monument located at a sewer opening where fighters were rescued during the Warsaw Ghetto Uprising attests to their importance and the role that they played in survival and resistance (Fig. 8.14, Micuta 1994; Jesiołkowski 1994). Therefore, understanding the overall layout of the sewers in the camps and ghettos can help understand the movement of people

and how this related to survival, terror and resistance. These places may also have become the final resting place of some people and so may need to be considered as burial sites. In some cases, material evidence may well survive within these sewers, e.g. the personal belongings of those people who used them as transport routes or living places, or items that were kicked into the gutter and fell down manholes. As with many other sites connected to the infrastructure of the Nazi system, sewers, waterways and treatment works were also used as labour sites. There are also accounts of people being thrown or jumping into wells, either as a form of, or to escape, punishment (Sturdy Colls 2014). Using the toilet for too long often carried penalties. Therefore, these sites could also be labelled as killing or punishment sites in these circumstances.

8.8   Beyond Boundaries

As should be clear from the discussion above, Holocaust sites should not simply be defined by the boundaries that enclose them (Sect. 1.1) or by whether or not they fit in with the categories defined above (Sects. 8.2–8.8). Sites often took on multiple functions and evolved over time. Because of the nature of these events, crimes were not only perpetrated in easy to define areas and many activities "spilled out" into the landscape surrounding the camps and ghettos (Sturdy Colls 2012a). These areas 'between core and periphery' (Kristiansen and Rowlands 2005, p. 331), which have been termed 'intermediate zones' (Kolen 2013), were often sites inherently connected to the camps through the forced labour, execution, burial or military defence that occurred there. These locations may have been forbidden areas, which persecuted groups and individuals were not allowed to enter, or areas which were out of sight. These may have been places of escape or refuge for anyone fortunate enough to get out of the camps and ghettos. Others examples include execution sites or the towns and villages in which the Einsatzgruppen and Wehrmacht carried out their lethal searches (Beorn 2012). Therefore, it is possible to encounter sentry posts, forced labour sites (e.g. quarries, rivers, railways, roads and the like), fortifications (offensive and defensive), trenches, mass graves, hides and other material evidence in these areas (Fig. 8.15).

Many tasks aimed at keeping the camps and ghettos functioning also took place in these areas, making it possible to locate waste pits, sewage treatment works, water supplies and the like. The small railway stations associated with the death camps were also located outside the camp areas. These places often provided the first indications to victims concerning where they were being transported and were often the places where stationmasters kept records of the number of deportees.

The boundaries of camps and ghettos in particular have often been thought of as impervious barriers, inside which all activity associated with the Holocaust took place. To take such an approach is to ignore the fact that people and vehicles regularly moved in and out of these locations, transporting people and goods to and from camps and ghettos, into the surrounding area to work or to remote locations for punishment. Treblinka survivor Samuel Willenberg has attested to the fact that inmates were not only taken outside the camp to work but that they actually had to construct and repair the boundaries, thus giving them access to food outside the camp and allowing them to get a sense of it's overall form (Willenberg 1989; Samuel Willenberg pers. comm.). Forced labourers were taken from many of the camps and ghettos, thus linking the routes that they travelled and the sites at which they worked to the landscape where they lived (Megargee 2009). As outlined above (Sect. 8.4), many of the ghettos were open, allowing movement of people from one place to another, albeit under strict curfew and surveillance. When people arrived at the camps by train, in some cases the platform where they disembarked was actually outside the boundaries, for example at Sobibor. These platforms or 'ramps' as they are often known, represent a key part of the landscape which allowed the camps to function and, in the chaos that followed disembarkation, it is likely that various objects would have been dropped in

Fig. 8.15 One of several sentry posts recorded at Lager Sylt on Alderney during archaeological fieldwork. (Copyright: Caroline Sturdy Colls)

their vicinity. This was recently confirmed at Sobibor following excavations around the ramp (Haimi 2012). These spaces also represented temporary holding areas, where the fate of many was decided as part of the selection processes. The evacuation of the internees in these camps also resulted in the linking of further locations with the Holocaust, for example, the routes of the death marches and the sites where executions were carried out.

Boundaries of camps were also moved as camps expanded or were reduced in size (Sect. 8.2). The areas between the inner and outer boundaries of camps must also be considered, since these were the places where guards patrolled, where most inmates could never reach and where some inmates were killed, some following failed escape attempts. Various clandestine activities also took place which resulted in interactions of people within the boundaries of the camps and ghettos, and those without. For example, Irena Sendler was able to smuggle children from the Warsaw Ghetto via a tunnel in the floor of a courthouse outside of the Ghetto wall and through other underground tunnels (Mayer

2011). Food and supplies were also clandestinely smuggled into the Warsaw Ghetto 'a) through the walls, b) through the gates, c) through underground tunnels, d) through sewers, and e) through houses on the borders….' (American–Israeli Cooperative Enterprise 2014). Other witnesses explain how the boundaries were entirely breached as part of armed revolts within certain camps (for examples see Willenberg 1989 and Rashke 1995). Some of the Nazi officers who worked in the camps also frequented local taverns and used local facilities and, because many camps were located near to towns and villages, local villagers also had interactions with the camp, e.g. through trade, offering or being forced to give up their facilities for use, and helping internees (Horwitz 2000). The boundaries of the camps and ghettos were also breached by sensory encounters, e.g. the smells emitted from the crematoria, the sight of the structures, and the sounds of trains and people.

Places from which minority groups were excluded should also be considered part of the Holocaust landscape, many of which also lie outside of the boundaries of internment sites. Although these sites may be characterised by absence of one group, this may have paved the way for occupation by another and their pre-occupation history is certainly also worthy of consideration from an archaeological perspective. For example, the shops, businesses and homes from which Jews were forced were often plundered, damaged or inhabited by those who made them leave or by opportunists. Here, several 'layers' of history are apparent—what the site was like before such actions occurred, what happened as part of these purges and what the site became later (both during the Holocaust and after). Whilst some of these properties were incorporated into the ghettos, many lay outside and formed part of a forbidden landscape that minority groups were not allowed to visit (Cole 2003). In some of the ghettos, remote areas were literally bridged leaving areas of 'no man's land' which could be seen but not reached by those interred. These were areas that were still used by the population outside of the ghetto and so they were also a window into it. The bridges across the Łódż and Warsaw ghettos serve as worthy examples.

Also, the perpetrators appear to have focused much of their attention on hiding the extent of their crimes within the boundaries of the camps and ghettos, rather than in the areas that surrounded them. As Kolen (2013) argues, in the areas outside it is unlikely that the Nazis were able to destroy all traces of the material remains that existed and often they did not feel the need to try. Depending upon the extent of development since, it is therefore highly likely that the physical evidence in these areas will survive, possibly to a greater extent than that within the main foci of the site in question. This has certainly proved to be the case as part of work undertaken by the author where an abundance of evidence has been found when investigations have taken place in the environs surrounding Holocaust sites (Sturdy Colls 2012, 2014; Sturdy Colls and Colls 2014). For example, at Treblinka hundreds of features—including fortifications, mass graves, and infrastructure—were located using a LiDAR survey, the majority of which were much more readily discernible compared to those within the camp boundaries (Sect. 6.2; Fig. 6.1). Many artefacts can also be located in these areas, their significance most likely not realised by those who pass them by given their position away from the centres of operations (Sect. 11.7).

8.9   Material Evidence

At all of the sites discussed above, the structural remnants and human remains present will be accompanied by a wide range of material evidence which has the potential to reveal further information about events and experiences during the Holocaust. The list of things that can be considered material evidence is almost endless—clothing, shoes, glasses, fillings, dentures, bags, jewellery, watches, hair clips, letters, notes, books, official documents, identity papers, photographs, cooking utensils, bottles, containers, packaging, weapons and ammunition are perhaps the most common. It is this type of

material evidence that the public is perhaps the most familiar with given that an abundance of these items have already been recovered and now form a key part of museum exhibitions around the world (Fig. 1.2). A wealth of undiscovered evidence undoubtedly exists at those sites that have not been thoroughly examined. Whilst it will only be possible to recover some of this evidence through excavation, material evidence may also exist on the surface, Some will be concealed but some will exist in full view, but may not be considered to be of importance. With regard to the latter, a good example of this is graffiti created by those who were persecuted, those carrying out the crimes or witnesses. A few studies have acknowledged the material importance of graffiti with regard to Holocaust sites (Myers 2008; Czarnecki 1989), but here archaeologists could learn from other conflict archaeologists and carry out more detailed studies (see Schofield et al. 2006; Curtis and Rodenbeck 2004 for a range of examples). A detailed example that demonstrates new ways of analysing graffiti can be found in Chap. 11.

The type of analysis carried out to examine material evidence will very much depend upon its nature. This is discussed further in Sect. 7.4 but a broad overview is provided here. When an individual either goes missing in a criminal context or has died in circumstances that require their remains to be identified, considerable weight is placed upon personal belongings. These items may hold the key to an individual's identity as outlined in Sect. 10.7. As such, these objects provide a tangible connection to individuals. More often than not, this kind of material evidence can tell us about anonymous or collective experiences (Sect. 10.7). This may be because of the nature of the object itself or because of its location. For example, the discovery of a large amount of hair pins near to the gas chambers at Treblinka demonstrates that the women who owned them did not remove these in the reception area, as historical accounts suggest they should have done (Sturdy Colls and Colls 2014). The discovery of items of jewellery in the same area seems to suggest that some people were able to smuggle items into the death camp (Fig. 8.16). As this would have been done at considerable risk, this demonstrates the value of these items to the people to whom they belonged. The distribution of other artefacts at this site also reveals the extent of looting and the lack of investigation, given that many items were found on the surface. Therefore, the spatiality of objects should be considered alongside their materiality. In terms of the presentation of these objects to the public, groups of objects such as the belongings at Auschwitz-Birkenau and Majdanek also have a role to play in conveying the scale of atrocity and thus help people realise its extent.

Identity papers or other documents may also allow the journeys of individuals to be understood, whilst specific coins, bottles and packaging may yield dates or manufacturing information that can be traced to periods and locations of origin (Sturdy Colls 2014; Schute 2013; Schute and Wijnen 2010; Hirte 2000). Myers (2010) has demonstrated how modifications to artefacts can also provide an insight into black market activity and reminds us that objects may well have had many owners due to the trade, theft and appropriation of items in order to survive. Items like clothing and shoes, for example, may have changed hands many times, particularly in the death camps where a steady supply of belongings were provided by the incoming transports—although those tasked with sorting them were not meant to take them, they often did in order to survive (e.g. Willenberg 1989). In fact, some items were made by inmates of the camps and ghettos just so that they could undertake everyday tasks such as eating and drinking. This is particularly evident in the assemblage of artefacts found during archaeological excavations at Buchenwald (Hirte 2000).

The types of evidence now widely examined in the course of forensic investigations have been afforded barely any attention with regard to the investigation of the Holocaust. This trace evidence includes hairs, fibres, soil, chemicals, paint, food residue and a wide range of other biological and man-made material. A handful of investigations have sought to confirm the nature of the gas chambers through chemical testing and forensic architectural analysis (Sturdy Colls forthcoming; Keren et al. 2004; van Pelt 2002; Markiewicz et al. 1994). The discovery of bullets may allow their type, calibre

Fig. 8.16 Jewellery, hair clips and other decorative items found at Treblinka during excavations around the gas chambers. (Copyright: Caroline Sturdy Colls)

and origin to be deduced, thus revealing information about the person who possessed or fired them. They may also reveal the location that executions were carried out. Recent work at Treblinka has also included the analysis of food residue and the metallic composition of artefacts that were recovered (Sturdy Colls 2014). By drawing on recent developments in forensic and archaeological science, archaeologists could broaden their methodologies to consider these more subtle forms of evidence when examining Holocaust sites.

As well as examining the places and physical evidence of the Holocaust in situ, there exists further evidence of interest to archaeologists (and others) that is independent of the types of sites outlined above, that has been removed from its context or which is mobile. For example, following the destruction of structures within the camps or Jewish cemeteries, materials from these places were taken to be used in construction elsewhere. There are many examples where broken tombstones were used in road construction throughout the Third Reich (e.g. Plaszów in Crowe 2007, 239 and Fig. 11.1 this volume; Ternopil in Bartov 2008, 339; sites in Belarus in Rudling 2013, p. 64). Materials to build the camps were often taken from nearby villages in the first place and anything of value that remained after the war was often taken by local communities for use elsewhere (Sect. 11.5). Other transient material evidence includes, in some cases, whole buildings. For example, the situation whereby the barracks formerly at Kamp Westerbork were sold off and rebuilt elsewhere is not unique only to the Netherlands. The mobile gas vans used in the euthanasia centres, at Semlin in Serbia and at Chełmno in Poland, the vehicles used to transport prisoners between camps, work sites and ghettos, and the excavators used to dig mass graves at Treblinka, all represent mobile forms of material evidence connected to the Holocaust.

As a final point on material evidence, in the future perhaps archaeologists should consider broadening their horizons further with regard to the role of material evidence and what this is perceived to be. Firstly, certain types of material evidence, as well as providing us with a direct insight into events, may also act as a memory trigger for survivors and witnesses. For example, in a recent encounter with the author, one Holocaust survivor was able to recall stories about his time in the camp that he had not previously discussed at length upon seeing artefacts recovered during excavations. Additionally, he was also able to point out what he did not recognise which confirmed that the material had

been present in an area that he did not have access to. To this survivor, these objects also became 'witnesses' and the large number of domestic items present were seen as proof that people who were sent to the camp believed that they were going to be transited elsewhere. Similarly, in a compelling paper delivered at the Competing Memories conference, Kuusisto-Arponen (2013) used evidence derived from a documentary entitled Numbered to demonstrate how the tattoos given to internees of Auschwitz-Birkenau should be seen as material culture and places of memory. She argued that Holocaust survivors themselves saw their tattoos as reminders for them and for others about the events of the Holocaust and, as such, they form part of the evidence that testifies to the crimes perpetrated. However, she also stressed the complex range of perceptions of these tattoos in that some people were ashamed by them and saw them as a symbol of dehumanisation, whilst others saw them as a symbol of survival and the life they were able to have after the Holocaust.

8.10   Holocaust Landscapes

It was the intention of this chapter to demonstrate the diverse range of sites and evidence types that relate to the Holocaust in order to show that its landscape is far from 'one emptied of features and color' (Schama 1995, p. 126). At macro-level, camps (of varying extents and nature), labour sites, ghettos, execution and burial sites, infrastructure and other liminal areas can be identified, all of which allude to the multiplicity of features and the complex infrastructure of the Nazi occupation of, and persecution in, Europe. At micro level, the diverse range of individual features that have been identified further confirm the complexity of these landscapes; individual buildings (with a diverse range of functions), fortifications, other defences, boundaries, fences, individual streets, railway carriages, objects, graffiti and human remains to name but a few. As Till (2012) argues, 'places are not points on a map but places where connections between people are made'. Similarly, this evidence is not merely material. In order to gain a deeper understanding of the events to which these places relate, it is vital to understand the physical and symbolic connections alluded to in this chapter. It is also vital to understand that archaeological searches should not just be aimed at locating 'sites', 'features' or 'objects'. They should instead be focused on locating these remains so that they can be examined comprehensively in terms of what they can tell us about the people connected to them. In order to consider the variety of sites in their totality, it is important to recognise that they represent an equally diverse range of experiences.

The structural remains on Alderney, for example, offer an insight into the Nazis' plans to fortify the island, the Channel Islands and the Atlantic Wall, but they also allude to the plight of the slave labourers and prisoners who built them. This aspect is often considered to a much lesser extent, if at all, yet to not do so is to ignore the human suffering associated with these structures. At Treblinka, the structural remains of the gas chambers represent the actions of those involved in the Nazi extermination process, including individuals not stationed at Treblinka but who ordered the killings. Of course they are all places where victims were exterminated. The undressing barracks and storage facilities for victims' property located in many camps represent sites of repression, theft and economic exchange but also places of work for those assigned to *kommandos*. An examination of the remains of the burial sites alludes to the fate of the deceased, the murderous acts of the living and often the experiences of those who disposed of the dead (Sect. 10.6).

None of this evidence should be viewed in isolation but should instead be examined in the context of the complex body of material of which it forms part and the often geographically diverse places to which it also relates. Although individual sites may be the focus of an individual investigation, searches should be sufficiently broad so as to recognise how far the Holocaust landscape of the chosen site extends. This approach acknowledges the connections between sites through the transportation

Fig. 8.17 Part of the Holocaust landscape of Treblinka, including Thrace in Greece, one of the many train stations from which the victims were deported to the camp (*top left*; copyright Yad Vashem), the Umschlagplatz from where they would then be transported to Treblinka (*top right*; copyright: Caroline Sturdy Colls), Treblinka I (*bottom left*; copyright: Caroline Sturdy Colls) and Treblinka II (*bottom right*; copyright: Caroline Sturdy Colls)

of prisoners, the movement of individuals or groups of Nazi soldiers and Commandants, the shipping of personal belongings and products of the labour programme. Treblinka II, for example, forms part of a landscape with Treblinka I, the hundreds of places from which these victims were rounded up, and the Umschlagpatz in Warsaw, where the victims boarded the train to the camp, to name but a few locations (Fig. 8.17). Far from being an isolated island 'laboratory' (Sanders 2005, p. 191), Alderney formed part of the wider landscape of the Channel Islands, with Sachsenhausen and Neuengamme, of which it was a sub-"camp", and with the various sites from which victims were deported (Sturdy Colls 2012). In extreme cases, such as the concentration camp at Jasenovac and the mass grave landscape at Donja Gradina, sites which once were one may have become physically separated due to subsequent political unrest (Sect. 11.3; Case Study 11.9). The subsequent re-use of building materials, the movement of objects and the linking of sites by road and rail may have created other physical connections. Even though this evidence might be geographically remote, efforts should be made to examine it. Instead of viewing sites as isolated entities, viewing them in their broader landscape context further confirms the intricacy of the archaeological record and, thus, the events it represents (Boyd 2012).

As well as the physical connections between places, the symbolic value of them should not be overlooked. For those who survived the Holocaust and for the relatives of the victims who died, sites and the material remains represent landscapes of memory, mourning, commemoration, individual and collective stories and journeys, homelands, foreign lands and religious centres. Both within their boundaries and outside, they represent scenes of crimes, occupied territories and war zones but also sites of courage and, in the case of those locations where victims were hidden from the Nazis, of kindness and sanctuary (Kopówka and Rytel-Andrianik 2011). In order to understand and learn from the history of this period, it is important that it is acknowledged for all of its aspects, many of which are reflected in physical form.

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Archaeologies of Oppression, Deception and Resistance

9.1 Introduction

The various types of camps, ghettos, labour sites, killing sites, fortifications, infrastructure and diverse range of individual features outlined in Chap. 8 confirm the complexity of Holocaust landscapes. Hut platforms, gas chambers, buried concrete structures, bunkers, defensive walls, trench systems, earthworks, administrative buildings and graves all allude to more specific aspects of the functionality of the sites. However, Holocaust landscapes should not only be analysed in terms of what they can reveal about individual events and places and it is important to view these remnants as much more than simply structural ruins. In order to consider landscapes in their totality, it is important to recognise that this diverse body of evidence represents an equally diverse range of actions and personal circumstances.

By taking a more thematic approach to the analysis of material remains, it is possible to identify various *archaeologies* or assemblages of the Holocaust (Sturdy Colls 2012a, b). Many landscapes which were appropriated by the Nazis can be seen as ones of control, oppression, desecration, murder and conflict (Bernbeck and Pollack 2007). By examining the materiality of these places, it may be possible to demonstrate how internment and killing practices changed over time (through the examination of landscape development) and to reveal how perpetrators used the landscape to hide their crimes—both during periods of extermination and afterwards (e.g. when the camps were abandoned). Thus, physical remains may allude to camouflage, concealment and deception. From the perspective of the victims, the landscapes of the Holocaust may be ones of suffering, extermination, internment, loss and fear, whilst Theune (2011) has argued of the camps and material culture found in them that they represent an archaeology of powerlessness. Elsewhere, when the victims attempted to rebel against the Nazis, an archaeology of defiance and resistance can be noted. In addition to the actions of the perpetrators and victims, analysis of this evidence may facilitate the identification of the conduct of witnesses, bystanders and the international community.

Such an approach can be adopted at individual sites and, on the basis that a number of archaeological investigations of Holocaust sites have now been undertaken, cross-site comparisons can be made in order to compare patterns of behaviour. Some material will provide direct evidence of either individual or collective actions. Other evidence will be more symbolic, its meaning only becoming clear when it is examined in conjunction with documentary, photographic or cartographic sources (Chap. 5). Crucially, these thematic approaches can provide material which can form the basis of broader discussions and education programmes that consider how the Holocaust happened, the origins of racial prejudice and the various forms that genocide can take.

9.2   Control and Oppression

As Jaskot (2000, p. 1) suggests 'SS control of forced-labor concentration camps after 1936 linked state architectural policy to the political function of incarcerating and punishing supposed enemies of National Socialist Germany'. Indeed, the architecture of the camps, along with the ghettos, was deliberately designed to ensure that the Nazis could maintain control over and oppress their victims. This has been aptly demonstrated by historians and architects, and a significant body of literature now exists on this topic (Sofsky 2013; Briese 2012; Benz and Distel 2005; Jaskot 2000). Recent work in forensic architecture also offers new lines of thinking concerning the role that the built environment can play in internment and executions (Forensic Architecture 2014; Kenzari 2011). This literature should be consulted by archaeologists examining this period who, by contrast, have not discussed at length the ways in which above- and below-ground physical evidence has the potential to reveal further insights into the ways that control and oppression were facilitated during the Holocaust.

At macro-level, anywhere that the Nazis set up camps, ghettos and killing sites in Europe could be considered to form part of a continent-wide landscape of oppression. The complex network of sites that were created ensured that people could be efficiently transported, interred and, if necessary, killed. The camps, ghettos and killing sites, along with the road and rail networks, played a crucial role in controlling those sectors of the population that the Nazis saw as a 'threat'. The boundaries of the camps and ghettos represented (to those interred within them) constant reminders of the fact that they were separated from the outside world. Ester Brunstein (2004, p. 28) described the boundaries of the Łódż ghetto: 'it was like a maximum security prison surrounded by barbed wire instead of walls, with armed German posts at regular intervals. All contact with the outside world ceased for us…and escape was physically impossible'. Locating the remnants of these boundaries, which may survive as fence lines, postholes or other subtle markers in the landscape, as part of archaeological surveys therefore plays an important part in identifying evidence of oppression (Figs. 5.2 and 11.3). Some boundaries acted as a screen from the outside world, where inmates could not see out and people outside could not see in, e.g. at the boundary at Treblinka extermination camp which was screened with pine branches (Willenberg 1989). Some were transparent, meaning that inmates were able to see out knowing that they had little chance of escape.

In the extermination camps, the architecture of the camps was designed to ensure the swift and efficient 'processing' of those consigned to death (Wiernik 1944). The division of the camps into zones, e.g. reception and death areas, and the strategic use of fencing and other screening material inside meant that people were unable to see where they would be transported to next. At Stutthof, a combination of regular, barbed wire and electrified fencing was used in different areas of the camp and this reflected the degree of control over the prisoners in each location (Fig. 5.5). Areas where people would be separated into groups, undressing barracks and sorting barracks were strategically placed along designated routes to ensure that people would be efficiently moved through the camp in an ordered fashion (Sofsky 2013). One particular feature of the Operation Reinhard death camps was the Himmelfahrtstrasse (the road to heaven), along which people would be forced to the gas chambers (Arad 1987). These pathways were often lined with screens and the sheer volume of people that would be crammed into them meant that it would have been almost impossible to see where the pathway headed and what was on either side. This ensured that people were controlled and thrown into a state of confusion. The constant monitoring and development of the architecture of these camps demonstrates how the Nazis strove to create a perfect system, whereby inefficiency and resistance were minimised (Friedlander 1997; for resistance see Sect. 9.5). An examination of the death camps Bełżec, Sobibor and Treblinka reveals how 'improvements' were made to the camp's architecture to maximise efficiency. So-called experts were bought to sites to modify the layouts, working practices and burial procedures in order to improve measures of control (Arad 1987).

Other camps were modelled on blueprints first developed at Dachau and consistently had architectural features such as watchtowers, roll-call squares and separate prisoner compounds to ensure that inmates could be monitored at all times (Jaskot 2000, Fig. 8.1). Structures such as watchtowers had a dual purpose in that they were designed to control both the inmates in the camps and anyone attempting to enter from the outside. At Sachsenhausen, the triangular nature of the camp allowed all areas to be seen by the guards, thus maximising control over the inmates. The central tower at Semlin which functioned as the headquarters was both an ever present reminder to inmates of the control they were under and as a means of surveillance (Fig. 6.19). Additionally, many buildings incorporated into the camps as administration buildings or houses for camp commandants were imposing structures that contrasted starkly to the dilapidated living accommodation of inmates (Fig. 9.1). This architecture of oppression was supported by a number of other measures, such as limited food and drink rations, brutal treatment and exposure to harsh environmental conditions, which were all intended to reduce inmates to Muselmänner (Druker 2009). Many of the physical remains in the camps became symbols of this oppression, e.g. the barracks where inmates had their hair cut on arrival, the usually inadequate places they slept and the roll-call squares where long, tortuous lists of names were read out (Fig. 9.2).

Camp gates played a particularly important role in oppressing people at many sites. In many cases, the gates were the first thing people saw and, thus, they were the first indicator of where people had been deported to. Some bore words such as *Arbeit Macht Frei* (work will set you free), intended to (often falsely) indicate that labour would mean life (Fig. 1.1). There are other reports of camp gateposts being used as forms of physical torture. For example, at Lager Sylt inmates were reportedly hung from the gateposts as a form of humiliation which often resulted in death (Fig. 3.1; PRO WO311/13). Elsewhere, gallows, trees or posts were used to hang prisoners in front of other inmates as a warning against resistance (for examples, see Knoller 2004; Wineman 2004; IMTN 1947a; Châtel undated). Similar practices were employed at killing sites and countless examples are provided in the Polish Ministry of Information (1942). Detention cells, punishment bunkers and a variety of other places used to torture prisoners allude to the role that the built environment played on maintaining control over internees. At Dora-Mittelbau, inmates were forced to construct tunnels where V2 rockets and other weapons would be produced (USHMM 2014). The terrible living and working conditions were a form of oppression in itself, but this was made worse by the fact that people had to construct weapons that they knew would be used to strengthen Germany's position in the war. At Lager Norderney, inmates of the camp were reportedly sealed into a tunnel on the edge of the camp where, it was claimed by the camp administration, they would be killed should the British invade the island (Jersey Heritage 2009, Fig. 9.3). The whole environment of the camps and ghettos was intended to weaken peoples' resolve in order to ensure that they would lose their self-respect and individuality (Bettelheim 1971).

Fig. 9.1 The commandant's villa at Kamp Westerbork. (Copyright: Caroline Sturdy Colls)

Fig. 9.2 The roll-call
square at the labour camp
at Treblinka. The role that
this area played in tortur-
ing people is no longer
evident in the landscape.
(Copyright: Caroline
Sturdy Colls)

Fig. 9.3 The tunnel at
Lager Norderney where
it was claimed that camp
inmates would be killed if
the British invaded Alder-
ney. (Copyright: Caroline
Sturdy Colls)

Des Pres and Van Pelt's discussions concerning the 'excremental assault' should also be consulted when examining the physical evidence of oppression (Des Pres 1976; Van Pelt 1994). The 'excremen-tal assault' is defined as the ways in which inmates in the camp were repeatedly forced to confront human excrement (their own and that of others) in their daily lives (Des Pres 1976). Gigliotti (2006, p. 3) argues that an understanding of this can assist in defining 'sensory dimensions of experiences and memory' in the camps. Certainly, this constant confrontation with excrement, and the threat it also posed in terms of disease, would have contributed to making inmates into Muselmänner, a form of oppression in itself (see Bettelheim 1971 and above). This 'assault' may also be visible in the physical evidence uncovered during archaeological surveys through the analysis of latrines, living areas and places of confinement such as cells or cattle cars. Because inmates were also confronted with what Gigliotti (2006, p. 3) has termed the 'unmaking of bodies', a consideration of the interval between death and body disposal practices can also assist in obtaining a greater understanding of the ways that people were confronted with death (Chap. 10).

The construction of many of the camps and ghettos at or near sites of forced labour can be seen as another deliberate attempt to control and oppress people, in this case through the work that they were made to carry out. The importance of examining labour sites in association with an analysis of the camps, ghettos and killing sites has already been highlighted in Chap. 8 and will be readdressed in Chap. 10 and so these points will not be repeated here. In short, the analysis of the form of these structures, accompanied with knowledge of the conditions that the workers were kept in, can assist in assessing their living and working conditions.

In light of the above discussion, the creation of a plan of the layout of camps, ghettos and killing sites via archaeological survey or excavation should not only be a practical step that highlights how a particular site looked. Instead, the creation of such a plan should facilitate a detailed analysis of what this layout means in terms of the experiences of the people who were held there. The layout of a site or building can indicate the ways in which inmates and guards moved through a space. Knowing which routes were permitted and which ones were restricted can assist in identifying what inmates were and were not allowed to see and do. Given that the architecture of the camps often reflected different classes of prisoners and different stages in the 'processing' of inmates, it should be possible to comment on camp hierarchies and the ways that different parts of the camps functioned when a combined historical and archaeological approach is undertaken (Chaps. 5–7).

It is perhaps harder to examine the nature of control and oppression in the ghettos based on the physical evidence for several reasons. Firstly, the ghettos were not as ordered as the camps, thus the movement of people and the places that they lived did not remain constant. Secondly, many of the ghetto areas were not documented in the same way as the camps, particularly after the war, and many areas were demolished. That said, given that the ghettos were based on pre-war town and city planning, it is possible to examine the landscape—via maps, aerial imagery and any surviving structures—in conjunction with witness testimonies. The places in which people lived, the cellars, attics and sewers in which they were forced to hide and the walls that surrounded them are all evidence of the oppression that people faced (Figs. 8.6 and 8.15).

The material culture of the camps, ghettos and killing sites also alludes to an archaeology of control and oppression. Perhaps the most evident are the weapons and ammunition used by the Nazi administration. At Jasenovac in Croatia at a camp under the control of the Ustaša, collaborators with the Nazis, the array of knives, hammers and axes found in the camp grounds alluded to the brutal treatment of the inmates. Ammunition found at Herbertshausen alludes to the constant threat of death that inmates faced (David 2003). Confiscated personal belongings—such as shoes, clothing and jewellery—indicate the oppressive measures imposed upon the inmates. Equally, individual items that people had in their possession may demonstrate the extent to which they were deprived of basic things. This is evident from various items of clothing that have been found that are in a state of disrepair and/or show signs of long-term use, for example, shoes found in Treblinka and the prayer shawls at Auschwitz-Birkenau (Fig. 7.9). Other items are notable by their absence, in that it is often evident from examining archaeological assemblages that inmates often did not have basic supplies.

9.3 Evolving Landscapes

9.3.1 Interaction with the Landscape

When the diverse range of Holocaust sites throughout Europe are examined in detail, it becomes immediately apparent that many locations were based on the availability of existing man-made and natural landscape features that could be incorporated into internment, labour or extermination complexes. Many of these features formed an important part of the architecture of oppression. By analysing the history of a site before the Holocaust, it is possible to identify the layers of it's history and to determine how structures, boundaries and other landscape features were modified and incorporated into the camps and ghettos. At the largest scale, the entire ghetto system operated on this basis of interring people in existing structures, most often their own homes or other residential areas. The concentration of people and the construction of walls or fences was all that was needed in many cases to designate an area as a ghetto (Megargee 2009). The analysis of historic maps and aerial images, coupled with in-field survey, makes the identification of the ghetto areas relatively straightforward in

most cases. During their period of use in the ghetto, structures were more likely to have been damaged and become dilapidated, rather than having undergone other forms of significant modification. In the so-called open ghettos, not even a wall or fence was required and this may make defining them more difficult (Dean 2005, Sect. 8.4). However, drawing on witness testimonies, maps and photographs, it may possible to identify the extent of ghettos using prominent buildings as reference points (Fig. 5.3).

Many of the camps were also based around existing buildings. In some instances, camp commandants' villas or key administration buildings were situated in manor houses, castles or other prominent buildings. The camp was then built up around these structures. At Auschwitz, the presence of existing buildings provided the start of the camp's infrastructure (Rees 2005), and Dachau was constructed on the site of an abandoned munitions factory (USHMM 2013a). At Falstad in Norway, the camp was expanded around the original young offenders' prison already in existence there (Anderson Stamnes 2013). By focusing on the area around this central building, which still survives to date, archaeological research has helped locate the remains of the demolished barracks used to house the camp inmates (Jasinski et al. 2012).

Sometimes, entire complexes of buildings were taken over for the purpose of designating them as a camp. For example, the site of the camp for Jews and political prisoners in Belgrade made use of an entire complex of buildings known as the Old Fairground; thus the formerly grand pavilion buildings became the dilapidated living quarters of the inmates, whilst other structures became the camp administration and storage buildings (Fig. 9.4, Forensic Architecture 2014). Other camps made use of former hospitals, factories, warehouses and even hotels. As the camp system progressed, new camps were created in the vicinity of other ones to meet the demands of the labour programme or to facilitate covert extermination practices. The decision to build new camps in certain areas was often based on the 'success' of existing camps in terms of their efficiency, the ability to keep them secure and covert and the other resources in the vicinity of them. In addition to the camps, other buildings were taken over by the Nazis for various different purposes: for Euthanasia hospitals, for military purposes and for prisons.

Where it is the case that existing buildings were taken over for use, this makes identifying their location and defining the extent and nature of the camps somewhat easier for archaeologists. In many

Fig. 9.4 The Old Fairground in Belgrade in Serbia that became the Semlin Judenlager and Anhaltlager. (Copyright: Caroline Sturdy Colls)

cases, these buildings were chosen by the Nazis because they were structurally sound and, as such, many of them continued to be used after the war and may even survive in the modern landscape today. Therefore, detailed documentary records of their existence will likely survive; maps will indicate their presence because they were permanent structures, whilst written descriptions and even architectural plans may exist (see Fig. 5.8). From these materials, it may then be possible to create plans of the camp's appearance and, through the comparison of later documentary and photographic material alongside field survey data, the various phases of the site's history can be charted. In some cases, simple building survey will easily reveal the modifications made during the Second World War (Sturdy Colls and Colls 2013). Once these structures have been located and characterised, this can then provide a useful starting point in the search for other structures, boundaries or graves created by the Nazis which may be located in the vicinity. Even if pre-war structures were demolished after the war, they will still be easier to locate because pre-war records may still survive.

In addition to the existing structures, various other factors appear to have influenced the choice of location for internment sites during the Holocaust. The role of infrastructure such as roads and railways has already been alluded to in Sect. 8.7. Natural landscape features also played a key role and contributed to the architecture of oppression outlined above. For example, archaeological survey revealed that the layout of Lager Norderney in Alderney was directly influenced by existing landscape features as the boundaries of the camp were dictated by natural landforms such as sand dunes and existing roads (Figs. 5.10 and 5.13). The presence of the sea on the other side of the sand dunes would undoubtedly have also acted as a deterrent to escape. At Dachau, the presence of a body of water along the perimeter fence likely had the same effect (Fig. 8.1). Other sites saw hills, rivers, the sea and embankments defining their boundaries and these features often acted as natural defence mechanisms against prisoner escape attempts.

In some cases, the modern topography will remain consistent with that during the Holocaust and this will make locating at least the general area of sites much simpler during archaeological surveys. For other sites, it may be necessary to reconstruct the topography of an area based on contemporary mapping, aerial imagery and 3D reconstruction work but this is now made much simpler due to advances in digital archaeology (Chaps. 5–7). In both sets of circumstances, it should be possible to examine in detail the relationship between the site (whether it is an internment site, burial site or otherwise) and the landscape in which it was constructed. Recognising the interactions between the site and its landscape is not simply a process of understanding the architecture of these places, although this should form a key part of research designs. Rather, these interactions can reveal further information about the movement of people within these areas, their living arrangements and, thus, their experiences (Chap. 10).

9.3.2   Understanding Landscape Development

When examining the physical evidence of the Holocaust, it is important to remember that there is considerable diversity in the temporal scope of individual sites and sites did not remain static. There is considerable variation in the duration that specific sites were operational. Some functioned for several years—the longest running example being Dachau which was opened as a concentration camp in 1933 and functioned until 1945 (Fig. 8.1). Individual massacre sites, where villagers were killed on a specific date, were utilised for only a matter of hours. However, that is not to say that the shorter episodes will have left behind less physical evidence as a blanket rule because it is the nature of the crimes perpetrated that will define the extent and nature of the material traces that survive. This is particularly true of mass roundups which often resulted in larger numbers of people being killed over a short period of time than some of the smaller labour camps which were open for longer but from which more people were deported to larger camps.

