Reconstructing Inquiry: A Pragmatist Perspective on the Logic of Archaeological Knowledge

Reconstruir la investigación: Una perspectiva pragmatista sobre la lógica del conocimiento arqueológico

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Abstract

This article develops a semiotics of archaeological inquiry grounded in the classical American pragmatism of Peirce and Dewey. It examines how knowledge about the past is constructed and validated, focusing on inquiry as a goal-oriented, self-corrective process structured by epistemic norms and contextual conditions. A comparative analysis of archaeological proposals explicitly associated with pragmatism, read against Peirce's and Dewey's principles, identifies a central divergence: these proposals tend to underdevelop the inferential logic and self-corrective character of scientific inquiry. The article formulates principles for reconstructing that logic by reintegrating abduction and the triadic relation among sign, object, and interpretant.

Keywords

Archaeological inference, archaeological pragmatism, logic of inquiry, self-corrective inquiry, semiotics of inquiry.

Resumen

Este artículo desarrolla una semiótica de la investigación arqueológica fundada en el pragmatismo norteamericano de Peirce y Dewey, para examinar cómo se construye y valida el conocimiento sobre el pasado. La investigación se entiende como un proceso orientado a fines y autocorrectivo, estructurado por normas epistémicas y condiciones contextuales. Un análisis comparativo de propuestas vinculadas con el pragmatismo, a la luz de los principios de Peirce y Dewey, identifica una divergencia central: tienden a desarrollar insuficientemente su lógica inferencial y su carácter autocorrectivo. Se formulan principios para reconstruir esa lógica reintegrando la abducción y la relación triádica signo-objeto-interpretante.

Palabras clave

Inferencia arqueológica, investigación autocorrectiva, lógica de la investigación; pragmatismo arqueológico, semiótica de la investigación.

Introduction

This article proposes an approach referred to as the semiotics of archaeological inquiry, grounded in classical American pragmatism. It offers a metatheoretical contribution that examines how knowledge about the past is produced within the framework of scientific inquiry in archaeology. The perspective developed here raises questions that often fall outside mainstream philosophy of science, which tends to focus primarily on the justification of already established knowledge (Del Razo, 2024). The philosophy of archaeology, for example, has addressed explanation, the use of evidence, ideals of objectivity, relativist challenges, and key concepts such as social theory and culture (Wylie, 2007). Yet these issues are commonly treated under the heading of "archaeological theory", evaluating knowledge of the past as a finished product rather than examining the processes through which it is produced.

The semiotics of archaeological inquiry also differs from theories that incorporate principles of Peircean semiotics and from other archaeosemiotic approaches focused primarily on the meaning of material culture. In this context, pragmatism is adopted not as a general label for recent theoretical trends, but as a framework for developing an argument about the nature of inquiry and the dynamics of its processes. While some archaeologists working from semiotic perspectives focus on interpreting archaeological objects —by considering their functions, adaptations, or long-term behaviors, or by emphasizing symbolic meanings and connections to social identities (Preucel & Bauer, 2001)— this article addresses a different question: the nature of empirical inquiry in archaeology. Accordingly, the emphasis is placed on inquiry as a goal-directed activity (Laudan, 1997; Rescher, 2020) and as a dynamic, controlled process (Dewey, 2022; Guillaumin, 2023; Del Razo, 2024). Applying

semiotics to archaeological inquiry helps clarify how archaeologists articulate beliefs in order to formulate propositions about the past that advance understanding. The guiding question, then, is: what does archaeological inquiry consist of, and what kind of knowledge about the past can it generate?

It is essential to distinguish between the logic of empirical inquiry and the question concerning the nature of scientific knowledge. As Guillaumin (2022) points out, the main difference is that inquiry is an activity, whereas knowledge is a fact or a condition of a certain kind. From this perspective, the logic of empirical inquiry into the past poses different problems from those involved in reflecting on the nature of archaeological knowledge, because it concerns a developing process. Speaking of scientific inquiry into the past refers to the act of investigating past events —that is, answering the question "what happened here?"— whereas speaking of knowledge of the past refers to the characteristics of a given body of understanding.

In this article, I distinguish between classical American pragmatism, as represented by C. S. Peirce and J. Dewey, and a set of archaeological proposals that explicitly identify themselves with pragmatism. The selection of authors examined here is therefore not guided by chronological criteria, but by the degree to which their work articulates a self-conscious pragmatist orientation within archaeological theory. I analyze ideas formulated as interpretive principles that, even when they do not explicitly conceive of inquiry as a goal-oriented practice, nonetheless suggest strategies and norms that can be reconstructed from a pragmatist standpoint (see Del Razo, 2024). I argue that these proposals represent alternative developments in relation to postprocessual archaeology: in some cases, they converge with Peirce's and Dewey's accounts of inquiry; in others, they clearly diverge from them.

