

Cambridge University Press

978-0-521-86587-6 - The Scientific Investigation of Mass Graves: Towards Protocols and Standard Operating Procedures

Margaret Cox, Ambika Flavel, Ian Hanson, Joanna Laver and Roland Wessling

Excerpt

[More information](#)

1

Introduction and context

Margaret Cox, Ambika Flavel, and Ian Hanson

1.1 Rationale

The development of this book exploring the establishment of protocols and standard operating procedures (SOPs) contributes towards the creation of an adopted suite of methodologies and helps ensure a consistent and appropriate quality of process and practice. The protocols and SOPs discussed here are specifically developed for application to the scientific investigation of crime scenes, particularly to sites of the deposition of multiple human remains (e.g. mass graves¹ and surface and other deposition sites). They are designed to guide standards and approaches that can be used to satisfy both judicial and humanitarian needs resulting from the multilayered legacies of such heinous crimes as genocidal massacres, war crimes, crimes against humanity, and mass murder. Much that is contained herein can also be applied or adapted to the recovery and identification of individuals who have died as a consequence of recently occurring mass fatalities, whether they relate to terrorist attacks (e.g. 9/11, the Bali bombings), natural disasters (e.g. the Asian tsunami), or other disasters (e.g., aeroplane or train crashes, fires in enclosed spaces).

It is our intention that by adopting and applying these protocols and the underpinning SOPs, any team of experienced and qualified forensic scientists and scene of crime examiners (SCEs) can investigate an alleged incident to an acceptable and agreed standard. Our aim is to establish processes and methodologies that are of a high enough standard to satisfy the evidentiary requirements of any court or judicial process, whether international, national, or local, and to satisfy the humanitarian

¹ These protocols are primarily intended for use on mass grave or deposition sites containing the human remains of a number of deceased and the associated scene of crime. The process and principles are, however, equally applicable for small or single graves and, in such cases, some aspects will be less complex than for larger graves (e.g., deposits survey and data processing).

Cambridge University Press

978-0-521-86587-6 - The Scientific Investigation of Mass Graves: Towards Protocols and Standard Operating Procedures

Margaret Cox, Ambika Flavel, Ian Hanson, Joanna Laver and Roland Wessling

Excerpt

[More information](#)

need to locate and identify the dead and to be able to reconstruct histories and past events. These procedures are designed to be used flexibly so that they can be applied, as appropriate, to meet specific project aims and objectives, constraints and contexts.

We believe that the highest possible standards should pertain, dependent upon given circumstances, regardless of whether a site is investigated for judicial or humanitarian purposes. There are several reasons why the use of recognised procedures is becoming increasingly necessary. History has shown that global, regional, and national priorities and circumstances can change, reflecting international and more local pressures for justice and the identification of the Missing. Such circumstances might be the revocation of amnesty laws and the democratisation of formerly repressed peoples, as has occurred in parts of Central America and Southeast Asia (e.g., Cambodia). The nature of the investigation of interment sites, such as mass graves, involves processes that are destructive and usually cannot be repeated. Evidence can only be collected once, and it is rare to be able to reexamine physical evidence in later years. Consequently, there is a moral imperative to undertake such work to the highest possible standards particularly with the variety of uses that the evidence may be put to over time (see section 1.6). If we fail to do so, we do both the dead and the living victims of such crimes a serious disservice and further disempower them.

The adoption of common approaches will ensure the maximum recovery of safe evidence, regardless of whether the end use is initially perceived as judicial or humanitarian. It is a truism that the fundamental right to the best evidence and all available evidence is one that must be common to all, whether the goal is the safe trial and conviction of a perpetrator, the repatriation of the dead to their families and communities, or both. The families of missing persons have an absolute right to the establishment of an integrated approach to all aspects of investigation, including the establishment of the identity of the deceased. Without personal closure and a sense of justice in post-conflict scenarios, effective reconciliation, healing, or rebuilding of society cannot be achieved. The expectations of families and communities of the Missing for positive identifications will further increase as technologies such as DNA analysis are seen as being increasingly available. Because the same evidence can serve two distinct but entwined goals, scientists and SCEs have a dual responsibility to achieve the highest possible standard of scientific recovery, analysis, reporting, and evidentiary process and management.