Because archaeology as a discipline is concerned with time, this means that archaeological investigations should facilitate the identification of different phases in the history of sites and help provide knowledge concerning how the landscape evolved as a result. It should not be the aim of an archaeological investigation to produce one plan of a site but rather to produce several which highlight how it evolved over time. It should also be the aim to consider how this evolution can increase the understanding of the events to which the site relates and, thus, the experiences of those who were present there. By examining a wide variety of documentary, cartographic and photographic sources, alongside data collected through non-invasive survey and/or excavation, it is possible to take such an approach. To take the example of the camps, many sites were expanded or decreased in size throughout their periods of operation. The most common reason for this was the increase or decrease in prisoner numbers, which often reflected shifts in the Nazis' extermination policies. For example, at Buchenwald, an influx of inmates led to the creation of a new camp and the construction of a crematorium in 1940 and the construction of a disinfection facility in 1942 (Buchenwald and Mittelbau-Dora Memorials Foundation 2014). At Norderney in the Channel Islands, it is possible to chart the almost daily development of the camp because of the abundance of aerial photographs taken by the Allies. Comparison of the times at which the camp was expanded and dismantled with documentary sources highlights that the former was influenced by the arrival and departure of inmates. The types of plans that can be produced to illustrate such developments are shown in Fig. 5.10. An examination of the boundaries and zones of the camps and ghettos, through the analysis of aerial photographs or in-field survey, also has the potential to reveal information about different areas established to accommodate different prisoner groups (for an example, see Bergen–Belsen in Ruhe 2009). These areas will in most cases have changed according to the people who were sent to the camp and whether it was deemed necessary to segregate different groups.

Some sites will have changed their function entirely throughout their existence. For example, Berlin Tempelhof was initially a military prison which was converted into a concentration camp as early as 1934 before it became an airfield where forced labourers were enlisted to work in the armaments industry (Pollack 2013). Other sites, such as Majdanek, were originally opened as labour camps but became concentration and extermination camps as Nazi policy shifted towards mass executions (Kranz 2007). Sites such as Treblinka saw extermination camps created because of the 'success' of the labour camp located in the vicinity (Sturdy Colls 2013 and b). Other sites functioned in reverse, in that they were extermination camps and then became labour or concentration camps. Chełmno perhaps occupies the most unique position in terms of the transitions it made throughout its existence in that it was originally established as an extermination camp (in the grounds of a manor house), before being almost entirely demolished, and then rebuilt in order to facilitate the execution of people from the Łódż ghetto (Montague 2012). Other camps, such as Gesiowka camp in Warsaw, incorporated elements of other internment complexes; in this case, the streets surrounding the prison came to form camp boundaries and part of the former ghetto also became part of the camp area (Hirshaut 1982). These transitions have the potential to provide a detailed chronology of Nazi persecution, which can in turn provide further information about the experiences of the victims and the actions of the perpetrators. In some cases, given the lack of accompanying written evidence, the discovery of changes to the landscapes at these locations may be the only means by which to determine the specific timeframe of deportations and killings. At some sites, specific buildings may have undergone similar transitions in terms of their use. Where these buildings are still standing, it may be possible to identify these layers of its history through an analysis of their overall form and interior. For example, evidence of extensions may be visible or layers of paint may be isolated which relate to changes to the building's use (Mitchell 2013). For demolished buildings or other buried features, if excavation is permitted, it may be possible to establish the various phases of use through the examination of stratigraphic sequences, structural remnants and associated objects (Sect. 7.3). However, given the narrow timeframes involved, it will likely only be possible to assign particular layers to specific dates where sufficient supporting documentary evidence exists.

Case Study 9.1: The Evolving Landscape of Trawniki, Poland

Trawniki in the Lublin district of Poland represents a good example of the complex developments that often occurred within the lifetime of Holocaust sites. Initially established as a holding camp for Soviet citizens and soldiers in a former sugar factory complex, for 3 years (1941–1944) Trawniki became a training camp for guards who would be utilised as part of Operation Reinhard (Black 2011). In June 1942, a labour camp was constructed adjacent to the existing structures, separated from the training facility only by a small wall (USHMM 2013b). This labour camp was operational until September 1943 when it was designated a sub-camp of Majdanek concentration camp. Not long after, the site became a killing site as part of Operation Erntefest (Harvest Festival) and over 6000 people were murdered and burned on grills in the camp area before being buried in large trenches in the vicinity (Kranz 2007). The changes to the function of the area resulted in a number of physical changes that can be charted through the analysis of historical material and physical evidence as shown in Fig. 9.5.

Larger camps often gained sub-camps, particularly as the demand for labour increased and, in order to understand Holocaust landscapes, these should be sought during the course of archaeological investigations where possible. In other areas, temporary camps were built that existed only for limited periods of time. Most often, these sites were to facilitate construction projects and then they were abandoned or took on a new function (for an example, see Case Study 8.1; Fig. 8.4).
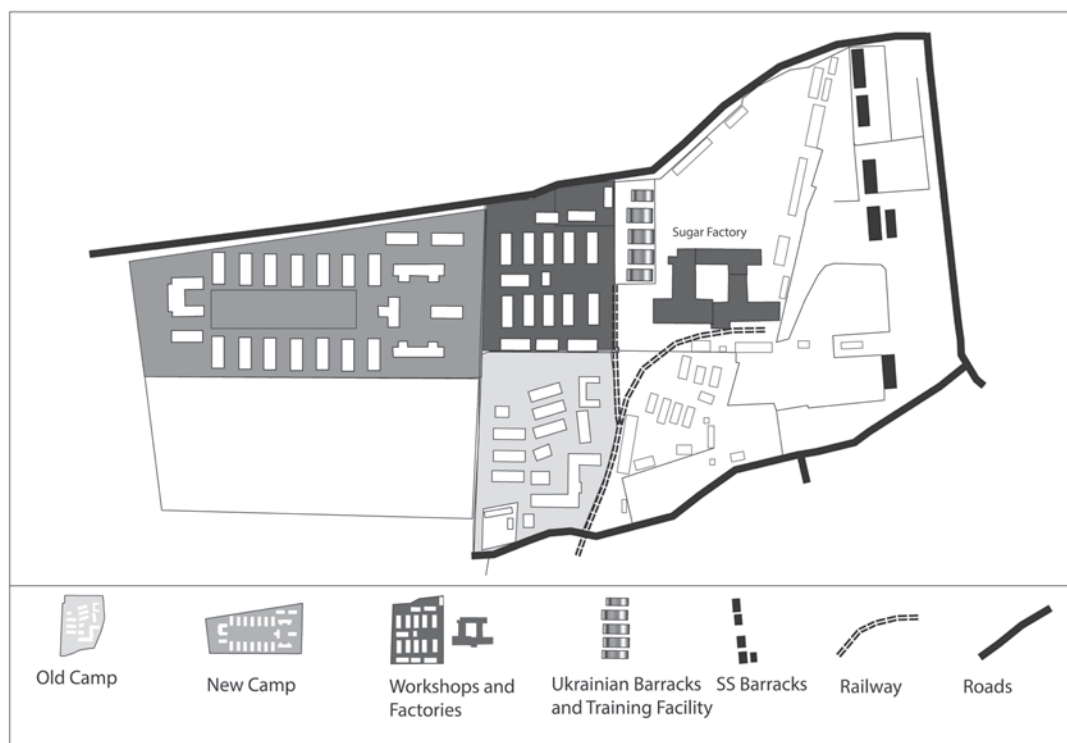

Fig. 9.5 The development of Trawniki which was an internment camp, training camp for Ukrainian camp guards, a labour camp and a mass execution site during the Holocaust. (Copyright: Caroline Sturdy Colls)

In locations where massacres have taken place, it is also important to consider how the landscape may have developed over time. Not only is this important in terms of establishing the potential for mass graves to be disturbed (Chap. 11), but it is also essential in order to facilitate a deeper understanding of body disposal processes. For example, at some sites individual massacres may have occurred and the site may have lain dormant since. However, other sites may have witnessed multiple massacres over varying time periods and in some cases, the excavation of new graves may have disturbed earlier ones, either deliberately (where remains were interred in the top of partially filled graves) or accidently (where the location of the previous grave had been forgotten or was not known to the perpetrators). Witness testimony may or may not allude to such details. In some circumstances, it may be possible to identify these different phases of use from aerial photographs but in others, more detailed in-field investigation through geophysical survey and excavation may be the only way to confirm the situation. Excavations in Gnivan in the Ukraine revealed that layers of sand had been deposited in between layers of the remains of children who had been killed in separate Aktions (Wright et al. 2005, Fig. 2.7). In other cases, bodies were removed from graves in attempts by the Nazis to hide their crimes, with some being reinterred after cremation (Blobel 1947). Other graves had the bodies removed and were backfilled as the remains were scattered elsewhere (Langerbein 2004). Some graves may have been partially or completely exhumed by post-war investigators but may still be deemed worthy of investigation by archaeologists on the basis that the grave itself can still reveal important information about the crimes perpetrated even when the bodies have been removed (Sect. 6.5; Fig. 7.4). One such example is the location of mass graves in Stuttgart by archaeologists over 60 years after the bodies had been exhumed. Using a combination of aerial photographic analysis, coring and excavation, it was possible to determine the shape in plan of three former graves and provide evidence of anthropogenic activity in the area (Fiedler et al. 2009). The discovery of Longy Common cemetery on Alderney, outlined in Case Study 7.1, provides another example where graves were located, even though the bodies had been exhumed in the 1960s.

9.3.3 Absence

Archaeological investigations of the Holocaust have predominantly focused on what physical evidence this period produced and how much of this survives in the modern landscape. This is likely because this evidence is more tangible and, once located, it can be analysed further to reveal direct information about events and experiences. However, there also exists a body of less tangible material that must also be considered in order to provide a richer picture of the events of this period and their legacy.

Rather than being rich in physical evidence, some sites will be characterised by absence. At some sites where no apparent above-ground remains exist, this absence will usually only be superficial. Buried evidence may well survive which can be recorded using whatever techniques are deemed most appropriate to that particular environment (Chap. 7). In these situations, it is however important to ask why no above-ground evidence exists: Is it because the Nazis attempted to hide the traces of their crimes (Sect. 9.4) or because post-war communities made use of the raw materials? Is it because structures were unsafe and had to be demolished? Was the land redeveloped—if so, into what? Or was the area abandoned to become wasteland? Finding out the answers to these questions can potentially shed further light on the events of the Holocaust, assist in assessing the potential for remains to survive below the ground, help with identifying the different phases in a site's history and reveal insights into post-war attitudes towards a place (see Chap. 11 for further discussion). Many locations that formally contained synagogues or cemeteries are now characterised by absence, since part of the Nazi genocide was to deface and deny access to religious buildings and areas. This targeting of cultural sites was an attempt to destroy the cultural identity of minority groups, something which has

been witnessed as part of the process of urbicide which has been carried out in many urban centres in the twentieth and twenty-first centuries (Mazzucchelli 2012, 2010). Mapping these destroyed places may not only help locate missing cultural heritage and graves, but it will also reveal further information about other forms of Nazi persecution, aside from extermination and internment.

Continually throughout archaeological investigations, it is important to question what evidence is present and what evidence is absent. For example, assessing whether people had basic facilities such as water, toilets and space can assist in assessing the conditions in specific camps, ghettos and buildings. Where no or extremely poor living accommodation exists, it is clear that it was not the intention for people to be kept there for any length of time. Where no permanent toilet facilities exist, this reveals something about the sanitary conditions in certain areas. Additionally, if an examination of the above-ground and buried environment reveals that certain materials that were expected to be found in the area are not present, several important questions need to be considered: Is it possible that the remains may exist elsewhere? Could the evidence have been destroyed in some way? Is it possible that events noted as part of desk-based research may not have left physical traces? Are historical documents inaccurate in their references to where certain features were located?

Other sites may be characterised by absence because they were places from which people were deported, evacuated or cleared. Therefore, aside from the deportation itself, which may have resulted in destruction of property, burning and other damage, little physical evidence of these actions may have ever existed. For example, in Belorussia, various areas were classed as 'liberated areas' or 'areas endangered by bandit activities' (Rudling 2012). In these cases, the role of archaeologists will differ considerably and one of the key challenges posed to them and to heritage professionals may be how to present these kinds of sites when no tangible evidence exists, if this is deemed necessary. However, the growing appreciation of intangible heritage in recent years means that there is a wealth of comparative examples of where sites of this nature from other periods of history have been effectively presented to the public (Vecco 2010; Smith and Akagawa 2008; Aikawa 2004). In other areas, the absence of one part of the population, e.g. the local community, may have facilitated the persecution of another, e.g. inmates bought to the area. Alternatively, the absence of minority groups as a result of Nazi persecution may have facilitated the growth of other groups and accompanying physical changes to the landscape may have occurred.

9.4   Camouflage, Concealment and Deception

In a military context, Stanley (1998, p. 10) has alluded to three types of activity intended to disguise the built environment: camouflage—'to paint or augment recognisable shapes to distort their recognition characteristics, or to make them blend into the background, thus rendering the subject "invisible"'; concealment—'hiding an asset so it could not be seen, at least not directly'; deception—'the positioning or simulation of things or activities to mislead an enemy as to their true location or function, or to mask some imminent course of action'. With regard to the built environment during the Holocaust, all three of these actions can be witnessed via the analysis of physical evidence and other sources. It would appear that the motivation behind these actions was most often connected to the desire to hide the crimes that had been perpetrated. Therefore, an analysis of these practices and a detailed examination of what exactly what it was the Nazis were trying to conceal can provide new perspectives on their actions and the experiences of those affected by them. Additionally, as Wright (2010, p. 104) has argued, 'attempting to hide evidence of a crime is itself a crime', thus analysing these practices provides further evidence of the actions of the perpetrators.

The ways in which these actions—camouflage, concealment and deception—were carried out varied between sites depending upon the intended audience, the nature of the crimes being perpetrated, the possibility of the crimes being discovered and the logistics of organising the various forms of

disguise. Additionally, the methods used varied temporally and spatially given that the need to hide the crimes being perpetrated varied throughout the Second World War and across different regions of Europe. For example, during 1943, following both the discovery of mass graves in Katyń and the closure of the Operation Reinhard camps at Bełżec, Sobibor and Treblinka, there was a rapid escalation in the attempts to hide all the evidence of mass graves and camp buildings (Chrostowski 2004). Indeed, the Nazis established camouflage units, specifically for the purpose of hiding the physical traces of their crimes in many places (IMTN 1947a(7)). Considerable diversity in the methods can be seen to exist according to the evidence being concealed, the local resources available and the time-frame in which the camouflaging process was undertaken. Conversely, at times and in places where the Nazis did not fear that their actions would be discovered, very few attempts were made to hide their crimes (Browning 1991).

In some cases, the Nazis were extremely successful in their attempts to deceive and hide the evidence. Add to this the subsequent landscape change that has taken place at some sites and this means that, in some cases, the only evidence that outlines these efforts comes from historical sources. However, in other cases, physical evidence of this deception survives in the form of above- or below-ground remains. These acts of deception all pose their own difficulties to archaeologists seeking to locate physical remains. Therefore, thorough research into the nature of the methods likely employed at the specific sites being examined is essential in order to have the best chance at characterising the remains and understanding site formation processes. Certainly, it is important to avoid a situation whereby these perceived attempts to hide the crimes also act as a deterrent to search, based on the aforementioned belief that the Nazis were capable of destroying all traces of their activities. To do so would be to deny the potential of archaeological methods to reveal new insights into the sites in question.

There are too many ways in which the Nazis attempted to hide their crimes to provide a complete list here, and further means will likely become clear in the future as more investigations are carried out. However, a review of some of the most common ways is provided here in order to highlight the potential evidence that may be found when searches are undertaken.

9.4.1 Camouflage

Various forms of camouflage were used to hide the existence of the camps and other structures, some of which have long since been destroyed and others which survive in the modern landscape. In the camps, natural resources were often used to camouflage fences and structures; these included tree branches, vegetation and stones. This would make them blend in with the surrounding landscape, thus disguising them to passersby and, often, from the air. Horwitz (2000, p. 412) provides another reason why camouflage was so important—'it is precisely because the camps were in fact constructed so close to populated areas that their designs incorporated elements of disguise and camouflage'. He also provides the example of Mauthausen where the camp administration 'was able to take advantage of the natural, semicircular enclosure of its rock quarry, the very centre of operations, and to have built for the prisoner compound…thick walls made of stones hauled up from the pit below' (Horwitz 2000, p. 413). Camouflage netting was also often reportedly used to conceal camp barracks. In terms of camouflage, this is perhaps most readily seen at the military sites constructed by slave labourers where local stone, camouflage paint and netting were all used to mask the existence of these structures (Fig. 9.6). These techniques would serve in particular to mask these fortifications from the sea and from the air. Of course, the latter means that their identification from contemporary aerial imagery may not be possible, thus highlighting the importance of ground-based survey in association with a historical review.

Fig. 9.6 Camouflaged
bunker recorded on Alder-
ney. (Copyright: Caroline
Sturdy Colls)

9.4.2   Concealment

Most commonly, the concealment of physical evidence during the Holocaust took the form of its
burial. The largest attempts to conceal the evidence of the crimes perpetrated were the mass burials
and cremation of the remains of their victims, which will be discussed at length in Sect. 10.6. An
abundance of other materials were also buried and concealed clandestinely in order to hide them in the
long and short term. These include armaments, victims' belongings not deemed of use and even struc-
tures (Figs. 2.10 and 7.11). Some materials were simply thrown into open burial pits, thus becoming
commingled with human remains, whilst others were buried in purpose-dug pits (for an example see
Willenberg 1989).

Concealment was also accompanied by attempted destruction or demolition at many sites that were
to be permanently or temporarily abandoned by the perpetrators. For those camps abandoned before
liberation, attempts were made to knock down, blow up and mask the remains of many structures. At
the death camp at Chełmno, buildings including the central manor house and gas chambers were all
demolished and their bricks removed from the site in 1943 when the decision was taken to close the
camp (Montague 2012, pp. 141–145). The camp was then rebuilt the following year, only to be de-
molished once again after a further 6 months. Here, and at other sites such as Mauthausen, Treblinka
and Sobibor, archaeological excavations resulted in the location of the foundations of many of these
demolished structures (Sturdy Colls 2014a; Haimi 2012; Theune 2010). This is because, contrary to
popular belief, all traces of these buildings could not be removed from the landscape. Instead, build-
ings were often demolished down to ground level and the foundations and any rubble were buried
and the ground was flattened (see Montague 2012, pp. 141–145; Zabecki 1977; Sereny 1995, p. 249
for examples of how the camps were demolished). At Risiera Di San Sabba, a detention camp where
people were executed in 'death cells', the crematoria was blown up using dynamite when the Nazis
had to hastily abandon the facility (H.E.A.R.T 2008). In other camps, remains were bulldozed or
burnt, and building materials were reused to construct other structures. Records were also commonly
destroyed, often through burning, which resulted in the paucity of primary source material at some
sites. However, all evidence could not be entirely removed which means that there is considerable
potential to locate building foundations at other sites during future archaeological surveys.

Trees and vegetation were often planted over the top of areas that the Nazis wished to conceal in
a further attempt to further hide their purpose. At Chełmno, it was reported that '50,000 bundles of
seedlings had been acquired. Another 22,000 birch seedlings were taken from the nearby village of
Gaj…planting of the seedlings in the area completed the clean-up and cover-up in the forest' (Mon-
tague 2012, p. 142). Elsewhere, the former camp areas were turned into farms or had other buildings

built over the top (Sereny 1995, p. 249). Where such obstacles still survive, this can represent a challenge to archaeologists, particularly if it is the intention to carry out non-invasive survey using a Global Positioning System (GPS) or geophysical methods (Sects. 6.6 and 7.2). However, these obstacles may have in fact sealed further evidence and so should be searched, as discussed in Sect. 6.5.2.

Case Study 9.2: Attempts to hide the crimes at Treblinka extermination camp, Poland

When Treblinka extermination camp was abandoned in August 1943, various attempts were made to hide the crimes perpetrated there. Areas containing mass graves were covered over with lupins and other forms of vegetation, the barracks were taken down and the gas chambers were demolished (Sturdy Colls 2014b; Sereny 1995). The land was then levelled. A farmhouse was then built using the bricks from the gas chambers in order to present the illusion that the site had not been a death facility (Muzeum Walki I Męczeństwa w Treblince 2011, Fig. 9.7).

This farmhouse has frequently been cited as the only surviving structure which remained at the end of the war, something which has led historians and the public to believe that the rest of the camp was entirely destroyed (Central Commission for the Investigation of German Crimes in Poland 1946). Contemporary photographs demonstrate that the farmhouse was burnt down by residents in 1944 and, therefore, it is often assumed that no trace of it survived either (Wiernik 1944). Reuse of the site has complicated interpretation; the area has been subject to bomb damage, occupation by the Soviet army, post-war looting activity and landscaping as part of the construction of the memorial.

However, recent non-invasive survey and minimally invasive excavations revealed that the Nazis had gone to great lengths to hide the traces of their crimes but all traces of the former buildings had not been destroyed. In fact, there is an abundance of evidence to be found. When

Fig. 9.7 The farmhouse that was built at Treblinka extermination camp in order to conceal the site's former function. (Copyright: Yad Vashem)

a Light Detection and Ranging (LiDAR) survey was undertaken, it was possible to record the outline of the former farmhouse and walkover survey revealed bricks and other rubble in this area (Sect. 6.2; Fig. 6.1). Geophysical survey also revealed the remnants of several camp structures which appeared to have been levelled to their foundations (Sturdy Colls 2014a and b; Sturdy Colls 2012b). Much of the rubble appears to have been spread across the former camp area. The minimally invasive excavations in an area believed to contain the old gas chambers revealed that the Nazis had tried to hide the traces of this structure by dumping large quantities of sand over the top (ibid). This sand likely came from the sandbanks that existed around the death camp in order to conceal the extermination area from incoming victims (Fig. 9.8)

When post-war investigators attempted to search for the remains of the camp, it is now clear why they believed there was no evidence left to find as the sand extended to over 1.5 m deep in some areas. Large quantities of rubble, sections of wall, foundations of what is believed to be the Old Gas Chambers and building materials were all observed underneath the sand. The fact that popular histories of Treblinka have alluded repeatedly to the fact that the Nazis successfully destroyed all traces of their crimes shows how successful these methods of concealment were prior to archaeological intervention.

9.4.3   Deception

Most attempts by the Nazis to hide their crimes can be classed as deception. This was most commonly reflected in the physical fabric of structures and signage within the camps and deportation areas, and was cemented by the information provided to those sent there. Perhaps the most widely known evidence of this are the signs—like those at Auschwitz-Birkenau, Mauthausen and Sachsenhausen—which bore the words *Arbeit Macht Frei* (work will set you free) (Fig. 1.1). These signs were intended to provide false hope to the inmates that there was a chance of survival so as to keep order in the camps. Some camps were branded as transit camps, when in fact they were extermination camps (e.g. the Operation Reinhard camps; Arad 1987), whilst other sites were camps but were labelled as ghettos or work sites. One example of the latter is Theresienstadt, which was known as 'the show ghetto' in order 'to mislead public opinion and to fool the Jews in Bohemia Moravia' as to the true function of the camp (Murmelstein 2007). Many camps had false structures intended to detract from their true function. Some of these structures were labelled as something they were not, others were not actually structures all, but were only facades. These structures served to deceive people entering. For

Fig. 9.8 The large sand deposits that were dumped over the top of the Old Gas Chambers at Treblinka by the Nazis. (Copyright: Caroline Sturdy Colls)

example, the false railway station at Treblinka, the clock and the signs pointing the way to Warsaw and Białystok were intended to affirm the lie, presented to the victims at the Umschlagplatz in Warsaw, that they were being transported to work camps in the East (Chrostowski 2004). Treblinka and Sobibor both had a Lazarett, where the frontages hid the mass executions and burials in mass graves that occurred at the rear (IMTN 1947a(8), p. 325; ARC 2005). Other camps had hospitals that were actually more like holding centres; people would go when they were sick, but they would not receive treatment. For example, inmates described the hospital at Auschwitz-Birkenau as a 'waiting room for the crematoria' (Wiernicki 2001, p. 141).

It is known that the gas chambers in Auschwitz-Birkenau, Majdanek and elsewhere were modelled on bathhouses or showers since these survive as standing structures (Fig. 9.9). The intention behind this was to deceive victims entering concerning the true nature of the building. Recent excavations at Treblinka have shown the extent of this deception elsewhere; the discovery of floor tiles consistent with witness descriptions confirms that these gas chambers were also modelled on a bathhouse (Sturdy Colls 2014a, Fig. 9.10). The tiles were manufactured by Polish company Dziewulski and Lange, but it is currently unclear whether they were delivered straight from the manufacturer or removed from a pre-existing structure. The fact that these same tiles were also used in a number of pre-war Jewish ritual baths (mikveh) suggests that the Nazis possibly modelled the gas chambers specifically on a Jewish ritual bath in order to further deceive their victims.

Another important part of the Nazis planned deception was to somehow legitimise their activities, not least of all with regard to the number of deaths that occurred during this period. Therefore, as well as concealing burials (Sect. 10.6), they also made various attempts to deceive the outside world through the marking of some burial sites. Several of the Euthanasia Centres had false graveyards where it was indicated that bodies were buried in individual graves when in fact they had been buried

Fig. 9.9 The gas chambers at Majdanek, which were modelled on showers. (Copyright: Caroline Sturdy Colls)

Fig. 9.10 Tiles from the Old Gas Chambers at Treblinka which confirm witness testimonies that this building was modelled on a bathhouse. (Copyright: Caroline Sturdy Colls)
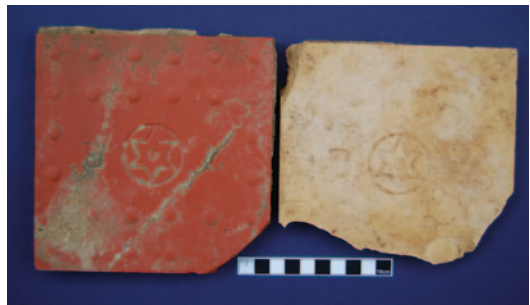
in a mass grave elsewhere. For example, at Tworai hospital, families of victims were told they had died and a 'fictitious grave' appeared in the cemetery, whilst the reality was they had been starved to death or 'executed in some solitary place, the traces of the crime being then very carefully obliterated' (Batawia 1982, p. 155). Similar practices were observed during archaeological fieldwork on Alderney, as outlined in Case Study 9.3. Here and at other sites, such as Ravensbrück, the issuing of letters with false causes of death has been observed (Morrison 2000, p. 285), whilst at Auschwitz-Birkenau death certificates were created for a small number of victims to mask the overall total (Central Commission for the Investigation of German Crimes in Poland 1982).

Case Study 9.3: Burials and Deception on the Island of Alderney, Channel Islands (Sturdy Colls 2012b)

The seemingly ordered burials of the slave workers who died on Alderney has often been referred to by historians as evidence that the actions of the Nazis formed part of a 'correct occupation' (Bunting 1995; Cruickshank 1975). Indeed, two cemeteries existed on the island where victims were reportedly buried in individual graves. Plans and photographs of one of these cemeteries on Longy Common suggested an ordered, clearly marked burial site, where six rows of crosses denoted the slave labourers' graves and individual plaques marked the graves of French Jews on the southern boundary (Figs. 5.9 and 9.11). Death certificates also existed for a number of slave workers. These graves were exhumed in the 1960s by the German War Graves Commission and the area of the former cemetery was left unmarked (Case Study 7.1).

Following an investigation by the author into the conditions on the island and the body disposal methods employed, it became immediately apparent that these cemeteries were not as ordered as it first appeared and that the Nazis had in fact attempted to hide the full extent of their crimes. A review of burial lists compiled by the Commonwealth War Graves Commission (CWGC) and various post-war investigation teams reveals that the Longy Common cemetery was chaotically laid out; it was out of chronological order and the names of more than one victim appeared on some crosses (CWGC-a; Fig. 9.12).

The names of others who are known to have died on the island also do not appear on any crosses in either of the two cemeteries. It appears that bodies were buried haphazardly and that crosses were erected sporadically. An investigation into the chaos within the cemetery was even ordered by the Nazi administration and this was what likely led to the erection of crosses in the first place. The area of the cemetery was located using geophysical survey and the individual rows of graves were still visible (Case Study 7.1; Fig. 7.4). Witnesses allude to a chaotic and often opportunistic system of body disposal outside of the cemeteries, whereby

Fig. 9.11 The crosses marking the six rows of graves in Longy Cemetery. (Copyright: Barney Winder)
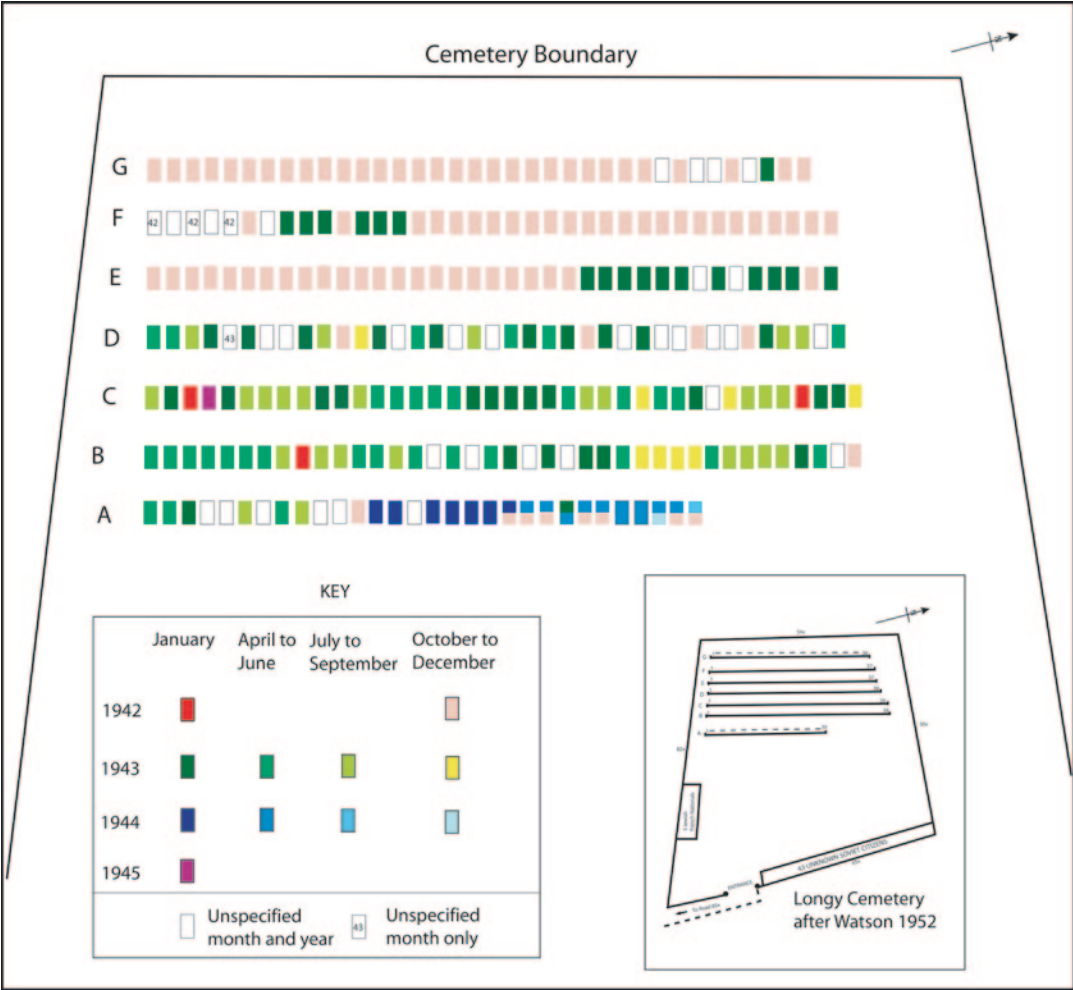
Fig. 9.12 Dates of burials in Longy Cemetery. (Copyright: Caroline Sturdy Colls)

victims were disposed of in the sea, in quarries and in the fortifications, buried where they fell or concealed in mass graves (PRO WO311/12-f; PRO WO311/13-g). Documentary evidence was found that suggested the presence of several mass graves in the vicinity of the cemetery, and the locations of five possible graves have since been identified using geophysical survey (Sturdy Colls and Colls forthcoming; L4 and L6 in Fig. 7.4 this volume). The area of the other grave will be investigated in future field seasons. Permission to excavate these areas has not yet been granted. Additionally, only a few death certificates existed by comparison to the number of people believed to have died on the island; in fact the number of death certificates does not even match the number of crosses in the cemetery. This all seems to suggest that the cemetery on Longy Common was a 'show cemetery' intended to deceive people into thinking that the slave workers' bodies were being treated with respect and that the number of deaths was lower than it was in reality. The boundaries of the cemetery also do not appear to incorporate all of the graves, suggesting that they too were for show.

Various other types of material remains also form part of an archaeology of deception—the different areas of the camps into which victims were segregated to prevent them seeing what was going on elsewhere, the gas vans and other execution sites disguised as structures, and even the railway network. Even people's homes and public buildings became sites of deception since it was often here where people were rounded up for execution or deportation, often having been told that they were simply being relocated to work. Equally, the belongings taken from victims as they entered the camps or ghettos form part of this body of evidence, many of which will be encountered during archaeological work, especially excavation. In the death camps, these items were first used by the Nazis as a way of legitimising their claims that people were being transferred to other camps when in fact they were being sent to their deaths, in that people were told to bring them along with them. Following this, they were part of the lie that people were told where they were informed that these items would be returned to them after they had showered, a euphemism for the gas chambers (Fischel 2010, p. 73). People who were sent to other types of camps and ghettos were deceived in a similar way upon entering and had their belongings taken from them. These belongings also form part of what Theune (2011) has termed as an 'archaeology of powerlessness', in that the owners of these items were essentially powerless to resist having to give them up.

9.4.4   Living a 'Normal Life'

An abundance of physical evidence exists that demonstrates that the Nazi administration attempted to create a 'normal life' for themselves whilst they lived and worked in the camps. This in itself could be seen as a form of deception. The camp commandants' villas located at many sites are important examples of this. The architecture of these buildings stood in stark contrast to the mundane and often inadequate living accommodation within the camps (Fig. 9.1). These buildings were well maintained, lavishly decorated and spacious. Architecturally grand, these buildings often also sat in their own grounds, creating a further degree of separation from life in the camp. At Kamp Westerbork in the Netherlands, archaeological excavations of the gardens around the villa inhabited by the Camp Commandant, Gemmeker, revealed the remnants of a Japanese formal garden, created by Jewish workers (Schute and Wijnen 2012). The very existence of this formal garden alludes to the living conditions of those in charge of the camp and presents evidence of the ways in which the Nazi administration attempted to maintain elements of normality and tranquillity in their working lives. Further survey work inside this property, through historic building recording, also provided an insight into the lifestyle of the camp commandant (Schute 2013; Sect. 6.9; Case Study 10.1).

Other structures and areas also added to this sense of normality. Swimming pools, brothels, chicken houses, pig sties, vegetable gardens and even zoos existed in the living areas of some of the camps (see Buchenwald, Treblinka and Semlin for examples). The material culture found in the living areas of the camp guards can also highlight aspects of daily life. Domestic items such as pots, pans, cutlery, food packaging and bottles were unlikely to have been hidden away to the same extent as other remains and so may well survive scattered across the former living camp areas or in discrete deposits such as waste pits. Occasionally, finds will allude to the hobbies and lifestyle of the camp guards. Examples include the discovery of a bowling ball at Sachsenhausen (Theune undated), beer bottle tops at Treblinka (Sturdy Colls 2014a) and condom packets at Buchenwald (Buchenwald and Mittelbau-Dora Memorials Foundation undated).

9.5   Resistance and Defiance

The debate concerning how the Holocaust was able to happen, and in particular, the notion that people (particularly Jews) went 'like sheep to the slaughter' continues to be hotly debated by both scholars and the public alike (Tec 2013; Gorny 2012; Porat 2009). Since this phrase was first used in a pamphlet written by Abba Kovner in 1941, the subject of resistance during the Holocaust has remained contentious. As Tec (2013, p. 2) argues, this has led to a situation where 'assumptions about Jewish passivity led to the conclusion that Jews had become collaborators in their own destruction' and the same has been said of other minority groups.

However, whilst resistance may not have been widespread amongst the majority, a considerable body of evidence exists that demonstrates that many people did attempt to resist the Nazi regime in a variety of different ways. Whilst some people resisted through physical acts such as collective uprisings or individual acts of retaliatory violence (Gutman 2012), others actively tried to tell the outside world about the crimes committed (e.g. Karski 2013, Polish Ministry of Information 1942). Others used the writing of testimonies as a way to document their feelings and to get them through times of desperation (e.g. Anne Frank's diary), others wrote of their desire to live, despite the improbability that they would do so (Brenner 2010). Singing, speaking in one's own language or breaking camp/ ghetto rules were also forms of resistance (Adler 2006; Landau 2006). As many historians report, this evidence of resistance shows us that people comprehended the extent of the Nazi atrocities, that they wanted to leave their mark on the world and they hoped to increase awareness of the crimes being perpetrated (Rappaport 2012; Brenner 2010; Marrus 1995). Additionally, it is important to acknowledge that as well as resistance, which can be defined as the active confrontation of authority, other people engaged in defiance, which can be defined as disobedience or a refusal to follow orders (Oxford English Dictionary 2013). If we accept these definitions then it becomes evident that resistance and defiance were in fact widespread during the Holocaust, as demonstrated through a variety of written sources and oral testimonies created by victims, perpetrators and witnesses. As part of desk-based research undertaken in advance of archaeological fieldwork, these acts of resistance may become apparent. It will be possible for archaeologists to consider these reported acts in the same way as historians; the nature of resistance can be considered in light of the impact that it had in both individual and societal terms. The rationale for the resistance can be assessed and the contribution this evidence makes to discussions surrounding the extent of resistance during the Holocaust can be considered.