A historical dimension must nevertheless be underscored. The pragmatist-oriented proposals examined in this article emerged in response to the so-called "theory wars" between processual and postprocessual archaeologists (Preucel & Mrozowski, 2010; see also Harris & Cipolla, 2017). This is partly because the notion of "archaeological theory" was placed at the center of a metatheoretical

tradition that often neglects other practical activities directed toward producing knowledge about the past. These debates opposed theories grounded in positivist philosophy and naïve empiricism to postmodern perspectives that affirmed the cognitive role of the subject. Some pragmatist approaches abandoned those empiricist projects without proposing a more coherent and integrative form of empiricism capable of accounting for the actual processes of inquiry (see Laudan, 1997; Rescher, 1978, 2020; Guillaumin, 2023).

A second issue concerns a reception of American pragmatism narrowly focused on the consequences of scientific theories, which can obscure its cognitive and methodological resources for reconstructing inquiry as a controlled process organized into phases. When those resources remain in the background, attempts to formulate a semiotics of archaeological inquiry may become subordinated to a normativity presented as "inclusive". As Nola and Irzik (2006) argue, constructivism, multiculturalism, and postmodern epistemologies conflate science's internal elements —laws, theories, and data— with external factors such as institutions or funding, reducing science to subjective constructions and relations of power. The incorporation of such assumptions without sufficient qualification, I contend, can hinder the development of a semiotics of archaeological inquiry by displacing its logical and inferential dimension in favor of commitments that are not tied to constraints internal to inquiry itself.

In this article, I adopt a mediating stance. I begin by presenting ideas developed within explicitly pragmatist-oriented approaches in archaeology. I then compare their proposals with the accounts of inquiry developed by Peirce and Dewey in order to clarify substantial differences concerning the constitutive elements of archaeological inquiry. Finally, I formulate a set of principles aimed at achieving a more integrated understanding of the semiotics of archaeological inquiry.

❖ The Manifesto for a Pragmatic Archaeology

Until relatively recently, archaeology and the philosophy of archaeology devoted only limited attention to pragmatism in their theoretical and metatheoretical reflections. Although several decades had passed since the publication of the classical texts of American pragmatism (Peirce, James, and Dewey), the discipline maintained only a modest engagement with this tradition. Today, however, pragmatism is increasingly regarded as an important resource because it offers a valuable perspective for understanding the semiotic nature of archaeological inquiry and its relation to reconstructing the past. Renewed interest in Peirce began to gain sustained momentum during the 1980s. In 1985, C. F. and V. L. Gaffney organized a session of the *Theoretical Archaeology Group* in Sheffield, which resulted in the publication of *Pragmatic Archaeology: Theory in Crisis?* (1987). They argued that theoretical debates had divided the discipline between theory-driven approaches and practice-oriented ones, while expressing concern over the proliferation of "isms" generated by disputes between processual and postprocessual positions. Their objective was to connect theoretical approaches with practical problems in order to assess the extent to which pragmatism could provide a fruitful orientation for archaeology (Preucel & Bauer, 2001).

In this section, I examine several of the ideas developed in *Pragmatic Archaeology: Theory in Crisis?*, a volume frequently regarded as one of the archaeological works most closely aligned with Peircean pragmatism. I begin with the chapter "Pragmatism: A Working Philosophy", which emphasizes the practical utility of concepts in archaeological interpretation in accordance with Peirce's pragmatic maxim (CP 5.388-410).[1] C. F. Gaffney treats concepts not as static entities but as instruments whose meaning depends on how they are

1 References to C. S. Peirce's *Collected Papers* are abbreviated as CP, followed by the volume number and paragraph number, separated by a point. Thus, CP 5.388 refers to volume 5, paragraph 388, rather than page 388. The volumes cited in this article are listed individually in the references.

applied to problematic situations, and derives from this a requirement of conceptual flexibility and adaptation to changing circumstances, against doctrinal rigidity (1987). His orientation of practical procedures toward the resolution of problematic situations is the first idea of importance here for the semiotics of archaeological inquiry, and it can be pressed further than he takes it. In Peircean terms, belief constitutes a satisfactory state that guides action, whereas doubt marks a problem requiring resolution; the transition from doubt to settled belief is precisely what Peirce calls inquiry (CP 5.371-374), whose purpose is to make coherent and effective action possible (CP 5.375).