For simplicity, we have written this book as if all applications of the protocols and SOPs are for judicial contexts. Thus, once any material has been recovered and is deemed to be of relevance to the case in question, it is seized as evidence and becomes an exhibit that is handled in a specific way to ensure its scientific and evidentiary integrity and the chain of custody. Although the terminology for such processes will be different in a humanitarian context, the same rigorous handling of recovered materials is required to ensure that the Missing are properly identified and that their possessions are correctly assigned to them.

1.2 Scope, background planning, and flexibility

The phases of activity and detailed methodological approaches set out in this book describe components of a complex scientific and scene of crime management process undertaken to fulfil judicial and humanitarian objectives within a broader investigation. These protocols and SOPs are concerned with the recovery and analysis of physical and contextual evidence from scenes of crime, which will include mass graves and other deposition sites. It must, of course, be remembered that recovery and analysis are components of a wider investigation and humanitarian process and that we work on such cases with numerous other specialists from a variety of organisations and agencies. The development of the comprehensive range of protocols and SOPs required for this work has been complex and iterative and remains so. The protocols and SOPs presented here will undoubtedly be subject to change as methodologies and new technologies develop and our collective experience grows.

This book is fundamentally concerned with scene of crime and evidence management, scene of crime location, evidence recovery, recording and analysis, ante-mortem and postmortem data collection, and associated data and reports. With such a complex operation, there are requirements for organisational structures and processes outside the scientific and legal aspects of an investigation. These pertain to such issues as wider mission planning, logistics, security, and development. Individual organisations undertaking such work will have their own internal procedures for these and other aspects that they must consider when embarking on forensic investigations. These protocols and SOPs sit alongside individual organisations' procedures that must also include a code of conduct and ethical guidance (see 1.9 for an example), health and safety procedures and mitigation strategies (see Chapter 3), report structures and equipment lists (see Tables 2-1 and 2-2 in Chapter 2), and data handling and management. Recommended recording forms for use with these protocols and SOPs are provided on the accompanying CD. An introduction to the forms and guidance in how to use them is situated in 1.11.

More specifically, matters that fall outside the remit of these protocols and SOPs that must be considered before any deployment and provided for include pre-deployment reconnaissance (authority/community liaison, climate and weather analysis) and feasibility and strategy studies (security requirements, scale, time, costs, resources, equipment, access, infrastructure). They must include administrative functions, overall project management, project support and development (including financial, technical, and resource support), and travel to the mission area. It is imperative to understand and comply with requirements determined by the legal status of the site and relevant authorities. Personnel matters such as medical prerequisites, contact and next-of-kin information, contracts, and insurance must also be addressed. Security requirements are extremely important and include security provisions for personnel and equipment on site, in accommodations, off

site, and in transit. Operational risk assessment, local community impact assessment, team organisation (and, if appropriate, rotation), staff induction, staff welfare, communication needs, and emergency medical requirements are all essential issues. Equipment and logistical procurement is vitally important to get right, as is the involvement of and cooperation with other agencies, community liaison, provision for the repatriation of human remains, and death certification. Any organisation adopting these protocols and SOPs will need to consider and provide for these and other areas as appropriate.

What we have endeavoured to achieve with this book is to present the basis of the Inforce Foundation protocols (Inforce, 2004a) and SOPs (Inforce, 2004b) and embed that text within an overall framework of discussion, specifically of areas that are complex, undergoing development, or are particularly contentious. Although aspects of this text can be readily adopted and used by forensic organisations involved in recovering the dead from atrocity crimes and, indeed, in mass fatality response contexts, much of the text is designed to provoke thought and debate around the process. Some areas are discussed in more detail than others, particularly where research around the specifics is still ongoing or required. If an SOP is needed for a specific area of the process, we bring it to the reader's attention. In essence, our challenge is significant. We aim to set out protocols and SOPs that will be useful to other organisations, and set those two key elements within a context of discussion and considerations that are based on our collective experience and that will provoke debate and consideration.