However, where archaeologists can perhaps make the greatest contribution in terms of assessing resistance is through an assessment of the physical evidence that such acts left behind. To date, resistance has largely been considered through the assessment of written sources that refer explicitly to specific acts. Little attention has been paid to the other ways that people resisted which were often not documented but were instead linked to the creation, collection or deposition of physical evidence. Through an analysis of this evidence, it is possible to consider the points raised above with regard to documentary sources and provide further or even new information about the extent and nature of specific acts.

9.5.1   Temporality of Resistance

Prior to considering the types of physical evidence that may indicate resistance, it is important to address issues of temporality. Tec (2013, p. 5) has suggested that resistance falls into two temporal categories:

- Those acts that were undertaken in the short term, at a smaller scale often through necessity since many people were often killed quickly.

- Long-term acts of resistance undertaken collectively, which required long-term planning.

A third category should be added to this:

- Individual acts of defiance—that is the refusal to follow specific orders, as opposed to an active, open display of resistance—undertaken over in the short or long term, depending upon the individual's circumstances.

In terms of the potential to locate evidence of these acts, it is likely that those which required long-term planning, e.g. uprisings, sabotage, etc., will leave a larger material trace than those undertaken over a short period of time, e.g. personal acts of resistance. Collective acts of resistance will also generally leave a larger body of evidence than individual acts. However, archaeologists can potentially increase the understanding of all of these types of resistance given their ability to interpret layers, build chronologies, characterise spatial practices and analyse assemblages and individual objects. Large-scale landscape survey can highlight how topography influenced the ability to carry out acts of resistance and how the modern topography has been influenced by the creation of the physical layers associated with the actions in question.

It seems likely that many short-term acts of resistance in particular remain unknown. This is because many short-term acts of resistance could not be written down given the circumstances in which they were undertaken, for example in tightly controlled camps or ghettos where access to writing materials may not have been possible, or because they were undertaken spontaneously and individually, for example on the way to execution. Therefore, the only trace of these acts that may survive may be in the form of physical evidence, e.g. objects, graffiti, destruction layers, etc. Therefore, archaeological investigations may be unique in their ability to locate this evidence and thus significantly increase our understanding of personal experiences.

9.5.2 An Archaeology of Resistance

As Keith and Pile (2013, p. 14) argue, the number of ways people can resist is infinite and it is not the intention of this discussion to consider all possible forms. However, turning our attention to what can be seen to constitute an archaeology of resistance, the physical evidence that survives as a result of such acts can predominantly be seen to exist through either of the following sets of circumstances:

1. *Acts of resistance where the purpose was to send a message to the outside world through the physical evidence left behind.*

In many cases of resistance during the Holocaust, the deposition or creation of physical evidence played a central role. Therefore, from an examination of this physical evidence it may be possible to determine the nature of resistance, the message that was being communicated to the outside world through it and, therefore, the reason that the individual/group was resisting in the first place.

The methods of resistance and the reasons for undertaking it extremely varied. At an individual level, physical evidence may be left behind as a means of providing evidence to the outside world that a person was present in a given location; to ensure that their fate was known and that they would be remembered. In Alderney, as part of a research project undertaken by the author, the graffiti added to fortifications and other structures by the slave labourers and occupying forces was systematically documented (Sturdy Colls et al. forthcoming; Fig. 9.13). This revealed a large number of cases where slave workers had written their names on the structures they were tasked with building, most likely into wet concrete during the construction process. In other cases, graffiti (in the form of religious iconography and text) and personal items have been located that provide evidence of the presence of

Fig. 9.13 Slave worker
'graffiti' on Alderney cre-
ated as an act of resistance.
(Copyright: Caroline
Sturdy Colls)

a particular group in a given area. For example, the Gestapo prison in Kraków provides one of many examples of where prisoners wrote or scratched their names and messages into the walls of their cells (Fig. 10.6). Here, we see both the evidence of a desire by specific individuals to be remembered, and a desire to provide messages concerning their circumstances or feelings that it was hoped family and friends would eventually receive. The very existence of this graffiti reveals the conviction of the individuals that created it to leave their mark, since the dangers of doing so would have been consider-able (Einwohner 2006). This is particularly true of people interred in confined spaces such as prisons where graffiti could easily be attributed back to them. There are also instances where poems, quota-tions, artwork and diary-like texts have been located on walls, stones or objects. Perhaps here the mo-tivation is similar to that behind the creation of diaries or letters by people during the Holocaust in that these acts of resistance 'gave…a measure of control in a situation where what had seemed immutable ideals and beliefs were in a state of total collapse…the intellectual resistance of the dehumanizing terror both shaped and reflected an inner struggle to maintain spiritual values and ethical values in a human world devoid of humaneness' (Brenner 2010, p. 10). Items buried by people who realised they were about to be deported or killed have also been found. For example, at Majdanek, the belongings of victims were found in a pit near to the gas chambers. It is believed these items were buried 'in a last act of defiance to keep them from failing into Nazi hands' (Associated Press 2005). Various docu-ments have also been found as recently as 2014 in Warsaw which demonstrated how people attempted to hide their testimonies (Urzykowski 2014).

However, as Brenner (2010) and Young (1988) argue, it is important to examine sources with knowledge of the cultural, religious and social aspects that shaped the individual's identity to un-derstand the true reasons why people resisted. This may be extremely difficult when dealing with physical evidence created spontaneously, without an accompanying written account. For example, if we take an engraved Star of David in a bunker in Alderney as an example, it is necessary to pose the following questions: Did someone engrave a Jewish star because they wanted to express their Jewish identity? Did they do it because the events of the Holocaust made them feel an affiliation to their heri-tage which they had never felt before? Did they do it because they wanted to provide evidence that Jews had been interred in the area? Was it created by a non-Jewish witness? Was it actually created by perpetrators? All of these are possible. However, it may be impossible to define the exact reason without accompanying written sources.

In many cases, it seems that the motivations behind these acts include a desire by an individual or group to provide evidence of the crimes committed to either the current or future population. This may be through acts like those described above where it was hoped that indicating their presence in a given location would be enough to encourage people to investigate their fate and the occurrences at that location. In other cases, more explicit attempts were made to plant evidence to be found at a later date.

Many examples of this relate to those tasked with the burial of the corpses of the victims. For example, at Treblinka, Abraham Goldfarb reported how he and his co-workers:

> secretly placed in the walls of the graves whole skeletons and we wrote on scraps of paper what the Germans were doing at Treblinka. We put the scraps of paper into bottles which we placed next to the skeletons. Our intention was that if one day someone looked for the traces of the Nazis' crimes, they could indeed be found. (Goldfarb 1987, p. 176)

This is in spite of the fact that his work detail had been ordered to exhume and cremate all of the corpses buried in mass graves (Goldfarb 1987; Sect. 10.6). Many other survivors also spoke of hiding evidence within mass graves, under the floorboards of their barracks or in the ground near to their living or working areas. At Jasenovac, inmates even created letters in invisible ink in order to avoid detection by camp guards. Some of the notes left by members of the Sonderkommando at Auschwitz-Birkenau have also been found, providing evidence of the resistance of the inmates but also of the actual events taking place in the camp (Bezwinska 1973). These letters, like many others that have been found since, appeal directly to the reader and make direct reference to the fact that the evidence is being left buried for future generations to find: 'I have buried this among the ashes where people will certainly dig to find the traces of millions of men who were exterminated' (Salmen Gradowski 1973 in Bezwinska 1973, p. 75). These types of evidence reveal that the people who attempted to provide it had hope that one day the full horror of the Nazis' crimes would be revealed. The fact that such evidence exists should also act as a motivator to archaeologists to investigate the sites of the Holocaust using archaeological techniques, to ensure that the evidence of the Nazis' crimes can be found and that the hopes of those who risked their lives to provide some of this evidence can be realised.

In many cases where physical evidence was provided by victims, this forces us to confront the reality that these individuals had a sense that they would likely be killed before it was found (Brenner 2010). In order to feel strongly enough to provide this evidence, the people doing so must have felt that the risk of being caught was worth the effort of doing so and/or that the crimes to which they were attesting were severe enough to potentially result in their own death. Therefore, the physical evidence left behind not only provides evidence of resistance but also a myriad of often seemingly ill-matched actions and characteristics—courage, determination, selflessness, compassion, martyrdom, love, hope of salvation/escape/being remembered, acceptance of death (it could even be argued suicide), desperation and fear to name but a few.

2. *Acts of resistance which, due to their nature, left behind physical evidence.*

In other circumstances, physical evidence of particular acts of resistance is more likely to survive because of the nature of specific acts, rather than because the purpose of the act of resistance was to provide such evidence. Some examples of these acts include uprisings/revolts, refusing to follow orders or the smuggling or hiding of items (possibly with a view to returning to them later).

Although not widespread across Europe, there are a handful of examples of revolts and escape attempts that took place during the Holocaust. These events will have left a physical layer of evidence at sites which survives to date. The Warsaw Ghetto Uprising can be cited as one such example which had a dramatic impact upon the landscape of a whole city. The level of destruction that occurred has had what is most likely an eternal impact on the overall topography of the city and the layers of burning, demolition and regeneration connected to these events can readily be seen both above and below the ground (Case Study 11.11; Kopel 2007). Here, it is possible to see both oppression and resistance in a cyclical fashion, since the revolt occurred as a result of oppression and both the militant resistance and the counter-oppression that followed led to the physical destruction of the landscape (Keith and Pile 2013; Kopel 2007). The burning and demolition of buildings that took place as part of the uprisings in Sobibor and Treblinka are also well documented and are known to have had a dramatic impact upon

the landscape (Arad 1987). As part of archaeological investigations, it has been possible to locate specific features connected to these revolts. Evidence of destruction and burning survive as physical layers in the landscape. At Treblinka, it was possible to locate the remains of specific buildings connected to the revolt. For example, the armoury building identified using field and geophysical survey was also the location from which the inmates who enacted the revolt in August 1943 stole weapons. It was by using these weapons that 200 inmates managed to escape from the camp; thus this building was at the very heart of the resistance operations (Sturdy Colls 2014b, 2012b). Linking the historical accounts of the revolt here to a specific place at the site will now allow in situ information to be provided for visitors about these events. Being able to present the physical evidence connected to these events also provides more tangible materials for discussion and education (Chap. 12).

Archaeological investigations have also provided evidence of escape attempts by inmates of the camps, some of which were previously unknown or not fully understood. For example, the discovery of an escape tunnel at Sobibor provided evidence that the Sonderkommando there had intended to escape from the camp, although it is thought that the tunnel was never actually used (The Telegraph 2013). The discovery of three tunnels at Stalag Luft III (known for its role in the 'Great Escape') revealed the persistence of the inmates of this camp, despite the difficulties they faced with excavating stable escape routes (Doyle et al. 2012). It also demonstrated that the common perception of this site (derived from popular media) had oversimplified the true nature of the resistance.

Although not deliberately left by individuals, there also exist other instances where physical evidence relating to individual cases of resistance has survived and has been found through archaeological investigations. For example, a large number of personal items belonging to women were located near to the gas chambers at Treblinka during recent archaeological investigations (Sturdy Colls 2014a, Figs. 7.11 and 8.17). According to written and oral sources, these items should have been taken from people entering the extermination camp upon arrival. However, it appears that these items—which included items of jewellery—were most likely smuggled into the camp by inmates. This naturally leads on to questioning why would these women smuggle items into the camp and directly resist the orders they were given. For some women, this was likely a direct rebellion against the Nazi administration to show that they could not be controlled completely, despite the risk this posed. In many cases, given the nature of the items found, it may have been an attempt to hold on to sentimental or valuable items. The women may have kept them as a way of maintaining a link with their former life, as the only constants in their continually changing world. In some cases, the women may have genuinely believed that they were just in a holding camp and would, therefore, have the opportunity to take the items on with them to their next destination. It may have been a combination of all or some of these reasons. The discovery of these artefacts forces us to confront the sad reality that these items are the only identifiable remains of some of the victims sent to the camp.

9.5.3 Techniques and Further Potential

Techniques in archaeological investigation offer the possibility to go beyond the simple recognition of these evidence types and to carry out more detailed forms of analysis to locate, preserve and interpret it (Chaps. 5–7). Systematic search—through walkover survey, in-field recording, geophysical survey and excavation—has the potential to locate new forms of physical evidence which can provide evidence of resistance and the various other actions and emotions it generated (see above).

It is possible to assess whole landscapes as landscapes of resistance given the key role that geography played in the success of the resistance movements during the Holocaust. This is particularly true in Eastern Europe where the large mountainous and forested regions offered the possibility for escape and camouflage of hides (Tec 2013, p. 5). By assessing the layouts of these areas as well

as the camps and ghettos, it is possible to gain a greater understanding of the ways in which those participating in uprisings were able to attack and defend, and similarly the ways that the Nazi forces responded as a result. Landscape modelling and predictive analysis offer the potential to examine the interactions between partisans and the landscapes in which they fought and sought refuge. The success of these methods has been aptly demonstrated in conflict archaeology more broadly (Westcott and Brandon 2003). Accessing the extent of the damage caused provides an indication of the success of the resistance, whilst an analysis of the landscape may provide an indication of the lengths that the resistors were willing to go to in order to escape or cause upheaval. Field survey, geophysical survey and excavation (where permitted) all offer the potential to locate specific features such as boundaries, buildings, ammunition and personal items connected to specific acts of resistance. Micro-level analysis using archaeological methods also provides the means to deduce further information from this evidence in relation to the individuals and events to which it relates. For example, where engraved graffiti is found, it can be examined microscopically to determine whether it was written into wet concrete or whether it was etched into solid material. The latter clearly requires more time and so may reveal something about the degree of freedom that the individual who created it had and, thus, the degree of risk connected with its creation. Where individual names have been recorded, this offers the possibility to trace individual people, through comparison with transport lists, birth and death certificates and burial records (Sect. 10.7). Laser scanning and photogrammetry have a variety of uses to preserve the evidence located (Sects. 6.7 and 6.8) but may also be particularly valuable where it is believed that messages or drawings have been created over the top of previous ones or where engravings, text or images are hard to read with the naked eye.

9.6   Evidence of Absence

To return again to the discussion concerning the perceived lack of resistance during the Holocaust, it is useful to consider some possible reasons why these perceptions have arisen and to address the ways in which archaeological approaches should facilitate a reconsideration of these perceptions. Firstly, by assessing landscapes of oppression (Sect. 9.2) it may be possible to identify why resistance did not occur at a given location. As Tec (2013, p. 4) argues 'it stands to reason that the more oppressed people are, the greater is their need to resist. Yet, at the same time, the more oppressed people are, the less capable of resistance they are'. Therefore, at sites where we do not see the evidence of resistance, in some cases it will be because the nature of the landscape—as one of oppression—precluded the ability to resist (Keith and Pile 2013, p. 3). Secondly, it needs to be borne in mind that some of the evidence of resistance will have been destroyed, often given the oppression nature of the regime which inspired the resistance in the first place. This is likely to be particularly true of such actions during the Holocaust, given the apparent ability of the Nazis to suppress and recover from such instances, and their own attempts to hide their crimes which resulted in further landscape modification (Sect. 9.4). Thirdly, evidence of resistance may not survive in some cases because of the nature of the resistance itself. As Orser and Funari (2001, p. 62) remind us, 'archaeologists could assume that many instances of daily resistance cannot be counted upon to have left material traces', such as acts of localised sabotage or individual attacks on guards. A good example of this is the resistance by the Roma and Sinti in Romania who pretended to be vagabonds or played on 'stereotypes of being primitive nomadic Tigani to escape', evidence of which has only recently emerged from archival research (Woodcock 2007, p. 37). Additionally, whilst some people participated in resistance through actively undertaking unified acts or through proactive individual rebellions, others did so through abstaining from certain tasks. These types of resistance—which should perhaps be more accurately termed defiance—may not have left a material trace because they are in their very nature defined by absence of action.

Finally, given the wealth of information that can be derived from archaeological investigations (as outlined above), it could be argued that those discussing resistance cannot present a complete picture of its existence without a consideration of the physical evidence alongside historical accounts. For a number of reasons, it will not be possible to locate all evidence of resistance at a given site. However, through the combined analysis of documentary and physical evidence, a much richer picture of resistance will undoubtedly emerge in many cases. By simultaneously assessing the relationships between oppression, camouflage, concealment and deception, the influences of these on the ability of people to resist can be assessed.

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Archaeologies of Life, Work and Death

10.1 Introduction

Writing about the narratives of Auschwitz-Birkenau, Huener (2003, pp. 13–14) states that we:

> should not overlook an element of Auschwitz's history that sets it apart from other camps: the variety of ways in which registered prisoners lived, worked and died there … [the] wide diversity of prisoners, complicated administrative structure, brutally harsh conditions—are all aspects of Auschwitz that render it unique among Nazi concentration camps and extermination centers.

These statements not only once again attempt to justify Auschwitz's position as the main Holocaust site but are also inaccurate based on the similarly diverse circumstances and built infrastructure that exist at other sites in Europe. Indeed, this is aptly demonstrated by the site typologies and material evidence outlined in Chap. 8. It is crucial to move away from discussions concerning the comparative severity of Holocaust sites and ones that continue to focus exclusively on the well-known aspects of life, work and death during this period. By taking a thematic approach to the examination of the physical evidence of the Holocaust, it is possible to explore overlooked or lesser-known aspects of the relationships between life, work and death. What becomes immediately apparent when this is undertaken is the fact that, at most Holocaust sites, the lines between these are often blurred.

Having examined the ways in which the built environment facilitated mass internment and persecution in Chap. 9, this chapter examines how the physical evidence of the Holocaust recorded during archaeological surveys can reveal individual and collective stories. It will be demonstrated how archaeology can confirm or challenge historical information and facilitate the creation of new narratives concerning the events of this period. It is shown that the sites and assemblages of physical evidence from this period can be viewed as a 'material witness', as products of forced labour, as cemeteries and as symbols of genocide and prejudice. The role of archaeology in the identification of individuals will also be considered.

10.2 Archaeology as a 'Material Witness'

It has already been argued repeatedly throughout this book that sites of the Holocaust should be considered as crime scenes. They represent places where crimes occurred and, thus, their landscapes contain evidence of these actions. Violi (2013) has described sites of conflict and genocide more broadly as 'material witnesses', places where the evidence somehow 'speaks' of the atrocities perpetrated. However, at any crime scene, it is the ability of the investigator to locate, record, recover and

analyse this evidence that will truly make it 'speak'. The methods used in the field, coupled with the availability of other forms of testimony such as documentary or photographic materials, will impact upon the successful interpretation of this evidence and the ability to understand it's meaning. To best demonstrate this point, it should be remembered that the body of a deceased person will not reveal its name; rather its name will be found by examining the body and by comparing information from other sources, e.g. written records, comparative deoxyribonucleic acid (DNA) samples and the like. Similarly, inanimate objects will only have meaning when information about their provenance and function is revealed.

When assessing the ways that people lived, worked and died, it is also important that evidence pertaining to the mundane activities of daily life is not overlooked in favour of more direct evidence pertaining to crimes (Pollack 2013; Myers 2008). This is particularly important in the context of the Holocaust since 'annihilation through work' and short- and long-term ill-treatment were consciously employed as means to kill people. This evidence may also help to demonstrate how certain people survived and the other forms of torture that they were subjected to. It is important also to remember that not all of the victims of the Holocaust died but almost all encountered death in their daily lives. Their experiences should also be considered at length when assessing material remains.

It should of course also be remembered that Holocaust sites are effectively contaminated crime scenes; the amount of time that has passed since the crimes were perpetrated means that sites exist in various states of preservation. In some cases, the evidence will be hidden or masked by later landscape change. In others, it will have been destroyed by the latter. Some sites will have already been thoroughly or partially examined, but most likely not to the standard of modern forensic or archaeological investigation, whilst others will never have been searched or even located. Some sites exist which have been preserved as ruined forms of evidence of conflict and genocide, perhaps for propaganda purposes or in order to ensure that the crimes are never forgotten. Whilst many of these sites claim to be 'authentic', many have been still been modified so that they maintain their overall appearance (Fig. 10.1). The extent to which this has occurred may prove difficult for archaeologists to assess (Sect. 11.2). Some types of evidence will survive better than others; evidence key to modern forensic investigation, such as blood and other biological evidence, will likely be long since destroyed. Yet, under the right circumstances, other types of evidence, such as fibres, hair and ballistics evidence, may well still survive. This evidence may be well hidden or it may in fact be very visible but neither the technology nor the impetus was there to analyse it in the past.

Take for example the wall in the centre of Vinkt in Belgium where local people were lined up and shot (Fig. 10.2). Here, bullet holes still survive in the wall, which has been preserved as testament to the crimes perpetrated. These could readily be examined using new techniques in forensic investigation in order to determine the calibre of the weapon used and to assess the precision of the shooters

Fig. 10.2 The execution wall at Vinkt in Belgium which has been preserved as a memorial to the people who were killed here. (Copyright: Caroline Sturdy Colls)

(Heard 2011). Similarly, though this evidence has likely been disturbed by post-war activity, at many of the former camps, objects and bones survive on the surface, their evidential value remaining unrecognised or ignored (Fig. 7.11). There are no hard-and-fast rules about what will and will not survive at Holocaust sites. This will differ between sites given the different environmental conditions that exist. Rather, archaeologists and forensic investigators should approach sites in such a way that they look for all types of evidence that survive and record it in its entirety using a comprehensive, interdisciplinary methodology (Chaps. 5–7). Drawing on the literature and the experiences of those involved in the investigation of cold case reviews, it is possible to overcome many of the challenges posed by the passage of time and still to reveal information about the lives, work and death of those connected to the events in question (Hunter et al. 2013, Chap. 5).

What archaeology cannot do is to definitively state how people must have felt during their daily lives or as they approached or witnessed death; only those who experienced these events can do that. However, it can provide the physical, tangible remains that can be connected to, and re-presented, alongside witness testimonies and images; thus, it links people with places to provide a more complete picture of events. The rest of this chapter seeks to demonstrate some of the ways this can be achieved.

10.3 Every Building Tells a Story

As observed in Sect. 6.9, archaeologists can make a significant contribution to the analysis of both standing and demolished buildings. In addition to examining the spatial distribution of these buildings, individual structures should be viewed as micro-sites, which have the potential to reveal detailed evidence regarding their former uses. In turn, this can shed light on the lives and, often, the deaths of those who found themselves inside them.

10.3.1 Standing Buildings

Where standing buildings exist, archaeological survey of their insides in terms of their architecture and evidence contained within them can assist in understanding peoples' experiences. Simple observations—like the number or lack of windows, the feel of the floors and walls, the presence of ventilation or lack thereof—when accompanied by further investigation into the form and function of the building can provide information about life within it. Clearly, if buildings survive intact, it is likely that they will have been reused in some way, preserved either as museums or memorials or for

Fig. 10.3 German and Maltese crosses (*top right*) and painted outlines of tools used by the Jewish gardener (*top left* and *bottom*) found at the camp commandant's house in Westerbork during an archaeological survey. (Copyright: Ivar Schute/Maro Smit)

a wide range of other purposes. This in itself will represent a challenge to archaeologists in terms of identifying authentic remains (Sect. 11.2). However, through thorough building recording and historical research, it should be possible in many cases to analyse the different layers of material that are present and to characterise individual remnants. The value of carrying out such surveys are perhaps best characterised by two recent archaeological case examples:

Case Study 10.1: Building Archaeology at Kamp Westerbork, the Netherlands

At Kamp Westerbork in the Netherlands, archaeologists were able to uncover the various phases of use that had occurred at the villa inhabited by the commandant of the transit camp (Gemmeker) by adopting a novel approach to historic building survey (Fig. 9.1). This included a detailed visual inspection of the exterior and interior of the house, measured survey and high-resolution photography (Schute and Wijnen 2012). By examining the stratigraphy of the house, this allowed a 'building biography' to be created (Schute and Wijnen 2012, p. 11). Features relating to the periods before and after the villa was inhabited by the camp commandant were found. Many items were also discovered that could be attributed to 1939–1945 when the commandant lived there. These included two painted German or Maltese crosses located in the attic and the painted silhouettes of gardening tools used by the Jewish gardener employed there (Schute and Wijnen 2012, p. 13; Fig. 10.3).

Other interesting finds included handprints (presumably belonging to the person who installed the heating system for the commandant), a chest belonging to an army colonel and various other domestic items hidden in crevices around the house. By considering all of the layers of the villa's history, it was possible to demonstrate the various modifications that have taken place over time. It was acknowledged that much evidence from the period when the house was occupied by Gemmeker will have been destroyed but it was noted just how much had remained hidden, e.g. behind furniture and wall panels, for over 70 years. In some cases, the preservation of wartime features by the subsequent inhabitants of the property were evident. This demonstrates that just because a building or site has been reused, it does not mean that all of the material evidence of its previous function will have been destroyed.

Fig. 10.4 Fort Tourgis on the island of Alderney. (Copyright: Caroline Sturdy Colls)

Case Study 10.2: Photogrammetry and Building Archaeology at Fort Tourgis in Alderney

Fort Tourgis is located on the island of Alderney in the British Channel Islands. It was constructed in 1851 as a military fort to prevent attacks by the French (Fig. 10.4; Bonnard 2013). During the Second World War, Alderney was occupied by the Germans and it was inhabited by a garrison of troops. These troops were sent there to man the fortifications and to defend the island from the Allied forces. They were also responsible for the supervision of the slave workers who were sent to Alderney to construct further fortifications and who were housed in the various camps located around the island. The fort was then reused for various purposes after the war: Italian workers were sent there during the 1970s, it was converted into flats and then it was abandoned for a long period of time. As of the summer of 2013, it was in an extremely dilapidated and unstable condition. Despite its history, it is not under any form of protection order and so had been modified repeatedly.

In the summer of 2013, a detailed survey of Fort Tourgis was undertaken by archaeologists. High-resolution and 360° photography was employed, alongside manual recording methods. A number of interesting frescos were recorded. These include a painting of a Bavarian castle, a couple dancing, a comedy painting of a man and woman in the sea, and a group of sailors in a boat (Fig. 10.5, top and bottom left). Various military motifs were recorded in the form of a painted border of guns, tanks, soldiers and an aircraft above one of the fireplaces (Fig. 10.5, bottom right). It is not clear when and by whom these motifs were created. It is possible that they were created by members of the German garrison, since they are painted on the bare walls under various flaking layers of paint, but they may also have been created later. Once again, this case highlights the challenges involved in dating evidence. Original fixtures and fittings, including signage, were recorded on a number of the doors in the fort and it seems likely that most of the rooms maintained their original functions during the German occupation (Fig. 10.5, top right). An examination of the different layers of wallpaper and paint revealed the complex history of the fort and the ways in which later modifications had served, in many cases, to preserve evidence of earlier inhabitants beneath. Signs of very recent activity in the fort were also evident in the form of graffiti, some of which was anti-Semitic. Therefore, this survey allowed various phases of the site's history to be recorded. This is particularly important given forthcoming plans to renovate the fort which will likely destroy or cover much of this evidence.

Fig. 10.5 The various layers of history recorded during a building survey of Fort Tourgis: a painting of a couple dancing (*top left*), original doors from the nineteenth century (*top right*), a painting depicting a figure in a small boat (*bottom left*) and military motif of an aeroplane (*bottom right*). (Copyright: Caroline Sturdy Colls)

These two examples refer to sites that have been reused and abandoned. Depending on the nature of reuse, it may be more or less difficult to envisage how people would have experienced these places. For example, at the site of the former Semlin camp in Serbia, the use of the camp mortuary as a restaurant means that there is little remaining evidence of what it would have been like during the Holocaust. Conversely, the use of one of the accommodation buildings for inmates as a mechanic's workshop means that the full extent of this large, draughty structure can still be seen (Sturdy Colls 2014; Fig. 4.5).

Structures which have been preserved within museums and memorial sites can also yield an abundance of new information where novel techniques are employed to examine them. This is aptly demonstrated by Myers (2008) who demonstrates how the insides of barracks contain evidence of what life was like within them. He specifically points to the evidential potential of toilet blocks, where materials may have been accidentally or deliberately deposited. It is possible that items may also survive in the barrack floors that were hidden or dropped, if they have not been thoroughly searched. Where they survive, beds may also provide evidence concerning the individuals that slept in them in the form of graffiti. Graffiti at the Breendonk concentration camp in Belgium provides one of many examples of how inmates kept track of their time spent in the camp by etching a tally into the wall. It should be remembered that life and death often interacted in the barracks, where witnesses report that people would often die in their beds. Although this will not have left a physical trace, these barracks, like other places where people died, are seen by many as 'silent witnesses' of suffering (Schute and Wijnen 2012, p. 9).

Like barracks, prison cells often clearly provide evidence of the people who were interred within them through the marks they left behind. By analysing the names and sentiments etched into the walls by inmates, it may be possible to trace individuals and their family members, and to assess the conditions in the prison. Some etchings may provide evidence of hope, resilience and resistance, whilst others may indicate a sense of the inevitability of death or allude to the brutality inflicted by

Fig. 10.6 Graffiti created by prisoners in the prison on Ulica Pomórska in Kraków. (Copyright: Caroline Sturdy Colls)

the prison guards. Often, a combination of all of these emotions can be seen in the same place. At the prison on Ulica Pomórska in Kraków, some of the graffiti takes the form of letters to family members or prayers which suggest that the inmate who wrote them suspected they would not leave the prison alive (Fig. 10.6). One such example written by Witold Maskalik states, 'I won't see you anymore. I am dying with your name and Poland's on my lips. Be brave. God will look after me. Krakow. December 8th 1944 1pm'. A comprehensive overview of the graffiti at Auschwitz-Birkenau is provided by Czarnecki (1989) and attests to the information that can be gleaned about peoples' lives from the analysis of it. Particularly poignant examples are provided in the form calendars that keep track of the time inmates spent in the camp, one of which pleads for help from God and another in the punishment bunker finishes with 'the end' (Czarnecki 1989, pp. 142–143 and 152–153). Similar examples were observed during a recent survey of prison cells in Alderney (Sturdy Colls et al. forthcoming).

Where gas chambers survive above the ground, these are yet another location where life, work and death came together in one place. Here it may be possible to find evidence of the killing practices employed by the Nazis, the suffering of the victims and the experiences of those forced to remove the corpses from the chambers after gassing. These structures provide the material remains to accompany the witness testimonies that exist concerning the extermination process. Various attempts have been made to further understand the gassing process through an examination of the interiors of the chambers. This too has often been done with the motivation of understanding more about what the victims suffered and how the chambers operated. A recent Ground Penetrating Radar (GPR) survey of the gas chambers at Mauthausen revealed the hole for the pipes which would pump gas into the chamber (Theune undated). It was noted that the Nazis had previously removed the pipes and attempted to hide this hole behind nine tiles. At the time of the survey, the hole was hidden behind 16 tiles, believed to have been placed there by the liberating American troops. Perhaps most notable investigations of the gas chambers are those undertaken at Auschwitz-Birkenau, where various forms of forensic investigation have been undertaken to determine the presence of cyanide and understand the architecture of the chambers. These tests have been the subject of many years of controversy, owing to their use by Holocaust deniers as a means of 'proving' that these structures were not in fact gas chambers at all. However, tests by the Institute of Forensic Medicine in Kraków, investigations undertaken by expert witnesses at the David Irving vs. Deborah Lipstadt trial and recent forensic examinations of the architecture of the chambers provide a clear body of evidence that confirms that the gas chambers were capable of killing thousands of people at a time (Keren et al. 2004; Van Pelt 2002; Markiewicz et al. 1994). In addition to this evidence, a poignant and very visible reminder of the atrocities perpetrated in the gas chambers exists in the form of scratch marks left by those killed.

10.3.2   Demolished Structures

At the majority of Holocaust sites, standing buildings do not survive above the ground and archaeologists will have to turn to the range of non-invasive and perhaps invasive techniques in order to locate their foundations and any other remnants. It is still possible to derive considerable amounts of information about the life, work and death from these remains and many of the evidence types and forms of analysis outlined above will still be possible. If foundations or remains exist partly above the ground, even where they are incomplete, it may be possible to search them for hidden items and to assess any markings or features on the walls and floors (Fig. 10.7). Creating ground plans of structures through topographic or geophysical survey can allow the size and form of structures to be ascertained. Where this is accompanied by historical information outlining the number of people that would have been housed inside, this may assist in addressing issues such as how much space they would have had, how they may have moved through the space and what conditions would have been like inside.

There are of course certain aspects of daily life that can only be confirmed with complete certainty when excavation is carried out. These include elements such as the exact materials from which buildings are constructed, the nature of any rubble associated with the demolition of the building and any objects which may have belonged to those living there.

Case Study 10.3: Recording Living Conditions at Columbia-Haus (Berlin Tempelhof), Germany
Columbia-Haus camp received its first political prisoners in July 1933, before becoming an official concentration camp in December 1934 (Schilde 2009). The site, which was located on the grounds of what later became Berlin Tempelhof airport, held tens of thousands of prisoners before its closure in 1936. During excavations at the site of the former labour camp, it was discovered that the foundations of the workers' barracks had been constructed of poor quality concrete 'despite the fact that existing documents from the Generalbauinspektor Speer administration show that adequate concrete had been requisitioned to construct a more substantial foundation' (Pollack 2013, p. 11). This serves as yet another example of why archaeological investigations are required, even at sites where it is believed that their history is known from written records. The discovery of very short nails during this same excavation also alluded to the thinness of the barrack walls (Pollack 2013). These walls would have resulted in very cold conditions for the inmates and made the risk of illness far greater.

Fig. 10.7 A small cell recorded within the punishment bunker at Treblinka labour camp. The metal door fittings are still visible. (Copyright: Joanna Zasłona)

Another particularly poignant example of life in the camps was provided by archaeologists at Chełmno who uncovered the remains of a newborn baby buried in the rubble of a blown-up punishment cell (Pawlicka-Nowak undated). A plated spoon and a jackknife with a Hebrew inscription were also discovered alongside the remains. The location of the remains, the archaeologists suggested, indicated that someone had been trying to hide the child but the discovery of the remains demonstrated that, ultimately, this had been unsuccessful.

10.4   The Role of Labour in Life and Death

Many camps existed because of the labour sites, and many labour sites functioned because of the camps; thus, the two cannot be separated and form part of a Holocaust landscape where life, work and death were interwoven (Chap. 8). For example, at Gross-Rosen, Mauthausen and Treblinka, the camps were built immediately adjacent to quarries where inmates would be forced to work long hours under terrible conditions (Braiter 2009, pp. 694–697; Sturdy Colls 2013; Horwitz 2000). Thousands of camps were built to support the construction of the fortifications connected to the Atlantic Wall. Many of these remain unidentified but it is possible to locate them by identifying clusters of fortifications since the Nazis often built camps of varying sizes and permanence in the immediate vicinity. To make the labour programme more efficient, and likely to avoid having to move prisoners over significant distances, across Alderney in the Channel Islands (which is only 3 miles long by 1.5 miles wide) the Nazis built at least nine camps, some permanent and some temporary in very close proximity to the fortifications that the workers were building (Fig. 8.4 and 10.8; Case Study 8.1; Sturdy Colls and Colls forthcoming). At some sites, the living quarters and working area of prisoners were one and the same. At Zabłocie, a sub-camp of Plaszów in Poland, the prisoners were housed in warehouse buildings where they were also forced to unload freight cars. At Dora-Mittelbau, the camp was in fact located in the munitions tunnels where labourers were forced to produce the weapons for the Reich. Therefore, inmates lived, worked and often died underground in terrible conditions (USHMM 2014).

In many cases, the labour sites resulted in a large number of deaths because of the harsh living and working conditions that the workers experienced. In other cases, labour sites were deliberately set up as a means of killing people in large numbers through the 'annihilation through work' policy (Freidlander 2014). As early as the Nuremberg trials, it was noted that 'usually the concentration camps of German fascism can be divided into two groups: the labor concentration camps and the extermination camps. It seems to me that such a differentiation is not quite correct, because the labor camps also served the purpose of extermination' (IMTN 1947, p. 576). Yet this fact is often overlooked and the death camps remain at the forefront of popular opinions concerning the ways in which the Nazis exterminated large numbers of people (Chap. 1).

Through an examination of historical and physical evidence that survives at labour sites and their associated landscapes, it may be possible to further define the relationships between life, work and death that existed. In some cases, archaeological investigation may reveal whether labour sites were set up to facilitate labour that was useful to the Reich, or whether they were set up as another form of extermination. Examining any witness testimony or other documentary evidence for details of the workers' living and working conditions represents a useful first step. This can then be followed by the location of specific features, such as buildings connected to the labour programme, and plans of camp and labour sites can be established using archaeological techniques. The benefit of this lies in the fact that the layout of camps also reflected the diversity of the experiences of the various 'grades' of victims, prisoners, labourers and camp administration. At many camps, the spatiality of the killing and burial process, according to the victims' age, gender and health reveals how this grading of

individuals even extended to determining the nature of their deaths. For example, many of those too ill to work (in the concentration and labour camps) or to walk to the gas chambers (in the death camps) were killed at places near to the reception area of the camps (Sturdy Colls 2012). Their living conditions also strongly influenced whether they survived and the nature of their deaths. At Treblinka II, designated areas for working Jews and areas containing no living accommodation alludes to the camp hierarchy and highlights the progression towards extermination that different people took (Central Commission for the Investigation of German Crimes in Poland 1946). The selections that occurred were also based on personal characteristics.