C. F. Gaffney treats theories as effective instruments for addressing concrete problems in archaeological knowledge, and holds that they should be assessed not only for their logical coherence, but also for their practical explanatory utility with respect to past phenomena (1987:11–12). The claim is consistent with C. S. Peirce's pragmatic maxim, according to which the significance of a concept depends on its practical effects (CP 5.388), and it can be given a stricter formulation than C. F. Gaffney offers. Internal coherence is not sufficient: a proposition must also be subjected to empirical scrutiny (CP 5.371–374). Theories acquire meaning insofar as they explain specific phenomena and remain open to new findings, which connects them with inquiry as a continuous process of investigation and self-correction (CP 5.384). In this sense, a hypothesis is warranted insofar as it proves effective in understanding the past.

In the interpretive domain, C. F. Gaffney links the notion of context closely to experience. When an archaeological object is examined, it must be approached from multiple perspectives and within different contexts; the question, for him, is not which description is more valid in absolute terms, but which criteria support each interpretation and how those criteria enable the formulation of successful conjectures (1987: 12). The requirement can be restated in stronger terms: scientific method is guided by evidence (CP 5.384), so that what matters is not merely internal coherence, but the efficacy of an interpretation when confronted with facts. Validation through successful conjectures then corresponds to the requirement

that a hypothesis demonstrate its utility when tested in practice (CP 5.371-374). Experience, on this account, connects reasoning with empirical reality and continually drives inquiry forward, functioning not only as an empirical basis, but also as a stimulus for the development of reasonableness through a self-corrective process (CP 5.371-374).

Another idea in C. F. Gaffney concerns the precise definition of the parameters that delimit interpretive contexts in archaeology (1987: 12-13). This operation has significant cognitive implications, since it helps prevent confusion between elements belonging to different contexts. In the terms of the present analysis, such parameterization delimits the interpretive scope of a hypothesis through the deliberate selection of methodological rules, theoretical assumptions, and technical requirements. Claims of this kind about experience and context are fundamental to a realist approach such as C. S. Peirce's, and they carry a consequence that C. F. Gaffney does not draw. If meaning depends on the cultural, technical, and experiential contexts in which it arises (Dewey, 1985), then parameterization cannot be reduced to a neutral technical operation: it constitutes a logical and historical instance in which intellectual habits, instrumental conditions, and theoretical backgrounds converge.

The notion of context is also addressed from a pragmatist perspective in "Can We Have a Pragmatic Integrated Archaeology?". R. Hingley holds that the researcher's predispositions, prior knowledge, and conceptual framework shape archaeological interpretation (1987: 89), and proposes a contextualist interpretive process in which models are constructed from higher-order social structures down to specific material entities. The strategy seeks to integrate social context into archaeological interpretation, but it does so at a cost: reducing the morphological approach to an arbitrary imposition oversimplifies the complexity of archaeological inquiry. Methodological tools evolve according to the requirements of each phase and can be adapted through interaction with data (Dewey, 2022: 175-177), and their application reflects the conditions under which a given problematic situation emerges.

What this account leaves undeveloped is inquiry as a process that transforms indeterminate situations into determinate ones, a central idea in pragmatic logic (Dewey, 2022: 177). Context, on that conception, constitutes a dynamic environment in which elements are integrated through successive analyses, and integrating theory and evidence requires acknowledging the specific conditions under which each interpretation is produced. Emphasizing the controlled transformation of problematic situations makes it possible to understand archaeological interpretation as a dynamic process in which ideas are continually revised through critical analysis and sustained interaction with empirical data.

The chapter "A Manifesto for Pragmatic Archaeology" proposes four central principles for a pragmatist archaeology. R. M. Yorston, C. F. Gaffney and V. L. Gaffney give experience a central place and treat error as part of the learning process (1987: 107-108). Inquiry does indeed advance through gradual and corrective control involving errors, revisions, and adjustments (Guillaumin, 2022): identifying, revising, and correcting errors constitutes the process through which beliefs become stabilized and models achieve a closer fit with the data. Dependence on context implies, in turn, that archaeology does not produce definitive answers, but requires continual reassessment in light of new empirical situations.

Yorston and his colleagues present theory as a guiding principle that organizes and lends coherence to the interpretation of data. The formulation invites a more exact rendering in Peircean terms, where a guiding principle is a general rule of inference derived from habit, making possible the transition from doubt to settled belief (CP 5.358-387; 5.370). Treating theories as guiding principles, so understood, means conceiving them as general inferential rules that orient interpretation and anticipate how inquiry should proceed in the face of new findings; such rules function as flexible instruments adapted to specific contexts and are continually revised in light of their practical utility (Del Razo, 2024).