Section I of this book (Chapter 2) covers the protocols, and the three components of the scientific process are described. These comprise Phase 1, Site Assessment; Phase 2, Excavation and Recovery; and Phase 3, The Mortuary. These components are designed as a sequence of processes occurring within the timeline of a mission, leading from one to the next. However, the three phases may be carried out independently if appropriate and may also be carried out concurrently (i.e., Phase 3 can commence once Phase 2 has begun) or in parallel (e.g., a prolonged operation with several grave sites). In this chapter, each phase of activity is preceded by a phase summary and includes flowcharts showing process and personnel typically involved. If the organisation undertaking the investigation of the mass grave site(s) is not dealing with other aspects of the investigation (e.g., witness interviews, antemortem data collection), then it is imperative that the scientists collecting biological information (postmortem data) work closely with the other agencies involved (Keough et al., 2004). This is essential to ensure that the resultant data sets are compatible and that appropriate and relevant ante- and postmortem data are collected (see Chapter 10).

It should be understood that within the phases of activity described, not all elements may be necessary or appropriate in all cases and, in some, even more elements may need to be added. What is described is a full range of scientific and scene of crime/evidential procedures that are commonly conducted during mass

Cambridge University Press

978-0-521-86587-6 - The Scientific Investigation of Mass Graves: Towards Protocols and Standard Operating Procedures

Margaret Cox, Ambika Flavel, Ian Hanson, Joanna Laver and Roland Wessling

Excerpt

[More information](#)

grave excavations. These procedures have a proven track record of being successful in recovering safe and sound evidence and for use in judicial and humanitarian processes. They are drawn on what has been learned during international experience over the past fifteen or more years and were trialled, with subsequent modification, in both the field and the mortuary, in simulation exercises undertaken in 2005 and 2006 and in investigations in Iraq and Cyprus from 2003 to 2005.

The protocols are process driven and set out the organisational and management requirements for successful forensic missions. By establishing a process to be followed or adapted as appropriate, we are providing a framework that is particularly useful when dealing with complex teams comprising personnel from various backgrounds in terms of experience, education, and scientific and crime scene management traditions and with various cultural traditions and expectations. The design of the protocols and SOPs eases the reader from a description of what should be done (i.e., the protocols) to a more complex discussion of the detailed methodologies involved (i.e., the SOPs). Further to this, it provides several levels of guidance. For those with significant levels of skills and experience, reference to the protocols alone may be adequate, while the less experienced or less well trained should refer to both. The protocols can act as an essential guide for those with less experience, while a recent graduate will need to absorb not only the guide to process that the protocols provide but also the detailed methodological information in the SOPs (Section II). The experienced practitioner in a specific field who lacks direct experience of this context may use the protocols as an *aide memoire* and guide to the less familiar working environment of the mass grave or temporary mortuary. Those with extensive forensic experience can use this text to provide a process and methodological framework that facilitates effective quality assurance and the ability to undertake work that follows acknowledged and high standards, an ever-increasing requirement of the judiciary.

When following the protocols, it must be remembered that usually the scale of all aspects of resource requirements (e.g., personnel, logistics, financial, equipment, time) is larger and more complex for Phase 2 than for Phase 1. The aims and objectives of an investigation, as well as deployment of available resources, will be crucial in determining what can be achieved. The key to employing these protocols and SOPs successfully is flexibility and basing decisions on available site or case information. For example, the investigation on behalf of a nongovernment organisation (NGO) of twenty accurately located single graves known to contain skeletonised human remains may mean that several elements of the assessment and mortuary phases might be omitted (e.g., geophysical survey or refrigeration of all human remains), and that the scale of equipment and personnel deployed might be limited. Alternatively, an investigation funded by an organisation such as the United Nations (UN) or the International Criminal Court (ICC) of a mass grave suspected to contain 400 people in a waterlogged environment may require the full

range of analyses using all three phases and a full complement of field and mortuary staff. Flexibility around the basic sequence of process is essential.