This grading of prisoners played a key role in the designation of labour. For example, as part of the Operation Todt programme, which oversaw slave labour along the Atlantic coast of Europe, the assignment of different labour and prisoner groups to work at different sites, each with varying mortality rates, was influenced by the workers perceived value and 'grade' (Christopher 2014). Some sites were seen as 'certain death', whilst others were considered as less dangerous. An analysis of the physical evidence pertaining to these sites can help confirm or refute these claims.

Examining the death toll at individual sites will also be a useful indicator of the influence that living and working conditions had on the circumstances of an individual's death. However, in many cases this will be difficult to establish from documentary evidence alone. Archaeological techniques offer the possibility to attempt to locate any burial sites that exist in association with these labour sites. At some sites, it has been observed that mass graves were excavated in the vicinity of labour sites, at others, bodies of those who died whilst undertaking forced labour were taken back to camp mortuaries and their deaths registered there before they were buried inside or in the vicinity of the camp (Case Study 9.3). Therefore, it is vitally important to carry out thorough desk-based research to determine exactly how those people who died during forced labour were buried. This will help defined search strategies to locate these graves. There are also many accounts of labour sites being used as impromptu burial locations directly; witnesses at some sites report seeing bodies being pushed into wet concrete, being buried under rubble and, in cases where the labour being carried out consisted of the excavation of trenches and graves, being thrown into these excavated areas (for examples see Sturdy Colls 2012). For those responsible for the excavation of graves and the construction of the death camps, it was almost guaranteed that they would be killed because of the work that they had carried out, sometimes because the Nazis did not want to risk information about their activities being passed on and sometimes because the work itself was so intensive that it resulted in death. Again, desk-based research in advance of fieldwork will assist in locating these kinds of disposal sites. The location of burial sites is discussed further in Sect. 10.6.

10.5 Products of Forced Labour

As a direct result of the forced labour undertaken during the Holocaust, there exists a body of evidence made up of the products of this work. In some cases, forced labour formed an integral part of the war effort, creating what could almost be termed an industry (Bejarano and Boasson 2010; Allen 2005). Specific organisations, such as Organisation Todt, were set up to administer specific aspects of this labour (Christopher 2014). In others, labour was merely a form of punishment which happened to generate materials that may or may not have been useful to the economy of the Reich.

10.5.1   The Built Environment

Perhaps the most visible products of forced labour are the structures and infrastructure built by the workers across Europe. These include, but are not limited to, bunkers, tunnels, gun emplacements, trenches, ditches, surveillance installations, stores, railway lines, roads and pathways (Figs. 10.8 and 10.9). Often these features are viewed and have been recorded in terms of their military or strategic uses. The role that the forced labourers played in their creation has been overlooked. They have often been seen as testaments to German engineering, as opposed to places where people experienced terrible working conditions and where many ultimately died (Davenport 2003; Forty 2002; Saunders 2001). Elsewhere, whole cities were the products of slave labour. For example, Berlin was rebuilt using granite quarried by slave labourers at Flossenbürg (Jaskot 2000). Similarly, the camps and walls of the ghettos can also be seen as products of slave labour since labourers were made to construct them, something which ultimately usually resulted in their deaths (Sect. 8.2).

Fig. 10.8 The fortifications on Bibette head in Alderney (*top left* and *bottom*) which were built by inmates from the nearby Lager Norderney camps (*top right*). (Copyright: Caroline Sturdy Colls)

Fig. 10.9 Products of slave labour in the form of an anti-tank wall built by camp inmates. (Copyright: Caroline Sturdy Colls)

In order to analyse these structures in terms of what they can reveal about lives, work and deaths of the people who built them, archaeologists should take a broader approach and examine them for all that they represent. It may be possible to provide further insights into exactly who built these structures since examining them in this way means that different documentary material or photographic evidence may be examined than as part of a purely militaristic investigation. Through the in-field analysis of the structures themselves, it might be possible to estimate the amount of manpower that was used to build them and the problems that the forced labourers would have faced in doing so. In some cases, very direct and poignant reminders of the fact that forced labourers were involved in the construction of certain structures exist in the form of graffiti, which sometimes includes the names of individual workers (Fig. 9.13). Locating these names opens up further possibilities to identify individual people, something which is discussed further in Sect. 10.7. This graffiti too should be viewed as a product of forced labour.

In some instances, it is possible to identify the purpose of these structures or infrastructures both in military terms and in terms of the role that they played in controlling the workers. The ways in which labour sites were organised and laid out would influence the amount of interaction between workers and it would influence how the guards were (or were not) able to control them. Analysing the physical fabric of these features may also reveal important information about Nazi extermination or persecution policies and, in some cases, it may be possible to demonstrate whether these places were part of the 'annihilation through work' policy (Sect. 8.2). Additionally, in some cases, it may become clear that certain defensive positions were not intended to defend the location from the enemy, but instead they were intended to maintain control over those interred within the camps or undertaking further forced labour. This was observed during survey work on the island of Alderney, where military installations were found within the camps and also around their exterior, but aimed at them (Sturdy Colls 2012). Accessing the locations in which these structures are based might reveal information about what the labourers may have also witnessed in the vicinity. For example, where labourers were forced to work in the vicinity of the camps or on the railway lines, they may have witnessed deportations and other atrocities. Even if witnesses are not available to interview directly, it may be possible to estimate this using viewshed analysis and predictive modelling in Geographical Information Systems (GIS) (Sect. 5.14).

Because many of the structures and infrastructural elements that the forced labourers were made to construct were substantial, many of them still survive today. In fact, many of the roads and railways that were built still form part of major transport networks throughout Europe, yet few are marked or acknowledged as the result of forced labour. Many of the structures that were central to Albert Speer's Third Reich architecture programme were also built by slave labourers still survive today in major cities throughout Germany. These structures, and the evidence such as graffiti that they contain, can now be recorded using laser scanning or 360° photography in order to create a permanent record of them (Sects. 6.7 and 6.8). The advantages of doing this are described in detail in Sect. 6.9 but in summary, these technologies can assist with the identification of previously unrecorded evidence (at macro- and micro-level), allow digital reconstructions to be created and assist in future conservation work.

Other more unusual products of forced labour also exist in the built environment and may be revealed by archaeological investigations. For example, at Kamp Westerbork in the Netherlands, archaeological excavations of the gardens around the villa inhabited by the camp commandant, Gemmeker, revealed the remnants of a Japanese formal garden, which was created by Jewish workers (Schute and Wijnen 2012; Fig. 10.10). It is interesting to consider whether the irony of the fact that this beautiful garden was borne out of the suffering of the internees of Westerbork registered with Gemmeker or anyone else who observed it.

Fig. 10.10 The garden of the camp commandant at Wester-bork which was a product of slave labour. (Copyright: Ivar Schute)

10.5.2   'Raw Materials'

In addition to construction work, tens of thousands of people were also forced to work to generate raw materials or individual products that would be of benefit to the German economy or to individual Nazi divisions and individuals. These items all form part of the material culture and physical evidence connected to this period, though not all will have survived to date. The items that were produced were incredibly diverse and far too numerous to provide a complete list here. Workers were 'employed' in the acquisition of raw materials—such as stone, gravel and sand—in the production of parts for vehicles, electronics and textiles, and in munitions work (Gruner 2006). At Auschwitz, Buchenwald, Sachsenhausen and Ravensbrück inmates were even employed in the production of counterfeit American and British currency (Fischel 2010, p. 192). The recent announcement by Audi that slave labourers worked for its predecessor company adds it to a long list of manufacturers that participated in such activities and highlights the diversity of the products of the labour programme (Deutsche Welle 2014). It will likely be quite rare to locate individual products of this nature during archaeological surveys, though it may occur if excavations take place at former factory sites for example. On occasion, objects have been located that have been produced by forced labourers, some of which were modified in acts of resistance (Sect. 9.5).

Other items that were the subject of the forced labour programme were the personal belongings and bodily materials taken from the victims in the camps. These include, but are not limited to, clothing, shoes, bags, wallets and purses, money, jewellery, gold fillings and hair. Many of these items were discovered in the years since the war and now form the basis of a large number of museum collections around the world. Others will undoubtedly continue to be discovered as part of archaeological surveys and excavations in the future. Individuals and groups throughout Europe were tasked with removing these items from people, with sorting them, loading them onto freight wagons or into vehicles, or unloading them when they reached their final destination. Although these items were not produced as such by the forced labourers, they formed an integral part of the labour programme. Undoubtedly assigning these types of tasks to forced labourers was designed to weaken the resolve of the workers, as they not only often had the traumatic task of removing these items directly from the living and deceased but they were also subjected to the constant reminder of the fate of others (Sect. 9.2). Therefore, when such items are discovered, they reveal information not only about the fate of those to whom they belonged but also about those forced to collect these items and those who made them do so.

10.6   Burial and Body Disposal

The burial and disposal of the victims of the Holocaust is a topic that has rarely been discussed at length. This certainly cannot be attributed to a lack of evidence; on the contrary, an abundance of evidence exists that alludes to the diverse ways in which the Nazis attempted to dispose of corpses. Yet, it is often wrongly assumed that everyone who died during the Holocaust was disposed of in a similar way. The cremation of victims or their burial in mass graves have come to be recognised as the main methods used and there have been few attempts to consider in detail the specifics of such practices. As outlined in Sect. 6.5, it is possible to draw on techniques of burial scenario and offender profiling, alongside other non-invasive methods in order to assess the actions of the perpetrators and to identify the various ways in which victims experienced death and burial. Similarly, when excavation is or has been carried out, this provides further evidence concerning the condition of the remains and the burial environment. An evaluation of the physical evidence reveals a number of broad trends with regard to the ways in which corpses were disposed of. An awareness of these trends not only enhances understanding of the events of the Holocaust but may also assist in searching for unidentified gravesites in the future.

10.6.1   Contesting Popular Perceptions

Several of the popular misconceptions concerning the Holocaust are associated with the ways in which victims were disposed of (Sect. 3.2). Firstly, it is often believed that the locations of the majority of mass grave and cremation sites are known, most likely as a result of the belief that intensive investigations were undertaken by post-war investigators (Sect. 2.2.2). Secondly, it is often assumed that there will be little in the way of physical evidence left to be found at mass grave or cremation sites because of the Nazis' attempts to hide their crimes and the extended period of time that has elapsed since burial. This is particularly prevalent in relation to sites where it is believed that all of the victims were cremated and where markers already exist at other graves in the area. So intensely are these assertions presented in official and popular narratives of this period that even the most experienced practitioners may be fooled into thinking that archaeology does not have a role to play in the investigation of these sites (Sect. 3.2). Certainly, both of these misconceptions have been compounded by the lack of appreciation concerning the variety of ways in which archaeologists can search for and recover this evidence in order to reveal new insights into the history of this period (Sect. 1.3). An examination of documentary, photographic and material evidence clearly demonstrates that the two assertions stated above are both false. The locations of the majority of burial sites from the Holocaust remain unknown and certainly very few have been investigated in any detail. An examination of the reports of medico-legal investigators created during or after the war clearly demonstrates that only cursory examinations of graves were undertaken in most cases and, certainly by modern standards, these seem inadequate (Sect. 2.2).

The belief that there will be little physical evidence left to find in relation to burials is also false. Initially, for proof that it is possible to locate such evidence, one need only look at the variety of archaeological and forensic examples where human remains have been located and analysed in detail even when those remains were extremely well concealed, very old, fragmented, cremated and affected by various environmental factors (for examples, see Hunter et al. 2013; Ossowski et al. 2013; Rios et al. 2010; Adams and Byrd 2008). In fact, such cases and forensic research have demonstrated just how difficult it is to destroy human remains in their entirety (Scotsmans et al. 2012; Fairgreave 2008). Additionally, it should be remembered that it is not only the remains themselves which are being sought but it is also the grave in which they are interred. Therefore, even if considerable at-

tempts have been made to destroy the remains, then it should still be possible to locate and analyse the grave cut itself, as demonstrated by many examples in forensic archaeology where bodies have been destroyed or moved (Hunter et al. 2013, Chap. 8; Fig. 7.4). The potential for evidence to exist at individual sites can usually be easily assessed by returning to primary source material (Chap. 5). Witness testimony may allude to the circumstances of burial, the condition of the remains when they entered the ground and any subsequent interference with them. Photographs of remains may provide the same information.

A considerable body of evidence exists that demonstrates that the Nazis did not effectively destroy the bodies of their victims in most cases. What is particularly interesting about much of this evidence is that it is in the public domain (within archives), yet its existence has barely been acknowledged; in fact, it has often been excluded from official or public narratives of the Holocaust (Sect. 3.2). In some cases, it appears that the Nazis disposed of bodies in mass graves without any further attempts to hide them. In these instances, it is likely that skeletalised remains or bodies bearing soft tissue will survive in situ. The latter will be dependent upon the number of bodies within the grave, whether or not they were buried with any other materials and the impact of various environmental conditions (O'Carter and Tibbett 2009). In other cases, the perpetrators attempted to advance decomposition by covering them with substances such as lime, something which advances in forensic science has now taught us may well help preserve the remains (Schotmans et al. 2012). As the Nazis moved towards the purported 'Final Solution', it is true that cremations became commonplace at the larger camps such as Auschwitz-Birkenau, but at the smaller camps and during the localised killings that occurred across Eastern Europe, disposing of the bodies in mass graves remained the most widely adopted technique (Dawidowicz 1990). At some of the camps and killing sites, so-called burning groups were established who were responsible for the exhumation and cremation of corpses buried within mass graves (Arad 1987). It is likely that the emphasis placed on the death camps has contributed significantly to the misconceptions regarding the nature of the human remains from the Holocaust. To return again to the example of Auschwitz-Birkenau, if this site is seen as the epitome of the killings that took place, then it is clear why it is believed that most of the victims were cremated and scattered in the surrounding area. In light of this people often believe that locating these types of remains using archaeological techniques is not viable. Additionally, mass graves were sometimes reused and exhumed over time, thus presented complex burial environments that reflect the diversity of Nazi body disposal practices (Sect. 8.6). One particularly good example is Bełżec where excavations demonstrated the varied nature of disposals that were evident within a single grave. It was noted of one grave that it 'contained a mixture of carbonised wood, fragments of burnt human bones, pieces of skulls with skin and tufts of hair still attached, lumps of greyish human fat, and fragments of unburned human bones', thus demonstrating that earlier graves were reused and not all of the remains were cremated (O'Neil and Tregenza 2006, p. 5). Upon the abandonment of many of the camps, and in the chaos of the final stages of the war, many ad hoc executions were carried out which resulted in bodies being left on the surface or dumped in hastily dug mass graves. An abundance of documentary and photographic evidence clearly demonstrates that these victims were not cremated, nor were considerable attempts made to hide all traces of them. Thus, a more complex impression of the fate of Holocaust victims is emerging.

10.6.2   Cremation

With regard to cremation, it is true that at some sites, bodies were entirely cremated and ashes were scattered over large areas. In these instances, locating human remains will prove difficult, except if they become visible on the surface (Fig. 10.11). However, it is important not to accept at face value the assertion that all victims at a given site were cremated, even when this was declared by the Nazi

Fig. 10.11 Cremated remains found on the surface at Sobibor. (Copyright: Caroline Sturdy Colls)

administration to be the body disposal technique being employed (Gilbert 2002, p. 169). This is because considerable evidence exists to suggest that in reality bodies were not always cremated, due to the number of bodies that had to be disposed of, the efficiency of those carrying out the disposals and acts of resistance by members of the burial details (Sect. 9.5). Countless other witnesses allude to a lack of cremations and attempts to attest to the crimes committed by the Nazis: 'I must add that everywhere we worked we tried to leave a fragment of bodies in the mass graves in order that some traces of the people executed by shooting and buried' (Willenberg 1989, pp. 192–193).

A large number of unburnt, scattered human bones were recovered and reburied during recent excavations in the area around the gas chambers at Treblinka proving that not all of the victims were cremated at this site, despite Himmler's order of February 1943 to exhume all of the remains (Sturdy Colls 2014). The head of the Einsatzgruppen division responsible for the exhumation and cremation of bodies at killing sites throughout Eastern Europe also alluded to the fact that the scale of this task was so big, that it could not be achieved in the time available: 'according to my orders I should have extended my duties over the entire area occupied by the *Einsatzgruppen,* but owing to the retreat from Russia I could not carry out my orders completely' (Blobel 1947, p. 473). Likewise, a report by the Polish Commission submitted to Nuremberg claimed that at Auschwitz-Birkenau 'during July 1944 Hungarian Jews were being liquidated at the rate of 12,000 daily; and as the crematoria could not deal with such numbers, many bodies were thrown into large pits and covered with quicklime' (IMTN 1947(1), pp. 565–567). During excavations at Bełżec, it was observed that 11 out of 33 recorded mass graves contained unburnt human remains, once again in spite of the fact that cremation had been defined as the supposed sole body disposal technique since early 1943 (Kola 2000; O'Neil and Tregenza 2006, p. 5)

As Fairgreave (2008, p. 37) argues, 'the layman is clearly under the mistaken impression that a body can be easily reduced down to ashes and thus not be recovered from a fire scene'. In fact, extremely high temperatures and long durations are required to entirely reduce a body to ashes (Thompson 2004 and 2005). At many Holocaust sites, cremations could not achieve such temperatures or be undertaken for such long periods of time, due to sheer number of bodies being handled. This is evidenced by the fact that it was necessary to grind up the cremated remains at some sites before they could be scattered (Berenbaum 2005). By way of one example, the Polish-Soviet Extraordinary Commission at Majdanek (1944, p. 18) reported that 'judging by the large quantity of bones discovered in all parts of the camp (in pits, vegetable plots and under manure heaps), the Committee of Experts is of the opinion that bones were removed from the furnace before the time necessary for their complete incineration had expired'. In many places, less controlled cremation conditions could be achieved, since bodies were burnt on cremation pyres or in pits. Therefore, very few cremations would have resulted in the total eradication of the remains. When interrogated, William Pfannensteil, a witness to the crimes perpetrated at Bełżec stated (in Pfannensteil 2010):

> When the grave [in Bełżeć] was fairly full, petrol—it may have been some other flammable liquid—was poured over the bodies and they were then set alight. I had barely established that the bodies were not completely burned when a layer of earth was thrown over them and then more bodies were put into the same grave.

Other evidence also suggests that some cremations, particularly those on sites where purpose-built crematoria had not been constructed, saw the remains being placed in pits before being burnt or the ashes of the victims were collectively buried once cremation was complete, as at Treblinka extermination camp (Willenberg 1989; Leleko 1945). Similarly, this has been observed in cases where only a small number of people were killed and Stanislaw Janowski has noted how the Sonderkommando were forced to dig pits solely for the purpose of burning Hungarian Jews at Auschwitz-Birkenau as 'it was not worthwhile to put the gas chamber in action for a smaller number of persons' (Bezwinska 1973, p. 50). Another common belief held about many sites was that all of the victims were exhumed and cremated, as a result of an order issued by Himmler, perhaps due to fears after the discovery of graves at Katyń (Chrostowski 2004). However, such activities only took place in certain camps and questions can be raised about the extent to which Himmler's orders were actually carried out in practice. In many places, the graves were simply located and the bodies burnt in situ in light of the manpower that would have been required to exhume them (for an example, see Arad 1987, p. 176). All of these different types of cremation pits would generate a geophysical response and archaeologists can employ similar methods for these types of disposal as for the identification of mass graves. Additionally, methods such as magnetometry, which is able to detect magnetic anomalies caused as a result of burning, could be employed in the right circumstances where cremation pits are suspected (Bevan and Smekalova 2013; Sect. 7.2.3).

10.6.3   Concealing Human Remains

In forensic archaeology, it is generally recognised that the ways in which perpetrators dispose of human remains and other items that they wish to conceal will depend on the time, manpower and locations to which they have access (Sect. 6.5.1; Rossmo 2000). With regard to the perpetrators of the Holocaust, this varied considerably depending upon the circumstances in which the victims had been killed and in which the disposal of human remains was being carried out. In some cases, the perpetrators had access to vehicles to transport the victims and their remains, whilst others did not. In some cases, executions were carried out in and around towns and villages; thus, bodies would need to be transported varying distances depending upon the availability of suitable burial grounds or concealment sites, e.g. fields, forests and the like. In some cases, it is reported by witnesses that the perpetrators displayed little concern for hiding the remains, whilst in others considerable measures were taken to ensure that the remains would not be found, often requiring more time and resources (for examples of the former, see Polish Ministry of Information 1942). Desk-based research can assist in identifying the specific circumstances at individual sites (Chap. 5).

Generally speaking, in the camps bodies were disposed of in mass graves and/or cremated and attempts were made to make this process more and more efficient in order to minimise the amount of time that it took to undertake disposal (Sect. 6.5). This was not always successful and there are many accounts which demonstrate that the Nazi administration lost control of removal of corpses, something which led to long intervals between death and burial. Therefore, this is contrary to the popular belief that the Nazis were efficient in all aspects of their operations. Disposal in the camps was mostly undertaken in concealed locations, for the most part out of view, although the smell and smoke was often observed by witnesses. These locations were usually chosen to allow easy transportation of the victims' bodies, usually through manpower rather than by vehicle. At Treblinka, the desire for ease when dealing with the dead can be seen through the spatiality of the camp (Sturdy Colls 2012). The construction of several graves across the site, in which different victim groups and those who died in

different areas of the camp could be disposed of, is testament to this. Sometimes inmates of the camps and ghettos were killed and their bodies transported outside of the camps in order to hide evidence of the crimes from other inmates. Examples of this include Semlin camp in Belgrade, where people were killed in gas vans and their bodies buried in mass graves many kilometres away from the camp (Byford 2010). Away from the camps, mass burial remained the preferred method of disposal throughout the Holocaust when mass executions were carried out, e.g. those undertaken by the Einsatzgruppen killing squads or in the Euthanasia Centres (Langerbein 2004; Blobel 1947). Where possible, burial was undertaken at or in very close proximity to the killing site in order to ensure a swift burial and to reduce the risk of being caught.

As in many domestic forensic archaeological cases, the perpetrators during the Holocaust attempted to minimise the amount of contact that they had with the corpses. As part of the killing squad executions and in the camps and ghettos, attempts were often made to ensure that it was other inmates or those also marked for death that would excavate the mass graves and dispose of the corpses, as opposed to the Nazi officers. This not only ensured that the Nazi officers did not have to engage in such gruesome tasks but it also served as another form of torture for those forced to undertake such work. As Marrus (2000, p. 129) has argued, 'the Nazis preferred whenever possible to have others bear the burden of control and management', and they 'empowered' others to supervise and undertake the burials.

In the camps in particular, special burial details were created and they would be responsible for the efficient disposal of corpses. These details were often divided into specific workforces, comprising often of future victims, who were responsible for different tasks—the removal of the bodies from the gas chambers and any other place where they had died, the removal of gold fillings and any clandestine belongings, the disposal of the corpses in graves, and, later, the exhumation and cremation of these corpses (Strezelecki 2000; Thorne 1972). At the killing sites, individual Nazi officers had more contact with the victims but steps were still taken to minimize contact with the deceased. Whether the victims were killed elsewhere or shot directly into pits where they would be buried, the burial pits themselves were usually dug by the victims they would later contain. Often, victims had to 'dig their own graves and take up their position at them, whereupon they were shot one by one… their last duty before dying was to push the body of the preceding victim into its own grave' (IMTN 1947(2), p. 416). A similar approach can be seen at Hirschberg camp (Perl 2004). Victims were made to dig a ditch measuring 4 ft. wide and 7 ft. deep before being made to jump across it, with all those who could not do so being disposed of immediately (Perl 2004).

One of the basic principles of forensic archaeology is that the location, victim and offender all come together at the gravesite (Hunter et al. 2013, Chap. 6). Although, in light of the above observation, such a direct connection may be complicated by third-party disposal at Holocaust sites, offender behaviour can still be identified indirectly at the sites being examined. It is true that the gravediggers were almost always not the perpetrators, yet it was still the Nazi administration that dictated where and how the bodies would be disposed of. It was them who made decisions concerning whether or not the remains would be well-enough concealed, how large graves should be, how the bodies should be laid out within them and whether anything should be used to cover the remains to conceal them further. They too were responsible for the decision to exhume and cremate corpses at some sites. Therefore, in many cases it is still possible to consider body disposal landscapes as if it were the perpetrators who had dug the graves or concealed the remains by other means.

10.6.4   Opportunistic Burial Sites

In order to minimise the effort required to dispose of human remains or other clandestine items, perpetrators often make use of opportunistic burial sites which do not require initial excavation of a grave

(Sect. 8.6). The Nazis also adopted these practices during the Holocaust, making use of both natural and anthropogenic landscape features to dispose of corpses. This is evident at many sites of forced labour and extermination throughout Europe: the corpses in the ravine at Babi Yar (Burakovskiy 2011), the bricked-up quarry tunnel at Stalinsk (IMTN 1947(7)), the anti-tank ditches in Kislovodsk (IMTN 1947(1), p. 67). During excavations at Bełżec, human remains were encountered in the backfill of a building plot, demonstrating once again that traditional graves were not always used even at sites where the majority of victims may well have been buried in mass graves (O'Neil 1998). On Alderney, witnesses also allude to the disposal of corpses where they fell, in the fortifications, in the sea and in ravines (PRO WO311/11). Similarly, Jewish cemeteries were often used as ad hoc massacre sites (Gruber and Myers 1995; Czynska 1982; Fig. 1.4). This diverse range of disposal methods appears to have been closely connected to the personal characteristics of the victims themselves, e.g. their age, gender, health and their place of work, the nature of their deaths and their location within the site or network of sites in question. Therefore, just as the methods of killing during the Holocaust were altered according to specific circumstances and to a certain extent perfected over time, so too were the disposal methods; indeed, the development of the crematoria was closely aligned to this development of new methods (Sereny 1995). At Chełmno, archaeologists located the remains of a number of individuals who had been killed when the manor house (which was in itself a killing site) was blown up with dynamite when the camp was closed for the first time in 1944 (Pawlicka-Nowak undated). Such a diverse array of activities call for case-by-case assessment and require methodologies to be adapted according to the likely nature of the burial sites being sought, when confirmation of their location and extent is to occur. In this regard, the reports of medico-legal investigators who exhumed the remains of the victims or who located graves in the past can serve as a useful tool to analyse common patterns of disposal. Identifying these patterns can be conducted in a similar way to analysing the burial patterns of a serial killer in forensic casework (Hunter et al. 2013, Chap. 4.3). In the case of the Holocaust, however, we have multiple perpetrators in multiple locales with a variety of methods being employed to dispose of the victims.

10.6.5   Marking of Graves

One trend that is often observed during domestic forensic archaeological cases is the marking of graves in some way by the perpetrators (Hunter et al. 2013). This is often carried out so that the perpetrator can revisit the site, either for pleasure or to check that the grave has not been found. This is not something which is widely reported on with regard to the Holocaust. Where graves were marked, this was usually for one of two reasons. Firstly, it was as a by-product of the fact that trees or vegetation were planted to mask or inhibit access to the area. Somewhat ironically, these areas of differing vegetation types can be valuable markers to archaeologists searching for these locations (Sect. 6.5.2). Secondly, it was because some form of grave stone or marker was erected, often to given the impression that burials had been carried out in an orderly fashion and, as such, that the victims had died through legitimate means (Sect. 9.4.3; Fig. 9.12).

10.6.6   The Graves of Others

When discussing death and burial during the Holocaust, the focus has often been on civilian victims who died at the hands of the Nazis. It should also be remembered that many other people also died as a result of the Nazi regime whose graves may remain unlocated. For example, there exist many graves of soldiers who were subject to unlawful treatment, some of whom were interred in prisoners-

Fig. 10.12 The German cemetery on Alderney. Some graves remain alongside the original memorial. The bodies of most of the soldiers were repatriated to Germany in the 1960s. (Copyright: Caroline Sturdy Colls)

of-war (PoW) or other internment camps and who died of ill-treatment, and others who were executed either in these camps or elsewhere. A well-known example includes those interred in Stalag Luft III, also known as the Great Escape camp (Doyle et al. 2012) but countless other lesser-known and even unknown graves exist where soldiers were killed unlawfully. Perhaps more controversial to discuss are the graves of members of the Nazi party and those who assisted them with the killings who died during this period. Many of the graves belonging to Nazis who were killed by resistance fighters or who died whilst stationed at internment sites were marked during the war. In contrast to the graves of those that the Nazis killed, these graves were usually well marked and maintained (Fig. 10.12). However, there are reports of Nazis and their associates being buried in unmarked graves, many of which have yet to be found. A number of grave markers were lost after the war, including that on the grave of Reinhard Heydrich (Dederichs 2009). A number of searches have been carried out to locate these remains in the past (Keenan and Weizman 2012; Anslinger et al. 2001; Eckert and Teixera 1985). It would appear that the Ukrainian or Lithuanian guards who were employed in many of the camps were not given formal burials in many cases, but, instead, they were simply buried in individual graves in the vicinity of the mass graves containing the bodies of camp inmates (pers. comm.). Additionally, unmarked graves containing the bodies of those cast out of the Nazi party are also known to exist. Some, people including those killed as part of large-scale massacres e.g. members of the Sicherheits-dienst (SD), were buried in mass graves, whilst others were executed and buried in individual graves (Maracin 2007). Of course, it is possible to locate the graves of these victims in the same way as the graves of other victims, with a slightly adjusted offender profile to account for the differing rationale behind their deaths. However, such searches remain controversial as people may question why time and money is being spent on locating people that may have been perpetrators instead of searching for innocent victims.

10.7   Identification

Much of the material evidence of the Holocaust can reveal collective stories and the experiences of groups of people, be they perpetrators, victims, bystanders, witnesses or otherwise. The issue of whether archaeology can assist with identifying individuals is a complex one. In certain circumstances, it may be possible to identify individuals through various means but this will rarely be something that can be predicted in advance of fieldwork. There are various ways and degrees to which people can be identified, which are summarised below:

Identification of Mortal Remains: The identification of people in missing person scenarios is most commonly associated with the location of their mortal remains. This is usually achieved through a combination of positive identification methods such as DNA analysis, fingerprints or odontology, or via presumptive methods such as anthropological assessment of skeletal remains, visual identification or the recognition of belongings (Mallett et al. 2014). Some of these methods will clearly not be possible in long-term missing persons cases such as the Holocaust due to the degradation of evidence (Sect. 11.2), whilst others will not be permitted due to Jewish Halachic Law or other restrictions on the disturbance of the dead (Sect. 3.5.2). Where it is permitted to analyse remains, as outlined in Sect. 7.5, individual identifications may be possible providing suitable ante-mortem information about the individual can be found, e.g. a comparative DNA sample, photographs, etc. That said, no such cases have yet occurred to the author's knowledge, excepting those involving the perpetrators of the Holocaust, such as Joseph Mengele and Martin Borman (Anslinger et al. 2001; Eckert and Teixera 1985). Perhaps future attempts will be made to establish individual identities of victims as awareness of grows concerning the capabilities of forensic science. Further discussion of the analysis of human remains is provided in Sect. 7.5.

Identification via Individual Items: It is more common that an individual will be identified by archaeologists, not by the location of mortal remains but through the discovery of items bearing their name. These items should be the starting point of identification and their discovery should be followed by detailed archival research in order to find out more about the individual's life and experiences. During excavations at Sobibor in 2012, an identification tag was found bearing the name 'Lea Judith de la Penha', aged 6 from Amsterdam (Haimi 2012). This was the first time an object bearing an individual's name had been found, and it resulted in the discovery that Lea Judith and her parents died in Sobibor on 9 July 1943. In 2013, a second identification plate was found amidst human remains at Sobibor bearing the name and address of David Zak, another deportee from Amsterdam (Haimi 2013). During excavations in Chełmno, the discovery of a cigarette case lid bearing an inscription not only identified Josef Jakubowski by name but it also highlighted that the case had been a prize in a motorcycle race in 1936 (Pawlicka-Nowak 2004). Other items, such as rings or items of jewellery, may bear initials and so it may be harder to assign them to specific individuals (Schute 2013). However, it may be possible when they are quite specific; for example, at Chełmno, it was possible to identify a Dr. Rojza Basior from the initials Dr. R. B. which were imprinted onto a clutch bag/purse found in one of the camp's waste pits (Pawlicka-Nowak undated). Of course, it must be borne in mind that just because a particular item bears the name of an individual, it does not necessarily mean that person was present in the location where it was found. The large-scale confiscation of objects by the Nazis, coupled with the fact that the item in question could have been given as a gift, lost, traded or sold, means that, at the point at which it became buried, it may have belonged to a camp guard, family member or even a complete stranger. However, the presence of the name forms a starting point for archival searches, which may yield further information about the fate of the named individual and their families. The discovery of items bearing the name of specific individuals remains incredibly

rare; the examples cited above are amongst the few found during archaeological work in recent years. Indeed, out of almost 20,000 artefacts found at Westerbork during recent excavations, none bore the names of specific individuals.

Identification via the Presence of a Name Elsewhere: It may be possible to identify that a particular person was present in a particular place based on the existence of their name on other material evidence located during archaeological surveys. These names may take the form of engravings, writing, paintings or imprints made into wet concrete. The discovery of the names of slave workers engraved and imprinted into the concrete fortifications on Alderney has facilitated the creation of a list that has been compared to burial records, death certificates and transport lists (Case Study 9.3). From the names of prisoners etched into the cells in Ulica Pomórska prison in Krakow, it has been possible to document the stories of the individuals interred and to trace their relatives, many of whom were referred to in the inscriptions (Fig. 10.6). The ability of researchers to uncover photographs of these individuals has given them back their identity in a certain way. Where such names are discovered, through detailed documentary research it may be possible to locate documents, letters and photographs, as well as perhaps even witnesses to what happened to the people mentioned and their families. Names may also be recorded on suitcases and other personal belongings.

Identification Through a Connection to a Place Many of the names of Holocaust victims are known as a result of painstaking research by historians and genealogists. Yet these names and people are often recorded only in the form of documents or photographs that are often kept in archives, private collections or museums. In many cases, this is because the individuals have no known grave or the place where they were killed is not marked. The identification of these locations, alongside structures and material evidence, offers the opportunity to provide a place where these victims can be commemorated. Whilst this is perhaps an unconventional form of identification, since the names of the victims are already known, by setting their stories against the backdrop of a physical place, it is often possible to create more tangible forms of commemoration and education.

There has been a move particularly in recent years towards not only presenting the people who died during genocide and war as victims. Various attempts have been made to demonstrate that it was real people, not just anonymous statistics, who died and to reveal stories of communities before the war (Elsby 2014; Taube 2013; Harris 2009). Archaeological research can also contribute to such an approach. One of the most powerful ways of doing so is through the analysis of objects owned by the people who were persecuted; some items bear names and/or were of sentimental value to the owner. Some attest to their faith or to familial links. Some reveal the joys of childhood or the routine of daily life. Presenting these items, alongside information about their owners, can highlight personal journeys and demonstrate how the ordinary people with often very ordinary lives were killed by the Nazis. This approach is discussed further in Chap. 12 with regard to education and re-presentation of the Holocaust.

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The Traces of Memory

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11

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11.1 Introduction

The history of the Holocaust did not end with the capitulation of Nazi Germany in 1945. The places connected to these events have also undergone significant modifications in the years since the Second World War. Some of these changes have been aimed at preserving sites, whilst others have deliberately or passively changed and concealed the traces of Nazi crimes. This landscape change can impact upon archaeologists' ability to locate and record evidence, and so is worthy of discussion here. However, landscape change should not be something that is simply seen as a negative element of archaeological surveys. Instead, landscapes should be viewed as 'interactive platforms for human experience' that chronicle physical and cultural shifts (Chapman 2006, p. 20). The appearance of sites can be read as a physical manifestation of the ways in which they are perceived by certain groups, whilst encounters between visitors, and visitors and the space, can provide further insights into cultural memory. Within these landscapes, individual features or traces can also provide both an insight into the historical events to which they relate (something which has formed the cornerstone of archaeological material culture studies for centuries) and advance our understanding of the collective memory and political context with which they are associated; thus, they can be both physical and symbolic (Mazzucchelli and Sturdy Colls 2013). Such an approach builds on the work of Shanks (1997, p. iii) and others who have seen landscapes as 'a text to be read' where 'perception and belief may be very active in making the lived environment what it is for people'. Therefore, this chapter explores the ways in which landscapes can 'be read' as part of archaeological investigations. It also considers the notion of performing heritage and addresses how ethnographic studies and visitor observation can provide an insight into spontaneous acts of memory, which are otherwise lost with the departure of the visitor.