Finally, a humanist perspective emphasizes the human dimension of archaeology: recovering the human dimensions of the societies and artifacts under study prevents interpretations from becoming

detached abstractions removed from lived human experience. Here their position and mine converge, and archaeology is understood as an interpretive practice in which investigators assume cognitive responsibilities with respect to truth, coherence, and shared intelligibility. Across the three proposals examined in this section, the notion of context functions as a regulative principle: it delimits the relevance of data, guides the formulation of hypotheses, and establishes criteria for their validation. Although the differences among them are notable, their pragmatist background allows them to be treated as modulations of the same principle: inquiry never takes place in abstraction, but always under conditions that determine which problems can be raised and which solutions can be regarded as acceptable.

❖ Semiotic Trends: Structuralism, Logicism, and Hermeneutics

One of the most reflective —yet rarely discussed— contributions to archaeological semiotics is "Semiotic Trends in Archaeology" by J.-C. Gardin (1992). Despite its theoretical depth and the clarity with which it examines the epistemological implications of semiotic approaches in archaeology, the article has received little sustained attention in the specialized literature. Most references to it are merely incidental and do not engage substantively with either its arguments or their implications for a theory of archaeological interpretation. The text analyzes and criticizes three semiotic approaches that shaped debates in Anglophone archaeology before attempting to integrate them by identifying the principles they share. A common feature of these approaches is their concern with problems of interpretation, especially the forms of reasoning employed to reconstruct past societies from material remains. Accordingly, it distinguishes three principal perspectives: projects inspired by Saussurean structural linguistics; approaches associated with the semiotic logic of C. S. Peirce and C. W. Morris; and positions close to hermeneutics, such as those developed by I. Hodder during the 1980s (1982, 1986; Howard, 1982; Del Razo, 2024: 13).

The first trend, associated with structuralist archaeological projects, drew upon linguistic semiology and relied on *ad hoc* sign systems to describe the constitutive elements of archaeological assemblages. These systems —type A projects— are commonly presented as "codes" or "information languages" designed to optimize the retrieval of archaeological information. Their purpose is to facilitate access to archaeological data and to provide tools for constructing taxonomic hierarchies with cognitive implications. Gardin regards the appeal to the label "structuralism" as "barely necessary", arguing that it often reflects the disciplinary habit of treating any form of formal analysis as structuralist (1992: 88).

The second trend —type B projects— focuses on the operations performed on the signs of descriptive language in order to examine the relations established among them. Language is conceived as a dynamic system of relations among signs, similar to the artificial languages employed in empirical databases that support archaeological interpretation. These projects rely on systematic operations such as grouping signs to detect patterns, establishing relations through oppositions or structures, and formulating transformation rules that specify how one observational domain may be converted into another. Such taxonomic constructions are heuristic rather than ontological and should be evaluated according to their capacity to disclose significant patterns within specific archaeological domains (1992: 88).

Gardin treats structuralist models as hypotheses concerning formal configurations within specific domains, which function as the background against which interpretation proceeds. To avoid interpretive arbitrariness, criteria are required for evaluating interpretations beyond their formal coherence: evaluation proceeds either through confrontation with new data or through agreement concerning interpretive success within specific contexts, which may count as objective insofar as it stabilizes practices of assessment (1992: 89). Read from a pragmatist standpoint, the grouping of signs and the establishment of relations function as methodological rules that guide inquiry, and operate as dynamic devices that organize experience and orient the formulation of explanatory hypotheses. Conceived

in this way, they function as guiding principles within Peircean logic: general rules of inference that mediate between experience and interpretation, enabling the transition from doubt to settled belief through regulated semiosis.

Logicism, as Gardin conceives it, reflects on the epistemological nature of archaeology by analyzing scientific publications rather than directly examining material remains, focusing on how archaeologists conceptualize and interpret the archaeological record (Gardin & Lagrange, 1975; Gallay, 1989). Emerging alongside early mechanized techniques and database management systems, it seeks to make inferential structures explicit. The difficulty is that rationality cannot be guaranteed *a priori* through formal structures external to experience. Logic must operate semiotically, as a dynamic architecture of signs mediating among representamen, object, and interpretant within inquiry, so that formal schemes require contextualization and regulation through concrete epistemic practices. What logicism therefore needs, and does not supply, is a second-order semiosis in which formal signs are interpreted, revised, and constrained by experience.

