

Mind, Time, and Material Engagement

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Abstract and Keywords

The study of material culture is changing the way we perceive and study the past, as well as how we understand the process of human becoming. This chapter proposes that a focus on the phenomenon of material engagement provides a productive means to situate and integrate evolutionary, historical, and developmental processes. The material engagement approach brings with it a relational conceptualization of human cognition as profoundly embodied, enacted, extended, and distributed. This conceptualisation opens the way to, on the one hand, reanimate the importance of history and development in the study of human cognitive evolution, and on the other hand, allow a new approach to historical analysis, one in which minds and things play a more central role. Specifically, we explore some of the implications of the view that humans and things coconstitute each other for understanding the processes by which human cognitive abilities develop and change in different cultural and historical contexts.

Keywords: material engagement, mind, things, plasticity, evolution, time, human becoming, material agency

IN recent years, it has become almost commonplace in archaeology to declare that our social and cognitive life is not just mediated by the material things we make and use but is entangled with and very often constituted by them.¹ How exactly is this changing the way we perceive and study the past, as well as how we understand the process of human becoming? More important, how is this new emphasis on materiality, and the recognition it brings with it that human life cannot be understood apart from its material entailments, affecting historians' understanding of material culture? As archaeologists, we are especially interested in the phenomenon of material engagement² and the various social ontologies³ and material agencies⁴ that this engagement enacts and substantiates in different cultural contexts. The implications of the view that humans and things coconstitute each other specifically are important for understanding the developmental and evolutionary processes by which human cognitive abilities develop and change in different cultural and historical contexts. In particular, the argument for the constitutive intertwining of mind with the material world brings with it a new conception of human cognitive evolution that is grounded in situated learning, development, and thus historical and cultural

specificity.⁵ It is thus valuable to incorporate a material engagement perspective in the historical study of change over time.

Material Engagement and the Extended Mind

Traditionally, and for various historical and other reasons, the received view of the human mind has been that of an internal brain-bound device operating primarily by (p. 106) constructing and manipulating internal representations of the outside world. This so-called computational, cognitivist, or representational view of mind⁶ has largely defined the field of contemporary cognitive sciences and has influenced how other disciplines such as history, archaeology, and anthropology have come to perceive the place of mind, and the value of incorporating a cognitive dimension, in the way they try to make sense of human beings and becomings. As one can imagine, the predominantly internalist logic of traditional cognitive science left limited space for productive dialogue, and it raised suspicion in the majority of scholars in the humanities and social sciences who, rightly, remain unwilling to follow any universally reductionist strategy that attempts to capture the human mind in purely neural and representational terms. This type of cognitive science had very little to offer toward an understanding of historical and culture-specific processes of change and human becoming. The term *human becoming* signifies that humanity is not a genetic set-up or an evolutionary stage, but an accomplishment, a dynamic coevolutionary entanglement of people, materials, and things. Human becoming is never finished; it is always ongoing.⁷

This has all been radically changing with the emergence of various new approaches recognizing the embodied, extended, distributed, enacted, and interactive character of human cognition.⁸ These new conceptual frameworks are not just offering viable alternatives to classical computational models but open the way for true interaction among fields of research that were traditionally thought of as being incompatible. These new perspectives on the life of mind have significant differences in their approach and theoretical commitments relevant to the hard problems of mental location and representation.⁹ Nonetheless, they are all more or less united in their attempts to understand the human mind as a relational embodied entity, and their opposition to cognitivism and methodological individualism. To put it in brief, the ontological foundation that unites the aforementioned frameworks is one that recognizes that the old categorical divisions between a mental “internal” realm where mind resides and a material “external” realm where action takes place gives way to a hybrid space of dynamical interaction. Instead of two fundamentally different kinds of action, internal or cognitive and external or behavioral, we now have a continuity of mind as action that draws on a variety of heterogeneous resources. Some of those resources might be biologically related to the human body or more specifically to the brain; others might be material or artificial and thus part of the outside material world. Nonetheless, all these different kinds of resources, biological and nonbiological, are recognized as cognitive since they may contribute equally, although not in the same way, in the making of the mind. In archaeology, new theoretical perspectives such as material engagement theory (MET)¹⁰ and neuroarchaeology¹¹ have been building

on this new theoretical foundation from their distinctive object-oriented perspective, and from the vantage point of long-term change. In brief, the main idea behind MET is precisely to redraw, and where necessary altogether dissolve, the boundaries among brains, bodies, and things.