11.2 Issues Caused by Landscape Change

Landscape change can be a considerable inhibiting factor in the investigation of archaeological sites, and its implications for hindering more recent forensic archaeological searches have also been noted (Hunter et al 2013; Sturdy Colls 2007; Nobes 2000). Landscape change can be cultural or natural. In instances of crime, it is also likely that landscape change will have been intentionally caused by the perpetrator (see also Sect. 6.5). At an early stage of any investigation, it is essential that landscape change is considered.

With regard to landscape change since the Second World War, factors such as whether a site has been preserved as a monument, its function(s) over the last seven decades, national and local attitudes

Fig. 11.1 The remains of the
film set of *Schindler's List*
at Plaszów in Poland which
can easily be mistaken for
original remains of the camp.
(Copyright: Caroline Sturdy
Colls)

towards it and its geographic location can all be identified as impacting upon its survivability. Many
Holocaust sites will of course be preserved as museums or memorials; thus, they have not been sub-
ject to residential or commercial development and their grounds are usually maintained. However,
whilst this has prevented certain types of landscape change, it has also incited, and failed to prevent,
other types (Huener 2003). As Kaplan (2011, p. 1) notes, 'sometimes monumental structures erase
rather than commemorate'. For example, the construction of the memorial itself may have resulted
in the landscape being radically altered from its post-abandonment appearance; the levelling of the
site, the erection of monuments and the ongoing site management will all have impacted upon the
archaeological record. These monuments may also prevent access to certain areas with survey equip-
ment during archaeological work. Some sites, such as Jasenovac in Croatia, and Bełżec and Treblinka
in Poland, have had memorials deliberately constructed at them which present abstract concepts and
which prevent access to the terrain below (Figs. 2.6 and 2.8). Additionally, many sites were not made
into memorials immediately after the end of the Second World War and were neglected and put to
other uses. Many sites became easy targets for graverobbers and treasure hunters who dug pits that
may have disturbed buried remains (Case Study 11.6). These pits may not be always be discernible
from earlier disturbances and so may confuse the interpretation of a site during archaeological inves-
tigations. In a more unusual case, visitors to Plaszów concentration camp may be quick to observe the
abundance of physical remains that appear to pertain to the period when the camp was in operation
(Fig. 11.1). These include the remains of machinery in the quarry and a road paved with Jewish
tombstones. However, when research into the history of the site is undertaken, it should quickly be
realized that these remains are not original but that they actually belong to the film set of *Schindler's
List* which was filmed here in the early 1990s. If background research is not carried out to the extent
outlined in Chap. 5, then archaeologists may find themselves in a potentially embarrassing situation
whereby they mistake later remains for original physical evidence.

Other sites may never have been protected, resulting in a long history of often-unregulated landscape
change. For example, none of the sites pertaining to the Occupation of Alderney are protected memorial
sites and, as such, they have all been subject to alternative use and, in turn, considerable damage. This
damage has varied from total destruction, e.g. Lager Helgoland which was razed to make way for a row
of houses, through to the existence of coarse vegetation preventing access, e.g. at Lager Sylt (Fig. 3.1).
At Norderney, natural landscape change in the form of movement of the sand dunes can also be seen,
whilst the levelling of the site has likely caused some damage to subsurface remains (Figs. 4.7, 5.10,
5.13 and 5.14). Many of the sites on Alderney also took on alternative functions during the war and in
its immediate aftermath; Lager Borkum for example was renamed Minerva and housed British troops,
whilst many of the earlier forts became holding camps for the German administration who were to be

Fig. 11.2 Lager Borkum which is now a waste disposal site. (Copyright: Caroline Sturdy Colls)

interrogated by the investigators tasked by the British government (Sturdy Colls 2012a). These activities have clearly contributed to the archaeological record in their own right, but this landscape change has the potential to have masked the former functions of these sites. This is a trend that can be seen at countless other sites in Europe, where the legal proceedings and the post-war clean-up operation took precedence over examining the physical remains of the Holocaust (Salt 2004; Lattek 1997; Reinartz and von Krockow 1995).

Additionally, innumerable examples of sites that have taken on alternative functions since the war can be cited, all of which have clearly been affected by landscape change, albeit to differing degrees. Westerbork in the Netherlands was used as an internment camp and, later, a camp for Mollucans from Indonesia before being designated a national monument (Kamp Westerbork 2011; Fig. 8.2); in Norway, Tangen camp now houses a mobile phone mast, whilst Vevang Fort and the prisoners-of-war (PoW) camp has been converted into a paintballing centre (Jasinski 2011); Neuengamme in Germany was a prison complex until 2003 (KZ Neuengamme 2014); and Lager Borkum is now a waste disposal site (Fig. 11.2). As noted in Chap. 1, whilst it is not suggested that all sites should be preserved, thus inhibiting future developments, the complete history of a site should be recorded and acknowledged; this argument stands for all sites, not just those pertaining to the Holocaust. In order to learn from the past and to ensure that knowledge is not suppressed, this must also include acknowledgement of the 'less comfortable' aspects of this history (Logan and Reeves 2009). In fact, many examples could be cited with regard to former Holocaust sites that have, alongside their commemoration of the events of this period, sought to empower youth (Majdanek; Ravensbrück), promote peace (Falstad) and encourage cohesion (International Coalition of Sites of Conscience 2011).

The problem of landscape change is particularly pertinent where a non-invasive methodology is employed, owing to the fact that the findings cannot be confirmed by excavation. This is another justification for the use of an interdisciplinary approach given that a combination of sources can assist in providing complementary datasets to demonstrate the presence of archaeological remains (Chaps. 5–7). Thus, a high degree of certainty about the nature of features can be achieved that would not have been obtained had an archaeological approach not been taken.

A consideration of the post-war processes at sites is also imperative and in some cases it will not be possible to confirm the function of features using only non-invasive methods. As well as the attempts by the Nazis to hide their crimes, and natural and man-made landscape change, it is also important to consider the activities of the liberating forces or those tasked with 'doing the clean-up work' (Schmitt 2002, p. 2; Fig. 2.2). The importance of acknowledging that the history of sites of this period did not end with their abandonment or liberation has repeatedly been stated. Thorough desk-based research regarding their subsequent function can assist in alleviating the problems with distinguishing between features in topographic or geophysical data, whilst also revealing important information about societal approaches to the site in question.

It is perhaps the more subtle, natural forms of landscape change that present the largest problem to archaeologists wishing to reconstruct the history of the sites. Whereas development or changes in the site's function will usually be recorded and can be identified using maps, government records and photographs, natural landscape change is rarely recorded (Sturdy Colls 2007). Flooding, drought, vegetation growth and wildlife activity can all affect sites and the extent of the landscape change as a result is unlikely to be known (Deutsche Welle 2010; Reinartz and von Krokow 1995; Haglund 1997). The season in which the fieldwork is undertaken can of course also dictate the extent to which landscape change affects interpretation; similarly, the season in which aerial photographs were taken will be influential. Dense vegetation may die back in winter and allow access, whilst high vegetation in the summer may also act as an indicator of the existence of buried features (Sect. 6.5.2). Some form of landscape change will have taken place at every site pertaining to the Holocaust, given that none have been preserved in their entirety in the form that they held when they were in use. The examples cited above have demonstrated the diverse forms in which this landscape change can be found. Of course, the exact nature of this change will vary on a site-by-site basis but it is hoped that the above discussion will act as a guide to factors to be aware of in the course of future projects examining Holocaust sites.

On occasions, it should also be noted that landscape change can actually benefit archaeologists in that it can highlight the presence of remains that may otherwise have gone unrecorded. The uncovering of a site through erosion or a building development may be the first sign that it even exists (Sect. 2.3.5); equally, landscape change in the form of distinctive vegetation may indicate the presence of buried remains (Sect. 6.5.3). The reuse of certain structures and their protection by residents and owners can, in some circumstances, ensure that sites which would perhaps otherwise have been demolished have instead been preserved (see Case Study 11.15: Forensic Architecture 2014). Landscape change can also be seen as an indicator of cultural memory, as discussed below.

11.3   Recording the Past and Understanding the Present

In the context of the investigation of battlefields, Carman and Carman (2012, pp. 98–99) have based their methodology on a 'simultaneous concern both for an understanding of the nature of war in the past and preservation and public presentation in the present'. Such an approach does not seek to recreate the experiences of past peoples (as does traditional phenomenology; see Johnson 2012; Barrett and Ko 2009; Brück 2005; Tilley 1997) but instead examines the entire historical legacy of a site, how it was formed and how it is reflected in current memorialisation practices (Carman and Carman 2012, p. 99). This has clear benefits in terms of understanding the factors that have influenced the formation of the modern landscape and recording the cultural memory associated with a site.

What is advocated here then is a similar form of hybrid phenomenology which seeks to record all layers of a site's past. Techniques to analyse the various physical and cultural layers pertaining to the more recent history at a chosen site can be easily incorporated into methodologies designed to record past remnants. The first stage of an archaeological investigation will be to undertake a desk-based study to determine how the landscape has evolved over time (Chap. 5). This often serves the practical purpose of identifying what remains may survive from the period of interest. However, this process can also reveal important information about landscape modification that can form the initial basis for studies of what are essentially the physical manifestations of attitudes towards the site. Following this, once in the field, preliminary walkover surveys should be undertaken (Sect. 6.4) and all of the remnants visible above the ground should be recorded, regardless of their apparent age or perceived relevance (Sect. 11.7). These include roads, pathways, areas of different vegetation, ploughed areas, ditches, depressions, standing buildings, other visible structural remnants, parking areas, memorials or monuments. As will be argued in Sect. 11.7, some of these seemingly modern features may in fact represent echoes of earlier features, whilst others will have preserved or destroyed remnants of the past. This type of analysis will also allow
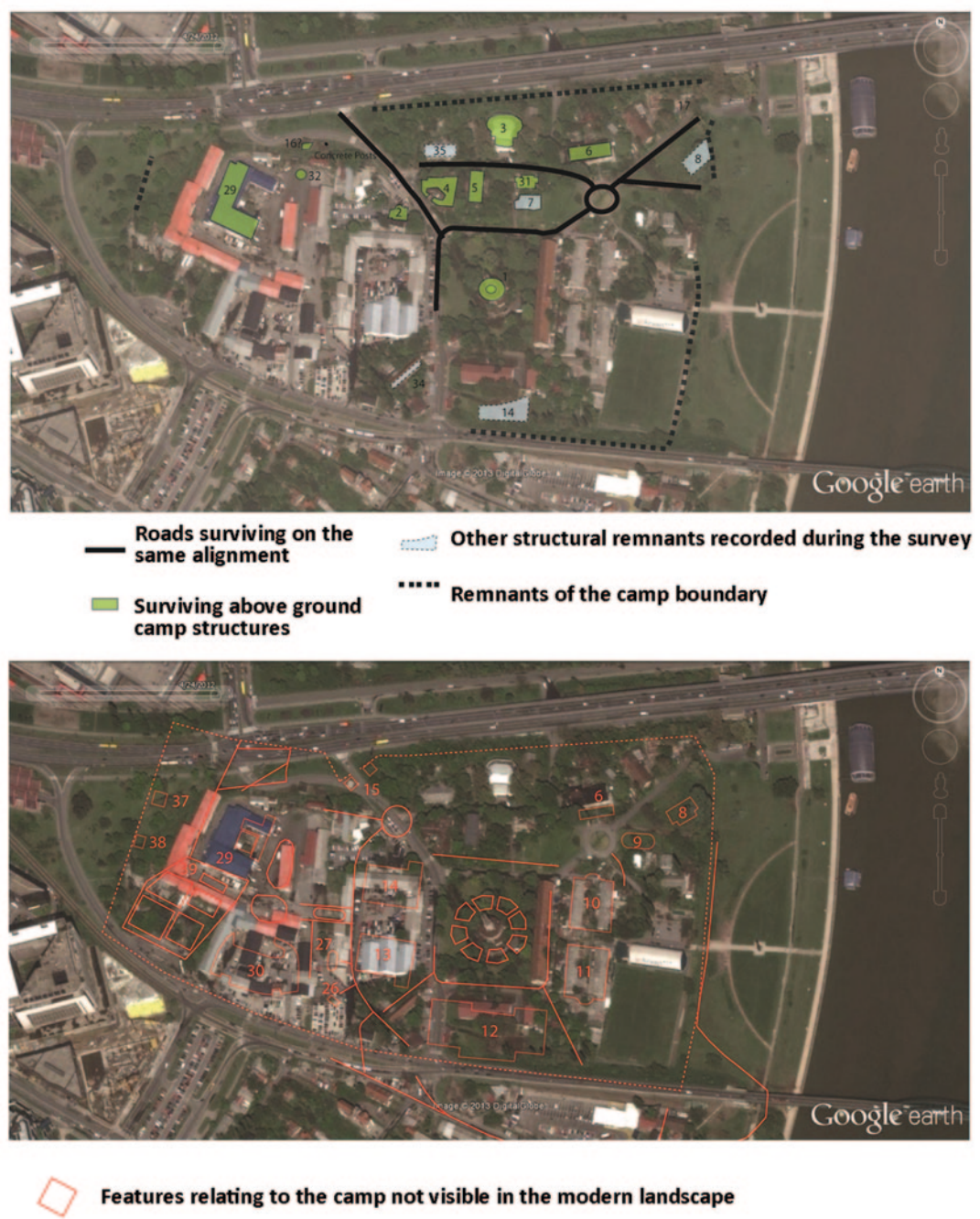
Fig. 11.3 Plans showing the surviving remnants of Semlin camp in Serbia. (Copyright: Caroline Sturdy Colls/Google)

various other observations to be made: The different phases of the history of a site can be identified and the configuration of remnants that have been preserved, restored or left dilapidated can be noted. This can facilitate the production of phase plans, which highlight surviving remnants and those which no longer exist about the ground. An example is provided in Fig. 11.3. Particular attention should be paid

to the form of any memorials and museums, the ways in which structures and places have been reused or modified and how widely acknowledged the Holocaust is by comparison to other events which have shaped the place in question. This reading of the landscape not only will assist in further understanding the various issues that surround the Holocaust (Chap. 3) but it will also assist in assessing the ways in which the site is perceived by a variety of groups.

Configurations of preserved traces or the appearance of a memorial complex may reflect attitudes towards commemoration; questions can be raised concerning who is commemorated and who is not, and what elements have been preserved and what has been destroyed. Analysis of this evidence may also provide further explanations for the content of official histories and historical narratives (Sect. 3.2). The dilapidated nature of a site may reflect societal tensions and divisions which may relate to perceptions of the Holocaust and the groups involved, or problems that have evolved in the years following the Second World War.

All of these circumstances may be influenced by politics (at local, national or international level), conflict between different social, religious or cultural groups, the level of knowledge about a site, the financial resources available in a given area and approaches to heritage, to name but a few possibilities. An understanding of the issues surrounding sites is also synonymous with an understanding of the reasons for, and nature of, landscape change, degradation, damage and, in some cases, the total eradication of the above-ground traces of a site. Although it was previously argued that such landscape change can present a problem for archaeologists attempting to examine sites of this period, in the context of this discussion, such change can also be viewed as an important resource in detailing the post-war history of the sites in question.

The various ways in which the space is used by people should also be recorded (see Sect. 11.8 for further discussion). All of these observations can reveal important insights into perceptions of the space and its past. It can assist with identifying the various communities with a connection to the site in question, and it can help inform strategies for re-presentation of the site where this is deemed necessary (Sect. 12.3). In some cases, these interactions may also reveal previously unknown information about the history of the site.

11.4 Memorials and Museums as Layers

Memorials and museums of varying sizes have been erected at many Holocaust sites throughout Europe. At some sites, these memorials and museums will be the most visible element of the modern Holocaust landscape, whilst at others they may be less intrusive or even hard to find. Either way, a reading of the modern landscape should include a detailed analysis of these memorials and monuments in terms of what they can reveal about the history of the place and attitudes towards it. This suggested approach is not new; indeed, there exists a large body of literature concerned with the value of almost dissecting memoryscapes, commemorative sites and museums (Macdonald 2013; Kaplan 2011; Dickinson et al. 2010; Young 1993; Nora 1989). However, much of this work has been written by experts in the fields of memory studies, semiotics or anthropology. Archaeologists rarely undertake such detailed forms of analysis alongside fieldwork and there is a tendency to discuss later developments at sites where evidence from a particular period of history is being sought only in the context of discussions around how the earlier remains may have been modified as a result. In light of the benefits of analysing memorial and museum landscapes from this broader perspective, archaeologists are referred to this aforementioned body of literature for further discussion on this topic. Some key points will be discussed here in order to demonstrate some of the possible relationships between memorials and museums, and the physical evidence upon which they are grounded.

11.4.1   Construction of Memorials and Museums

The erection of memorials and museums at Holocaust sites did not simply happen. The eventual existence of a particular memorial or museum would have been the culmination of unique sets of circumstances that represent pivotal moments in a site's history. The decisions to construct these memorials reflect political and social trends occurring at the time, whilst the construction process itself set in motion a new phase. The memorials and museums themselves likely sparked reactions and altered the behaviour of those that visited the place. Therefore, charting the history of memorialisation at a site can prove to be an extremely effective way of mapping shifting attitudes towards its past. The construction process itself will also have left behind its own physical trace, even if the monument or museum no longer exists, and will likely have unearthed further physical evidence pertaining to the Holocaust if constructed on the actual site where events occurred. On this point, it is interesting to observe that this information, like that generated as part of post-war investigations, rarely influenced popular histories or official narratives of the sites being examined, even when (or perhaps especially when) this evidence had the potential to reveal new insights into the events that occurred (Fig. 11.4).

Finding out when and how memorials and museums were constructed, in conjunction with research into the broader history of the period can reveal interesting insights into the rationale behind these forms of commemoration. Often, memorials were erected when new governments came to power, when regimes collapsed or in the run up to elections. It is interesting to uncover who instigated the initiative to build a memorial; some initiatives will have been instigated by local communities, whilst others will have come from abroad. Who it was that paid the bill is also likely to have influenced the symbolism and language used, and thus the narratives presented to the public about that particular site (Sect. 3.2). Of course, where memorials and museums were not constructed immediately after the crimes took place (as was the case at many Holocaust sites), it is important to question what happened to the material remains in the intervening period and what was it that prevented memorialisation from taking place. Possible options include a lack of funding and resources, a lack of interest in the place or perhaps the site was not known about. However, there are countless possible reasons that will vary on a case-by-case basis. Examining exactly where monuments where constructed can also provide interesting insights into attitudes and relationships at the time. It is notable that, whilst many Holocaust monuments are constructed at the place where the events that they commemorate took place, others are not. For example, the Menorah in Flames monument, unveiled in Belgrade in 1990, was located on the other side of the river from the Semlin concentration camp where approximately 7000 Jews are believed to have been killed and it bore no mention of these atrocities (Byford 2011). In fact, despite the fact that the monument was meant to be a symbol of Serbian and Jewish 'common remembrance', the Jewish community were not involved in the consultation process and were not permitted to erect a monument at Semlin since the official narrative of this site centred on it being a camp where over 10,000 Serbs were killed by the Nazis (Byford 2011, pp. 11–12).

Fig. 11.4 Human remains discovered during the construction of the memorial at Treblinka in the 1960s. (Copyright: Radecka 2011)

At some sites, multiple memorials and museums may have been constructed over a period of time and this too can reveal interesting insights into the development of cultural memory surrounding the place and the events to which it relates. Observing when these new memorials and museums were erected, and examining how the language and symbols used within them changed over time, it may be possible to document evolving attitudes and approaches towards the sites themselves and observe broader political and social trends. To provide an example:

> **Case Study 11.1: Commemorating and Not Commemorating at Rostov-on-Don, Russia**
>
> It is believed that 27,000 people—including 15,000–16,000 Jews and possibly deportees from elsewhere in Eastern Europe—were murdered in Rostov-on-Don in Russia in August 1942 (Arad 1991). Male victims were shot directly into the ravine at Zmievskaya Balka, whilst women, children and the elderly were first gassed in gas vans before being buried there. Despite the fact that historians have described the massacre here as 'Russia's Babi Yar', a memorial plaque commemorating the massacre was not erected in the decades that followed the Second World War. In 1975, a memorial was erected but this failed to mention the Jewish victims (Winkler 2013). This is consistent with the Soviet Union's approach to the Holocaust elsewhere, where information about Jewish suffering was ignored and suppressed (Asher 2006). In 2004, the plaque was replaced with one that acknowledged the Jewish victims reflecting the growth of Jewish culture in the town (BBC 2012).
>
> However, in 2011 the decision was made to replace this plaque with one that removed the reference to Jewish victims. The new plaque instead acknowledged that the 'Nazi occupation forces destroyed more than 27,000 civilians in Rostov-on-Don, Soviet prisoners of war. Among the dead—the representatives of many nationalities'. The authorities behind the decision claimed 'the memorial should commemorate all war victims…the Soviet Union saved Jews, Russians saved Jews…so why single out Jews?' (BBC 2012). However, many believed that the decision was linked to anti-Semitism. Following a lawsuit by the Jewish community and negotiations with the rabbinical authorities, modifications to the memorial plaque were agreed in December 2013. The new plaque, unveiled in April 2014, now states that the site is 'the largest site of mass killings in the Russian Federation of Jews by the Nazi invaders during World War II' and commemorates 'mass killing by the fascists of captured Soviet citizens' (JTA 2013a). Opposition to the new wording was still expressed by Jewish groups on the basis that there was no specific reference to the Holocaust. The Chief Rabbi of Rostov-on-Don stated that it was vital that the wording was changed because 'at a time when Jews are feeling vulnerable once again, it is important not to mince words about the atrocities committed against the Jews' (Olidort 2014). The graves in Rostov-on-Don have never been examined in detail in order to determine the exact number of victims interred there and recent calls by the local community to create a list of names of victims highlights the limited research that has been carried out in the past (Remembering Rostov 2010). However, the site has long been acknowledged as a place of Jewish suffering and has even been used as a new burial site for Jewish victims whose bodies were found in nearby Kharkov during construction works in 2007 (Zaklikowski 2007).

11.4.2   Configuration of Preserved Traces

At sites which have been preserved as memorials and museums, it is interesting to examine the role that physical evidence plays in the landscapes of these sites and to address what messages are being promoted to those who visit. The layouts of some Holocaust memorials have been designed around

Fig. 11.5 'Original' barracks at Majdanek (top) and visible buried remains (bottom). (Copyright: Caroline Sturdy Colls)

surviving physical evidence and considerable emphasis is placed upon 'authentic' traces as tangible proof of the crimes perpetrated. This is not restricted only to the camps, such as Auschwitz-Birkenau, Majdanek, Sachsenhausen, Dachau and the like, but extends also to so-called martyred villages, such as Oradour-sur-Glane and Monte Sole, and countless graves across Europe (Fig. 10.1). It is interesting to observe what remnants are deemed worthy of presentation and preservation in these cases and exactly what is classed as an 'authentic' trace. Particularly when examining physical evidence in terms of what it can reveal about the history of the Holocaust, it is important to identify what remains are original and what has been reconstructed. What can often be observed is an interesting irony. Take for example Majdanek in Poland. At this site, a number of so-called original barracks form the core of the memorial site, the majority of which have been renovated and restored repeatedly to varying degrees (Fig. 11.5). The irony then exists in the fact that these are not really original remains as they have been repeatedly renovated and replaced. Yet they are deemed to be more important than the considerable amount of actual original remnants, in the form of foundations and other traces, that exist across the full extent of the site. Once again, this demonstrates the emphasis that has often been placed on standing structures at the expense of other types of evidence. These processes, which force certain evidence to the fore, will also have influenced the contents of official narratives and popular histories (Sect. 3.2), the visitor experience (Sect. 11.8) and the extent to which individual and collective stories are told.

Quite often, even when sites are memorials or museums, only a portion of their original area has been preserved.

Case Study 11.2: Presenting Traces at Amersfoort, the Netherlands

Kamp Amersfoort in the Netherlands is designated as a state museum and various elements of the camp infrastructure are presented to the public. A watchtower, a bell, a rose garden, a route to the memorial and a series of military installations sit alongside the museum building. Upon inspection of the plan of the camp, it becomes clear that these features largely sit outside the original camp area and the area of all of the former barracks now lies underneath buildings owned by the Dutch Police and a golf course (Fig. 11.6). The apparent original remnants, like the watchtower and bell, are not entirely original whilst concrete pads for one of the original towers can be found only a matter of metres away. These remain unmarked. The mass graves of victims killed within the camp lie outside the area directly accessible to visitors. It is also interesting to observe that the features about which the most information is provided in situ (as opposed to in the museum) are the trenches and military installations that dominate the visitor walking route. These are currently the only features marked with English and Dutch boards; all other boards are in Dutch only. The fact that archaeological excavations were undertaken in this area recently in order to enhance the memorial space may provide an explanation for this.

Therefore, at these sites and at others where only a selection of traces are presented, visitors are faced with only a partial narrative of the events in question. The preservation of only part of a site may be done for practical reasons but it may also reflect a desire to emphasise particular narratives or exclude others. The presentation of certain physical evidence may be a means of promoting national suffering and enhancing nationalistic narratives for use in the modern political arena (Sect. 3.2). Other traces may be deliberately hidden when they do not conform to such narratives. At other sites, certain traces may be masked or emphasised for a whole host of different reasons. At Jasenovac in Croatia, it is notable that the majority of material remains that are displayed in the museum belonged to the victims. This is because there has been considerable opposition to displaying any information about the perpetrators; the only image of the perpetrators is a photograph of Adolf Hitler that is behind barbed wire so as to create a degree of separation from the victims. Particularly in the past, it was not deemed appropriate to present material connected to the perpetrators at many sites as this was seen as disrespectful. At some sites, original remnants have been entirely covered to protect them from
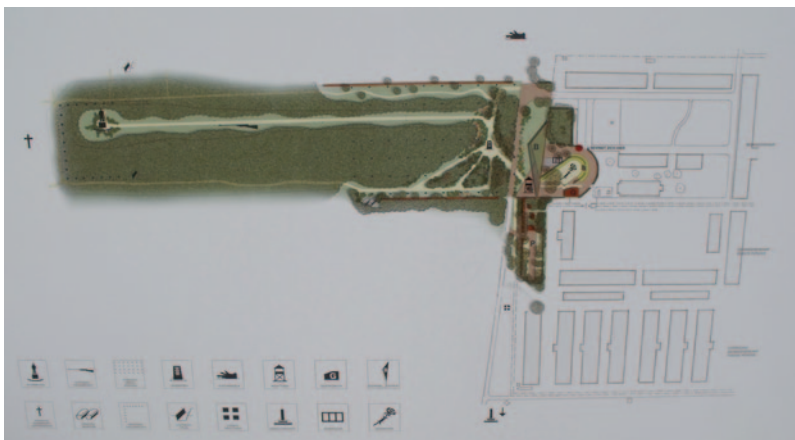
Fig. 11.6 A plan of the memorial site at Amersfoort which demonstrates that the majority of the former camp area is not included in the memorial landscape. (Copyright: Caroline Sturdy Colls)

further degradation e.g. Bełżec (see Kola 2000 and Sect. 2.3.3.1). Therefore, the public is presented only with historical materials. At some sites, the construction of memorials and museums will have made certain traces visible, which may or may not have been incorporated into the design or museum displays (e.g. Sachsenhausen, see Theune undated). At others, it may have masked or even destroyed the evidence, hence why it is important that detailed studies are undertaken regarding the construction processes employed when undertaking archaeological fieldwork.

What is also interesting to examine is how those responsible for designing memorials and museums have dealt with places which are characterised by the apparent absence of physical evidence. Whilst some have carried out their own searches or employed archaeologists to search for any hidden evidence (Schute and Wijnen 2012; Sect. 2.3.3.1), others have failed to do so and yet have still claimed that nothing survives. This has served to perpetuate the myth that the Nazis were successful in hiding all traces of their crimes (Sect. 3.2). At many sites with prominent memorials, in the absence of visible physical evidence, these features have become the dominant image that visitors are presented with (e.g. Fig. 2.6). This may create the impression that no physical evidence actually survives and, where the memorial appears to suggest a particular form to the site, visitors might mistake symbolic representations as actual representations of the way that the site looked (Sect. 2.2.4). Some sites have seen reconstructions being built, with varying degrees of honesty about the fact that this is what they are. The recently reconstructed camp barrack at Westerbork and the barrack exchange between the US Holocaust Memorial Museum and Auschwitz-Birkenau demonstrate the importance that continues to be placed on the acquisition of 'authentic' remains in some cases (Herinneringscentrum Kamp Westerbork 2014; JTA 2013b; Case Study 11.3). Others have seen newer constructions being demolished in an attempt to rediscover and re-present the original remains of the camp (e.g. Flossenbürg; KZ-Gedenkstätte Flossenbürg undated). Elsewhere, it seems the apparent absence of physical remains has been seen as a justification as to why sites are not protected or maintained.

Case Study 11.3: The Westerbork Barrack, the Netherlands
In 2009, Herinneringscentrum Kamp Westerbork announced that it had located an original barrack from the camp which had been sold and moved to a new location in 1957 (RNW 2009). Plans were announced to move the barrack back to the memorial site. The discovery of the barrack was significant because there are currently no standing buildings remaining at the memorial site and because it was believed to be the barrack where Anne Frank had worked whilst she was held in the camp. Only a month after the discovery was announced, the barrack was burnt down in a suspected arson attack (Spiegel Online International 2009). In 2014, work began to erect another barrack at the site. This barrack (known as barrack 56) had also been sold off to farmers and had been repeatedly modified in the years since the war; thus, it is not entirely original. However, staff at the memorial centre believed that it was important to re-erect the barrack to provide visitors with a greater sense of how the site would have looked during its time as a transit camp (Herinneringscentrum Kamp Westerbork 2014). The emphasis placed on reinstating original, standing remains at this site demonstrates the importance that continues to be placed on physical remnants in commemoration and education.

11.4.3 Care and Maintenance

The levels of care and maintenance at a site can also be very telling of opinions of it; indeed, it should not be assumed that simply because there is a memorial or museum at a site that it is well protected or

Fig. 11.7 Names on the monument at Kozara in Bosnia-Herzegovina, some of which have been cleaned by relatives of the victims. (Copyright Caroline Sturdy Colls)

preserved. Sites which are well maintained suggest at least some local investment in protecting them and information concerning exactly who carries out and funds such actions may reveal exactly how far the commitment to commemoration extends. Many examples of sites could be provided where memorials are present but where the site itself has been redeveloped or it has become dilapidated. This too can reveal something of local attitudes towards it. More often than not, it reflects the lack of a local population with an interest in its maintenance (Sects. 3.4–3.5).

Care and maintenance of a site can also result in certain layers of its history being made more prominent, even though this was not the original intention of the architect who designed it. For example, families may clean up the names of their relatives on monuments, making their names more visible than others (as at Kozara in Bosnia and Herzegovina; Fig. 11.7). They may also clean up graves, which may make the dilapidation of others even more apparent. Examining whose names or graves are better presented over a period of time may reveal the presence or absence of local relatives, or ongoing tensions between groups.

11.4.4   Sites as Symbols

In some areas, single Holocaust sites have been preserved, whilst others in the surrounding area remain dilapidated or have been redeveloped. There are many reasons why this might be the case but all reflect the fact that all physical evidence of this period is not deemed to be equally important. In some cases, single sites have been chosen as a symbol for all of those in the area, thus providing a focus for commemoration and education. In others, this appears to stem from a desire to support a particular narrative of events, to prevent whole areas being characterised by Holocaust sites or because of the financial demands of preserving each and every site. Many of the camps fulfil this symbolic role. Some sites have become a symbol of the Holocaust in a particular nation, for example Auschwitz-Birkenau, Sachsenhausen, Westerbork, Drancy and Theresienstadt, whilst others are

symbols at regional level. In the case of Auschwitz-Birkenau, it has become the so-called capital of the Holocaust, thus representing the Holocaust at international level (Hayes 2003). Originally, many of these sites were initially chosen based upon the number of people believed to have been killed there, their physical size or because of the amount of physical evidence that appeared to survive. The regional, national and often international support received by these sites may distinguish them from other places in the area that, without such support, are often forgotten or dilapidated. For example, in the vicinity of all of the major extermination and concentration camps throughout Europe lie dilapidated Jewish cemeteries, many of which were also used as killing and body disposal sites by the Nazis (Fig. 1.3, bottom left; Sect. 8.6). As there is often no local Jewish community left to maintain these places, they are often vandalised or used for alternative purposes. Often the mass burials are not marked; thus, there is very little to see, and they do not fit in with the common narrative of the Holocaust which continues to centre on the camps (Kaplan 2011). Others have been overshadowed because of the extent of the massacres at nearby sites. For example, Lety camp for Roma and Sinti, located in the Czech Republic, is not widely known about compared to nearby Lidice where the Nazis massacred the town as a reprisal for the death of Reinhard Heydrich (Brendel et al. 2013; Reverent Area Lety undated). Although both sites are administered by the Lidice Memorial, a pig farm is located in the area of the former camp at Lety and little in the way of information exists about the former function of the site (Romea 2013). A focus on the built environment, above-ground remains and larger massacre sites once again demonstrates the lack of appreciation of the other types of physical evidence that survive from this period and the hierarchy of atrocity that surrounds them (Sturdy Colls 2012b). However, archaeological surveys have the potential to locate, record and re-represent these forgotten sites when Holocaust landscapes, as opposed to individual sites, are examined (Sect. 8.10).

Case Study 11.4: Discovering Ušće, Serbia

During an archaeological survey of Semlin camp in Serbia, it became apparent that a network of other Holocaust sites existed in the area, including mass burial sites and a barely mentioned internment camp just across the road (Sturdy Colls 2013). This camp, known as Ušće, lies unmarked, partially buried by a shopping centre development and is barely mentioned in historical accounts, despite its considerable size (Fig. 11.8).

Unlike Semlin, Ušće comprised temporary barracks which were custom built by the Nazis and which were demolished after the war. Given that few obvious physical traces remained, it was likely easier for developers to gain permission to redevelop this site. This stands in stark contrast to Semlin, where large-scale redevelopment has been prevented due to repeated calls to preserve the original camp structures which still survive in various forms. Ušće was also designated a labour camp and was likely overshadowed by the nearby death camp (Semlin). Fortunately, aerial images of the site have allowed a plan of the camp to be created for the first time.

11.5 Reuse and Modification

Many Holocaust sites have been reused in the years since the war with varying degrees of acknowledgement concerning the former history of these places. At some sites, this has resulted in demolition and removal of the remains of the material remains from this period. At others, buildings have been reused for a variety of different purposes. There are some sites, such as Neuengamme, which have had multiple different purposes before finally being designated as memorial sites, reflecting political
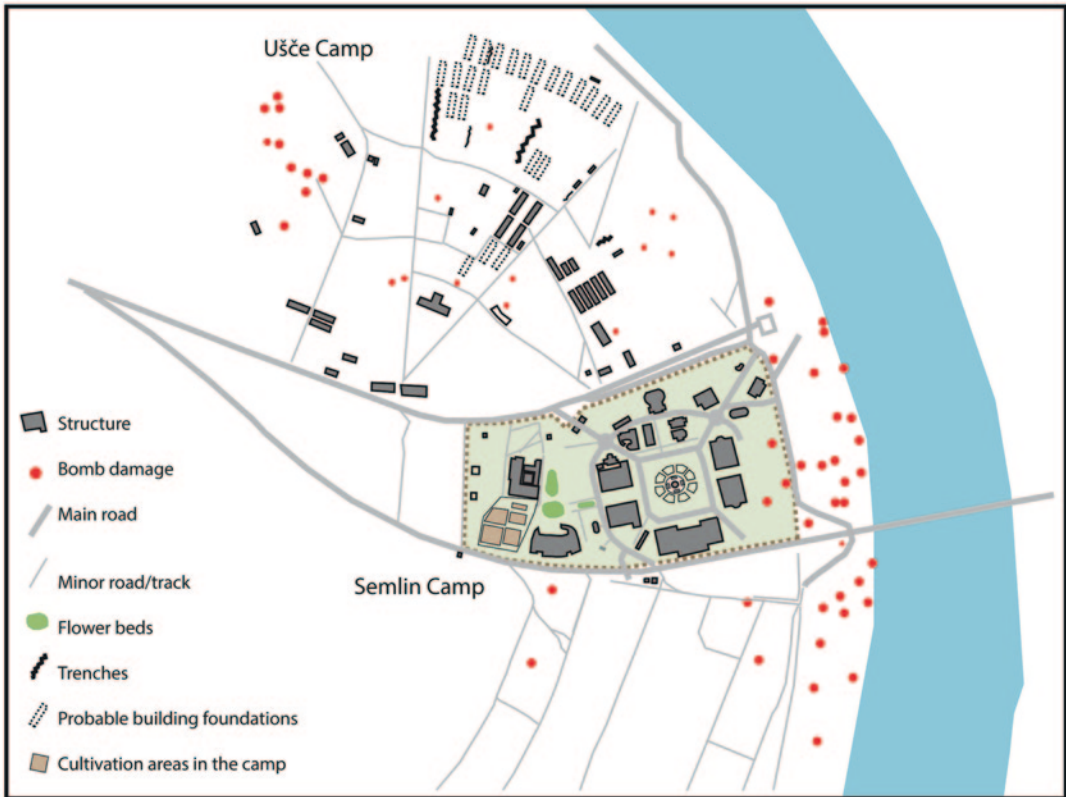
Fig. 11.8 An annotation of an aerial image of the labour camp Ušće and the nearby Semlin camp. (Copyright: Caroline Sturdy Colls)

shifts over the last seven decades (KZ Neuengamme 2014). Others remained dilapidated and failed to have memorials erected at them until they were redeveloped; thus, their commemoration has actually been facilitated by a change in use. An interesting example is provided by Topovske Šupe, an internment camp in Serbia, which only first saw a memorial plaque being erected in 2006. However, at the unveiling ceremony, it was announced that the memorial was a temporary solution since a new shopping centre would be built on the site which would include a permanent memorial to the victims (Byford 2012, p. 21). It remains to be seen as to whether this occurs when the construction of the shopping centre is completed (Blic 2013).

