Archaeological Pragmatics

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To what extent is semiotics an appropriate model for understanding material culture meaning? The answer to this question, of course, depends upon the kinds of semiotics that one is talking about. In our article we argue that Saussurean and post-Saussurean approaches favored by some Postprocessualists are incomplete and advocate an alternative approach inspired by the 'other father' of semiotics, namely Charles Sanders Peirce.

INTRODUCTION

All archaeologists, regardless of their theoretical orientation, agree that understanding meaning is a central goal (Binford 1983, Hodder 1986). Where they differ is in their characterizations of and approaches to meaning. Processualists generally identify functional, adaptive, or behavioral meanings in their study of the long-term processes underlying culture change, while Postprocessualists tend to focus upon symbolic, structural, or practice-oriented meanings produced in the context of negotiating social identities. The differences in meaning are sometimes regarded as incommensurable (Renfrew 1993, Lucas 1995) or, at the very least, scalar (Preucel & Hodder 1996). Perhaps because of this opposition, there have been very few studies of the logic that we use to 'get at' meaning (but see Gardin 1980, Wylie 1982, 1989, Kosso 1991, Johnsen & Olsen 1992).

Our article poses a central question: to what extent is semiotics an appropriate model for understanding material culture meaning? The answer to this question, of course, depends upon the kind of semiotics that one is talking about. In order to address this question, we make three moves. First, we review the history of the relationship between archaeology, semiology, and structuralism and show

why the Saussurean and post-Saussurean approaches favored by some Postprocessualists are incomplete. Second, we review the emergence of semiotic anthropology, particularly those approaches inspired by Charles Sanders Peirce. Third, we explore how archaeology might develop a more rigorous understanding of material culture meaning that builds upon this work. Moreover, we suggest that this alternative is not a return to a 'Unity of Science approach', but it may help resolve the tension between the disunity and unity debates by advocating unity at the level of logic and disunity at the level of theory.

ARCHAEOLOGY, SEMIOLOGY AND STRUCTURALISM

One view of semiotics has been familiar to archaeologists since the 'linguistic turn' of the social sciences when language models were first applied to the study of meaning. This version follows a tradition that begins with Saussurean linguistics and continues in contemporary 'post-structuralism,' and it has influenced archaeologists since the 1960s, leaving a lasting impression on archaeological practice as a whole. What follows is a brief discussion of this approach and its influence in archaeology.

Ferdinand de Saussure coined the word *semiology* to refer to a science that studies 'the role of signs as part of social life' (Saussure 1983 (1915):15). He conceived of this science as a part of social psychology and devoted to the investigation of the nature of signs and their underlying laws. Saussure regarded linguistics as a 'special case' within the broader semiological system and predicted that 'the laws discovered by semiology will be applicable to linguistics, and linguistics will circumscribe a clearly defined place in the field of human knowledge' (ibid.).

These ideas were modified and given anthropological form by Claude Lévi-Strauss who in the process single-handedly created structuralism as theory of the relationships between cognition and behavior. Lévi-Strauss (1967 (1955)) was particularly interested in the universal workings of the human mind. He stressed the objective determination exerted by mental structures of binary opposition in his studies of kinship and marriage, totemism, myth, and art. For him, these dualisms, although socially mediated, were ultimately opposed at the unconscious level; surface events were underlain by deep structures, just as spoken language presumes grammatical rules.

In the 1960s a series of critiques developed that are often grouped together under the label post-structuralism. Jacques Derrida (1986 [1966]), for one, offered the deconstructionist critique, in which he illustrated that the arbitrary nature of signifiers enabled them to 'float' or 'play'.' At the same time, Michel Foucault (1970 [1966]) made the important observation that all scientific thought is a product of its time. A further challenge to structuralism came in the 1970s from Pierre Bourdieu (1977) who developed a comprehensive argument against both Saussure's semiology and Lévi-Strauss's structuralism. Regarding the former, he said that Saussurean linguistics privileges the structure of signs at the expense of their practical functions, which are never reducible to communication or knowledge. It can only conceptualize speech

as execution within a rule-based logic. The basic weakness of the Saussurean approach, then, is that it neglects the use of speech in a socially structured interaction.

