

## Book Review of Forensic Archaeology: Multidisciplinary Perspectives

Kimberlee Sue Moran and Claire L. Gold (editors)

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Kimberlee Sue Moran and Claire L. Gold explore the underrepresented field of forensic archaeology in criminal investigations. They assembled a diverse group of scholars to compile a theoretical and methodological framework for forensic archaeology and its practical implementation in law enforcement and government agencies. *Forensic Archaeology: Multidisciplinary Perspectives* expunges the outdated notion that archaeology is only applicable to past societies and exemplifies the usefulness of this discipline within contemporary situations.

Though costly, *Forensic Archaeology: Multidisciplinary Perspectives* is a valuable resource to educate readers about this distinct discipline that applies to crime scene investigation. The authors split the book into four different parts—theoretical frameworks, forensic archaeological contexts, multi-disciplinary techniques and methods, and case studies. The volume is well-organized, introducing the fundamental foundation of forensic archaeology as a discipline to begin with, before navigating into the procedures and practical implications. Additionally, the contextual outline of the material within each chapter allows for clear synopsis of the information. Each chapter includes an introduction, subtitles for the body of the text, a conclusion, and the references cited.

Minor edits to the volume can significantly increase the readability and understanding of ideas across the various narratives presented within the book. For example, at the beginning of Chapter 4 (p. 43), Kimberlee Sue Moran writes that “erroneous fingerprint identification by the FBI during the Madrid bombing investigation... coupled with the highly publicized embarrassments of the OJ Simpson trial had called the credibility of forensic science into question”. The quote was about a report by the National Research Council titled *Strengthening Forensic Science in the United States: A Path Forward*. However, these statements assume the audience has read that paper or has an adequate understanding of these two global phenomena. The missing context is that police arrested and imprisoned the wrong person for the Madrid bombing investigation based on fingerprint analysis. In the OJ Simpson case, there were accusations of missing blood, chain of custody issues with the evidence, and improper crime scene documentation. All this information culminates in supporting a further statement that “there were systemic failures across all forensic disciplines” (p. 43). Elaborating on the specific issues related to forensics in each of these two example cases (the Madrid bombing and OJ Simpson) would provide a stronger base argument for

the author. It gives context to the particular details in the Madrid bombing and the OJ Simpson case that allow the reader to fully grasp why “standards and best practices” were implemented into forensic science (p. 44). Especially for younger readers who are not familiar with the criminal cases, it gives clarity and depth to the authors position.

Furthermore, the Station Nightclub fire in presented in two different chapters—in Chapter 5, “The Human Side of Forensic Archaeology,” and in Chapter 18, “Looking Back: 10 Years After ‘the Station’ Nightclub fire, West Warwick, Rhode Island.” Chapter 5 uses the Station Nightclub fire as a case study to exemplify the role of archaeologists and anthropologists in the grieving processes of the living who lost loved ones in the fire. Not only was the Forensic Archaeology Recovery (FAR) team instrumental in evidence collection, but they also served as informal ethnographers who listened to stories of the dead told by visitors who frequented the memorial site (the location of the accident). One of the team members of FAR that the author mentions in the chapter is Richard Gould. He is the contributor who wrote Chapter 18. Gould discusses the Station Fire through the practices used to extract personal items of the deceased and evidence collection related to the fire. The chapter focuses on the practical implications of the theory and methods related to forensic archaeology in this case study. Chapters 5 and 18 thus exemplify two critical contributions that forensic archaeology can have in contemporary crimes. However, Moran and Gold’s decision to place the same case study into two different parts of the book is somewhat difficult for the reader as the information from Chapter 18 then appears somewhat redundant. It may have been more beneficial to have merged the data into one case study chapter that could address the broad importance of forensic archaeology in this one case.

Moran and Gold’s edited volume thoroughly and accurately discusses specialized techniques archaeologists can bring to criminology (e.g., taphonomy, stratigraphy, palynology, 3D laser scanning, etc.). While many of these techniques are extensively explained, two are mentioned but not elaborated on in-depth. The first one is the use of zooarchaeological practices in forensic archaeology. Forensic anthropologists have extensive knowledge of human osteology. Unfortunately, it assumes that all forensic anthropologists have experience distinguishing between small fragmented faunal remains versus human remains. Having an archaeologist and a forensic anthropologist allows for in-field collaboration, reducing time and increas-

ing the accuracy of human remains identification. For example, brown bears (*Ursus arctos*) have similar hand and foot morphology to humans. Brown bears do have minute morphological differences, including “a greater number of sesamoids,” “semilunar shaped sesamoids,” and a more pronounced “calcaneal tuberosity” (Dogaroiu et al. 2012). A scientific background in zooarchaeology, where most have previous experience working directly with faunal remains at sites, can significantly reduce time and money spent on osteological analysis. If these were attributed instead to human variation, there would be legal implications for law enforcement. It is reiterated across *Forensic Archaeology: Multidisciplinary Perspectives* that time and money are scarce resources in criminology. Having a forensic archaeologist in the field can help save wasted energy spent on misidentified homicide cases.