11.5.1 Circumstances of Reuse

The reasons why sites may have been reused or modified are complex. Sometimes, the reuse of a site and materials from it will reflect a desire to suppress memories of the Holocaust or to move on, indifference or ignorance of the site's history, or perhaps even necessity in difficult economic times.

Several of the reasons that sites may be reused are worthy of further discussion here, owing to their apparent prevalence throughout Europe:

Necessity Immediately after the Second World War, many sites across Europe were reused through necessity. For example, many of the towns and villages located near to the camps made use of the

materials present within them in order to rebuild their own homes and public buildings. Sometimes people were given permission to do this, whilst other times materials were looted. Examining surviving or absent physical evidence in light of historical documents that outline such practices can, therefore, assist in identifying the possible locations of evidence and any modifications that may have occurred. Additionally, doing so can assist in identifying the various attitudes towards Holocaust sites alongside the evolving political and social landscape after the war up to present day. When a number of case study sites are examined, it becomes obvious that people after the war often wanted to forget the atrocities that were perpetrated and to concentrate on future or current problems.

Case Study 11.5: Looting at Treblinka, Poland
In the area of the Treblinka extermination camp in particular, looters have continued to dig at the site since the war. On the one hand, these activities allude to the belief that Jewish gold exists at the site. This demonstrates how the perceptions of the Jews have changed little since the war and shows a lack of understanding concerning the reality of the conditions in the camp. On the other hand, it highlights often-unacknowledged social trends pertaining to the immediate post-war period; many people searching for valuables were likely doing so because of the desperate economic situation in Poland after liberation (Edward Kopówka, pers. comm.). The planting of trees and landscaping across the majority of the site stemmed from a desire to demarcate, and to provide protection for, the area of the former camp. This was connected to the belief that nothing survived at the site (Sect. 2.2.4; Sturdy Colls 2012b).

Case Study 11.6: Removing the Traces of Jasenovac, Croatia
At Jasenovac death camp, the Ustaša attempted to destroy the traces of the barracks and the camp wall before they retreated. After the war, the government granted permission for the remaining structures and materials to be used by local people. By 1948, barely any obvious traces of the camp were left. Under the Brotherhood and Unity motto that followed under Tito, the crimes at Jasenovac were ignored because 'with the aim of creating tolerance between the nations, the crimes had to be forgotten as soon as possible' (Jasenovac Research Institute 1998–2006). A memorial was not erected at the site until the 1960s when Bogdan Bogdanović designed a memorial park which sought to promote peace and unity. The memorial itself did not include any original traces of the camp and in fact sought deliberately not to do so.

Fit for Purpose Sometimes the reuse of structures was due to the fact that they were fit for a particular purpose. For example, many former Holocaust camps were reused as prisons or youth education centres after the war (Sect. 11.1). Particularly when the camps incorporated structures built before the war, buildings either returned to their original uses or took on alternative functions since they were usually well built and in well-connected locations (which is precisely why the Nazis occupied them).

Unfit for Purpose Many of the structural remnants of the Holocaust were deemed unsafe after the war. In some cases, these structures had never really been safe or at least they were inadequate for the purpose for which they were intended. Many of the structures built to house camp inmates, for example, were never intended to be permanent and so were often poorly built (Central Commission for the Investigation of German Crimes in Poland 1946). Some structures were bombed or subject to other forms of damage during the war and so were demolished. Others became unsafe in the years that

followed and failed to be repaired, most commonly due to the costs involved and the fact that better facilities were available elsewhere.

Desire to Erase the Past   In some instances of reuse, this has been fuelled by a desire to erase the remnants of a painful period of history. The remnants of the camps, ghettos and killing sites provided visible reminders of the Holocaust that some communities wanted to erase or hide (Meng 2009). Although this might seem strange and disrespectful, these places often were deemed too painful or communities did not want the constant association with places of atrocity (Sect. 3.3). This is a common trend that can be aptly demonstrated by recent domestic cases of crime around the world, for example the demolition of the houses of notorious killers such as Ian Huntley and Fred West in the UK (Coughlan 2004), the ongoing debate over the future of Utoya Island in Norway where Anders Breivik killed 69 people (Robertson 2014; VG News 2012) and the demolition of Sandy Hook school in Connecticut where Adam Lanza killed 26 pupils and members of staff (Sky News 2013).

Indifference or Ignorance   Elsewhere, it seems that the redevelopment or reuse of sites is due to indifference or ignorance on the part of those making the decision to approve it. In some cases, younger generations do not appear to recognise the importance of the Holocaust, and the continued relevance that it has. In others, policymakers are aware of this but they are indifferent to it in light of their overriding concern to facilitate 'progress'. This has often resulted in buildings taking on functions that are at complete odds with their history. Camp mortuaries have become restaurants, hospitals have been turned into nightclubs, fortifications built by slave workers have become pubs, clubs and leisure facilities, forests containing mass graves have become popular walking destinations or even paintballing sites (Sturdy Colls 2013; Jasinski 2011; Jacobs 2004; Fig. 1.6). Other sites have been redeveloped, which has resulted in the demolition of structures and the disturbance of graves.

Ongoing Prejudice   In some places, the redevelopment or reuse of Holocaust sites for purposes that are opposed by those with a connection to them may be as a direct result of ongoing prejudice against these individuals and groups. With regard to Jewish cemeteries, Christians (2008, p. 12) has highlighted that 'the violation of cemeteries due to land development abuse could sometimes be linked with expressions of latent anti-Semitism'. Development of Jewish burial sites should not strictly be allowed according to Halacha Law and protection orders should be imposed on sites as a result. However, this sometimes does not take place.

Post-War Tensions   At many Holocaust sites, the reasons that they are commemorated or dilapidated may not stem from attitudes towards the Holocaust itself but from other tensions that have arisen in the years since.

To provide some examples:

Case Study 11.7: Approaches to the Holocaust in Former Soviet Territories
Thousands of Holocaust sites exist throughout many of the former Soviet Bloc countries including Poland, Ukraine, Belarus, Latvia, Lithuania and Estonia. Many of the territories around these sites were occupied by the Russian army as they advanced into German territory. This resulted in the existence of an abundance of Russian military installations in these areas, many of which were located within or around the edges of former or active Nazi camps. Of those camps still active in these areas at the end of the war, several were liberated by the Russian army.

However, at the majority of sites, the remnants of the Russian military installations have not been examined archaeologically nor are they marked; thus, they are excluded from the war heritage of these countries. Similarly, the role of the Russian army in the liberation of the camps and the collapse of the Third Reich is often barely mentioned on monuments or in museums where these exist. Therefore, at sites which are marked, the material evidence of the Holocaust is given priority over these military aspects of the area's past. Whilst in part this may be due to the desire to invest funds in preserving sites of atrocity, rather than military sites, it is likely that in many cases it is due to the ongoing tensions between Russia and these countries. Indeed, many curators do not know how to approach the material remnants of the Russian invasion given the decades of persecution that followed under Communism. It seems that many feel that the so-called liberation cannot be celebrated when it led to so many deaths and so much suffering. Therefore, it is often simply ignored.

At sites where the Russian occupation is noted, this often has the result of showing the Nazis as the lesser of two evils. In Estonia, the Holocaust history remained for years very much overshadowed by that of the Communist period and this reflects a countrywide trend (Weiss-Wendt 2008). This is evident at the Museum of Occupations which focuses predominantly on the Soviet occupation. Similarly, in the Estonian town of Lihula, a monument was unveiled in 2004 that was described as being for 'people who had to choose between two evils, and they chose the less evil one' by fighting alongside the German army against the Russians (BBC 2004). Similarly, the search for burial sites of victims killed by the Communist regimes has intensified in recent years in former Soviet territories and there are now well-developed forensic search programmes that focus on identifying individuals killed during this period (e.g. Ossowski et al. 2013; Jankauskas et al. 2005; Paperno 2001). This stands in contrast to searches for Holocaust victims undertaken in a forensic context which are now extremely rare. Therefore, the Nazi and Soviet pasts often compete in terms of resource allocation and their place in public memory. It seems likely these approaches will continue in the future owing to the ongoing tensions between Russia and these former Soviet territories.

Case Study 11.8: Divided Spaces and Divided Memories at Jasenovac and Donja Gradina
To return again to the example of Jasenovac in Croatia, during the war of the 1990s, the Croatian army invaded the area of the Jasenovac memorial and blew up parts of the former camp area, stole artefacts from the museum and desecrated several of the graves (Jasenovac Research Institute 1998–2006). The bridge that had linked two areas of the site—the camp and the area where the dead were buried—was also destroyed (Jasenovac Research Institute 1998–2006). As a direct result of the national borders that were created after the war, the camp at Jasenovac, which is located in modern-day Croatia, was physically separated from the mass graves at Donja Gradina, which are located in modern-day Bosnia-Herzegovina (Fig. 11.9). In order to visit both sites, it is now necessary to cross through a border post. The competing memories present at the site are also evident, since the two sites claim different numbers of victims were killed. Whilst Jasenovac has a well-established research centre and museum, Donja Gradina is dilapidated and displays limited information for visitors. A series of investigations have taken place at both sites in an attempt to determine how many people were killed but they have been limited in the amount of evidence they have examined and they are tainted by political circumstances.

Fig. 11.9 The memorial at Jasenovac death camp (left) and the area where the victims' bodies were buried in mass graves in Donja Gradina (right) which are now separated by the national boundaries of Croatia and Bosnia-Herzegovina. (Copyright: Caroline Sturdy Colls)

Demands of the Modern World The redevelopment of Holocaust sites may, in some cases, have absolutely nothing to do with the site's former history. Instead, Holocaust sites may simply be located within up-and-coming areas or areas of prime real estate (Case Study 11.15). Their existence in the middle of large-scale areas of redevelopment may simply be inconvenient, and developers and policymakers may not want to put innovative developments on hold because of their existence.

Additionally, it should not simply be assumed that sites have been reused and redeveloped because of any of these negative reasons without first discussing this with the various communities with an association with the site (Sect. 3.4). For example, whilst it may appear that the use of fortifications built by slave workers or former camp buildings on private land may have something to do with disrespecting or ignoring their history, in fact in some cases, parents have converted these buildings so that they can provide a safe place for their children to go (Barney Winder, pers. comm.). Other sites have become youth centres, peace centres and educational institutions, not to erase the past, but in order to help people address it and move forward. Other sites may have been demolished so as to prevent them from becoming the focus of attention by neo-Nazi groups or because buildings were subject to some form of damage, e.g. fire or water damage.

More often than not, there will not be a single reason why sites have been reused, but rather a combination of many reasons.

Case Study 11.9: Approaches to the Fortifications on Alderney, Channel Islands
Here Alderney is a case in point. The reuse and destruction of the camps, coupled with the lack of interest in examining whether there is any truth to claims over further mass burials, demonstrates that the desire to suppress the more painful aspects of the island's past has a long history.
  (Case Study 9.3). The fact that the sites of the Occupation have become overgrown is a reflection of the lack of resources dedicated to their maintenance but also perhaps the desire for them to become hidden, given that they remain 'a deliberate architectural intervention constructed in the public realm' (Tzalmona 2011). After the war, the Allies modified the landscape further, using former camps to house prisoners of war and burying the dead. In terms of the fortifications built by slave workers on Alderney, these sites have never been destroyed (Fig. 11.10). This is likely due to the unwanted attention doing so would attract, because the structures remain useful to locals and because of the considerable effort that would be required to demolish them.

Fig. 11.10 A bunker on Alderney that is currently used as a nightclub. (Copyright: Caroline Sturdy Colls)

11.5.2 Recording Reuse

The reuse and modification of Holocaust sites mean that physical evidence pertaining to various layers of history will be present. Drawing on the methodology outlined in Chaps. 4–7, these layers should be recorded to an equal extent as those pertaining to the Holocaust. Where standing buildings exist, through the building biographies referred to in Sects. 6.9 and 10.3, it may be possible to create a chronology of uses and chart the differing attitudes towards the site as a result. A further example of this is provided in Sect. 11.6 in the context of discussions concerning graffiti and vandalism. Where structures have been demolished and the landscape modified, different types of physical evidence will survive that can be used to create site histories.

It should be remembered that many sites of the Holocaust continued to have painful histories after they were abandoned by the Nazis, and archaeological surveys should place equal emphasis on recording these atrocities. Whilst the initial impetus for search may well be the Holocaust itself, such surveys offer the opportunity to reveal new insights into other periods of history and to uncover further human rights abuses. For example, recent excavations in Sobibor revealed the bodies of several individuals who may have been killed by the occupying Soviet forces (Haimi 2013). Recent work at Semlin in Serbia allowed the former Holocaust site to be recorded alongside the evolving political situation that surrounds the site, which has recently resulted in the eviction of many residents from this area, supposedly in the name of building a Holocaust memorial (Forensic Architecture 2014; Sturdy Colls 2013). The exposure provided by the archaeological work provided a platform to discuss these evictions and future plans for the site; thus, archaeology became a form of political activism (Sect. 3.3.4; Oktobarski Salon 2013).

11.6 Vandalism and Dilapidation

The remains examined by archaeologists are not just limited to landscapes and objects. As Patel (2007, p. 51) argues, 'archaeology is all around us, constantly created in that brief moment between the past and the future, and is forever changing as it recedes into the past'. One example of evolving archaeological remnants are those caused by acts of vandalism including graffiti, waste disposal and other forms of desecration. In the context of the investigation of Holocaust sites, their presence may indicate various attitudes towards the area, event or people that the location is associated with.

Countless examples could be provided of Jewish cemeteries that have been desecrated and where gravestones and monuments have been painted with swastikas; the anti-Semitic message of such instances is clear and requires nothing further by way of explanation in terms of what this reveals about

Fig. 11.11 Anti-Semitic graffiti at sites of Holocaust atrocities. (Copyright: Caroline Sturdy Colls)

prejudices (Fig. 11.11). Various other types of anti-Semitic messages and other forms of graffiti have been observed at many Jewish cemeteries and former Holocaust sites throughout Europe (Fig. 11.11). The failure of local authorities to remove such graffiti and waste is also telling. Whilst, at best, the failure of the authorities to remove the graffiti may reflect a lack of funds or a tolerance towards graffiti in general; at worst, it may reflect the failure at local and/or national level to disagree with the message being communicated.

Other cemeteries lie dilapidated—not necessarily vandalised but rather overgrown, forgotten and rarely visited.

Case Study 11.10: Dilapidated Jewish Cemeteries in Cieszyn, Poland
One interesting example serves as a case in point. In the town of Cieszyn on the Polish–Czech border, two Jewish cemeteries exist, one of which was the site of a massacre by the Nazis during the Holocaust. Both are extremely dilapidated; tombstones are broken, the funeral house has broken windows and doors, rubbish has been dumped across both sites and swastikas can be seen on another monument nearby (Fig. 11.12). However, the attitudes surrounding these sites seemed completely at odds. On the one hand, the sites were ruinous and their state suggested that there was little local interest in maintaining them; it was notable that no attempt had been made to remove the swastika that had been spray-painted on the monument. On the other, during a visit by the author in 2009, these cemeteries were being advertised as local tourist attractions. A project was purportedly instigated in 2009 whereby local prisoners were engaged in clean-up work at the site (Virtual Shetl 2009). However, the sites largely remain dilapidated.

In some instances, the presence of graffiti will have little or nothing to do with the fact that a site was, for example, a Holocaust camp, ghetto, cemetery or massacre site. Little thought may have been given to its location if it represents a mindless act of vandalism or, conversely, its location may have been chosen so as to give it maximum visibility (Fig. 11.13). However, its existence still

Fig. 11.12 The dilapidated Old Jewish Cemetery (*top*) and New Jewish Cemetery (*bottom*) in Cieszyn, Poland. (Copyright: Caroline Sturdy Colls)

reflects a lack of knowledge concerning, or indifference towards, the history of the area, which in itself says something about the attitude or perhaps even the education of the person who painted it. It must also be acknowledged that the presence of graffiti may, in some instances, reflect a desire to raise awareness of the former function of a given area. Graffiti may also be a form of spontaneous remembrance (e.g. the graffiti of the image of Anne Frank that is often seen painted on walls or under bridges around the world) or a means of preserving original traces (Fig. 11.14).

The dilapidated nature of many Jewish sites throughout Europe also reflects the lack of a Jewish population to maintain them. The mass killings of the Holocaust and the emigration that occurred

Fig. 11.13 Graffiti visible from the Sava Bridge in Belgrade in an area adjacent to the former Semlin camp. Its location was likely chosen due to its visibility from the bridge. (Copyright: Caroline Sturdy Colls)

Fig. 11.14 Apparent 'graffiti' of a Third Reich Eagle. Because this is freshly painted, it might be assumed that it was created by Nazi sympathisers. However, this in fact represents an original piece of graffiti created by the German soldiers stationed here and it has been painted over by a local resident to preserve it. (Copyright: Caroline Sturdy Colls)

after, mean that many towns and villages no longer have a Jewish population. Other damage may have been caused by later violence and so, at least initially, the dilapidated nature of the site may have little to do with Holocaust-related prejudices. The Jewish cemetery in Vukovar in Croatia provides one such example (Fig. 11.15).

11.7   Mapping the 'Unseen'

The idea of unearthing the past is one that is inextricably linked with archaeology. Often this label will be used to describe a physical act, as evidence is unearthed through excavation. Sometimes this may be achieved through the use of geophysical techniques capable of mapping below the ground. Whilst, undoubtedly, much of what archaeologists do is aimed at revealing new insights into past events and bringing physical evidence into public view, with regard to some of the remains of conflict within living memory, what we are actually doing is not unearthing the past but instead we are reminding people of it. Often, we are not finding lost relics of which modern society has no recollection. We are instead examining visible traces from an alternative perspective; thus, we are demonstrating the significance of features that people may look at, walk over and utilize every day. Therefore, we are not unearthing but rather assigning meaning to, or uncovering the meaning of, such features.

The examination of these features once again has a dual role. Firstly, these features can tell us about the layout and nature of a site; thus, their examination contributes to historical narratives. Secondly, by examining the ways in which these features have been reused, developed, left to become

Fig. 11.15 The Jewish cemetery in Vukovar where the bullet holes from the 1990s war can still be seen. (Copyright: Caroline Sturdy Colls)

dilapidated or obliterated, information can be derived concerning cultural memory and public knowledge about the events in question. Many examples can be cited in support of this concept.

Case Study 11.11: Topographies of Memory in Muranów, Warsaw, Poland

On first glance, the apartment blocks in the Muranów district allude little to the area's former function as part of the Warsaw Ghetto. This led Mallet (2011) to question:

'A whole world had been buried. It lay there, right under my feet. It seemed so close and so far at the same time. How can a landscape be so deceptive? In the absence of physical traces of the pre 1945 period, what do residents see? What do they remember?'

However, on closer inspection, reminders of its history are present in the topography of the area; the apartments in this area are built on the rubble of the ghetto; thus, they are elevated compared to other structures in the vicinity that existed outside the boundaries (Fig. 11.16). The former route of the railway tunnel into the ghetto has also been maintained in the form of a walkway into the apartment complex at the intersection of Karmelicka Street and the former Leszno Street (now Aleja Solidarności; Fig. 11.16). In fact, therefore, the area is actually built on the very fabric of its traumatic past, yet this will likely go unnoticed by 'outsiders'. Conversely, in local memory, the former function of the site is well known and this is rumoured to have made this area unpopular with some people seeking housing in the centre of Warsaw (Jakub Petelewicz, pers. comm.). As was demonstrated in Case Study 8.2 in this volume, many traces of the ghetto will also likely survive below the ground.

Fig. 11.16 The elevated
topography of Muranów,
an area constructed on the
rubble of the Warsaw Ghetto
(*top*) and the former route of
the railway tunnel into the
Warsaw Ghetto, maintained
in the modern landscape as
a walkway into an apart-
ment complex (*bottom*).
(Copyright: Caroline Sturdy
Colls)

Case Study 11.12: Graffiti at Staro Sajmište, Serbia

Similarly, take for example the area of the former Semlin camp in Serbia. When an earthwork
embankment running along the northern and eastern extent of the survey area was recorded
and the data overlaid onto aerial images and plans of the camp, this revealed that the embank-
ment followed the same path as the eastern camp boundary (Fig. 11.3; Sturdy Colls 2013). This
embankment now forms the boundary between the memorial complex and a recreational area,
and the residential and commercial sector of the site. As part of the construction and redevelop-
ment of this area, which has been extensive since the end of the Second World War, this bound-
ary line has been maintained. This likely relates to the site's topography (this boundary divides
the higher ground close to the river and the low ground beyond) and historic land divisions. In
fact, this boundary line was actually artificially created during the construction of the Old Fair-
ground built in the 1930s; thus, the identification of this boundary also demonstrates how the
Nazis made use of existing landscape features when constructing the camp, a trend which has
been observed at countless other sites (Sect. 9.3).

Case Study 11.13: Mapping the Unseen at Lager Sylt, Alderney

Other traces may be more subtle. For example, one of the boundaries of Lager Sylt, an SS con-
centration camp on Alderney, survives in the modern landscape as vegetation change (Sturdy
Colls et al. forthcoming). This takes the form of an area of cultivation adjacent to an unploughed
area which follows the exact line of the former camp boundary. Therefore, every time the
cultivated land is planted or harvested, likely without realizing, the farmers are maintaining
traces of the former camp. This feature is ever-present for anyone walking across this landscape

Fig. 11.17 A bush (*top*) that was masking the camp cellar at Lager Sylt (*bottom*). (Copyright: Caroline Sturdy Colls)

to see; thus, it cannot be claimed that the recording of it by differential GPS (DGPS) 'unearthed' it. However, on the basis that many people would observe this and similar features without recognizing its significance, archaeology has a role to play in bringing this information to the fore. The same can be said for the camp cellar, which was uncovered when a bush was cut back and the stairs down to it were revealed (Fig. 11.17). An abundance of objects were also observed in this flooded structure that had presumably remained in situ for over seventy years.

Case Study 11.14. Mapping the Unseen at Treblinka, Poland

During archaeological research at Treblinka a large artefact scatter was found in the area of the former extermination camp. This discovery not only contributes to an analysis of the material culture connected to the site but it also demonstrates many other important points (Sturdy Colls 2012a, b). Firstly, the fact that these artefacts had not been located previously reveals that a systematic search of the landscape had never been undertaken prior to the survey by the author in 2010. This demonstrates a lack of interest in the physical evidence at the site since the Second World War. Secondly, the discovery of these artefacts provides further evidence that historical narratives claiming that no surviving evidence of the camp survives are incorrect. Thirdly, the identification of these artefacts through walkover survey and without excavation further confirms the value of non-invasive survey.

Interestingly, many of the indicators alluded to above must once have been known about but, for various reasons, they have not been acknowledged in general public consciousness. To maintain boundary lines or to incorporate previous landscape features into developments, then their existence (if not their significance) must have been acknowledged previously. In fact, when early investigative reports and witness testimonies are examined, many of these indicators were in fact highlighted immediately after the war. However, they have not made their way into the official histories or popular perceptions of the sites (Sect. 3.2). For example, Rachel Auerbach acknowledged the fact that human remains were present at Treblinka which retained soft tissue (Auerbach 1979). However, it is widely stated in other historical accounts that all of the remains of the victims from Treblinka were cremated and, therefore, were destroyed without trace (Sturdy Colls 2012b). Recent archaeological survey by the author has confirmed the presence of mass grave and cremation pits across the site, thus reconfirming many of Auerbach's findings almost 70 years after the events in question. Similarly, early investigations by the liberating forces at Mauthausen included an assessment of the functionality of the gas chambers but it has taken a Ground Penetrating Radar (GPR) survey by archaeologists in 2008 to bring information concerning this into popular histories (Theune undated). Therefore, one of the roles of archaeological work may be to reconfirm and remind people about the atrocities perpetrated during the Holocaust.

Although, as previously mentioned, the act of recording these traces does not 'unearth' the past, there is a strong case for arguing that it does something equally if not more poignant. These features exist in the landscape, often visible for all to see, without any recognition of their significance. The fact that no one previously questioned their origins or, in the case of features like the artefact scatter at Treblinka, no one searched for or recorded them reveals a lot about attitudes towards the site or period in question. Similarly, the fact that such indicators were often noted by early investigators but were not marked, recorded or acknowledged in popular histories also provides further evidence of how landscapes are influenced by cultural memory.

11.8   'Performing' Heritage

The value of observing individuals and groups at heritage sites has been attested to in the literature (Boyd 2012; Jacobs 2004; Poria et al. 2001). In the past, such observations have been recorded using interviews, photography, videography or through monitoring behaviour (for a summary of case studies, see Bitgood 2006). More recently, GPS, radio-frequency identification (RFID) and wireless data transmission tracking devices have been used in museums and cityscapes to record this behaviour in a more unobtrusive manner (Nguyen et al. 2014; Montanari and Frattura 2013). The observations recorded in this way may be used to inform the presentation/redevelopment of museum or memorial spaces, to identify popular or more regularly visited areas or to highlight visitor responses to particular aspects. These techniques have not, however, been widely employed at Holocaust memorials or at other sites of conflict, nor has their potential to contribute to conservation and sustainable heritage management programmes at such sites been realised. This approach would have several benefits at such sites, both as a stand-alone exercise in understanding how visitors interact with the landscape in question and as part of a consideration of the context in which archaeological fieldwork is undertaken.

11.8.1   Observation

During archaeological fieldwork at Holocaust sites, field teams may be working within the memorial space and, as such, will encounter spontaneous acts by visitors which may otherwise have gone unnoticed. As observed during the author's own fieldwork, these spontaneous acts can reveal personal

stories and acts of commemoration, individual and group responses, religious beliefs, national identities and unwritten additions to the history of the sites all enacted within the space. Examining the behaviour of people at Holocaust sites will also provide an insight into how these sites make people feel. As Tilley (1997, p. 11) argues:

> an experience is not limited to what can simply be seen from a point in the landscape, but includes what can be felt, heard, smelt, tasted, and touched; and moreover, how our sensory reactions change as we move through and encounter landscapes from our situated body. In addition, we must consider the social aspects of the experience, as the space we move through is not only a construct of sensory perception, but also of social perception.

The configuration of physical evidence, the appearance of a memorial or the apparent absence of remains will all invoke certain reactions in visitors. These reactions may can not only help access the effectiveness of a site in communicating information about the past and help explain how common perceptions came about. Some sites will have physical evidence which will draw visitors in; others will have visible traces onto which visitors will project meaning (see below). Some sites will imply very little about the atrocities perpetrated there and may in fact invoke a feeling of tranquillity or even playfulness.

Such acts often demonstrate the multiple functions and perceptions of the landscapes, which represented and became sites of memory, solace, mourning, reconciliation, conflict and recreation. At Treblinka extermination camp, for example, candles left by mourners in pits in the wooded areas of the camp alluded to the fact that the function of such features during the camp's period of operation was perhaps known or at least thought to be known by some visitors. Thus, certain areas have become unofficial memorial spaces. In contrast, the observation of a young couple kissing and picnicking, families walking in the woods and the limited walk that most visitors took around the monument reveals a range of different attitudes towards the site. In Alderney, the lack of knowledge concerning the former history of Lager Norderney's former function (as a labour camp) or the location of the former slave worker cemetery was clear when talking to people who frequently passed through the sites whilst engaging in leisure activities. These observations were made informally; they were simply witnessed whilst carrying out fieldwork. However, introducing a more formal approach to recording these behaviours should be considered on the basis that this will assist in gaining a deeper understanding of approaches towards and perceptions of the site being studied.

Case Study 11.15: 'The Living Death Camp' at Staro Sajmište, Serbia
During archaeological fieldwork undertaken at the former Semlin Camp in Belgrade, a number of methods were employed to capture the process of conducting the survey, the interactions between members of the public and the field team, and the behaviour of individuals and groups living, working and socialising within the area of the former camp. This was deemed to be particularly important given the fact that the camp is not a memorial site but is instead composed of residential areas, shops, industrial units, restaurants and social spaces; hence, the title of the project as part of which the archaeological survey was undertaken—'The Living Death Camp' (Forensic Architecture 2014).

A videographer captured footage and took photographs of day-to-day activities in various locations around the area of the former camp. Additionally, in order to complement the architectural laser scanning undertaken, laser scans inside structures and of 'scenes' were undertaken. Many of these scans captured the new ways that the buildings have been used. Many had become artists' studios and residential accommodation (Fig. 11.18).

Fig. 11.18 An artist's studio in one of the buildings of the former Semlin camp in Serbia. The studio no longer exists as the artists were evicted in 2013. (Copyright: ScanLAB Projects)

It is also interesting to observe how visitors interact with the information provided to them at a site. Observing the common routes taken by visitors, noting how long they spend at each information point and finding out whether this information was deemed adequate can also prove useful. This may help identify whether visitors are commonly drawn to particular areas and whether this is based on the availability of information, the visibility of physical remains or other factors. This can provide an insight into what evidence visitors see as significant. In some cases, it may be observed that visitors fail to stick to the routes prescribed by developers or, at sites intended to facilitate 'free roaming', visitors have in fact created their own prescribed routes. Although it may appear that this information would be more useful to curators, in cases where archaeologists are to be involved in the re-presentation of sites, this information is vital to ensuring that the new information provided will be accessible to visitors. To provide one example, at Treblinka, it has commonly been observed that large tour groups only visit the memorial site itself and not the museum. Given that very little information is currently provided at the memorial site, the majority of visitors will see only the symbolic memorial and map of the site when they visit. Therefore, as part of a new project which will outline the findings of the archaeological work, new information boards at the memorial site will accompany a new exhibition in the museum building (Centre of Archaeology 2014).

The interactions between visitors can also provide useful insights into cultural memory and attitudes towards sites. The tension between the different visitors to Holocaust sites in Poland, for example, alludes to the different perceptions concerning the role of many sites, which are seen both as places of Jewish suffering and Polish martyrdom (Jacobs 2004). Religious tensions in particular can be observed, something which is likely prevalent due to the fact that the Holocaust is often considered a Jewish event in a Christian country (Zubrzycki 2006). At many sites, tensions can be observed that have likely arisen due to the differing views of those with a direct connection to the events (e.g. survivors and their families), interested tourists and passive observers, e.g. those who pass through the site for leisure purposes not related to their former function. Particularly, if visitors treat heritage as a performance and have the express desire to 'feel something' at a site (Smith and Waterton 2009; Baxter 2009), this may be at odds with the more direct feelings experienced by mourners or survivors. In other cases, these interactions may have a more positive outcome, with people from different backgrounds coming together to share their experiences and thoughts. As well as providing an insight into the cultural memory associated with Holocaust landscapes, the examination of private responses and unwritten histories highlights the dynamic nature of memory making. These sporadic acts of

commemoration represent new layers in the history of these sites which are contributed to every day; the landscape constantly takes on new meanings, which are then lost with the departure of the visitor.

When thinking about interactions, it can also be interesting to examine who visits a site and who does not: Are particular religious, demographic or age groups notable in their absence? Is the site mainly frequented by Holocaust survivors and their relatives, or by school groups, tour companies and other educationalists? The answers to these questions can have implications for the commemoration of a site, its place in cultural memory and any new plans for future redevelopment.

11.8.2 Mapping Memories

A number of successful projects have been undertaken around the world which have sought to empower people to record their own memories and stories about a place (for examples, see Mapping Memories 2014; Story Maps 2014; Merseyside Maritime Museum undated). At some Holocaust sites and landscapes, it seems likely that this approach would work well. Offering people the opportunity to record their own material, rather than being recorded, is a less intrusive means of mapping memories. Using simple tools like digital storytelling devices, cameras and apps, it is possible for people to record information orally, through photographs, videos or by placing text information on a map. By collecting information from a broad demographic of visitors to a site, this may reveal several layers of memories connected to specific places. The amalgamation of this information with that collected through other means, e.g. formal interviews, discussions on site, the collection of existing witness testimonies and plotting it onto a mapping platform, offers the opportunity to reunite stories and places in a virtual environment. Archaeologists should consider collecting this sort of material as part of their research projects in the future as a means of exploring physical evidence alongside cultural memory. This concept will be discussed further in the context of digital heritage resources in Chap. 12 alongside a consideration of the ethical implications of using such tools.

11.8.3 Perpetuation of Memory

Aside from the spontaneous acts of memory making that occur at Holocaust sites, there also exist a number of other ways that memories and commemoration are perpetuated using physical evidence. Objects pertaining to this period have a particularly central role to play in this. Most obvious are the ways in which these items are used by museums, as part of displays, in educational programmes or as symbols that define their identity (Fig. 1.2). Less commonly discussed is the trade in Holocaust-related items. Often, it is assumed that the trade in such items is mainly undertaken by neo-Nazi groups or sympathisers (Murphy 2013; Ossowski 2012). However, whilst this is sometimes the case, items from the Holocaust are often bought by Holocaust survivors, their relatives or those who want to ensure that these items are protected. In Israel, survivors have even set up their own private museum of items claiming that owning them was 'a form of revenge for the killing of most of the Jewish community, including much of his family, in his native town of Częstochowa' (The Jerusalem Post 2014). On other occasions, Holocaust-related items have been used in re-enactments, something which has received mixed reactions (Rothschild 2013). Whilst some people see these re-enactments as disrespectful, many re-enactors argue that they are a living form of commemoration of war (Newman and AP 2014). Although these items have been removed from their all-important context, an examination of any items found previously at sites that are to be investigated by archaeologists should form an important part of early-stage research. It should be recognized that all of these uses of physical evidence assign new meanings to individual and groups of items, manipulate them for a variety of purposes

and, in turn, influence public perception of them and the sites to which they relate. Therefore, examining these practices can also help record aspects of cultural memory associated with the sites to which they relate.

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(Re-)Presenting the Holocaust

<div style="text-align:right">**12**</div>

12.1 After Archaeology

The examination of the physical evidence of the Holocaust in the field and its subsequent analysis should not be the end of the archaeological process. On the contrary, the benefits of carrying out such investigations and their ability to enhance knowledge of this period will only be realised when suitable forms of presentation are devised in order to disseminate the results to a wide variety of audiences. A wide range of well-tested and emerging techniques in heritage management and digital humanities now offer the possibility to present the findings of archaeological investigations to a variety of different audiences (Ch'ng et al. 2013; Jones 2013). Because only a limited number of archaeological projects have been undertaken with regard to the Holocaust, there has been little in the way of discussion concerning the challenges faced in the course of presenting archaeological results in this context or concerning the ethical issues that surround the use of digital technologies in particular. The digital recording methods outlined in Chaps. 5–7 also generate large amounts of highly specialised data and, in the author's experience, finding innovative ways to present this to the public remains a considerable challenge. In the future, as we enter an age without survivors, adequate dissemination solutions will need to be found in order to ensure that events of the Holocaust, and the lessons that they can teach us about genocide and prejudice, are not forgotten. If presented correctly, the findings of archaeological research and the re-presentation of the Holocaust via the physical evidence relating to it offer the opportunity to part fill the void left by first-hand accounts. Issues surrounding the conservation of Holocaust sites also need to be considered, particularly in the context of the debates surrounding commodification, authenticity and restoration (Podoshen and Hunt 2011; Huyssen 2003; Charlesworth and Addis 2002).

The impact of archaeological surveys will in part depend upon the successful (re-) presentation of the history of a place. However, it will also depend upon the willingness of others to acknowledge the findings and to adopt them into historical narratives. In some cases, findings will be seen as revolutionary and written histories as well as on-site interpretation will be modified as a result. In others, findings will be ignored or modified so as to maintain or create official histories. Although archaeologists may well have some control over the ways in which their results are presented in the first instance, once they are in the public domain, they have the potential to be used and abused in ways over which they have no control.

This chapter considers the outcomes of archaeological investigations in terms of the impact they may have on memorialisation, commemoration, heritage management and education. Novel forms of (re-)presentation of Holocaust sites are presented and the factors that must be considered in the

course of devising dissemination methodologies are discussed. The impact of archaeological work in the context of the Holocaust is summarised, and, looking to the future, this concluding chapter also considers how Holocaust archaeology may continue to evolve.