The third trend —hermeneutics— emerged in response to critiques of positivism and to concerns regarding subjectivity, historical singularity, and meaning in the human sciences. Gardin reconstructs it through four theses. The first holds that human behavior differs from natural phenomena and therefore requires interpretive approaches that acknowledge the singularity of their objects (1992). The second emphasizes the constitutive involvement of the subject as both agent and observer, raising questions of bias, empathy, and the separation between the scientist and the object of study (1992: 93). The third concerns validation, often grounded either in personal satisfaction or in acceptance by interpretive communities, as reflected in symbolic, cognitive, or contextual archaeologies (1992: 93). The fourth follows from this permissive stance: multiple interpretations coexist without principled criteria for determining their relative superiority, resulting in a persistent conflict among interpretations (1992: 94).

Gardin criticizes this hermeneutic orientation for lacking clear criteria for validating interpretations, thereby weakening archaeology's cumulative capacity and blurring the boundary between scientific inquiry and narrative. As an alternative he proposes logicism, or "practical epistemology", with the aim of making explicit the reasoning processes involved in interpretation: by documenting inferential steps and rewriting rules, interpretations can be subjected to systematic evaluation through empirical confrontation or critical consensus. He also proposes formal and semi-formal tools for modeling archaeological inferences, including logical methods and artificial intelligence techniques that make inferential steps examinable and delimit their domains of validity. The approach preserves the hermeneutic concern with understanding while maintaining criteria for distinguishing stronger from weaker interpretations, thereby avoiding an unregulated conflict among interpretations.

Reconsidered from the standpoint of Peircean pragmatist semiotics, the three trends engage differently with the triadic relation among sign, object, and interpretant. Structuralism tends to absolutize representational systems without clearly specifying their mediating function. Logicism comes closest to a scientific semiotics, because it makes inferential steps explicit and testable and recovers thirdness as the domain of general rules guiding interpretation within determinate contexts. Hermeneutics clarifies the role of the observer but weakens the mediating function of the sign when it privileges subjectivity or consensus, thereby compromising the self-corrective character of inquiry.

Gardin's text predates the development of contemporary machine-learning-based artificial intelligence, and the extension of his argument to that terrain is mine. He frames logicism as an epistemological response to the opacity of archaeological inference, aimed at making explicit the rules that mediate between data and interpretation. Contemporary artificial intelligence systems, by contrast, often produce outputs without making visible the inferential rules or domains of validity that support them, making it difficult to assess whether their transitions are warranted. This opacity can displace reflective agency and redirect inquiry toward automated forms of

prediction. Read in light of the logicist emphasis on contextualizing rules and delimiting their domains, the present problem lies in the interruption of explicit inferential habits that must remain open to correction and communal scrutiny. Against this tendency, the requirement of logical explicitness remains relevant for rethinking the relations among interpretation, inference, and historical knowledge.

❖ Archaeological Interpretation as a Semiotic Process

In *Archaeological Pragmatics* (Preucel & Bauer, 2001: 85) and *Archaeological Semiotics* (Preucel, 2006), archaeological interpretation is explicitly framed as a semiotic process in which each stage entails the production of signs that represent the reality of the past. Although inquiry is addressed only ambiguously as a progressive activity, these works identify central elements of C. S. Peirce's semiotics with methodological and epistemological implications for archaeology. R. W. Preucel and A. A. Bauer defend Peircean semiotics as the most appropriate framework for developing interpretive strategies, in contrast to postprocessual approaches grounded in Saussurean and Lévi-Straussian models, precisely because it enables a more coherent integration of theory and practice through a reflexive conceptual vocabulary (2001: 85). Within this framework, signs do not merely represent social reality but actively participate in its configuration and transformation, producing meanings that remain open to contestation because of the instability of semiosis and the influence of semiotic ideologies on interpretation (Preucel, 2006; Preucel & Mrozowski, 2010: 149-150).

