

Research: some observations on the application of inference resources in archaeology and criminology

Abstract

In this brief paper, I address theoretical and epistemological perspectives on research in specific fields of knowledge, such as historical archaeology. Within these themes, I propose an approach to a research problem and discuss some possibilities that arise from the implementation of certain resources. Furthermore, I connect the 19th-century evidentiary paradigm with the studies of criminology and archaeology. Both disciplines seek clues and evidence; the latter, in particular, with the archaeology of battlefields, which are nothing more and nothing less than large crime scenes. Finally, I offer some reflections.

Keywords: epistemology, archaeology and criminology, “crime scene”

Volume 13 Issue 4 - 2025

Mariano Sergio Ramos

Mariano Sergio Ramos, Postgraduate Professor, Department of Social Sciences, National University of Luján (UNLu), Argentina

Correspondence: Mariano Sergio Ramos, Postgraduate Professor, Department of Social Sciences, National University of Luján (UNLu), Faculty of Philosophy and Letters, University of Buenos Aires (UBA), Director of ProArHEP, Department of Social Sciences, National University of Luján (UNLu), Member of CEAH, Faculty of Humanities and Arts, National University of Rosario (UNR), Argentina, Tel 054-011-58910207

Received: November 17, 2025 | **Published:** December 3, 2025

Introduction

The evidential paradigm and its influences

During the last quarter of the 19th century, forensic science and archaeology followed relatively similar investigative procedures, those referenced in the evidentiary paradigm generated by Sigmund Freud, Giovanni Morelli and Arthur Conan Doyle.¹⁻³ All of them had academic training in medicine and based their work on criteria of medical symptomatology, within the framework of 19th-century positivism. How did archaeology and forensic science inspire each other? Some related questions are considered, for example, in the publication entitled *Investigación de la escena del crimen*.

“Scene assessment allows for the development of a plan to coordinate the identification, collection, and preservation of physical evidence and the identification of witnesses.”⁴

Every crime—like every human activity—is committed in a specific and particular space.⁵⁻¹¹ In a contemporary crime scene, there were perpetrators; in the past, our ancestors were also perpetrators. They are no longer here; neither are they. The Spanish archaeologist González Ruibal¹⁵ said that archaeologists lament having only objects in their excavations, since human beings—and their hominid ancestors—are no longer there. Detectives also lament the absence of the perpetrators of a crime; but, like archaeologists, they must answer the questions that arise when faced with the static materiality they encounter at the crime scene. The cited manual adds:

“Walking the scene provides the investigator(s) in charge with an overview of the entire scene. The walkthrough offers the first opportunity to identify valuable and/or fragile evidence, and to determine the initial investigative procedures leading to a systematic examination and documentation of the scene.”¹⁴

Theoretical and epistemological perspectives of research

In the late 1990s, from our role as academic professionals in Archaeology, we presented the project entitled “Interdisciplinary Research on the Battle of Vuelta de Obligado” (UNLu/SO/235) at the Universidad Nacional de Luján. At that time, there were no archaeological studies on battlefields in Argentina. The theoretical

perspective of the project then placed it within the field of Historical Archaeology,¹³⁻¹⁷ a field that is now more developed.¹⁸⁻²¹

A few years before the presentation of the first Argentine project on a battlefield, two American archaeologists²² proposed three possibilities for the study of historical sites.²³⁻²⁵ They considered that historical archaeology could deal with: 1. the study of a period, 2. a method of investigation, and 3. the study of the Modern World.

Taking these approaches into account, we oriented our studies from epistemological perspectives; that is, we considered historical archaeology as an opportunity to address a research problem. This was in line with what we began to argue between 1999 at the Guaminí Conference in the Province of Buenos Aires^{13,15} during the Second National Congress of Argentine Historical Archaeology in Río Grande, Tierra del Fuego.¹⁵ During those years, we clarified this reasoning and, currently, we have given greater precision to the concept; thus, the

“Historical archaeology is the field of science that addresses problems of the human past located in times considered as historical and that can use for its resolution, at a minimum, information from the archaeological record and written documents. The data that come mainly, although not exclusively, from the composition of the archaeological record and from direct and indirect documentary sources, can be convergent and oriented to answer the same question.”²¹