1.3 Structure of this book

This book is divided into three sections of unequal length. This first chapter provides a brief introduction to the historical, political, and legal context within which this work is framed. This is followed by Section I, which contains the protocols set out in Chapter 2. Section II presents the SOPs. This section, with its detail and discussion underpinning the process defined within the protocols, is much more complex and much longer. It comprises eight chapters. Chapter 3 deals with health and safety in both the field and the mortuary and is set within the United Kingdom's (UK's) legal framework. Because the standards underpinning this framework are relatively high when compared to some parts of the world, it is unlikely to prove insufficient for the legal needs of a team practising internationally. However, as with all areas of activity, specific enquiry as to the legal and regulatory requirements must be made for all aspects of an operation wherever they may take place. As with Chapter 3, Chapter 4 – with its discussion of scene of crime processes and management – underpins the following chapters. Again, as for health and safety, the legal framework within which this process and detail is embedded is that of the UK. As stated previously, the standards imposed in the UK are high enough and detailed enough to satisfy the needs of most judicial authorities, but all due care and diligence is necessary to ensure that they are appropriate for the proposed context and application. The roles of the photographer and data entry clerk are also described here.

Following the generic principles and methodologies of the former two chapters that apply to both field and mortuary, and those that are specifically focussed, the attention moves first to the field. Chapter 5 provides the detailed methodologies to be applied to the search and location of sites, for site assessment and confirmation, and for excavation and recovery. Chapter 6 moves to the mortuary, providing detail for the pathologist, anatomical pathology technologist, and radiographer. Chapter 7 focuses on those methods employed by forensic anthropologists examining hard tissues. It deals with the preliminary processes and basic anthropological criteria. Chapter 8 provides anthropologists with detailed methodologies designed to provide estimates that can contribute to the determination of a presumptive identification. The forensic sciences most commonly deployed during mass grave investigations are discussed in Chapter 9, and there we include DNA analysis, forensic odontology, entomology, and environmental analysis. Chapter 10 explores issues surrounding interaction with communities and the collection of antemortem data. Various appendices, including equipment lists and legislation are generally found at the end of the chapters to which they pertain. As stated previously, all terminology used is, for the sake of consistency, that which would be applied in an investigation undertaken for judicial purposes.

1.4 Historical context

The deliberate taking of another individual's life is a crime that is described variously – for example, today as murder or homicide, or more specifically as patricide or infanticide. It is a crime that seems to have been part of human behaviour from our earliest days, and its longevity is evidenced by reference to the stories of Cain and Abel and Lemech as described in the Bible in Genesis (4: 1–15, 19–24), by Joshua's conquest of the town of Ai (Joshua 8: 2–25), the killing of Apsu by Ea in the Babylonian *Enuma Elish* (Speiser, 1969), and the murder of Agamemnon by Clytemnestra in Aeschylus's *Oresteia*. These texts describe killings that reflect rivalry, self-defence, and revenge, acts that may or may not be impulsive or based on deliberation and premeditation. Physical evidence of murder and violent death predates evidence from literary sources and suggests that such acts have been with us since the beginning of our species (Thorpe, 2003). Indeed, we are not the only species to deliberately kill other members of our group as attested by the behaviour of chimpanzees and by many animal species where males kill the young fathered by their predecessor. The deliberate mass murder of groups of individuals would appear to have an equally ancient pedigree (Roper, 1969) and is generally considered to reflect deliberation and contemplative thinking (Bhalla, 1968). Mass murder, whether it is what we would today call war crimes, genocidal massacres, ethnic cleansing, or crimes against humanity, generally reflects aspects of 'identity,' a complex concept in its own right. Detailed reviews of this topic can be found in Chalk and Jonassohn (1990) and Charny (1999).

One of the earliest examples of what appears to be mass murder that has been interpreted as Neolithic genocide² was excavated in Talheim (Bavaria, now south-west Germany). An excavation of a settlement revealed a single large pit containing thirty-four contorted skeletons, seemingly killed by stone axes and cudgels. They comprised men, women, and children, but no infants. This has been interpreted as most of the population of a village and may indicate that this community was largely slaughtered by those aiming to take control of the village and its resources, and assimilate the infants into their group (Taylor, 1996). An explicit account of what we would call genocide, occurring in the twelfth century B.C., can be found in the Bible in Numbers (31: 7–12, 15–18). This account is replete with descriptions of slaughter, ideological justification, the transfer of children to the group of the perpetrator, and the enslavement of those not murdered (Smith, 2001). Accepting that modern perspectives of the past are subjective, telling us as much of the present as the past, and that many writers in history were equally as subjective, we find descriptions of events that we would describe as genocide, war crimes, or crimes against humanity in historical sources that date from the Bronze Age to the present day. The wholesale massacre of the population of Jerusalem by the Romans in A.D. 70,

² The term *genocide* was coined by Raphael Lemkin (1944). It is a relatively new word for an ancient and persistent pattern of behaviour.

described by Josephus, and again during the First Crusade (A.D. 1099) would today be classified as war crimes. An account by William of Malmesbury, written around A.D. 1120, describes how Britons were forced from Exeter in the reign of the Saxon King Athelstan (A.D. 895–939) in an episode of what would today be described as ethnic cleansing. This was clearly a political act that was part of a strategy to form a single English kingdom (Mynors, 1998).