The position draws on anthropological semiotics, particularly on the development of indexicality and iconicity as foundations of cultural signification (Parmentier, 1994; Urban, 1989). In archaeological interpretation, indexicality makes it possible to link objects to social practices and to their contexts of production and use, while iconicity enables the generation of meaning through relations of resemblance, allowing material culture to be interpreted in terms of image, form, and perception (Prown, 1993). The framework thus distinguishes, at least implicitly, two dimensions of the sign: one

cultural, concerned with how material culture signifies within social life, and one interpretive, concerned with how signs operate in the reasoning that yields claims about the past. My objection is that only the first is developed in detail. Convergence with Peirce's account of inquiry consequently remains limited, and the sense of this limitation should be stated precisely. It is not measured against the aims that these works set for themselves: their concern is the semiotic constitution of material culture and its social mediations, not the reconstruction of a logic of inquiry, and judged by that aim their contribution is coherent and productive. The limitation registered here is comparative, and becomes visible only when these frameworks are read against the conception of inquiry defended in this article. On that conception, inquiry is a dynamic, self-corrective process in which hypotheses are transformed through sustained interaction with empirical experience (CP 2.461-516). Read in this light, the sign appears primarily as a bearer of cultural meaning rather than as a logical operator within the triadic relation among sign, object, and interpretant that structures reasoning, and the inferential core of Peirce's account —abduction, deduction, and induction as moments of a single inferential cycle— is not articulated as the organizing logic of archaeological interpretation.

R. W. Preucel advances the rejection of disciplinary divisions as a response to the epistemological disputes associated with the "theory wars" in archaeology, and concludes that all disciplines function as semiotic enterprises insofar as they involve relations among theories, data, and discursive practices (2006: 2-3). He presents archaeological semiotics not merely as the study of signifying structures, but as an interpretive practice that links evidence, theories, and values within historically determinate configurations, and treats material culture as a field of mediation in which signs acquire explanatory force under specific epistemological conditions (2006: 4). Material culture is understood as the product of social practice, embedded in contexts in which meanings arise through semiotic relations connecting material processes and human action (2006: 5, 8). Semiotic production therefore permeates archaeological inquiry itself, extending from artifact interpretation to comparative analysis. In his

discussion of symmetrical archaeology, Preucel (2016) describes the extension of agency to both humans and non-humans within relational assemblages. This position draws on actor-network theory, in which objects participate in the course of action rather than merely serving as a passive background for human activity (Latour, 2005: 71-72).

Preucel does not follow Latour on this point. He criticizes symmetrical archaeology for weakening the role of human agency, emphasizing distributed networks of objects and practices without assigning a central role to judgment. The criticism is well taken, and can be given a firmer basis than he provides. Mediation, for Peirce, is irreducibly triadic, linking sign, object, and interpretant through a third term that regulates the production of meaning. Models of distributed agency are useful for describing systems of signification, but they tend to leave judgment in the background as a logical operation directed toward reorganizing experience when it becomes indeterminate. Scientific inquiry is not defined by mapping pre-existing relations, but by constructing new relations through signs that articulate experience into hypotheses, consequences, and tests. Any material interpretation must therefore be understood not merely as a bearer of meaning, but also as a logical operation within a triadic process linking an unexpected fact, a conjectural rule, and an evolving interpretant. Network metaphors cannot replace this inferential structure, because on their own they do not explain how meaning arises under conditions of rupture or how it is organized into judgments open to correction.

Interpretation, on this account, consists in the active reorganization of an indeterminate situation rather than the passive recording of associations. In Dewey's logic of experience, inquiry arises from the breakdown of functional coordination and advances through controlled operations that reconstruct coherence by integrating observations, hypotheses, and ends. Semiosis is therefore not merely a representational model, but the logical structure of reconstructive thought: the organization of indeterminate experience through signs governed by norms of rational evaluation. Within this framework, abductive judgment functions as the operation that initiates inquiry

by transforming that indeterminacy into a problematic situation. Abduction does not establish the truth of a hypothesis, but provides a direction for inquiry, guiding it toward provisional configurations that remain open to correction. As a triadic mediation, it selects what is relevant, delimits an interpretive field, and establishes the conditions under which a hypothesis can guide rational action. For this reason, no analysis of material culture constitutes, by itself, a complete epistemic practice if it omits this level of inferential mediation.

❖ Pragmatism in Social Archaeology

D.J Saitta (2003-2007), drawing on Dewey and Rorty, develops a pragmatist approach that reframes the relation between archaeological knowledge and social impact and moves beyond conventional realist and empiricist positions. His proposal rests on three commitments: assessing truth not only in terms of correspondence, but also in terms of social utility; evaluating archaeological claims according to their theoretical and practical effects; and situating evidence within diverse cultural contexts in order to foster dialogue among systems of belief (2003, 2007). From this perspective, archaeological inquiry does not merely reconstruct past events but contributes to community well-being by producing knowledge that is culturally and socially meaningful (2003: 12). In his later work, Saitta distances himself from correspondence theories of truth and adopts a pragmatist conception centered on social usefulness and human needs. From this position, he argues that archaeological knowledge is shaped within specific social and cultural contexts rather than constituting a neutral and direct reflection of an independent objective reality (2007: 12).