Zooarchaeologists can also analyze scavenger-induced alteration beyond the displacement of remains across the landscape. Analyses of “bite marks can aid forensic scientists, investigators, [and] police specialist search officers... in the identification and interpretation of scavengers, the condition and deposition of a set of remains, and the assessment of trauma” (Young et al. 2015). Scavenger-induced alteration is evident on fleshed and skeletonized remains. Identifying animal versus human-made modifications to a decedent is essential when developing a criminal case within homicide investigations. Zooarchaeologists who are adept at identifying post-mortem modifications can save law enforcement time and money in the analysis. These individuals can collaboratively work with forensic anthropologists in decedent cases and potentially serve as expert witnesses in trials. Including zooarchaeology significantly expands the breadth of the methodology applicable to forensic cases. It supports the central argument by Moran and Gold that forensic archaeology is a distinct and valuable discipline in criminology.

The second methodology that Moran and Gold could have expanded in this volume is Geographic Information Systems (GIS) technology. While a few of the chapters gloss over the use of GIS in the case studies (e.g., Chapters 8 and 17) and one chapter discusses the role of 3D laser scanning on vandalized archaeological sites (Chapter 14), there is no section devoted to the theory and methods around GIS in crimes. Archaeologists use LiDAR and ground-penetrating radars to locate sites without physically excavating into the ground. These methods help save time, money, and physical labor and helps with the accuracy of excavating a place by providing a visual guide to what lies below the earth’s surface. In this case, an archaeologist’s experience with GIS technology can be highly influential in crime scene investigation. In forensic cases, perpetrators might intentionally hide weapons, contraband, explosives, or deceased individuals behind concrete, brick, walls, or soil (Ruffell et al. 2014). While Chapter 14 covers the use of 3D laser scanning in connection to crimes associated with archaeological sites, it does not directly link to the chapters of the other contributors to the edited volume. Including the use of LiDAR and ground-penetrating radar in connection with crimes

related to the general public would draw upon the general theme of the edited volume. Using the example of 3D laser scanning on a case exclusively dealing with archaeology fails to fully elaborate on the usefulness of this technology within the broader application of forensics. Zooarchaeology and GIS are two robust methods that forensic archaeology can use to bolster its applicability in criminology.

Despite these minor suggestions for improvements, the editors have created a wonderfully applicable book that is informative for anyone interested in forensic sciences. *Forensic Archaeology: Multidisciplinary Perspectives* contains jargon that anthropologists and the general public can understand. The case studies illuminate the theoretical position that each contributor posits in their chapter. It allows the reader to internalize the abstract theories and how they practically apply to real-world scenarios. Not all of these case studies showed where forensic archaeology helped solve a case. Moran and Gold’s decision to include these failed case studies presents a mature and realistic application of forensic archaeology. For example, in Chapter 7, Michael Hochrein provides an admission that he was wrong about the location of a homicide victim (pp. 96–97). Acknowledging and representing these mistakes propels forensic archaeology into a standard of professionalism for future generations. Visual development of forensic archaeology is established within these stories, but it is supplemented by the pictorial images throughout the volume. Various photos are in a number of the chapters (e.g., Figures 8.13, 11. 4, and 14.1) and these enhance the comprehension of the information within the body of the text. The images depict stratigraphic layers, crime scene photos, equipment used, and more, which help to represent the methods used by forensic archaeologists visually. Through pictures and case studies, the authors convey the discipline’s theoretical, methodological, and emotional aspects fully.

Moran and Gold compiled a diverse array of contributors for this publication. A majority of them are from the United States (Vaughn Bryant, Melissa Connor, Richard Gould, David Griffel, Emily Hammerl, William Hawkins, Michael Hochrein, Tate Jones, Dana Kollmann, Martin McAllister, Ann Mires, Kimberlee Moran, James Moriarty, Sharon Moses, Larry Murphy, Brian Paulsen, Karl Reinhard, Randi Scott, and Ryan Seidemann). Three contributors are from the United Kingdom (Anna Chaussée, Karl Harrison, and Susan White), one from Canada (Derek Congram), and one from Nigeria (John Obafunwa). While each of the authors provides valuable information for those unfamiliar with forensic archaeology, there is little representation from non-Western societies (e.g., non-North American or European). The reason for primarily Western contributors is not stated within the volume. It could be from similar laws, judicial orders, or criminal justice practices across North America and Europe, along with rapid technological advancements within these two regions. However, it fails to acknowledge that crimes (especially ones that involve a decedent) are committed across the globe, and every country has a specialized workforce to solve these social injustices. The archaeological methods, theories, and practices

outlined in this publication are applicable in any region. It would be intriguing to include narratives of scholars from Asia, South America, and more from Africa. All three of these world regions have diverse and unique ecosystems of flora and fauna that can impact criminal investigations. Including case studies from these geographic locations or elucidating forensic archaeological methods used in these regions would diversify the applicability of this discipline. Employing diverse authorship creates international collaboration, thus producing a global multidisciplinary approach that correlates with the title *'Multidisciplinary Perspectives'* (insinuating the use of archaeological methods in forensic cases).

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