In archaeological practice, the Saussurean approach has had a significant, but under appreciated, impact in both North America and Britain. In America, this is best seen in the work of James Deetz. For example, he wrote 'there may be structural units in artifacts which correspond to phonemes and morphemes in language, a correspondence which goes beyond simple analogy, reflecting an essential identity between language and objects in a structural sense' (1967:87). Deetz then defined 'formemes' and 'factemes' as the basic units of material culture that are combined as artefacts according to a given culture's structural rules. In a manner strikingly reminiscent of Saussure, he speculated on the possibility of a general science of meaning:

In view of the close similarity between the way in which words and artifacts are created, might not words be but one aspect of a larger class of cultural products which includes all artifacts as well? (Ibid.).

Aspects of this approach were taken up in American historical archaeology by Deetz's students (Beaudry 1978, 1988, Yentsch 1991).

The first Postprocessual use of structuralism is Hodder's (1982) study of Late Neolithic Orkney. Developed as an archaeological example of his 'contextual' approach, this study identifies a set of structural relations, such as left/right symmetry and front/back divisions. It then uses these relations to interpret the meaning of structural equivalents on either side of marked boundaries (such as life and death) across houses, tombs, and henges. Further examples of this kind of approach include his study of the structural relations between tombs and houses in Neolithic Europe (Hodder 1984), and Shanks & Tilley's (1982) study of Neolithic mortuary practices in England and Sweden.

Fig. 1. *Diagram of Hodder's (1989) critique of the Saussurean model.*

Several Postprocessualists have now engaged with the post-structuralist critiques of Foucault and Bourdieu (e.g. Hodder 1989a, 1999, Tilley 1993, Hodder et al. 1995). In this process, they have noted several problems with the use of the semiotic for archaeological interpretation. For Hodder, the model does not hold because the relationship between the signifier and signified in language is conventional while, in the case of material culture, the use of a tree or the symbol of a tree to represent the ecology movement, for example, is not arbitrary (Fig. 1). As he puts it, 'the material world seems to impinge on the conceptual categories' (Hodder 1989c:257). Other problems with the model include the following three points (Hodder 1989b:73). First, material culture meanings are often non-discursive and subconscious because of their more practical and less abstract concerns. Second, material culture meanings are characterized by polyvalence, polysemy and ambiguity. This last quality stems partly from its non-discursive character and its greater contextuality. Third, material culture often has considerable durability, unlike the ephemeral nature of the spoken word. This suggests that the control of material objects is often an effective strategy in the control of meaning.

Hodder's response was to introduce the textual metaphor originally developed by Ricoeur (1991 [1971]) in his critique of structuralism. This idea was first put forth in his book *Reading the Past,* published in 1986 (Hodder 1986), and later developed in a more detailed fashion in series of articles and book chapters (Hodder 1988, 1989c, 1989b, 1992b).[1] Hodder (1988:256) distinguishes discourse/text from language in four main ways: (1) discourse is temporal and present while language is general and outside of time; (2) discourse refers back to its speaker while language implies a system; (3) discourse refers to practice, while language refers to structured sets of differences that are generated by practice; and (4) discourse communicates to someone, while language is a condition for communication.

However, the text model does have certain limitations and Hodder (1989c:260) himself is careful to identify some of the areas where material culture texts differ from their written counterparts. Three of these are of special significance. The first involves the arbitrariness principle. While written texts are written in specific social contexts, the words used are largely arbitrary. In material culture, signs function as icons or indices that are materially and socially constrained. The second is the linearity principle. Linguistic texts are read in a linear fashion, however, when faced with a room filled with objects, there is no clear sequence by which to read the scene (see also Bloch 1991, Hodder 1992a). The third is the sensory principle. Texts are read with only two senses — sight and hearing, but material culture texts may also involve touch, smell and taste. For Hodder (1989c:263), these differences are positive and imply that material culture meanings are easier to identify archaeologically than linguistic meanings.

Hodder is certainly correct to identify difficulties with the standard semiotic model for the study of material culture (Hodder 1991, 1992b, Hodder et al. 1995). However, what he and other Postprocessualists have failed to recognize is that the problem is not so much the application of semiotics to material culture studies, as it is the use of one particular model, namely the Saussurean view of the sign. In fact, many cultural anthropologists today concede that the structuralist model is outmoded and have searched for alternative ways of conceptualizing language and culture.