A further dimension of Saitta's proposal concerns experience, understood not as passive observation but as a dynamic and collective process embedded in concrete communities. He holds that archaeological claims should be evaluated not only for their empirical adequacy, but also for their cultural relevance and social impact, thereby reinforcing archaeology's public responsibility (2003: 12; 2007: 10). Closely related to this idea is his notion of "diffuse

rationality", which accommodates qualitative judgment, ambiguity, and flexibility in interpretive decision-making. Rather than granting exclusive priority to formal logic or rigid criteria of empirical validation, diffuse rationality assesses interpretations according to their contribution to historical and social understanding, particularly in contexts where strict rules prove insufficient (2003: 12; 2007: 10).

This orientation also reshapes the notion of empirical testing. For Saitta, the evaluation of interpretations extends beyond logical or empirical verification to include their social and human consequences. Archaeological claims are therefore assessed both by their consistency with the evidence and by their capacity to address present concerns, orienting inquiry toward interpretations that are socially relevant as well as technically sound (2003, 2007). In this sense, archaeology becomes a socially engaged practice rather than an enterprise devoted exclusively to the objective reconstruction of the past.

Contrasted with J. Dewey's reflections in *Logical Conditions of a Scientific Treatment of Morality*, originally published in 1903 (1977), and *Context and Thought*, originally published in 1931 (1985), D. J. Saitta's proposal reveals important differences. Both perspectives conceive inquiry as a practical and collective activity, yet they diverge in their criteria of validity. D. J. Saitta privileges social usefulness and cultural plurality, whereas J. Dewey, while rejecting correspondence theories of truth, insists on a self-corrective method that secures the logical continuity of experience through public procedures of testing and criticism (1977). For J. Dewey, validity depends on the success of inquiry in reorganizing a problematic situation through controlled operations, rather than on immediate social acceptance alone.

This difference is crucial for a semiotics of archaeological inquiry. If validity is defined primarily in terms of social relevance, inquiry risks losing its self-corrective character and weakening its epistemic normativity. Dewey's perspective makes it possible to incorporate social relevance without displacing inferential justification: interpretations must remain accountable to explicit and publicly examinable reasoning even as they respond to practical consequences. The contrast is also evident in their methodological orientations. Whereas

Saitta's diffuse rationality accommodates flexibility and ambiguity, Dewey emphasizes the concrete conditions from which judgments emerge, warning against both the analytic fallacy and unrestrained generalization when inquiry becomes detached from its historical and contextual background (1985: 3-21).

Both authors converge in treating knowledge as inseparable from social life, yet they assign different functions to context. For Saitta, context operates primarily as a horizon of social and cultural usefulness. For Dewey, by contrast, it constitutes a concrete structure that organizes inquiry by delimiting, directing, and regulating action in time and space, thereby making possible a coherent articulation of theory, data, and method (Guillaumin, 2023). From this standpoint, the social value of an archaeological interpretation cannot substitute for inferential control: an interpretation may be socially significant and yet epistemically weak if it lacks examinable justification. A pragmatist semiotics of archaeological inquiry must therefore hold together practical consequences and a self-corrective logic capable of sustaining both intelligibility and epistemic responsibility.

Principles for Reconstructing the Logic of Archaeological Inquiry

The tensions identified above are not merely critical observations; they indicate what a pragmatist reconstruction of archaeological inquiry would have to restore. A pragmatist archaeology consistent with Peirce and Dewey must recover the methodological dimension of inquiry without reverting to rigid normative empiricism or to foundationalism. Four principles follow from the preceding analysis.

The first concerns abduction, which must be recognized as the central logical mechanism through which hypotheses emerge in response to indeterminate situations. Abduction is not a weak or merely preliminary form of reasoning; it is the only logical operation that introduces a new idea and thus initiates the articulation of theory, practice, and experience within a provisional yet oriented structure (CP 5.171). It does not establish the truth of a hypothesis, but provides a direction for inquiry, delimiting an interpretive field

and establishing the conditions under which a hypothesis can guide rational action. Through abduction, inquiry remains responsive to surprise while remaining accountable to subsequent evaluation, and the archaeological record is no longer treated merely as a repository of meanings to be decoded, but as the occasion of a problem that reorganizes what counts as relevant.