This is an epistemological perspective, focused exclusively not on collateral issues such as the existence or non-existence of written documents, or the perspective of a particular period, or the view of the heterogeneous and imprecise modern world outside of self-proclaimed Western Europe or “the West.” None of those conceptions were satisfactory, since they did not capture the core of the issue. That core lay in the formulation of the problem or the research questions. That was the focus where we had to place our perspective, and that is what we aimed for from the beginning.^{14,15} It is also worth recalling that several years ago the American archaeologist Lewis Binford pointed out:

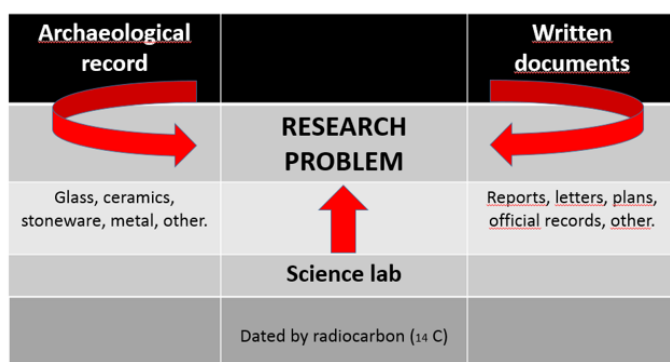
“We have, therefore, three important fields of research to develop: the study of contemporary peoples, the creation of experimental situations that allow us to control the causes in

order to study the effects, and the use of historical documents of different kinds, all of which are fields of research that contemporary archaeology is beginning to develop in a significant way.”²⁶

All these avenues of research—and currently, several more—by having more than one source of information, could become resources that allow us to refine methods of inference. Consequently, I believe that historical archaeology is an opportunity to refine the methods or logics that lead us to propose certain deductions and interpretations regarding a particular problem from the past.

The research problem and some possibilities

Let us then turn to the treatment of a particular research problem where we can observe how data from different sources of information function. In a simple outline, and faced with the problem of determining the chronology of a historical site, our perspective would work as follows:



In summary, the research problem or question is posed for a specific site supposedly located in “historical times.” Several sources of information are used, providing convergent data that, from different perspectives, answer the question. The data are compared with each other. From this, three possibilities can arise:

- I. That they coincide or are quite similar;
- II. That they contradict each other; and
- III. That one of these sources of information contributes something new, previously unconsidered.

It is also possible that each of these sources may not contain the necessary information, since existence and content are two different things. That is, a source may have “gaps” in this sense and, moreover, may not be truthful or reliable; for example, a written document generated by a particular political sector that is biased.²⁰ Regarding the archaeological record of a site considered historical, it may occur that there is:

- I. A lack of suitable material or insufficient samples to be dated by ¹⁴C and
- II. An absence or scarcity of industrial materials (glass, ceramics, stoneware, metal) that could provide an approximate chronology.

Reflections and some conclusions

All scientific research within the field of so-called historical archaeology, to be considered as such, must have:

- I. Theoretical and epistemological perspectives;
- II. A specific approach to a research problem; and

III. Certain possibilities that arise after the implementation of specific resources.

These observations inform our perspective on any type of problem we investigate. They also highlight the limitations of each of the sources of information or objects of analysis that we study and analyze during the course of this type of research.

Information is used following specific research procedures. On the one hand, the context in which it was generated is evaluated,²⁰ as well as its veracity and reliability.^{27–29} For data to be considered evidence—something irrefutable—it must meet the criteria of authenticity, reliability, relevance, and sufficiency. On the other hand, information obtained through different means is compared, and finally, a comprehensive synthesis is performed in relation to a problem and a historical event. Archaeology and Criminology can apply similar procedures to a “crime scene” from both the past and the present.

Acknowledgements

None.

Conflicts of interest

The author declares there is no conflict of interest.