Points of comparison	*semiology*	*semiotic*
1. Aims at a general theory of signs	A descriptive, generalized linguistics	Philosophical and normative, but observational
2. Frequent subject matter	Language, literature, myth	Logic, mathematics, sciences
3. Signs are relations, not "things"	A sign is a dyadic relation of signifier and signified	A sign is a triadic relation of sign, object and interpretant
4. Linguistic signs are "arbitrary"…	…but appear "necessary" for speakers of the language	…but also include "natural signs"
5. Ontology of "objects"	Determined by sign relation	Existence presupposed by signs
6. Epistemology of empirical ego	Presupposed but not included in semiological analysis	Included in semiotic analysis

Fig. 2. *Comparison of Saussure's semiology and Peirce's semiotic (after Singer 1978).*

PEIRCE AND SEMIOTIC ANTHROPOLOGY

In the past twenty years, semiotic anthropology has been transformed by approaches that have moved beyond Saussure to explore the work of the American philosopher and semiotician Charles Sanders Peirce (1839–14). Intending his semiotic to be a theory of knowledge, Peirce wrote that 'all reasoning is an interpretation of signs of some kind' (Peirce 1998:4). This is a much broader claim for semiotics that that made by Saussure whose semiology was defined as the study of the life of signs within society (Saussure 1983 (1915):15).

The beginnings of a Peirce-based semiotic anthropology date to 1976, when Milton Singer delivered a paper at the Center for Language and Semiotic Studies at Indiana University entitled 'For a Semiotic Anthropology' (Singer 1978) and Michael Silverstein published an important article on analyzing language called 'Shifters, Linguistic Categories, and Cultural Description' (Silverstein 1976). In Singer's paper, one of the most important contributions is the systematic comparison of the Peircean and Saussurean approaches (Fig. 2). Singer (1978: 213ff, and table 1) shows that although these approaches share the same goals (a general theory of signs), they differ significantly with respect to their subject matter, their specific concepts and laws, and their epistemology and ontology.

For example, the subject matter of the semiological (Saussurean) approach is natural language, literature, legends and myths while the subject matter of the semiotic (Peircean) approach is logic, mathematics and the sciences. In terms of the sign, the semiological approach observes a dyadic relationship (signified–signifier) while the semiotic approach recognizes a triadic one (Sign, Object, Interpretant). For the semiological approach, signs are arbitrary, however for the semiotic approach they include icons and indices (signs that have non-arbitrary relations to their referents). Semiological approaches regard the existence of objects to be determined by linguistic relations while semiotic approaches argue that signs presuppose prior existence. Finally, the actor/speaker is assumed, but not included, in semiological analysis; however, in a semiotic analysis the

actor/speaker is an integral part of the semiosis process.

For Singer, there is a decisive reason for favoring the semiotic over the semiological in the development of cultural theory. This reason is that it contains a theory of the relationships of meaning, objects, and behavior. He wrote,

(i)n one important respect, at least, a semiotic theory of signs has a distinct advantage over a semiological theory: it can deal with some of the difficult problems generated by acceptance of the complementarity of cultural and social systems. Because semiology limits itself to a theory of signification and linguistic codes, it cannot deal with the problems of how the different cultural 'languages' are related to empirical objects and egos, to individual actors and groups. . . . It is possible to deal with such extra-linguistic relations within the framework of semiotic theory, because *a semiotic anthropology is a pragmatic anthropology*. It contains a theory of how systems of signs are related to their meanings, as well as to the objects designated and to the experience and behavior of the sign users (Singer 1978:223–224, emphasis in original).

At the same time, a similar approach was being developed in linguistic anthropology. Following the pioneering work of Roman Jakobson (e.g. 1960), Michael Silverstein and his students synthesized the contributions of Saussure and Peirce into a pragmatic theory of cultural semiosis. Silverstein's method unites the 'Saussurean code principle', the idea that the semantic system of a language provides a set of decontextualized equivalence relations for linguistic forms across syntactic contexts, with the 'Peircean discourse principle', the idea that linguistic utterances are produced in enactments with presuppositions and entailments due to the bidirectionality of indexicals and then become taken up as objects of subsequent discourse (Parmentier 1997:16). Thus he discards the Ricoeurian idea of social action as text in favor of the idea that language itself is social action embedded in context-specific, purposive behavior.