12.2   What Can Holocaust Archaeology Reveal?

By way of a consideration of what Holocaust archaeology can reveal about the history of the Holocaust, it is hoped that this volume provides an abundance of examples. As more studies are carried out in the future, these examples will undoubtedly increase. Over the past two decades, archaeologists have already managed to find a large number of previously unknown and unmarked sites; mass graves have been found and marked, camps have been discovered and mapped and killing sites have been investigated (Sect. 2.3). In relation to the specific events of this period, previously undiscovered boundaries, barracks and objects have all provided an insight into the lives, work and deaths of those persecuted by the Nazis as well as the actions of the perpetrators. Accurate plans of the camps have been created for the first time in 70 years, and new information is emerging about the Nazis' attempts to hide their crimes, the nature of body disposal and resistance. The discovery of structures such as the gas chambers at Treblinka and Sobibor provides an unparalleled opportunity to assess Nazi extermination practices, to evaluate the accuracy of witness testimonies and to supplement historical narratives where these do not exist (Sturdy Colls 2014). Several investigations have identified how complicit local people or local governments were in genocide. As recently as 2014, excavations in Romania demonstrated conclusively for the first time that the Romanian government had in fact collaborated with the Nazis (Shalom Life 2014).

Archaeological work to date has demonstrated that the Holocaust is far from 'dealt with' in research terms (Chap. 1), but rather that many aspects of it are only just beginning to be understood. There are many elements of it that cannot be understood from conventional analyses of historical sources alone. Assessing known historical sources with knowledge of construction and demolition processes, an understanding of stratigraphy and geology and comprehension of the dynamics of the burial environment can allow new perspectives on archival material to be derived. In the field, archaeology can provide information about people's lives that is not available through any other means, particularly where such evidence may not have been written down or may have been lost (González-Ruibal 2008; Brickley 2003). As González-Ruibal (2008, p. 248) confirms, 'most historical archaeology is justified by the belief that we need alternative stories—that oral and written data do not tell us everything about the past, that there are other things to be learned from artefacts and other experiences have yet to be accounted for'. Add to this list the ability of archaeologists to obtain information about landscapes, buried structural remains and graves, and the potential for Holocaust archaeology to corroborate, challenge and supplement historical narratives should become even clearer.

Beech (2002, p. 199) has argued of Holocaust memorial sites that they fulfil both a 'remembering function', thus providing for 'the needs of the survivors and the families of those who did not survive', and a 'not-forgetting function', which focuses more on 'general societal needs'. The same distinction can be made with reference to the rationale for completing archaeological work at Holocaust sites. Archaeological investigations can play a part in humanitarian efforts and commemoration, by providing physical evidence for survivors and victims' families about the locations that they, their friends or relatives lived, worked and died. As reflected in the name Yad Vashem, Israel's Holocaust centre, 'the minimum of remembering that the living owe the dead' is 'a name and a place' (Yad Vashem 2014). As Father Patrick Desbois argues, if this is not achieved, the victims of the Holocaust 'were done a double injustice, because they are still shrouded in darkness' (Desbois undated). Through the location of mass graves and killing sites, archaeologists provide 'basic dignity' to the victims (Haglund 2002, p. 245) and satisfy the needs of the living on the basis that 'the desire to

know the fate of loved ones lost in armed conflicts is a basic human need which should be satisfied to the greatest extent possible' (United Nations General Assembly 1974). The variety of non-invasive methods available to archaeologists now means that this can be achieved without the need to disturb the ground if necessary. Thousands of Holocaust sites (in particular, mass graves and killing sites) still remain unmarked, whilst the locations of others have been forgotten altogether. Others sites have been marked but their full extent and nature have never been determined through scientific means. Therefore, at many locations, visitors will be unaware that the evidence of genocide surrounds them and they may be presented with an incomplete or inaccurate account of events. Archaeological work in the future could help rectify this situation by locating and recording this evidence, and thus contributing further to the process of remembrance and commemoration.

The physical evidence provided by archaeological surveys will not only contribute to the immediate collective memory of the victims of the Holocaust but also fulfil the 'not-forgetting' function for the wider public and for future generations (Beech 2002, p. 199). Knischewski and Spittler (2007, p. 183) have argued that 'the Holocaust is turning into a universally accepted and understood metaphor for evil that is becoming more and more decontextualised, more and more removed from the actual historical events'. Archaeological investigations can provide a means to bring our understanding back to the individual events, both at site level and in terms of the general trends that can be deduced about the Holocaust from the results. In recent years in particular, it has been increasingly recognised that we will soon enter an age without survivors and that there is a sense that the past is fading (Dejevsky 2014; Tablet 2013; Nora 1989). The depleting number of survivors and perpetrators does mean that a chapter in the history of the investigation of the Holocaust is coming to an end. However, the widespread investigation of the sites of the Holocaust using archaeological techniques could mark the beginning of a new one. Although it is acknowledged that many sites have already taken on alternative functions or have been redeveloped, archaeological surveys still have the potential to locate evidence relating to the Holocaust and the events that followed (Chap. 11).

Archaeological research has the potential to bring neglected and ill-understood reminders of the crimes perpetrated to the forefront of public consciousness, thus re-reminding us of these events and their impact upon society. In the past, attention has usually been focused on recognising that certain camps, execution sites and ghettos exist, rather than providing physical evidence with regard to their extent and layout (Chap. 2). Being able to provide physical evidence of what these sites would have looked like, how prisoners and victims of the Holocaust would have lived, worked and died within them and what still survives below the ground can offer a more perceptible history to the public even when the remains themselves cannot physically be unearthed. Archaeological surveys can generate a unique, unexplored body of evidence that has the potential to alter our perceptions of these events and provide a more tangible reminder of the Holocaust for future generations. One need only look at the millions of museums, memorials and archaeological sites across the world that represent and commemorate various events, and the individuals affected by them, to recognise that physical remains of historical episodes can provide more perceptible representations of the past to which people can relate, regardless of whether or not they were directly affected by the events in question.

Performing the 'not-forgetting' function through archaeological research is as much a sensory exercise as a scientific one; it is obviously much easier for people to 'not forget' and to realise the impact of conflict if there are physical remains of it to see, in whatever form, than it is for them to achieve this from reading books or oral descriptions. Consequently, the material generated from archaeological surveys can be used as part of sustainable heritage programmes in order to inform the wider public about these events. It can be used to enhance the visitor experience and provide a permanent visual record of the site for future generations at a time when the events that occurred are fading from living memory. This seems particularly important given the continued relevance of the Holocaust in modern society. As already argued in Sect. 3.3, 'the past is not a foreign country' (van der Laarse 2013, p. 87) and many of

the prejudices that caused the Holocaust sadly still exist. One need only look at the countless acts of vandalism at Holocaust and Jewish sites, alongside the various acts of racially motivated violence that are reported on in the media, to realise that discrimination and persecution based on race and religion are very current problems. The recent shootings at the Jewish Museum in Brussels are part of a long list of atrocities committed since the Holocaust but connected to it (Reuters 2014). Therefore, archaeologists must give due consideration to the means by which their results will be disseminated and assess the role that they could play in commemoration, heritage management and education.

12.3   A Future Resource

Archaeological research will only have the potential to contribute to narratives of this period when the results of it are disseminated adequately. There are many forms that this dissemination can take and the means chosen should ensure that the work is accessible to a wide variety of audiences. All of the maps, plans and images produced during archaeological surveys (and shown in previous chapters) lend themselves to a variety of forms of dissemination, providing adequate explanations accompany the technical data. In some cases, it may be necessary to stylise or reproduce images so that they clearly demonstrate what has been found to a general audience. Some common and novel forms of dissemination are summarised below in order to highlight the benefits and challenges posed in their use. Given the increase in technologies from the digital humanities in recent years, new possibilities are constantly emerging and so the case studies provided are intended to demonstrate potential avenues for the future. If disseminated appropriately, the results of archaeological surveys have the potential to provide an important future resource that can be used in commemoration, heritage management and education.

12.3.1   Written Accounts

Undoubtedly the first means of dissemination will be archaeological reports outlining the fieldwork undertaken since these are often a requirement of being allowed to carry out the work and are a form of professional practice (Sect. 4.4). However, these reports are often not suitable for wider dissemination and it may be necessary to produce alternative publications such as academic and popular books, journal articles, news reports and magazine pieces. Ideally, a combination of publications will be produced that will reach a variety of different audiences. The language of publication should be given some consideration as well in order to broaden access to a variety of a different people.

12.3.2   Enhancing Museums and Memorial Spaces

As Sweibocka (1995) has argued, camps with few or no standing remains attract fewer visitors and presenting sites that appear devoid of physical evidence remains one of the key challenges faced by curators. This is exacerbated at sites which are remote and which are generally visited by those with a connection to the events being commemorated. The new information generated by archaeological projects has the potential to inform, and indeed transform, memorial landscapes and museums. The fact that these surveys locate previously unknown structures, mass graves, boundaries and artefacts offers the possibility to enhance exhibitions and to reconfigure and revise in situ information. Potentially, new information boards can be erected, markers can be placed on pertinent features such as structures and graves, and mapping initiatives can be enhanced in order to help visitors better navigate

the space. Quick Response (QR) codes, which enable visitors to scan a barcode with their smartphone to obtain supplementary information about specific features, may accompany information boards (Bárd and Márkus 2012). These have been used to great effect at a number of heritage sites around the world, although the appropriateness of encouraging the use of mobile phones at Holocaust sites needs to be given due consideration (see Sect. 12.4). To return to the more traditional, the significance of archaeological work in terms of its ability to allow graves to be marked for the first time should not be underestimated and this may provide new foci for commemorative services.

Some novel forms of presentation have been developed with regard to marking the features identified during archaeological surveys. The Topography of Terror in Berlin, which comprises the unearthed foundations of the former SS headquarters alongside a museum and documentation centre, serves as one such example (Fig. 2.9; Topography of Terror 2014). At Falstad in Norway, the edges of barracks identified by archaeologists have been marked not by adding materials but by letting the grass over the top of them grow longer than that which surrounds it (Marek Jasinski, pers. comm.). This approach was taken because objections were raised to adding materials or uncovering the original barrack foundations, for fear that doing so would result in their degradation. Whether to fully uncover the remnants found by archaeologists so that they can be seen by visitors remains a controversial topic. Presenting the remains to the public has many benefits in terms of providing tangible physical evidence concerning the layout and appearance of a site, and how this relates to the crimes perpetrated there. Sites such as Chełmno and Buchenwald have seen a large number of buildings uncovered by archaeologists that have since remained visible above the ground (Pawlicka-Nowak 2004a, b; Hirte 2000). As part of the author's own work at Treblinka, ongoing discussions are taking place regarding how best to demarcate the features identified during the archaeological survey. Here, there is an argument for uncovering the remains of structures in the extermination area in order to directly challenge the myth that no remains survive at the site and to provide evidence regarding how the death camp functioned. Yet to do so has long-term implications for the maintenance of the site and the act of uncovering all of the remains is complicated by the large amount of human remains that are known to be present. Conversely, the remains at the penal labour camp are already uncovered, yet this site receives few visitors and the buildings are constantly eroding. Thus, there are long-term conservation issues that need to be considered if remains are to be permanently uncovered.

Unearthing buried remains permanently is accompanied by the irony that, in trying to prevent sites from disappearing from public memory, the result may be that they disappear or become damaged through exposure to the elements. Unearthing something that was previously buried alters its physical properties, exposes it to varied weather conditions and presents the possibility that it could be vandalised in some way. These are important issues to consider in the course of archaeological work, even if it is curators rather than archaeologists who will ultimately have the final say on what happens to the remains in the long term. This is true of both invasive and non-invasive surveys as, even when it was not the original intention to unearth the remains, this may become a requirement should authorities deem it necessary. The long-term conservation of the site should be discussed and financed before the decision is taken to uncover remains permanently.

In more extreme cases, particularly when it is felt that buried remains need to be protected from further disturbance, the response to archaeological surveys may be to completely cover the area surveyed. For example, the erection of the monument at Bełżec saw the majority of the former camp area being buried under metres of structural material (Fig. 2.8). Ironically, however, some destruction of the camp and buried remains had to take place to construct it. Similarly, although archaeologists would like to continue the work at Sobibor for many years to come, the recent announcement that a new memorial will be constructed at the site has also included news that this will mark the end of the archaeological excavations there. The Polish Deputy Minister of Culture, Piotr Zuchowski, stated that 'it is not considered acceptable by our civilization to create a permanent archaeological zone in

an area of eternal rest' (*Times of Israel* 2014). It is believed that archaeological supervision will take place during the construction of the new memorial (Urbanek et al. 2013). However, like at Bełżec, some remains will be sealed whilst others will effectively be destroyed. Certainly the topography and appearance of the site will be radically altered, and it does not appear that original remnants found during archaeological works will form part of the memorial design.

In some cases, a lack of funds or practical issues may mean that modifying a memorial based on archaeological surveys is not possible. For example, moving the large granite boulders that currently mark the boundary at Treblinka to reflect the actual boundary, as identified by archaeological research, would be a huge undertaking. At other sites, there will be no desire to create or modify memorials based on the results of archaeological surveys. This may be particularly true at sites where 'official histories' have been maintained for decades and where concerns exist over the presentation of the new information derived (Sects. 3.2 and 12.5). Therefore, even when archaeological work has radically altered the historical narratives of specific places, these may not be reflected in the appearance of memorials or information provided to visitors. This represents a major obstacle to the dissemination of archaeological results, and, although they can be disseminated via other means, certain communities will continue to be presented with out-of-date information. There is no straightforward solution to such a problem. Persistence in terms of discussions with the relevant authorities and the creation of exhibitions by archaeologists are most likely to be successful in the long term.

12.3.3   Digital User Interfaces

At sites where in situ forms of commemoration are not wanted or where the funding does not exist to produce them, digital forms of heritage presentation may offer an alternative. Digital resources such as websites, interactive exhibitions and publications can be created to ensure a long-lasting, versatile and global record of the physical remains of the Holocaust (Council of Europe 2005). They open up access to sites and materials collected during archaeological surveys to people who are unable to visit and they are not bound by 'factual, time or location constraints' (Ledig 2009, p. 162). At the most basic level, factual information can be presented alongside graphics. However, a number of more sophisticated forms of presentation now exist that allow archaeologists to create tailor-made digital user interfaces. Archaeologists should consult the wealth of literature available on this topic written by heritage professionals and also those responsible for the electronic presentation of evidence (EPE) in courtrooms (Ch'ng et al. 2013; Schofield 2011; Parry 2010; Kalay et al. 2007; Bailenson et al. 2006). Resources can be produced that can form part of museum exhibitions, online platforms and ideally both. Most digital user interfaces will be particularly suited for the dissemination of digital data collected during the course of non-invasive surveys as well as the digital records created in the course of excavations or the analysis of objects. These tools offer the possibility of presenting the different phases of a site's history alongside each other, without suggesting that one layer is more important than another. Electronic databases of artefacts have been created in the past for items found at Buchenwald and Mittelbau-Dora (Buchenwald and Mittelbau-Dora Memorials 2014). These databases incorporate images and descriptions of individual items found and have been used over the past decade in educational programmes. Advances in technology now mean that it is possible to create 3D catalogues of objects where photogrammetry or laser scanning has been undertaken (Sects. 6.7 and 6.8). This will provide a more tangible experience for users and a long-lasting record of the individual objects as they existed at the time when they were discovered. Such a catalogue is currently being produced, in conjunction with the Google Cultural Institute, for items found at Treblinka during recent excavations and walkover survey (Fig. 12.1).

Fig. 12.1 Finds catalogue of the items found at Treblinka. (Copyright: Caroline Sturdy Colls)
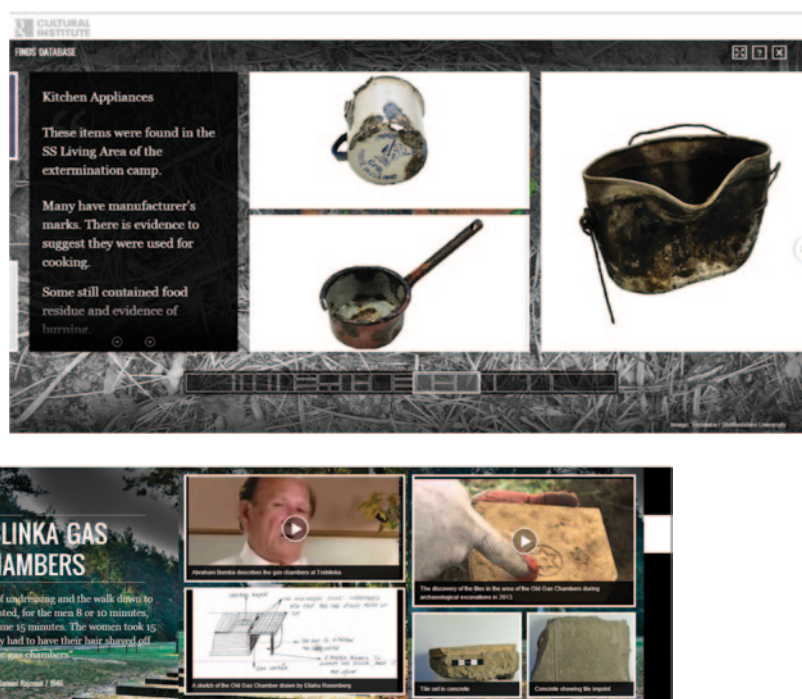
Fig. 12.2 A digital heritage resource developed for Treblinka as part of the Holocaust Landscapes Project that demonstrates the possibilities for integrating different data types into a user-friendly platform. (Copyright: Centre of Archaeology)

Various 3D modelling tools now exist that can facilitate the fusion of different data types An example is provided in Case Studies 6.2 and 7.2, where Ground Penetrating Radar (GPR) data was merged with laser scanning data to create a 3D model of the above- and below-ground layers of the former Semlin death camp in Serbia (Figs. 2.11, 6.19, 7.2 and 11.18). Enhanced software capabilities now make the sharing of these highly specialised and large datasets possible online and, in the case of Semlin, the virtual tour of the site has been used as part of an exhibition in the House of World Cultures in Berlin. Stills have also been created for use in publications (Forensic Architecture 2014). Other 3D models—which integrate topographic data, aerial images, multiple map layers and reconstructions of buildings and infrastructure—have been produced using more readily available online platforms such as Google Earth. Examples of this are shown in Figs. 2.11, 5.13, 5.14 and 6.19.

The most effective user interfaces will be those that, like the most effective archaeological surveys, include the analysis of various types of physical evidence. At the most basic level, site databases generated during walkover survey that included the geotagging of photographs and descriptions of sites can be made available online. These databases will likely require little in the way of modification to make them available to the public, and this approach is without the hosting issues that may accompany other types of digital media. More complex 3D and 360° environments can now also be created using a variety of commercially available software. As part of the Holocaust Landscapes Project, photographs generated through photogrammetry (Sect. 6.8) are being used to create a 360° tour of Treblinka and Alderney which integrates documents, witness testimony, historic images, aerial photographs and satellite imagery, alongside various forms of topographic, geophysical and survey data collected in the field (Fig. 12.2; Sturdy Colls and Colls 2013; Figs. 7.14 and 7.15). Here, by geotagging witness testimonies to specific locations to which they relate, stories are linked to places; thus, scientific data provides the means to present and understand the nature and extent of sites, but real-life experiences are not lost. It is

often possible to add video files, audio and other forms of media recalling witness testimonies in order to enhance users' experiences. Both tangible and intangible heritage can also be presented in these environments. Information can also be presented concerning cultural memory and the various post-war layers of a site's history where this information has been collected during archaeological surveys (see Chap. 11 for data collection methodologies). This may be particularly useful in situations where 'official histories' and/or nationalistic, sensationalist or revisionist narratives have otherwise been dominant. It may be easier in a virtual environment than in a real one to present the stories of marginalised groups or to discuss contentious issues. In addition to providing a key resource for public dissemination, these tools also provide an important research tool given that they act as a kind of 3D database in which various types of data are held. Therefore, they will be of use to historians and other scholars, and should be used to facilitate interdisciplinary debate concerning the narratives of the Holocaust.

12.3.4   Remote Exhibitions

In addition to exhibitions at Holocaust sites and in a virtual environment, archaeologists should consider the creation of exhibitions elsewhere in order to disseminate their work more broadly. Exhibitions offer the opportunity not only to display items (or images of items) found but also to present various other types of data. Exhibitions lend themselves in particular to the display of the digital data generated during non-invasive archaeological surveys as outlined in Case Study 12.1.

Case Study 12.1: Forensis Exhibition
A recent exhibition at the House of World Cultures in Berlin titled Forensis presented the results of the archaeological survey at Semlin in Serbia alongside other evidence of genocide and war crimes across the world. This exhibition included novel forms of data presentation as a means of communicating the complex investigations undertaken at sites of conflict using a variety of interdisciplinary approaches. The use of light boxes showing data derived from laser scanning and GPR survey at Semlin was accompanied by a short film and 3D reverse engineered models of conflict landscapes (Fig. 12.3).

   The striking and almost beautiful images generated during the survey drew in visitors to the exhibition, who were then shocked to discover the true nature of the structures shown in them. The exhibition effectively presented the various layers of the site's history and forced the visitor to consider the ethical questions surrounding how/if the site should be memorialised in the future.

12.3.5   Media

Archaeological work at Holocaust sites has attracted considerable media attention over the past few decades and will also likely continue to do so in the future. Archaeologists should consider a media strategy as part of methodologies to ensure that information is released in a timely fashion. As a minimum, archaeologists should expect to be asked to provide interviews, often to the international press. It is becoming increasingly popular for archaeologists to allow television and radio documentaries to be made based on their work since the discoveries made in the course of fieldwork are often considered to be of international importance and interest. Recent examples include a film made about research at Treblinka (Case Study 12.2) and a forthcoming one about Sobibor. Documentary films not only act as a form of dissemination but they also provide a permanent visual record of the work undertaken and materials that can be used in education programmes. They offer an insight into the work that archaeologists carry out and reach a much larger audience than publications. Of course, practitioners should consider the fact that such documentaries will

Fig. 12.3 The Forensis exhibition at the House of World Cultures in Berlin which exhibited the archaeological work carried out a Semlin in Serbia. (Copyright: Caroline Sturdy Colls)

likely only present a highly distilled account of the research undertaken and the results. Limitations on air-time and a desire to present those elements of the research considered the 'most interesting' will mean that the complexities of the work undertaken will likely not be demonstrated. Television documentaries need to be attractive to a popular audience and cannot include complex technical details or laborious scenes that convey the reality of undertaking most fieldwork activities. Like all forms of media, documentaries are also likely to focus on specific discoveries and build up to a 'big reveal'. The discovery of mass graves, places where killings occurred and well-known structures such as gas chambers is more likely to receive screen time than the discovery of a camp's sewage system, a barrack foundation or a waste pit. This is all understandable given the nature of television, but it may be a source of frustration for archaeologists nonetheless. Archaeologists are unlikely to have editorial control over the final version of a documentary, and, as such, once something is filmed, it has the potential to be used, reconfigured and represented in ways that perhaps the field team did not intend. Of course, archaeologists can present all of the other discoveries that did not make the final edit through other means, but it is likely that the documentary itself will be the most well-known record of the project in question. Case Study 12.2 provides an example of the kinds of situation that may arise as a result of making such a documentary:

Case Study 12.2: Treblinka TV Documentary

In 2013, a documentary film was made about the archaeological fieldwork undertaken at Treblinka in Poland by the author. The documentary was intended to provide a long-lasting record of the discoveries made during fieldwork and raise awareness of the crimes perpetrated by the Nazis. Although Treblinka is a name that is reasonably well known, it appeared that very few people were aware of the crimes perpetrated there and the various ways in which the victims suffered. The documentary included footage of the 2013 field season alongside original witness interviews, images of newly collected Light Detection and Ranging (LiDAR) data, drone survey footage and background information about the historical context of Treblinka. The documentary involved a number of experts from around the world and a number of survivors, some of whom had never spoken of their experiences publicly before. The programme centred on the discovery of the Old Gas Chambers at the extermination camp and three mass graves at the execution site near to the penal labour camp. It was structured so as to build up to the discovery of the chambers and mass graves. The end product was a sensitive documentary that accurately conveyed the extent of Nazi persecution at Treblinka and highlighted the key previously unknown aspects that were discovered during this field season.

   Unfortunately, due to the limitations of airtime, the documentary was not able to include various other discoveries at the sites during this field season or any of the work that had been undertaken on this project during the 6 years prior to the television crew's involvement. This meant that the considerable amount of non-invasive research was not presented which was problematic since it was this work that had influenced the excavation locations and which had allowed much of the revised plan of the site to be created. The non-invasive research had also provided an abundance of other information about the size and nature of many of the features in the camp and so it was not necessary to excavate large test pits. Similarly, the reasons why the graves of Jewish victims could not be excavated (because of Jewish Halacha Law) and why only minimally invasive excavations were permitted in the area of the mass graves at the execution site (see Case Study 4.3) were not explained in detail. Although these elements were explained on the project's web pages and in subsequent publications, some viewers questioned why only small excavations had been carried out. Mostly, however, those expressing these opinions appear to have been Holocaust revisionists (see Sect. 12.6 below). Generally speaking, the documentary has since attracted praise from various quarters. It has won an international award, and the author has received literally hundreds of emails from members of the public by way of thanks for the work. The documentary has been shown in schools, during public lectures and during teacher training sessions.

12.3.6   Internet and Social Media

The role of the Internet and social media should also not be underestimated; in a world where information is exchanged rapidly, the public will likely not want to wait months for fieldwork reports or publications to be produced but will instead expect to access up-to-date information about the progress of research. Some archaeologists working in the field of Holocaust archaeology have responded to this by producing websites and posting fieldwork reports online. This provides a rapid form of dissemination where a wide audience can be reached. Some archaeologists have even gone as far as having a blog outlining the progress of fieldwork on a daily basis (Falstad Prison Camp 2014; Carr 2014). This has the advantage that the public may feel that the project is more accessible, particularly in the absence of any other community archaeology initiatives (Sect. 4.6). However, site security should be considered

when providing live-time information about fieldwork as raising the profile of archaeological work may encourage looting, vandalism and even neo-Nazi or other discriminatory behaviour.

12.3.7   Materials for Educators and Students

Archaeological work has a key role to play in education, both in terms of complementing existing histories and by providing an untapped body of evidence for analysis and discussion. This physical evidence uncovered can offer new insights into the crimes that took place and should facilitate cross-discipline academic engagement. Indeed, archaeological work can provide material for study within other subject areas, such as Jewish studies, history, social studies, geography and politics. Educators and students at all levels should be able to draw on the variety of mediums outlined above. Another advantage of producing a variety of forms of dissemination is that tutors at all levels (from university to school level) will then be able to select suitable materials for their students. Archaeologists should also consider producing tailor-made materials for educators and students, with the assistance of suitably trained experts to ensure that there are as many opportunities as possible for students to challenge popular histories and confront the lesser-known aspects of the Holocaust that have been revealed by archaeological research.

As Holocaust archaeology as a field of study is still in its infancy, its findings have not yet formally been integrated into school-level education. This is of course a considerable undertaking but one which is important to ensure that the events of the Holocaust can be recounted to future generations. In particular, educating children about the Holocaust has relied heavily on survivor testimony and historical accounts to date, thus ensuring it has remained an integral part of school curriculums in most European countries (Holocaust Task Force 2006). However, as the survivors pass away, and younger generations become more desensitised to war and violence, there is a need for new material for study. As Darmamin and Mootz (2006, p. 465) have argued, 'as the Holocaust recedes further into the past, archaeology can provide a new source of information and inspiration'. In addition to the relevance of archaeological data for shaping our understanding of the events themselves, as Huyssen (1994, p. 9) has argued, 'as individuals and societies, we need the past to construct and anchor our identities and to nurture a vision of the future'. Therefore, the material remains of the Holocaust can demonstrate trends and lessons that have the potential to shape approaches to the study of genocide and causes of conflict in the modern world. Far from being viewed as distant and socially removed events that should be addressed like any other period of history, 'the archaeology of the contemporary past has to do justice to the enormous relevance of things in our recent history' (González-Ruibal 2008, p. 252). Holocaust archaeology as a subject area can provide new opportunities to reflect on the past, whilst highlighting issues such as intolerance and racial hatred, something which seems increasingly important given the divisions affecting modern society. As Sir Philip Bailhache (2009) noted in his Holocaust Memorial Day speech, 'we cannot teach people to be heroes. But we can teach children to understand how the bullying and hatred or disdain of minorities, and discrimination against people who are different in some way, are the first steps on the road to Auschwitz'; the physical evidence provided by archaeological surveys provides a more visible (and more difficult to deny) means to achieve this. Additionally, Harrison and Schofield (2010, p. 8) have suggested that archaeological studies of the recent past can have a 'redemptive function'. Therefore, the potential for studies of the material remains of the Holocaust extends to inspiring openness about the events in question, thus hopefully facilitating peace and social cohesion in the future.

Many archaeological projects concerning with Holocaust sites have included educational outreach activities. Various examples of this exist in Germany where finds databases and school visits have formed part of 'political education' programmes, as outlined in Sect. 2.2.3.3 (Theune 2011). Case Study 12.3 provides a further example of educational outreach:

Case Study 12.3: The Holocaust and Education in the UK

As part of a collaboration between the author and the Centre for Holocaust Education at the University College London, training has been provided to teachers in the UK concerning how to present the findings of archaeological research in the classroom (Centre for Holocaust Education 2014). Through a combination of a formal presentation about the findings of the various surveys undertaken and through workshop activities, teachers were encouraged to consider how the physical evidence found might support or challenge historical narratives. They were then asked to consider how this would influence the way that they taught the Holocaust in the classroom and how their pupils might respond to the various material remains they were shown (in the form of photographs). The teachers were also asked to consider the ethical and moral dimensions of Holocaust archaeology and how these might impact upon classroom activities. A lengthy discussion followed concerning how classroom activities might be designed around archaeological findings, and the teachers were then provided with information concerning how to access the materials that they had been shown in the workshop. The very next day, several teachers contacted the author to say that they had already delivered a class about the Holocaust which included information about archaeological surveys.

Sessions have also been provided for students at a variety of schools in the UK. Through an informal presentation and discussion, students were invited to consider what they knew about the Holocaust before being presented with some of the findings of recent archaeological investigations. Many were shocked by the geographic scope of the Holocaust and, in particular, the fact that Nazi camps existed on British soil. At the end of the presentation, students were invited to consider whether they believed the Holocaust was still relevant today and they discussed a number of examples of recent anti-Semitism and racial prejudice. The materials the students were shown consisted mostly of simple photographs, but this proved highly effective in stimulating discussion amongst the group regarding past and present events. It is the intention to develop similar sessions for delivery in other countries in the future as well as educational packs for teachers to allow Holocaust archaeology to be incorporated into the National Curriculum in the UK.

Various archaeological projects have also included public lectures, seminars and community archaeology activities in order to disseminate information to adult learners and members of the public. The example of the Kamp Westerbork Archaeology Project provides an example of best practice in this regard in that every day of the excavations saw some form of public lecture, tour by the archaeologist managing the project or hands-on activities in the form of finds washing (Case Study 4.7). The use of new media should be considered in the future as a means to make the study of the Holocaust more relevant for young people. Whatever form of dissemination is chosen as part of education strategies, it is important that it is appropriate for the intended audience and that it is not dictatorial in nature; materials should instead foster debate concerning the results of archaeological surveys and the ways in which they confirm or challenge existing narratives.

12.3.8   The Arts and Archaeology

Archaeologists should also consider the role of the arts in disseminating their findings. Paintings, drawings, sculptures, models, theatre pieces and other kinds of performances may act as more accessible forms of dissemination. These forms of expression offer novel opportunities for the integration

of scientific and historic findings with the stories of those affected by the events of the Holocaust. They can also provide forums for discussion in ways that will be more appealing and accessible to certain communities. The author is currently engaged in developing a number of initiatives based around the arts and archaeology, and this is an area that it is hoped will receive greater recognition in the future.

12.4 Ethical Considerations

In the same way that undertaking archaeological investigations raises a number of ethical questions because of the political, social, religious and cultural issues surrounding the Holocaust, so too does the dissemination of the information they generate. As with the field methodologies presented throughout this book (Chaps. 4–7), there can be no 'one-size-fits-all' approach to the way in which the history of individual sites is represented. It is vitally important to consider whether the tools that are available are appropriate at the site being examined. The means to establishing this can follow the same model as pre-fieldwork research—background research about the issues surrounding the events being discussed, consultation and liaison with those with a connection to these events, and clear ongoing lines of communication with these individuals and groups as forms of dissemination are developed. Some forms of presentation may be seen as highly effective at one site but may be deemed highly offensive at another depending on a variety of factors, including, but not limited to, the type of site being examined (e.g. former camps, ghettos, massacre sites, cemeteries); perceptions of a site (e.g. as a sacred site, a cemetery, a memorial, a museum, etc.), whether the site is viewed as having been part of the Holocaust or whether it is viewed as an occupation site or as a place connected to war heritage; who the victims were (e.g. civilians or soldiers, Jews, political prisoners, Roma, Sinti, homosexuals, the disabled, etc.); the actions of the perpetrators; the role of bystanders and the opinions of the current local population.

Different ethical issues will also arise depending on whether or not the presentation of results is taking place in a physical sense, for example at a memorial site, a museum or in a virtual environment. If presentations are to take place at a memorial site, then the type of site being examined and the way it is currently presented will be particularly influential when it comes to what forms of presentation are deemed acceptable. For example, if a place is deemed to be a sacred site and/or a cemetery, it is highly unlikely that highly sophisticated in situ digital media will be considered appropriate. The types and experiences of visitors should play an important role in decision making. Where sites have a role to play in mourning and commemoration of victims, on-site forms of media such as headsets for audio tours, apps for virtual tours, the use of QR codes or the streaming of film/audio may be seen as disrespectful; such an approach would turn a memorial site into an open-air museum. In some cases, however, these techniques may be seen as an important part in providing visitors with some form of experience—particularly at those sites where there is little or no physical evidence of surviving above the ground—or they may be used in museums as opposed to on memorial sites themselves. Different forms of media may be essential in order to provide access for specific groups, e.g. the Roma and Sinti who have more of an oral tradition, disabled or elderly people unable to access memorial spaces or any type of visitor when sites remain unmarked or underdeveloped for visitors. These issues must be considered when planning dissemination strategies.

When dealing with digital or virtual representations of sites, a number of ethical challenges present themselves. To what extent should digital reconstruction be used? Is it appropriate to create 3D models of camps, ghettos or other Holocaust sites? To what degree should animation be used and what is it acceptable to show, e.g. places, people, individual buildings, mass graves, skeletal remains? To what extent should data be manipulated/rendered and how much 'artistic license' should be used to present an impression of features or sites that we are not able to characterise fully? These 3D models

and virtual representations will not represent a substitute for victims, their families and those wishing to commemorate the dead, nor should they. These resources should not be used as a substitute for visiting a site, since this will have the effect of pushing places connected to the Holocaust further from public view. However, these tools can raise awareness, educate and increase understanding; ideally, virtual forms of presentation will encourage people to visit sites or at the very least provide them with a more detailed understanding of the nature of the place in question. Because of the potential uses and abuses of archaeology, questions should also be raised regarding what data should be made available online and who should have access to it. The answers to these questions will differ on a case-by-case basis. Archaeologists must be aware of the potential for these issues to arise and address those relevant at the site being examined. Of course with experience, it may be possible to pre-empt many of the likely concerns surrounding the presentation of the results of fieldwork and select methods accordingly. However, in most cases, it will be a case of ongoing consultation and critical reflection in order to ensure that the full impact of the findings of investigations are realised, whilst respecting and accounting for the needs of those who will view them.

Aside from assessing dissemination on a case-by-case basis, the presentation of archaeological results should start from the basis that shock tactics will rarely be appropriate or necessary. Deliberately selecting grotesque images, particularly of human remains, should certainly be avoided on ethical and, sometimes, religious grounds. This approach to dissemination is completely unnecessary as much of the physical evidence of the Holocaust can be equally as emotive and, it is argued, more effective in conveying the extent of the crimes committed. Many deliberately overt displays of this nature exist the world over and many have the opposite effect from how they were originally intended, in that people will often not want to view them at all.

Presenting the different layers of a site's history, as advocated above and in Chap. 11, may present ethical challenges. Byford (2012, p. 21) has argued that it is 'unthinkable' to suggest that places like Dachau or Jasenovac would be modified to include representation of their industrial past. He goes on to state that 'regardless of the events at sites of concentration camps prior to the arrival of Nazis or Ustaša, or after 1945, from the moment the first victims were brought there [Semlin], there is only one historical period worthy of attention and remembrance'. In the past, when attempts have been made to highlight other periods of a site's history, this has been regarded as an attempt to play down the events of the Holocaust. However, to only focus on the Holocaust ignores the complex relationships between different layers of history; for example, Chap. 11 highlighted the influence that the use of sites before the Holocaust had on their nature during this period and how the events that occurred after reflect attitudes towards it. Certainly, the pre- and post-war history of a site cannot simply be ignored, and one of the challenges facing archaeologists is how these histories can be presented without appearing to play down the importance of the Holocaust. Unlike places like Auschwitz-Birkenau, Majdanek, Dachau and Jasenovac, the majority of sites are not preserved or designated as memorials; therefore, many have complex legacies of habitation and reuse. It is also argued that the post-war history of some sites cannot be ignored on the basis that further conflict occurred there and so to focus on the Holocaust alone would create a hierarchy of atrocity where one type of suffering is deemed more worthy of discussion than another. The dangers involved in doing this have already been discussed in Sturdy Colls (2012).