These few examples serve to illustrate that human behaviour, in this case, mass murder, has not altered through time, but that how mass murder is defined and perceived has. Despite the longevity of such crimes, it was not until the British plans (in 1919) for a trial to investigate the alleged Armenian genocide that the international community began to formally object to such behaviour – in some instances. The phrase ‘never again’ was used following the Holocaust, but subsequent events have clearly shown that this concept only applies to specific peoples and specific contexts; persecuted peoples such as those in Cambodia and Rwanda were clearly not included and neither, apparently, are those in many areas of Africa and Asia today. However, in the twenty-first century, ever-evolving and developing international legal and other responses to atrocity crimes clearly demonstrate that we are now less willing to accept such behaviour and grant impunity to those perpetrating such crimes. It is in the context of the current movement to formulate and regulate international responses to both prevent and prosecute atrocity crimes that we present this text.

The term *genocide* was coined to describe the Holocaust, which has become emblematic of the term (Goldstone and Fritz, 2002). In reality, however, the Holocaust was just the tip of an iceberg that was the shame of the twentieth and now the twenty-first century. The scale and frequency of such crimes in the long-term past is immeasurable, but it has been estimated that the *democide* (genocide and mass murder) of the twentieth century alone witnessed the unlawful death of in excess of 170 million people, mostly civilians (Rummel, 1997). Notable genocides, war crimes, and crimes against humanity from the past century include the extermination of the Herero people of southwest Africa by German colonists in 1904³; the alleged genocide of more than a million Armenians in Turkey in 1915 (Rittner et al., 2002); of millions of Jews, Roma (200,000–500,000), Sinti, and Slavs by the Nazi regime from 1939 to 1945 (Brearley, 2001); and more than a million Cambodians by the Khmer Rouge in the late 1970s. The 1960s witnessed the slaughter of members of post-1960s revolutionary movements (Doretto and Fondebrider, 2001) in Central and South America, and the 1990s saw genocidal massacre in the Balkans and Sierra Leone. Astonishingly, it seems that Communist regimes may well have murdered about 148 million civilians – with Mao responsible for some 77 million between 1923 and 1987 and almost 62 million dying in the Soviet Union between 1917 and 1987, leaving Hitler’s regime far behind with 21 million between 1933 and 1945 (R. J.

³ According to the UN Whitaker Commission in 1985, this was one of the first genocides of the twentieth century (Rittner et al., 2002).

Rummel, personal communication, 28 November 2005). This places Stalin's well-known comment that while 'one death is a tragedy a million is but a statistic' into a hideous reality. Perhaps the most shameful and avoidable of all such recent events was in 1994 with the 100 days of genocide in Rwanda. The sequence of lies, deceit, complacency, and neglect that lead to the murder of 1 million Tutsis and moderate Hutus was paradoxically facilitated by both the actions and the lack of intervention of the Western powers and the UN (Melvern, 2000, 2004).

In the twenty-first century, innocent civilians continue to die in Liberia, Cote D'Ivoire, the Democratic Republic of the Congo, and the Darfur region of Sudan, and in politically inspired 'disappearances' elsewhere. For examples, visit the websites of Amnesty International, Human Rights Watch, Genocide Watch, and the Campaign to End Genocide. Other geographical areas of concern include Burundi, Angola, Algeria, Nigeria, Colombia, North Korea, Indonesia, Kashmir, Sri Lanka, Myanmar, Afghanistan, Chechnya, and Israel/Palestine. The international community often labels countries where such atrocities occur as 'failed states' and the conflicts 'tribal' or 'civil war' (e.g., Rwanda) (Melvern, 2004). By doing so, they avoid their responsibility to intervene inherent under such mechanisms as the Genocide Convention, which require appropriate action to be taken upon recognition that genocide is occurring. Today, globalisation and the extended reach of terror networks are forcing many states with previous isolationist tendencies to recognise their international responsibilities. Self-interest is creating a climate where solutions are being sought and interventions made, although not all of them either timely or appropriate (e.g., Iraq). Where previously there was a culture of impunity, there is now a consensus that applying a rigorous legal process acts in the interest of justice (Cox, 2003). The continued development of forensic archaeology, anthropology, crime scene management, and other forensic sciences in the investigation of such atrocities is set within this dynamic and thought-provoking context.