Central to Silverstein's work is the notion of 'indexicality' (Lee 1997:164ff.). *Indexes*, as originally defined by Peirce, are signs that have some kind of existential relation with their referent. Peirce's classic example is that of a weathervane which is moved by a gust of wind: the weathervane is thus an index of the direction of the wind (Peirce 1998:14). But indices can also refer to linguistic terms. Peirce identifies as sub-indices such things as proper names, personal demonstratives, and relative pronouns (Peirce 1998:274). Following this approach, Silverstein (1976) points out that meaning is made possible not only by conventional relations between Sign and Object, but also by sign-activated connections that 'point to' other sign relations and contexts. The meaning of utterances such as the pronoun 'I', for example, depends on its indexical relation to — and co-occurrence with — the person doing the speaking (Benveniste 1971, Urban 1989). Indexicality is also operative with regard to indirect (or reported) speech, where the meanings of texts have been modified through processes of decontextualization and subsequent recontextualization (Voloshinov 1986 (1929), cf. also Tedlock & Mannheim 1995).

Links among texts are not only possible through indexicals, however. Meanings may also be *iconic*, or based on formal resemblance, and it is the similarity among texts that highlights meaning. This is illustrated by the use of poetic devices such as parallelism, repetition, rhyme, and meter (Jakobson 1960). Iconicity is also operative where meaning is enhanced or modified through the style or tone of discursive acts, such as microtonal rising or the cry-breaks of ritual lamentation (Urban 1991:148ff.). Thus culture works by representing aspects of reality, and by linking together individuals, groups, and situations with objects. For Silverstein, culture is 'but a congeries of iconic-indexical systems of meaningfulness of behavior' (Silverstein 1976: 54).
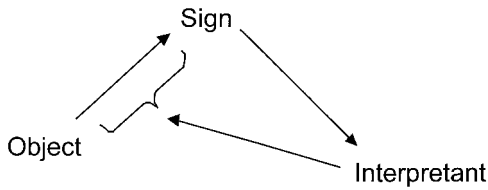
Fig. 3. *Peirce's model of the sign (after Parmentier 1994:10).*

Fig. 4. *Meanings of material signs in schemes of Peirce and Saussure.*

STEPS TOWARDS A PEIRCEAN ARCHAEOLOGY

What might a Peircean approach imply for archaeology? The cultural anthropologist Richard Parmentier has taken a preliminary step in this direction (1997:50–51). Using pottery style as an example, he notes that it rarely functions as a symbolic sign (i.e. purely arbitrarily); rather, it is 'an indexical legisign embodying an iconic legisign, and a particular pot in that style is an indexical sinsign, a 'replica', in fact, since it is generated from a template which it (trivially) indexes.' A Peircean approach, he argues, allows one to distinguish between two different kinds of stylistic functions — its use being to mark local group affiliations or boundaries and to signal allegiance to some dominant ideology or belief.

These differences in interpretation depend upon the theories favored and the analyses used. Interpreted in the first way — as a reflection of spatial relationships — the pottery fragments may be studied through Neutron Activation Analysis, and therefore are signs functioning as an index being interpreted as functional (in Peirce's typology, a dicent indexical sinsign). Interpreted in the second way — as a sign of group identity — the pottery fragments may be studied stylistically, and therefore are signs functioning as indices being interpreted as having some relevant qualitative characteristics (a rhematic indexical sinsign). Finally, a sequence of pottery st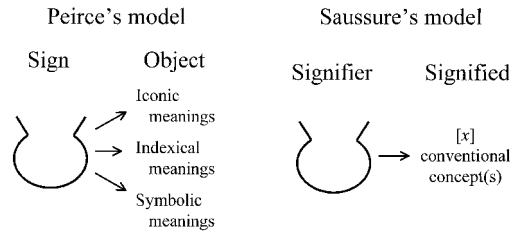yles functions as a symbolic argument when the pattern is conventionally interpreted by archaeologists to represent a historical process.

Parmentier's treatment of material culture provides an important first step towards the development of a semiotic approach in archaeology. Peirce's model, however, can be related to archaeology in a number of respects, and so it may be productive to consider Peirce's sign categories and to explore how they may be applicable to the kinds of material signs archaeologists typically encounter. This will allow us to construct a more systematic and holistic model for an archaeological semiotic. Moreover, since interpretations and interpretative models are also signs in Peirce's system, it is also important to investigate how archaeological theory-building relates to the creation of signs (Bauer & Preucel n.d.).