References

1. Ginzburg C. *Roots of an evidential paradigm*. Crisis of reason. Einaudi. Turin. 1979. p. 158–209.
2. Carandini A. *Stories on earth*. In *Manual of archaeological excavations*. 1st ed. Criticism/Archaeology. Grijalbo Mondadori. Barcelona. 1997.
3. Ramírez Cortés JA. The birth of the indicatory paradigm between science and its deadlocks: Freud and the investigative exercise based on the reading of clues. *Tópicos*. 2020;40:132–153.
4. *Crime Scene Investigation 2013*. Law Enforcement Guide. 2013.
5. Dix J, Ernst MF. *Handbook for Death Scene Investigators*. USA: CRC Press; 1999.
6. *Death Scene Archaeology: Field Methods in the Location, Recovery, and Interpretation of Human Remains from Outdoor Contexts*. Tenth Annual Forensic Archaeology Short Course sponsored by the Mercyhurst Archaeological Institute, Mercyhurst College, Erie, Pennsylvania. 2001. p. 21–26.
7. Wade C, Trozzi Y. *Handbook of Forensic Services (revised 2003)*. An FBI Laboratory Publication Federal Bureau of Investigation Quantico, Virginia. 2003.
8. Hochrein M. *A Bibliography Related to Crime Scene Interpretation with Emphases in Geotaphonomic and Forensic Archaeological Field Techniques*. United States, Department of Justice, Federal Bureau of Investigation, FBI Print Shop, Washington, D.C. 2004.
9. Demirci S, Dogan KH. *Death Scene Investigation from the Viewpoint of Forensic Medicine Expert*. 2011. p. 396.
10. Guzmán C. *Criminalistics manual*. Julio Faira C, Editor. B of F Editorial. Montevideo. 2011.
11. Alay I Rodríguez JC. Forensic evidence of poaching activities in terrestrial archaeology. *International Forensic Sciences Gazette*. 2017;22:10–37.
12. González Ruibal A. Towards another archeology: ten proposals. *Complutum*. 2012;23(2):103–116.
13. Ramos M. *The Archeology of historical sites and an opinion*. Roa Marta, Editor. In *Proceedings of the II Conference on Regional Archeology and History*. In *Summaries*: Guaminí. 1999. pp. 17.

14. Ramos M. *Something more than the archeology of historical sites. An opinion*. SEK International University Yearbook. 2000;5:61-75.
15. Ramos M. The research process in the so-called Historical Archaeology. In: *Argentine Historical Archeology*. Proceedings of the National Congress of Historical Archeology. Corregidor Publishing House. Buenos Aires. 2003. p. 645–658.
16. Rocchietti A. Historical Archaeology: problems, records and borders. *Magazine of the School of Anthropology*. 2003a;8:171–180.
17. Rocchietti A. 2003b. *Archaeological formations with associated historical documentation: the social investigation of the archaeological record*. Argentine Historical Archeology. Proceedings of the I National Congress of Historical Archeology. 2003b. pp. 659–666.
18. Landa C, Ciarlo N. Historical archaeology. Specificities of the field and study problems in Argentina. *Department of Anthropological Sciences*. 2016;3:96–120.
19. Rocchietti A. Archeology in contemporary times. Latin American Social Archeology and its epistemological challenge. *Theory and Practice of Latin American Historical Archeology Magazine*. 2018;7:9–15.
20. Rocchietti A. Historical archaeology: research program and epistemological dimensions. *Theory and Practice of Latin American Historical Archeology Magazine*. 2019;8:9–22.
21. Ramos M. 2024. Historical Archaeology: A Resource for Polishing Inference Methods in Archaeology. *Theory and Practice of Latin American Historical Archeology Magazine*. 2024;20:45–71.
22. Orser Ch Jr, Brian Fagan. *Historical Archaeology*. Harper Collins College Publishers. New York. 1995.
23. Orser Charles. *A Historical Archaeology of the Modern World*. Plenum Press. New York and London. 1996.
24. Orser Charles. *Introduction to Historical Archeology*. Friends Association of the National Institute of Anthropology and Latin American Thought (AINA). Translation Zarankin A. Buenos Aires. 2000.
25. Orser, Ch. Jr. 2007. The promise of an archaeology of the modern world in South America, with special reference to Argentina. *Revista De Arqueología Histórica Argentina Y Latinoamericana*. 2007;1:11–28.
26. Binford L. In *Pursuit of the Past. Decoding the Archaeological Record*. Thames and Hudson. New York. 1983.
27. Ramos M. *One of 'the Archaeologies': that of Conflict or 'violence'. Theoretical and methodological aspects. The case of the Paraná War*. In Proceedings of the V National Congress of Historical Archeology. Spanish Academic Editorial, Eduardo Rodríguez Leirado and Daniel Schávelzon. Saarbrücken. 2012;2, pp. 539–570.
28. Garrido Genovés V, Morales Quintero L. *Treatise on Forensic Criminology Volume I. Forensic criminology and the criminological report*. Coordinator Mexican Edition by Morales Quintero L. Mexico. 2018.
29. Ginzburg C. *Myths, emblems and indications: morphology and history*. 1st ed. Prometheus. Buenos Aires. 1999.