1.5 Semantics

The politics of the definition of such crimes as genocide is itself a complex and controversial topic (see Roth, 2002). Equally complex, the terminology used in cases of mass murder is often only understood by those with a background in international criminal law. This is indeed an unfortunate situation because those most often reporting on atrocities committed around the world⁴ are frequently journalists or aid workers, and they are generally not trained or well enough informed to be able to interpret accurately what they are witnessing. Similarly, deciding what is and what is not a mass grave is complex and has not been defined to international agreement.

⁴ It is often the reports of journalists, human rights observers, and aid workers that determine international awareness and responses. In Rwanda, in particular, the descriptions of the genocide as tribal conflict by journalists was particularly not helpful and was exploited by those politicians wanting to avoid an intervention (Melvern, 2000).

Mass grave is a term widely employed in the media and elsewhere, often without any clear understanding or broader contextual definition. For the purpose of this text, this term merits discussion and previous academic definitions are worth reviewing here. Skinner (1987) suggested that a mass grave should contain at least six bodies that are tightly packed and indiscriminately placed, while Mant (1987) described a mass grave as one in which two bodies were in contact with each other. Haglund (2002) rejected both, saying that all graves are different and should not be subject to oversimplifying descriptions, but should instead be defined by the number of deceased that they contain. Jessee and Skinner (2005) considered that graves containing multiple dead from armed conflict or mass fatalities are not mass graves, and, by doing so, they imbue a mass grave with the characteristic or intent of concealment and the unlawful taking of life and clandestine burial. What is clear is that mass graves (i.e., features containing multiple deceased) can have a wide variety of characteristics and can result from many different contexts, some being criminal in nature and some ranging from practical solutions to crises. An example of the former might be the place of concealment of victims of atrocity crimes and the latter a mass grave containing victims of a pandemic or natural disaster. It is also clear that the public and media use the term with a wider meaning, and narrowing its definition to a focus on unlawful actions will not gain acceptance. Consequently, a necessarily simple definition is that a mass grave is a demonstrable place of deliberate disposal of multiple dead within the same grave structure. It is our view that the term cannot be applied meaningfully without additional contextual definition.

Popular culture has also played a role in the use and abuse of some legal and other terminologies (Cox, 2001a) in forensic applications. The media have constructed a variety of terminology to describe regimes that kill their own civilian populations and the particular nature of their actions. These range from ‘death squads’ in Brazil, Peru, and Central America; to ‘scorched land or earth policies’ in El Salvador and Guatemala; and to ‘famine as a weapon of war’ in Mengistu’s Ethiopia and the Sudan, where some consider politicide to be occurring (Committee on Conscience, 2001). ‘Forced disappearances of persons’ are often applied to crimes occurring in Central and South America (Doretti and Fondebrider, 2001). Although the use of such terminology can characterise obvious particularities of some crimes, legal definitions also exist and are important because they define the frameworks within which forensic scientists often work and within which scene of crime scene officers almost always work (Cox, 2001b).

Demonstrating the evolving concept of crime and contemporary perceptions of its seriousness, mass murder enacted for reasons of group identity was not labelled ‘genocide’ until the mid-twentieth century. *Genocide* is a term that was coined by Raphael Lemkin in 1944⁵ and is today much misused in the media,

⁵ Lemkin’s (1944) book, *Axis Rule in Occupied Europe: Laws of Occupation, Analysis of Government, Proposals for Redress*, was the first published description of genocide. Lemkin coined the term *genocide* to describe the destruction of essential foundations of the life of national groups, with the aim of annihilating the groups themselves (Rittner et al., 2002).