The primary correlate of Peirce's sign system to consider in such a study is that of the Sign–Object relation, as the meaning of things (which are all sinsigns or tokens of symbolic legisigns) is most variable along this axis (Fig. 3). As meanings may be variable and multiple, the interpretative possibilities for all three relations — iconic, indexical, and symbolic — should be investigated. We can place the artefact (or building, etc.) in place of the Sign, which may have different meanings or may indicate different phenomena or Objects behind it (Fig. 4). These Sign–Object relations may be multiple for any given artefact-Sign, as is consistent with Peirce's system. The success of such an application may be contrasted with the problems encoun-

tered when one puts an artefact in the place of the 'signifier' in a Saussurean system, as noted by Hodder (1992a).

For example, a polished jadeite axe, such as those commonly found in Eurasian steppe burials, may act as an iconic sinsign of the utilitarian axes used by that culture. While this example may be considered non-utilitarian because of its material or context (in a burial), it is readily recognized as an axe based on a formal resemblance (iconicity) to other axes within that culture area. It is also significant to note that as an icon, it is a replica, or single example, of a symbolic legisign, or 'type' of axe, whose abstraction is a component of the region's cultural assemblage. The axe may act indexically in two ways: first, its spatiotemporal context in a burial will tell us that it relates in some way to both the person and the other objects buried therein; and second, its material (jade comes from eastern Central Asia) points to the presence of some sort of trade or interaction across this geographical area. Finally, it may act symbolically (as a replica of a symbolic legisign) as a representation of power, for example, if it is conventional within the culture to represent power in such a way. These types of conclusions are not new, of course; rather the significance of this approach is that it accounts for and directs inquiry into the multiple meanings of a single artefact or sign.

The other axis of the semiotic that is particularly important for material culture meaning is the axis dealing with the Interpretant — the Interpretant being the sign created by the observer of the Sign–Object relation. The Interpretant may characterize the Sign–Object relation in three ways: as a *rheme* (a possibility), a *dicent* (a fact), or *argument* (a law). As a Sign itself, the Interpretant also may refer to its Object iconically, indexically, or symbolically. Thus a specific drawing of a pot is a Sign that refers iconically to a specific Object (pot) which it resembles, as does the mental image (Interpretant) of the object conjured in the mind of
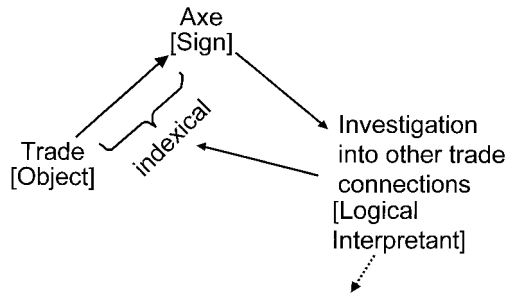

Fig. 5. *Interpretation as semiosis.*

the person looking at the drawing. But Peirce has identified a further characteristice regarding the nature of the Interpretant itself, and this has to do with how signs are active agents of communication and form chains of signification. In an unpublished 1907 letter to the Editor entitled 'Pragmatism', Peirce (1998: 409) identifies three types of Interpretants: the *emotional* Interpretant, or a feeling that is conjured in the mind of the interpreter; the *energetic* Interpretant, which is a habitual reaction or immediate response of the interpreter; and the *logical* Interpretant, which is a considered response or action or habitual change based on inference.[2]

As archaeologists, we can consider this interpretant trichotomy in two ways (each of which is not necessarily exclusive of the other). First, in a 'critical' stance, we may be the 'archaeologist-interpreter' in the present who is aware of how artefact-signs constrain and guide our interpretations. In this mode, we really act in reference to 'energetic' and 'logical' Interpretants. A researcher or excavator is continually constrained by signs when investigating a particular problem. During an excavation, for example, the appearance of a wall will force us to dig around or on either side of it, or perhaps restrict the area of the next excavated level — actions that may be considered 'energetic' Interpretants. The 'logical' Interpretant may be correlated with the way we build an argument. To return to the example of the ceremonial axe, if we consider it as an

indexical sinsign of long-distance trade, our investigation of other possible indicators of trade is an Interpretant (Fig. 5). In this sense, Signs lead us to create inferences ('logical' Interpretants), which in turn guide further inferences and investigation (Bauer & Preucel n.d.).[3]

Archaeologists must also consider the Interpretant trichotomy in a second 'interpretative' stance, in which we attempt to show sensitivity to the multimodality of the signs operative in a past culture. That is to say, we are trying to understand how people in the past created and experienced the artefact-sign in the ongoing practices of the social order. While this goal may sound challenging, it is in fact what archaeologists have always done and what anthropologists do in trying to understand other cultures. From this stance, archaeologists can and do attempt to get at all three types of Interpretants. The 'emotional' and 'energetic' Interpretants, for example, may be investigated through experiential studies, such as phenomenology (Tilley 1994) and experimental archaeology (Coles 1979). The 'logical' Interpretant may be the subject of investigations into long-term social change, and in such a case, archaeologists may infer that social action resulted from the presence of chains of signification and inference in the past.