Similarly, a number of ethical issues may arise in the course of marking newly identified or acknowledged sites which centre on the relationships between the past, present and future. For example, a Jewish community in the Ukraine erected a stone on the site of a cemetery to prevent children from playing in the area, whilst plans to create a Holocaust memorial at Semlin in Serbia means that the modern population is gradually being evicted from the former camp buildings. Are these ethical approaches to memorialisation? Is it worse not to memorialise a site or to make it inaccessible to certain groups and individuals in the present? Is it acceptable to have a situation where the ever-present na-

ture of the Holocaust limits growth, progress and, most importantly, reconciliation? Again, these are questions without easy answers but they are ones which archaeologists should consider in the course of their work nonetheless.

12.5 Challenging Historical Narratives

Of course, archaeologists do need to be prepared for situations whereby their findings do not conform to well-established historical narratives and, as such, the hostility and objection that may follow. Just because effective forms of dissemination are created, this does not mean that archaeological results will always be well received, adopted into historical narratives or even acknowledged. Davidson (2012, p. 1) discusses Michaels' view, presented through her novel *Fugitive Pieces,* that 'at the intersection of memory and history, individuals face a moral choice of whether not only to acknowledge history, but to carry history with them, in their memory'. Whether or not people 'carry history with them' following archaeological surveys will be influenced by a number of factors discussed below.

12.5.1 Political Narratives

When deep-rooted official histories exist, such as those outlined in Sect. 3.2, it may be extremely difficult to change popular opinions concerning specific events and places. This will be exacerbated in situations where the commitment to these official histories is a political and/or nationalistic one. In these cases, 'chosen trauma' may be focused upon and reconfigured to suit the particular stories that it is the intention to tell (Volkan 2007). As McGuire (2008, p. 25) argues, sometimes 'national histories…move events, identities, and nation-states forward and backward in time in order to serve the interests of groups in the present'. Often the 'martyrdom' of specific groups will be emphasised by nationalist states, whilst perceived crimes committed by other nations may be emphasised when current political tensions exist. This is evident, for example, in Poland where relations with Russia have been poor since the fall of Communism and where nationalistic movements have been keen to emphasise the suffering and resistance of the Poles more so than other minority groups affected by the Holocaust (Ministry of Foreign Affairs 2008; Polonsky and Michlic 2004). In Romania, the politicisation of the Holocaust was undertaken by Communist regimes in the 1970s and 1980s in order to present the nation as one of the victims and not perpetrators (Cioflâncă 2004). Another good example of this is the ongoing comparisons made between Semlin camp in Serbia and Jasenovac in Croatia, which reflects not only deep-rooted historical rivalries but also modern tensions between the two nation states (Byford 2007). This has resulted in almost a 'yo-yo' effect in terms of the creation of political narratives. Most commonly, Jews are excluded from the narrative of the Holocaust, and the government in Serbia still maintains that only Serbs were killed in the camp—to the extent that anyone who admits that Jews were killed is 'not a Serb' (Anon. pers. comm.). However, as MacDonald (2005) has suggested, at times, when convenient, there has been a departure from the norm, whereby 'two very unlike peoples [Jews and Serbs] became one' through their shared suffering under the Ustaša regime (MacDonald 2005, p. 18). Therefore, it is clear that historical narratives are not static. If the results of archaeological surveys do not confirm to the particular stance being taken by governments and organisations at the time, then they will likely be ignored.

Some narratives have taken a certain form in order to suppress painful aspects of the past, resulting in what McGrattan (2014, p. 390) has called 're-victimization' whereby 'those who suffered violence are re-silenced, re-marginalized, and displaced from political discourse'. Thus, these narratives may result in the (over)representation or exclusion of particular sectors of society. Similarly, the lack of

certain communities (such as Jews, Roma or Sinti) in a given area, and the continued intolerance of these groups in some places, has often resulted in their exclusion both from historical narratives and from symbolic representations of these narratives, e.g. monuments and memorials (Jovanović 2012). This means that not only are these groups not being adequately commemorated but also visitors to such sites are being presented with a diluted history of the place. Whilst archaeological work has the potential to ensure that these suppressed stories are told, this is unlikely to be welcomed where conscious efforts have been made to silence them.

Other narratives have been formed in the 'recovery' phase, in the aftermath of war when it is desirable for a nation state to be perceived as the victor or the victim, as opposed to the defeated party or the perpetrator (McGrattan 2014; Lisle 2007; Bernbeck and Pollack 2007; Novick 1999). In the former Yugoslavia, for example, 'ideological priority was assigned to resistance', thus 'commemorating the sites of suffering and persecution of civilians by the occupiers and their associates was of secondary importance' (Ivankovic 2010, p. 60). In many places, 'survival came before remembrance' (Baker 1988, p. 95) and emphasis was placed on liberation and the rebuilding of communities destroyed (physically and mentally) by war and genocide. The failure to focus on the actions of perpetrators has been observed in the literature. In some cases, this can be assigned to the fear that to do so would lead to exposure of crimes committed or claims of collaboration (Carr 2009; Bunting 2004). In Croatia, for example, there is an attempt to erase the memory and sites of the Second World War where crimes were perpetrated by the Croatian Ustaša. In some cases, this was achieved through a failure to commemorate these events, in others, through the failure to repair and maintain monuments from this period; Bogdanović's memorial in Vukovar being one such example (Baillee 2012). There is also an emphasis on Serbian crimes during the wars of the 1990s, in both narratives and through museums and monuments, in an attempt to overshadow the crimes perpetrated by the Ustaša during the Holocaust period (Macdonald 2005). Interestingly, iconography inherently connected to the Holocaust and direct comparisons between the treatment of victims are used in some places in order to do this. At the Homeland War Museum in Vukovar, for example, a mock concentration camp barrack in a 'Serbian concentration camp' includes metal figures of men crouched on the floor with their hands behind their heads in a room next to one filled with Serbian weapons. In Jedwabne in Poland, as in so many other villages throughout eastern Europe, attempts had been made to suppress the knowledge concerning local collaboration, something which was brought abruptly to the public's attention following the publication of Jan Gross' book *Neighbours* and the subsequent excavation of mass graves in this area (Gross 2001). Archaeological work has the potential to bring to the fore information about the actions of perpetrators, the role of local collaborators and alter perceptions of who the victims actually were to light, and this is likely to be viewed with anger and suspicion if it is contrary to the narratives that have been maintained in the years since the war.

In other cases, it seems that a focus on 'victimhood' has served to somewhat sanitise narratives of the events. This is particularly evident at most memorial sites and museums, where visitors are presented with a black-and-white impression of 'innocent victims' and a dehumanized enemy (Lisle 2007, p. 98). It is perhaps this iconography that has contributed to the notion that Holocaust sites should be seen as sacred (Sect. 3.5) and that the 'inhuman' actions of the perpetrators cannot be readily understood. Archaeology has the potential to present a more 'colourful' narrative of events through the analysis of the complex methods of extermination employed by the Nazis, their attempts to hide the evidence of their crimes and their use of the landscape in order to enact such plans. However, to carry out such an analysis would force many of the uncomfortable notions that have long been suppressed to the fore. Acknowledgement of this by those maintaining official histories may prevent permission for such work from being granted or may well make working conditions difficult. Here, archaeologists can learn a lot from historians who have faced similar problems whilst trying to 'out' previously suppressed issues such as the role of 'ordinary men' and women in extermination and

the plight of otherwise anonymous affected groups (Derevenski 2005; Bunting 2004; Gross 2001; Browning 1993). Further discussion of this issue is included in Sturdy Colls (2012).

Various examples can be cited of where key evidence relating to specific events has been ignored because it would jeopardise official histories. For example, the trial of a Ukrainian war criminal was not reported upon in the media because it 'would undermine the official historical narrative—a narrative that avoided the topic of wartime collaboration and emphasized the brotherhood of the Soviet peoples' (Rudling 2012, p. 44). In Hungary, the role that it is now known that Hungarians played in the deportation of Jews will not be acknowledged on a recently commissioned national memorial in order to maintain the official narrative of Nazi-perpetrated crimes (Euronews 2014).

In some instances, it appears that the lack of desire by specific governments to fully investigate the crimes that took place resulted in national-level narratives being constructed, which were then presented to the general public. These narratives have then been maintained and passed on through generations, making it extremely difficult to challenge them following archaeological work. Case Study 12.4 provides one example:

Case Study 12.4: Challenging Narratives in Alderney, Channel Islands

Following the liberation of Alderney by the British in May 1945, the occupying German forces were held in detention camps on the island whilst an investigation of the crimes perpetrated was carried out. Early investigative reports written by British task forces on the island of Alderney reported that the slave labourers sent to the island during the Nazi occupation were from 27 different countries (PRO WO311/11 and PRO WO311/12). However, later, due to an apparent lack of desire by the British government to investigate the atrocities committed against these slave labourers, it was announced that all of the victims were Russian and the responsibility was passed over to the Russian government (Pantcheff 1981). The Russian government, preoccupied with war crimes investigations elsewhere, failed to carry out an examination of these cases, and historical accounts continued to use the 'umbrella term' 'Russian' to suppress public knowledge concerning the events that took place. These narratives have resulted in a situation whereby the camps on Alderney, in which the labourers were interred, have received little attention and there is little in the way of knowledge concerning the reality of the conditions on the island during the Second World War.

However, archaeological research is providing a much richer narrative of the slave labour programme on the island, as demonstrated through various case studies outlined in this book. It was also the desk-based assessment phase of research that archive material was uncovered that revealed the approaches taken by post-war investigators and the way in which the official history of the occupation came to be formulated. However to date, the official history is still maintained, despite the abundance of evidence that has been uncovered which demonstrates the role that these camps played in the Holocaust. As the archaeological project is ongoing, it is not yet clear whether it will alter popular perceptions in the long term.

Particularly in countries where further conflict occurred after the Holocaust, the failure to investigate crimes of this period may have arisen as a result of a different set of circumstances. In some cases, this may have been due to the political circumstances. There is plenty of evidence for this, particularly in Eastern Europe, where cultural and political shifts continue to allow new historical narratives to be formulated. The state-level adoption of Babi Yar as a national site of mourning and the acknowledgement of the murder of the Jews in the Ukraine after the collapse of Communism could be cited as one such example (Ivanova 2007), whilst the unveiling of a memorial to the Roma victims of the

Holocaust in Germany in 2012 as another (BBC 2012; Fig. 3.5). Some of these shifts have been accompanied by searches for physical evidence, as reflected by the increased number of searches for mass graves of the Holocaust and other massacres throughout the former eastern bloc countries (Desbois 2008; Jankauskas et al. 2005; Wright et al. 2005; Paperno 2001). Thus, new historical narratives may emerge in order to fulfil Vergangenheitsbewältigung (the need to come to terms with the past; Knischewski and Spittler 2007, p. 166). Sites may not be mentioned in historical narratives or may lie in a dilapidated state due to a failure by national or local authorities to see their importance, because knowledge about them was lost immediately after the war as people attempted to 'move on' as it were, or because other issues and conflicts arose that were deemed more important (Sect. 3.3). Shifting generations may be more prepared to discuss painful aspects of the past and acknowledge archaeological results that do not conform to narratives that they had no part in constructing. There will of course be those people who do not feel strongly enough to react publicly either for or against the findings of archaeological surveys. It will be difficult to assess the opinions of these groups and individuals; in some cases, it may be possible that they have simply ignored or not been exposed to the findings, but in others, they may have quietly accepted them.

This discussion has highlighted the complexity of approaches to the creation and presentation of historical narratives surrounding the Holocaust. These issues have important implications for archaeologists studying sites connected to the events. In the first instance, whatever form narratives take, they can (and should) be studied as representations of the cultural memory surrounding the events in question, as highlighted in Chap. 11. Continuing to monitor these narratives after archaeological research has taken place is also worthwhile as a means of defining the impact of this work and because doing so has the potential to reveal further information about societal tensions, political divisions and the process of memory making.

12.5.2   Challenging Witnesses

Witness testimonies may be found in archives, but it should also be remembered that witnesses may still be alive when addressing a recent period of history such as the Holocaust. This makes contemporary archaeology unique by comparison to the study of the more distant past. This fact offers the opportunity to interview people first-hand, thus allowing some of the questions more directly relevant to an analysis of Holocaust landscapes to be asked (Sect. 5.4). However, it should also be borne in mind that archaeological findings may conflict with witness testimonies and this can present new challenges to investigators. This is a trend that has recently been identified in the context of forensic archaeology (Hunter et al. 2013). Witnesses may be adamant that a particular building was situated in a particular location or that it was of a specific size, details which may be disproved by the use of geophysics or the excavation of a particular feature. They may recall the size of mass graves and account for the number of bodies that they believe to be in that grave. In some cases archaeological investigations may prove these accounts to be accurate but in others they may show that the grave was larger or smaller, or that the number of bodies was different. Where the size of a grave is shown to be smaller, this will course likely to result in revisionists suggesting that the witnesses have lied and that crimes were not as severe or did not take place at all (Sect. 12.6). Memorials, often erected based on testimonies of witnesses, may be shown to be inaccurately located or to inaccurately reflect the extent of a feature. This may result in the difficult decision for museum authorities with regard to whether to alter memorial site layouts, thus highlighting the inaccuracies in the witness testimony, or whether to leave them as they are, but in the knowledge that they do not accurately reflect the results of recent investigations. An example is provided in Case Study 12.5.

Case Study 12.5: Re-presenting Treblinka Labour Camp, Poland

A camp was established in Treblinka in June 1941, over a year before the notorious exter-
mination camp was built to the north (Muzeum Walki i Męczeństwa w Treblince 2011). The
camp was initially established as a 'Worker's Education Camp' for Poles, but it was officially
designated as a penal labour camp in November 1941 (DOCUMENT 3311-PS). By the time
the camp was liquidated at the end of July 1944, it is estimated that 20,000 inmates had been
housed there, over half of whom died or were executed. Inmates were subject to harsh working
and living conditions, and many were shot at a nearby execution place (Łukaszkiewicz 1946).
When the camp was abandoned, many of the buildings were demolished but their foundations
remained visible. The locations of many of the camp buildings were marked by wooden plaques
based on witness testimonies and in-field investigation.

   An archaeological survey of the site was initiated in September 2012 in order to record the
visible remains of the camp and to determine whether any further remains existed below the
ground (Sturdy Colls 2013). Analysis of aerial imagery suggested that an area of grassland in
the north-west section of the camp had been incorrectly marked as one of the accommodation
barracks for inmates (Fig. 12.4). The same research suggested that the foundations of another
barrack may survive below the ground in an area of unmarked grassland to the south. If true,
this would mean that many of the other foundations within the camp had been mislabelled.
Geophysical survey was subsequently undertaken and confirmed the presence of the missing
barrack in the unmarked area of grassland. The use of a Geographical Information System (GIS;
Sect. 5.14) to overlay this data, modern mapping and aerial photographs also confirmed that a
barrack had not existed in the area currently marked as the Barrack for Jewish Men. This news
was met with surprise by those familiar with the site who had long believed that the information
boards were correctly positioned.

Challenging witnesses raise a number of interesting ethical questions, and, in some cases, the authori-
ties and the public may be more likely to believe first-hand accounts than the results of archaeologi-
cal surveys. It will rarely be the intention of archaeologists to discredit witnesses (unless of course
accounts are found to be deliberately falsified). Rather, it will be the intention to demonstrate that
archaeological work can supplement and complement witness testimonies, the accuracy of which
will have undoubtedly been influenced by the oppressive situations people found themselves in and
the ability of individuals to recall information about events that occurred decades ago. Archaeologists
should be clear concerning their motivations when presenting their findings; it will rarely be the inten-
tion of archaeologists to discredit witnesses (unless of course accounts are found to be deliberately
falsified). Rather, it will be the intention to demonstrate that archaeological work can supplement and
complement witness testimonies, the accuracy of which will have undoubtedly been influenced by the
oppressive situations people found themselves in and the ability of individuals to recall information
about events that occurred decades ago.

12.5.3   Entering Historical Narratives

In addition to presenting alternative archaeological methodologies, this volume has sought to high-
light the need to move away from the notion that historical sources can, and have, taught us every-
thing there is to know about the Holocaust (Dawidowicz 1990). Archaeological research has the
potential to both complement and supplement existing histories of this period; in some cases, it will
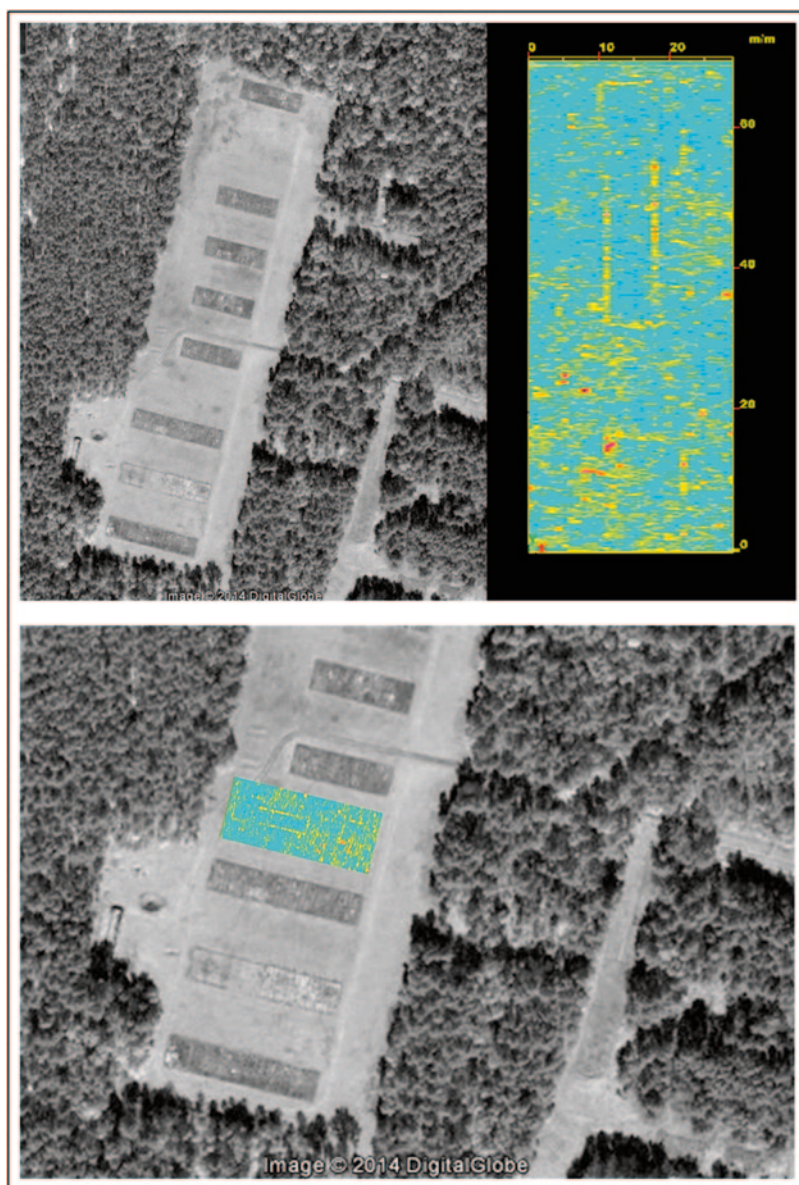
Fig. 12.4 Archaeological survey results from the penal labour camp at Treblinka I which show the incorrect placement of markers and the actual location of one of the inmate barracks. (Copyright: Caroline Sturdy Colls/Google)

act to reaffirm historical accounts, in others, it will reveal information that cannot be derived from documentary evidence; on occasion, it may completely alter historical perception, whilst in other instances, it will add to knowledge about a particular aspect. Whatever the result, it is not conducive for history and archaeology to be viewed as being competing disciplines; each informs the other and this is particularly important for surveys that focus solely on non-invasive methods. As a general trend in archaeology, the dissipating link with history in favour of an emphasis on scientific methods has been noted (Sauer 2004, p. 1). However, particularly when studying conflict, it is imperative that these subject areas unite, drawing on other areas such as conflict studies, forensic investigation, engineering, computing, psychology, geography, social anthropology and a range of other interdisciplinary approaches, to maximise the information that can be derived about past events.

One of the challenges for the future is to ensure that the findings of archaeological projects are acknowledged by historians and that they are written into historical narratives. A survey of current literature suggests that this has not happened very often in the past. Historians continue to rely almost exclusively on documentary source material in their work and barely mentioned the physical evidence uncovered as part of the archaeological surveys. If the latter is mentioned, then it is usually an 'add on' to broader discussions concerning the history of the place. For example, in a recent comprehensive work about Chełmno, the work of archaeologists who have been working at the site for almost 25 years was mentioned only towards the end of the book (Montague 2012). Rather than integrating the findings into the main body of text, so as to strengthen the arguments being made about the nature of extermination and internment, the author mentioned the archaeological results in such a way that it was almost as if they were somehow unconnected to the history of the place. If the significance of archaeological surveys at Holocaust sites is to be fully realised, examinations of the physical evidence need to be viewed on a par with historical sources in terms of their potential to reveal new insights into the events of this period.

12.5.4   Increasing Engagement

It will certainly not be possible to force people to acknowledge the information derived from archaeological surveys or to visit memorial sites which have been modified as a result of this work. There may be many reasons why people do not want to or are unable to engage with sites and resources pertaining to the Holocaust.

A key issue is that, in some cases, sites relating to the Holocaust can be seen as what Price (2005) has termed 'orphan heritage'—that is a construct often resulting from war, where events involving foreign nations occurred in a foreign territory with limited or no involvement of the home nation. The problems with engaging communities in this kind of heritage—to which the modern population may feel little or no connection—have been observed by others engaged in community archaeology (McDavid 2002, 2007; Alleyne 2002). Price (2005, p. 182) cites the example of the First World War battlefields, where aside from the heritage associated with the events where French and Belgian troops fought in their own territories, 'cultural ownership of the rest of the heritage lies with various foreign groups and organisations popular and governmental, originating in Germany; Britain and its former colonies and dominions including India, Australia, Canada, and New Zealand; the USA; the French colonies; Russia; Portugal; and Italy'. Given that the Holocaust largely involved crimes being perpetrated by Nazi Germany in foreign countries against people deported to these places from all over Europe, it can also be seen as a form of 'orphan heritage'. Therefore, archaeologists engaged in Holocaust archaeology should be aware of the challenges that this may pose with regard to interest in the sites being examined and the potential opposition or indifference to their work.

In the first instance, the protection and level of interest in a specific place will be affected by whether or not there is a local population to advocate this. In some areas, there will be a strong sense of local and national responsibility to protect and preserve sites (Atalay 2012). It is at these places that archaeological surveys and the results generated are most likely to be welcomed. In areas where those who experienced the events directly are no longer resident in the areas in question, there may be a lack of local advocacy for preservation and protection, and thus opposition to archaeological work. Because of the large-scale extermination of the Jews during the Holocaust and the subsequent migration of the many people who survived, many of the places where Jews were killed do not have a local Jewish population to ensure that sites are maintained (Fig. 12.5; Council of Europe 2012).

Although there may be international support provided by the Jewish community for the upkeep of Jewish cemeteries, for example, filtering this down to local level can be difficult if the modern population does not feel a responsibility to protect sites. Other reasons include costs, logistics and a

Fig. 12.5 The synagogue in Vukovar which is boarded up as there is no local Jewish community to care for it. (Copyright: Caroline Sturdy Colls)

lack of knowledge about the location of specific camps or graves. Also, in some cases, survivors and their descendants have made conscious decisions not to become involved with the protection of sites, owing to the stress of revisiting the places where they were interred (Brenner 1999) or due to the desire to limit the attention drawn to their religious or cultural group (Fonseca 1995). Certain groups may well have deeply embedded aversions to visiting sites or parts of sites (for an example, see Po-doshen and Hunt 2011). As noted in Sect. 12.3.2, it may be possible to reach these groups with other forms of dissemination, but this may not always be the case. In some areas, it has been observed that local residents, particularly in the immediate post-war period, failed to sympathise with the victims, instead focusing on their own plight as a result of the violence, poor conditions or evacuations that they had to suffer; thus, they too wished to be seen as victims. Similarly, varied jurisdiction of foreign organisations in relation to burials and confusion over who should commemorate victims are trends that can be observed at many Holocaust sites throughout Europe. One such example is the treatment of the graves of Eastern European workers who died as part of the construction of the Atlantic Wall in Western Europe (PRO FO 371/100916).

Where those with a connection to the events are not active, claims of so-called ownership may emerge from other groups and individuals who have a desire to shape perceptions of events. One group that will almost always be influential (and will impact upon archaeological research) is the local community in the vicinity of the site being examined. The diversity between the groups and individuals that make up local communities, and their differing views, were observed by the author during fieldwork on Alderney and at Treblinka. With reference to the former, the current community is made up of descendants and a large number of new residents. Divisions relating to membership and non-membership of certain groups were observed and the differing levels of acceptance of the archaeological work were apparent between groups (Sect. 3.4). The level of interest in the occupation in Alderney also varies considerably within these groups, ranging from those with strong opinions to those who were indifferent. This, in part, ap-pears to stem from whether or not individuals have a familial connection to this period, e.g. whether they or their ancestors experienced these events. At Treblinka, the lack of a local historical group negates the

existence of such divisions. However, the 'local' community remains diverse. Lacking the geographical restriction of Alderney, this community comprises those in the immediate environs of the former camp and those from the wider region. Many in these communities descend from individuals who lived in the vicinity during the Holocaust but some have likely never visited the camp, particularly the largely elderly residents in the surrounding villages. Other people living in the vicinity have been seen to use the site as a leisure facility, whilst a smaller group, mainly from larger towns in the region, is involved with the work of the museum (Sect. 3.4). Given Treblinka's remoteness, the local community do not seem to have shaped on-site interpretation and the site has a reasonably low profile compared to other camps. However, interestingly, a regional newspaper reported that the local community were delighted that archaeological research was taking place when it was first initiated (Tygonik Siedlecki 2010).

Elsewhere, certain modes of dissemination may be ineffective if certain groups do not engage with it. For example, almost all of the Israeli school groups that visit the memorial site at Treblinka do not go to the museum. As such, they are not provided with a great deal of information about the site. These visitors make up the largest visitor group, and so it is unlikely that the new exhibition that is to be created at the museum about the archaeological work will be seen by most people who visit the site. This has been accounted for in this case by developing additional forms of dissemination at the memorial site itself. However, when archaeologists are not directly involved in the planning of such exhibitions or where no plans to modify memorial sites exist after archaeological surveys, large parts of the visitor demographic may still receive out-of-date information.

12.6   Uses and Abuses of Archaeology

Whilst archaeologists may have control over some of the forms of dissemination outlined in this chapter, it is important to acknowledge that, once in the public domain, the results of archaeological projects will be used in a variety of different ways by a variety of different people. Some of these uses will be positive as they will promote the findings to a larger audience and be used to educate people about genocide and racial prejudice. However, some uses will be more like abuses of the work, whereby information generated during archaeological surveys is manipulated, taken out of context or deliberately ignored.

The results of archaeological surveys may be used for political means; one need only examine the way Nazi Germany used archaeology to realize this (Pringle 2006; Arnold 1990). So, rather than being ignored (as per the examples cited in Sect. 12.5.1), archaeological results may be manipulated so as to enhance a particular narrative or stress the suffering of a particular group. Information about discoveries may be warped or taken out of context by the media (as outlined in Sect. 12.3.5), certain objects may be appropriated as symbols of national or local suffering and issues of ownership may arise concerning whether items belong in museums or with the relatives of the owners where these can be identified (e.g. see examples of Dutch victims in Sobibor in Waalan 2013). The failure to uncover remains may also be seen as 'proof' that certain crimes were not perpetrated or that certain groups were not culpable. Whilst uncovering and presenting the physical evidence of the Holocaust has a role to play in combating Holocaust revisionism and denial in all of its forms, it is important to acknowledge that it can also be utilised by those who deny these events. When the number of graves recorded within a survey area is announced, this may be used as 'evidence' that less victims died at the site in question. It will not be acknowledged that the area surveyed represented only a small proportion of a former camp area or a massacre site, and that further graves may exist elsewhere. The fact that a variety of body disposal methods may have been employed, which resulted in the destruction or partial destruction of some remains, will also not be acknowledged. As Wright (2010, p. 103) has argued 'before bodies are found, for example, such revisionists often deny that there are any bodies. When

bodies are found, the numbers are said to be too few to show that a massacre took place. Where the numbers found are adequate to suggest such a massacre, then revisionists argue that the bodies are due to unrelated events—for example are the result of cleaning up the landscape after soldiers were killed in battle'. Therefore, no matter what material archaeologists present, it may be manipulated in denier arguments. There may be many reasons why remains are not located: the restrictions of equipment being used, searching in an incorrect location as guided by historical information, not being able to search the entire site (particularly within the time frame of single field seasons), wartime or post-war damage to the particular features being sought, unsuitable ground conditions, to name but a few. Such factors, when they do impact upon searches, should be clearly noted, although this is still unlikely to prevent those intent on denying the crimes from doing so. It is also very difficult to present all of these complexities when presenting results in the media (Sect. 12.3.5), and this can make archaeologists easy targets for revisionists as outlined in Case Study 12.6.

Case Study 12.6: Holocaust Denial and Treblinka

Following the broadcast of the television documentary about archaeological work at Treblinka, outlined in Case Study 12.2, various claims emerged from Holocaust revisionists that the excavation was a hoax. Various Internet blogs also emerged that attempted to use the contents of the documentary to prove that Treblinka was not a death camp. A counter-documentary has even been produced alongside a series of websites and blogs attempting to discredit the research. In particular, revisionists have focused upon the suggestion in the programme that a Star of David was present on the tiles of the gas chambers. However, the comments made in the programme by the archaeologists were initial reactions to seeing the tiles which were taken out of context. In reality, as soon as the research was undertaken off-site concerning the origins of the tiles, it became apparent that they were manufactured by a Polish company and that the star was in fact not a Star of David at all but rather the company logo. However, due to the short turnaround time between the filming and broadcast, only the initial reaction was present in the documentary and the idea that the tiles possessed the Star of David was seized upon my the media. Once again, this was announced by revisionists as a sign that the excavation was a hoax.

Because earlier work undertaken at the site was not included in the documentary, revisionists have also claimed that no mass graves were found at the extermination camp. According to some deniers, because the excavations failed to find human soap (which was never knowingly produced at Treblinka) and the bodies of all of the hundreds of thousands of people who were reportedly murdered there, this is 'proof' that people were not murdered in the camp. There is no consideration whatsoever of the practicalities involved in fieldwork and the considerable body of evidence that has been found confirming the brutal nature of both the extermination and labour camp is ignored or manipulated further. Revisionists also refer to a GPR survey supposedly undertaken in 2000 by Richard Krege which reportedly found absolutely no signs of disturbed ground at the camp (Irving 2000). The manipulation of material by Holocaust revisionists saturates the Internet, and it now proves difficult for those interested in the history of the camp to locate information about it without encountering denial websites.

Although conveniently ignored by deniers, the archaeological results at Treblinka actually disprove many long-established revisionist theories about the camp. Based on the GPR survey mentioned above, revisionists argue that the ground was not disturbed, but geophysical survey by the author has confirmed the presence of considerable disturbance across the entire former camp area and has resulted in the identification of many camp structures and mass graves. The discovery of the tiles and foundations of the gas chambers definitively disproves denier theories that the site was only a transit camp and confirms witness testimonies that these buildings were

> modelled on bathhouses. In fact, the archaeological evidence has confirmed various witness descriptions which state that 'the floor was covered with orange terracotta tiles' (Krzepicki in Donat 1979, p. 104) and demonstrated how the Nazis' tried to hide the traces of their crimes by demolishing burying the gas chambers under almost a metre of sand. The discovery of human remains and personal belongings of victims attest to the brutality of the camp. Although Holocaust denial cannot be prevented, attempts can be made to combat it by the widespread dissemination of the archaeological results using the variety of methods outlined in Sect. 12.3. By presenting the results of archaeological surveys through education programmes, archaeologists also have a role to play in tackling the prejudices that are at the root of many denial arguments.

Archaeologists may find themselves the subject of personal harassment by those seeking to deny the Holocaust; the Internet in particular has facilitated an increase in such harassment via email, social media or blog sites. Unfortunately, it seems that this kind of activity comes with the territory of researching the Holocaust. As with all of the uses and abuses of results, there is very little that archaeologists can do about such activities other than attempt to counteract them with more forms of dissemination in which the results are presented as originally intended. Ironically, new information and sources of use to archaeologists and historians often come to light as a result of these interactions, given that revisionists are often meticulous in their research activities. Additionally, the reactions of those who seek to deny the crimes perpetrated, who display anti-Semitic behaviour and who express racial prejudices should provide further evidence that the causes and implementation of the Holocaust remain very current issues.

12.7   The Future of Holocaust Archaeology

Wasilly Grossman (2011, p. 165), a journalist who documented the crimes perpetrated by the Nazis, wrote of the Holocaust that 'it is the writer's duty to tell the terrible truth, and it is the reader's civic duty to learn this truth. To turn away, to close one's eyes and walk past is to insult the memory of those who have perished'. On the basis that archaeologists now have a variety of tools at their disposal to examine the physical evidence of the Holocaust, it should be our 'duty' to locate, record and (re-) present this evidence. In many ways, the Holocaust is similar to many other genocides and violent acts in terms of its potential to be investigated archaeologically. Indeed, researchers wishing to examine this period have much to gain by drawing on the lessons learnt in the investigations of other conflicts. Archaeological investigations have the capacity to analyse the causes of landscape formation, build historical narratives and understand the extent and nature of sites, just as for any other period of history. Despite beliefs to the contrary, the remains of the Holocaust do survive. It is not, therefore, a lack of remains that prevents the investigation of sites from this period. The barrier to progress is not a physical one in the truest sense, but one that relates to the variety of issues surrounding these events and to the semantics that have built up around the physical remains, e.g. the belief that the term destroyed should be taken literally to mean that all remains were completely removed. An examination of any other period in history demonstrates that, despite attempts by perpetrators to remove the physical remnants of war and genocide, it is impossible to do so entirely. Methodologically, there is a need to adapt to account for these issues and to promote the results of these studies to a wider audience beyond the archaeological or pedagogical community, thus ensuring that the potential of archaeological research is recognised.

The Holocaust remains a complex and emotive issue, which affected a wide range of people from a variety of different backgrounds. Therefore, whilst the investigation of the physical evidence pertaining to it may be grounded in traditional archaeological thought, methodologies must draw on a variety of disciplines to ensure that approaches to it are uniquely matched with local circumstances. Drawing on the variety of techniques now available to archaeologists, it is now possible to record the evidence of this period in a scientifically robust and respectful fashion. Whilst it is true that many of the methods outlined in this book act as a form of compensation for the sensitivities that surround this period of history, their use actually provides a much richer picture of events.

Looking to the future, archaeologists need to be more proactive in examining Holocaust sites. There is a need to align research concerning the archaeological remains of the Holocaust with that of other periods. It has been demonstrated that, to date, many investigations of the physical remains of this period have been reactive responses to changing circumstances at the site in question (Sect. 2.3). Not only are these reactive responses often accompanied by a sense of urgency, but often archaeologists are not asked to assist. The nature of the remains is such that this period cannot simply be allowed to fall victim to the pressures of commercial archaeology; we should not wait until it is necessary to 'rescue' these sites, but instead they should be approached proactively with a view to examining them fully. Archaeologists and experts from other disciplines should also acknowledge the diverse body of evidence that exists pertaining to this period. It is hoped that this volume has highlighted novel and future avenues of research through an examination of the diverse range of other sites, aside from the main camps, that are associated with the Holocaust. Given the fact that these sites remain as the dominant image of the Holocaust and the fact that detailed post-war surveys almost exclusively focused on them, thousands of smaller camps, ghettos, burial sites (mass graves, cremation pits and cemeteries), prisons, fortifications, execution sites and administrative buildings associated with this period remain unrecorded. It is imperative to recognize the fact that numerous other types of sites exist that have equal, if not greater, potential, in some cases, to reveal information about the past. These sites remain as a testament to the suffering of the victims of the Third Reich, equal in terms of value but different in terms of the unique, unexplored insight into events that they can provide compared to studies of the death camps. It is perhaps in relation to these sites-where very little is likely to remain above ground and where memories may have been lost-that archaeology can provide a source of evidence that is more perceptible than the written word.

Similarly, given that Holocaust archaeology is in its infancy, examinations to date have largely been undertaken in isolation, focusing almost exclusively on single sites. However, there is a need to facilitate inter-site comparison; if this is not possible on the same project, then at the very least, this should take place between individuals and organisations studying this period. Essentially, what is advocated here is that archaeologists move away from simply considering sites as a collection of structures and associated features but begin to recognise their wider landscape context and their interconnectedness with other sites across Europe. Just as the events of the Holocaust transcended political and geographical boundaries, so too should be the analyses of the sites relating to it. At micro level, it has been shown that the immediate environs of a site influenced its form and function, along with the ability of the Nazis to carry out mass killing and internment, and to hide the traces of their crimes. At macro level, cross-site comparison will enable wider trends to be derived concerning the similarities and differences between crimes perpetrated in different nations and regions. As more work is undertaken by archaeologists in the future, it is hoped that these types of analyses will provide a greater awareness of the stories of the victims, the actions of the perpetrators and the complex body of evidence that remains within the European Holocaust landscape.

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