The second principle concerns the relation among theory, evidence, and practice, which must be conceived as a system of cognitive integration rather than as a hierarchy or as a set of loosely connected domains. Each component responds to concrete problems and constrains the others within a shared inferential economy. This is not a claim about the priority of one level over another, but about their reciprocal determination: neither a theoretical commitment that no evidential configuration could disturb, nor an evidential claim that no theoretical articulation could render intelligible, would qualify as inquiry in the sense articulated by Peirce and Dewey.

The third principle requires a more precise understanding of the mediating function of signs. Within a triadic semiotic framework, signs do not merely convey meanings; they articulate relations among qualitative possibilities, factual resistance, and general rules of interpretation. Firstness, Secondness, and Thirdness are not abstract categories but operative moments in the organization of inquiry. When these moments are integrated, interpretation can remain open without becoming arbitrary, and empirical resistance can be acknowledged without reverting to naïve realism. The continuity of inquiry is thereby sustained not by fixed methodological rules, but by semiotic mechanisms capable of enabling processes of adjustment and revision over time.

The fourth principle concerns context, and here Dewey's contribution is decisive. Experience, in Dewey's sense, is not a passive repository of data but a dynamic field structured by conditions that delimit, guide, and regulate action; inquiry arises when this field becomes indeterminate and requires reconstruction through controlled operations. Several of the proposals examined above invoke context as a source of meaning or relevance, yet treat it as a background condition rather than as an active component of the

inferential process. Dewey's pragmatism makes clear that context is not merely a cultural or social environment, but the concrete configuration of conditions that makes inquiry possible and intelligible (1985; Guillaumin, 2023). When these conditions remain implicit, the capacity of inquiry for systematic self-correction is weakened.

Gardin's logicist project illustrates how the requirement of inferential explicitness might take operational form. Although not framed within classical American pragmatism, his insistence on making inferential chains explicit, identifying rewriting rules, and delimiting domains of validity converges with the concern of Peirce and Dewey for the examinability of reasoning. His work demonstrates that methodological formalization need not entail a return to rigid positivism: by exposing the inferential structure of interpretation to critical scrutiny, logicism preserves the possibility of correction and cumulative refinement. This becomes especially salient in relation to opaque computational systems, in which inferential control is displaced by the automated production of outputs. In this respect, Gardin's project anticipates a problem that remains central to any pragmatist archaeology: how to preserve responsibility for inference in increasingly complex mediations between data and explanation.

Conclusions

The examination developed in this article brings to light a structural tension between the archaeological proposals that identify themselves most explicitly with pragmatism and the epistemological principles formulated by classical American pragmatism. These proposals have played a central role in framing archaeology as an interpretive and socially engaged practice, yet they tend to detach that framing from a fully articulated logic of inquiry understood as a self-corrective and normatively regulated process. The result is not a rejection of empiricism, but its progressive weakening: inquiry is reformulated in cultural or narrative terms without preserving the inferential mechanisms that allow interpretations to be evaluated,

revised, and stabilized in relation to experience. The tendency is most visible in the selective appropriation of Peircean semiotics, where the sign is retained as a unit of cultural mediation while its function as a logical operator in the controlled generation and testing of hypotheses is left undeveloped.

Against this background, the contribution of the reconstruction proposed here is twofold. It supplies a criterion for distinguishing appropriations of pragmatism that preserve the normative structure of inquiry from those that dissolve it into interpretation, and it identifies the specific operations —abductive initiation, inferential integration, triadic mediation, and contextual regulation— through which that structure can be made explicit in archaeological practice.

Pragmatism is not a unified doctrine, and the claim defended here is correspondingly restricted. It does not concern the value of pragmatist thought as a whole, nor does it deny that pragmatisms oriented toward social, ethical, or political concerns illuminate dimensions of archaeological practice that a strictly inferential account leaves unexamined. The claim is narrower: whatever else a pragmatist archaeology undertakes, it cannot ground the evaluation of its own inferences without some account of inquiry as the controlled generation, testing, and revision of hypotheses under conditions that are at once experiential and normatively regulated. Peirce and Dewey articulated such an account with unusual precision, and it is their formulation that this article has reconstructed; the point is not that theirs is the only route to it, but that no pragmatist archaeology can do without one. This requirement is compatible with a plurality of pragmatist commitments. What it excludes is not attention to the social, but the substitution of social relevance for inferential accountability.

The aim of this article has not been to provide a general survey of recent archaeological theory, but to reconstruct critically those proposals that identify themselves most explicitly with pragmatism. Recovering the logic of inquiry makes it possible to integrate interpretive openness with epistemic responsibility, and social relevance with inferential control—an integration that archaeology requires if it is to sustain credible knowledge about the past while remaining responsive to present concerns.

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