CONCLUSIONS

Let us now return to the question with which we started: 'To what extent is semiotics an appropriate model for understanding material culture meaning?' In our view, the semiological model advocated by Saussure cannot provide an adequate account of material culture meaning. This is because of its focus upon codes and rules at the expense of practice. But we also believe that it is impossible to construct a theory of material culture without also considering how that material is used and talked about in discursive practice — we cannot ignore the relationships between words and things. Indeed, linguistic

A Bird looking up,
Or deer looking down?
(after Hodder 1986:15)
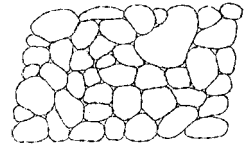
A serpentine line,
Or a stone wall?
(after Peirce 1998 [1903]:228)

Fig. 6. *Illustrations of the data-theory relationship in Hodder and Peirce.*

anthropologists have conversely acknowledged the 'materiality' of linguistic utterances, and that the sound itself, as a material object, may convey meanings beyond the semantic (Silverstein 1976, Jakobson & Waugh 1979, Urban 1986). Because of this intimate connection, we advocate a Peircean semiotic that, as a theory of knowledge, has the potential to reveal the dialogic character of material culture meanings.

Hodder and others have criticized the use of the Saussurean linguistic model as unable to account for multiple meanings, but they have not fully addressed the implications of the shift from a theory of material culture to a theory of knowledge. It is clear that Peirce's semiotic is preferable in this respect, as it allows us to acknowledge how meaning varies in social practice. In this way, Peirce's model, while outside the Saussurean tradition, presents a convergence with many of the critiques raised by the post-structuralists. It is interesting to note that while Hodder (1986:15, fig. 1) and Shanks and Tilley (1987:37, fig. 2.1) illustrated that multiple interpretations are possible for even the simplest representation, Peirce himself (1998:228, and fig. 1) presented in a 1903 lecture a similar drawing to make the same point (see Fig. 6): namely that 'the very decided preference of our perception for one mode of classing the percept shows that this classification is contained in the perceptual judgment.'

The convergence between Peirce's semiotic and the concerns of both Processual and

Postprocessual archaeologies can be further illustrated by its ability to account for the multiplicity and ambiguity of meaning in a systematic and explicit manner. The ambiguity or indistinctness of some recent terms such as 'agency', 'identity', and 'experience' has been hailed by many Postprocessualists, who see meaning as variable, multiple, open to manipulation, and, above all, ambiguous. These concepts, however, have suffered from the same (often unfair) critique that plagued earlier Postprocessual approaches. Charges of hyper-relativism are the most common, but more moderately, these concepts are criticized as not being methodologically rigorous (i.e. too ambiguous), inconsistent in their application, and/or unable to account for the larger-scale processes of culture change (Dobres & Robb 2000).

While the meanings of things across contexts (and from different perspectives) are certainly variable and multiple, they are not necessarily ambiguous in a single, specific instance of cognition, as Peirce's semiotic illustrates. If this were not the case, interpreting and engaging with the world from day to day would be a difficult thing indeed. What Peirce (1992:128ff.) calls *habit* may be compared with Bourdieu's *habitus* (Daniel 1984), as both refer to the way people engage with Signs in the world in a regularized way without reflecting on their ambiguity. To Peirce, the many possible meanings of a Sign are not cognized simultaneously, but from one semiotic moment to the next, whether they be internal to one's mental processes (as when one is reflecting on something's meaning) or the engagements of different embodied 'knowers'. Meanings are not inherently ambiguous, but become so as the same, or different, 'knowers' (or, if you prefer, 'agents') engage with the Sign (artefact, building, landscape, etc.) again and again in different contexts. Peirce's semiotic thus accounts for ambiguity, but as arising from the multiplicity of specific, unambiguous semiotic engagements by (a) knowing subject(s).

While the systematic or classificatory aspects of this approach may seem static to those who value conceptual fluidity, it is important to emphasize that they are not explanatory mechanisms, but rather provide a ground for discussing ambiguity, and thus a way to frame such discussions for comparison, combination and evaluation by the interpretative community. One of the earliest Postprocessualist claims was that we as interpreters recognize the theory-ladenness of data, and thus reflexively acknowledge our interpretative biases. But Postprocessual theorizing has not been reflexive in the same way, apart from occasional expressions of self-doubt such as those made by Hodder (e.g. 1990) and Tilley (1991). A Peirce-inspired approach provides a metapragmatic with which we can clearly and responsibly cite our interpretative biases as well as recognize how differing understandings may complement or contradict one another.

Peirce's semiotic achieves this by giving us a common language with which we can understand the structure of contrasting interpretative approaches and communicate across these boundaries while at the same time acknowledging the validity of our different theoretical commitments. This could be interpreted as a return to a version of the Unity thesis originally proposed by the logical positivists and roundly critiqued by many. But as Ian Hacking (1996) has pointed out, there is no single kind of unity, rather there are many different kinds. For example, Hacking identifies metaphysical unity as a collection of ideas about what there is in the world, practical unity dealing with the methods and aims of the sciences, and logical unity as referring to the principles of scientific reasoning (cf. Wylie 2000). The first two kinds of unity are related to one another, but the latter kind is almost completely independent. The approach we advocate, therefore, is unity at the level of logical reasoning (metapragmatic level) and disunity at the level of interpretative theory (Bauer & Preucel n.d.).

We further suggest that a semiotic approach can help us understand the problems inherent in characterizing theory and data in opposition to one another. Wylie (1992, 1994) has proposed that archaeological interpretations may be made more rigorous through the use of multiple independent lines of evidence, and although she conceived of these lines as data generated through independent analytical techniques (such as in material science), it may be possible to extend the logic of this idea for the model proposed here. Since she and others (e.g. Hodder 1986:13–16, Renfrew & Bahn 1991:432) acknowledge the interrelatedness of theory and data, so different lines of data must therefore imply the presence of different theoretical lines as well. From a semiotic point of view, what is significant is the way that Signs mediate the theory-data relationship, and a rigorous argument therefore is one that draws upon multiple kinds of Signs to make a specific claim.

Finally, we argue that archaeology has the potential to contribute to the current discourse on cultural pragmatics (Parmentier 1997). Although much of this discourse has been taking place within the field of linguistic anthropology, archaeology's focus on material culture gives it a central position within this developing dialogue. This is because material culture is tightly interwoven with language, and shares many of its semiotic properties. What makes material culture unique, however, is its perdurable materiality and its ability alternatively to transform or maintain its meaning over time, depending on context. What makes archaeology unique is its focus on the long-term and, therefore, it occupies a special position for the study of the unfolding of the semiotic chain within a longer time frame.

ACKNOWLEDGEMENTS

NOTES

1. Linda Patrik (1985) originally introduced a distinction between the physical and textual model of the archaeological record. Her text model is based upon a semiotic approach to meaning. This model does not, however, build from Ricoeur's work.

2. As with many of Peirce's ideas, his conception of the Interpretant changed over the course of his lifetime. A different conception of the Interpretant is described in a series of letters to William James, from 1909 (Peirce 1998:496 ff.): here, a first is the *immediate* Interpretant, which means the recognition by the interpreter that some sign is interpretable; a second is the *dynamical* Interpretant, which is a single, situation-specific act of interpretation; and third is the *final* Interpretant, which is a generally 'agreed upon' ('true') meaning, after sufficient inquiry into the meaning of the Sign. This latter trichotomy is undoubtedly linked to Peirce's belief that truth may be discovered by an ideal community of scientists — a concept not unlike the ideal speech community central to Habermas's (1984) 'communicative action' theory (cf. Bernstein 1985:3). This interpretation, though, has more to do with chains of hypothesis-building ('abduction') about a single object than the agency of each Interpretant as a sign in an evolving chain of signification. For this reason, the former model is a more powerful one for the present purposes, since it suggests that material culture is an active agent in the generation of meaning.

3. In this last sense, where a third Interpretant relates to 'abductive' reasoning, the present view may be more similar to Peirce's own later view of the Interpretant, as discussed in note 2. This is the view that the Interpretant as third is the 'final' Interpretant, resulting from inquiry through abduction. The difference here, though, is that a single act of interpretation, which the Interpretant is, cannot be considered 'final,' but only a link in a chain of hypothesis testing.

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