This new understanding about the extended, enacted, and distributed character of thinking¹² and the cognitive life of things¹³ also raises serious doubts about the (p. 107) neo-Darwinian approaches to cultural evolution.¹⁴ It also stands in opposition to the basic premises of evolutionary psychology that continue to view the human mind as a collection of functionally specialized (i.e., domain-specific) computational modules inside the head.¹⁵ The unification between the study of mind and the study of material culture we advocate here is very different from the one at the heart of neo-evolutionary theory.¹⁶

Problems with the Neo-Darwinian Synthesis

We begin with evolutionary psychology. Here we find two main problems. The first concerns the computational character of psychological adaptations and the related arguments about their domain-specific internal structure. The second concerns the false dichotomy between evolved and learned behaviors.¹⁷ There are two fundamental assumptions in evolutionary psychology: First we have the so-called massive modularity hypothesis, which states, in brief, that the functional architecture of the human mind comprises a number of different, evolved, specialized mechanisms, or “modules.” Leda Cosmides and John Tooby used the analogy of a Swiss Army knife to describe their vision of the domain-specific architecture of the human mind. The second fundamental premise states that these modules are the products of natural selection, adapted to perform specific problem-solving tasks as originally encountered by our Stone Age ancestors in past environments that no longer exist.¹⁸

Against the basic theoretical commitments of evolutionary psychology for a “modular” and “maladaptationist”¹⁹ view of human cognitive evolution (that is, the view of mind as an innately driven process adapted to past environments that no longer exist), the integrative perspective of material engagement that we propose brings with it a new emphasis on materiality and the long-term developmental mechanisms by which the bidirectionally mutual constitution of brain and culture occurs. We want to resist any tendency to reduce the nature of change in human beings to a series of underlying domain-specific adaptations and shift the focus, instead, on processes of deep enculturation, dynamical enskillment, and “profound embodiment.”²⁰ If there is anything truly distinctive and universal about human mind, it must be its openness to cultural influence and variation. This is not to deny that a fair amount of genetically guided structure exists, but to recognize, instead, that this genetic endowment and/or neurobiological underpinning becomes important only in relation to the human ability to alter and manipulate the nature and flexibility of the developmental pathways that allow or inhibit environmentally and culturally derived plastic changes in real ontogenetic time.

How, then, can we make better sense of the ongoing tension between the way human beings appear to be constrained by, on the one hand, their biology and their evolutionary history, and on the other, historical-specific cultural factors? One negative implication (p. 108) that evolutionary psychology has had on our thinking about human cognitive becoming is that it reiterates a false dichotomy between evolved or innate and learned or acquired capacities. This misrepresentation has been a source of great confusion. Are we free to learn anything we want, and if we are not free, what exactly is the nature of the constraints on the learning process? Does the human mind resemble a “blank slate,” or does learning presuppose some innate “acquisition device” or “instinct” like the one Chomsky²¹ and Pinker²² have famously argued in the case of language? It may seem that a simple way to frame these questions would be to say that “innate” is whatever is not “acquired.” What, then, about the process or capacity for learning itself? When evolutionary psychologists argue that humans possess an evolved capacity for X or Y, what they essentially mean is that these capacities are not learned in the way we learn how to read or tie a knot. But how can you separate reading, as something you learn, from those “innate” processes that enable you to learn how to read? The important question for us, then, is not how you separate innate capacities from those that are acquired. Rather, the question is, whether there is anything about human life that is truly and solely innate or acquired, and if there is, how does it matter for human cognitive life? We suspect that this opposition of a universal evolved human nature versus our culture-specific ways of learning is a false opposition. We also think that one of the main reasons for the persistence of this false opposition can be found in the influence that computational thinking still has on the way psychology traditionally understands the basic structure of human mental architecture. Another reason, as Louise Barrett points out, is probably “because the argument is framed in terms of adaptation, when the real issue ... [is] the degree of plasticity or flexibility shown by our learning mechanisms.”²³

This brings us to the neo-Darwinian approaches to cultural evolution we mentioned previously. Traditional culture-gene coevolution theory²⁴ is based on the fundamental premise that there are two distinguishable, yet complementary and interacting, evolutionary processes: that is, genetic evolution and cultural evolution. In other words, the main claim is that cultural evolution exhibits the Darwinian properties of variation, inheritance, and the accumulation of successive cultural modifications over time. An immediate implication of seeing culture as an evolutionary system in its own right is that cultural evolution could then be studied using similar methods and concepts to those already in use to study biological evolution (e.g., population-dynamic concepts and evolutionary models). Such a unified approach to the study of cultural change might look appealing from a methodological or empirical perspective, but it embodies various shortcomings, especially from a material culture perspective.

Important to point out, in this connection, is that for dual-inheritance theory, as is also the case for the majority of the proponents of Darwinian models of cultural evolution, culture is more or less defined as *acquired information* (knowledge, beliefs, and values) that is in-

herited through *social learning*, stored in human brains, and expressed in behavior and artifacts.²⁵

We suggest that this view of culture as a collection of internal representations inside the head, and the epiphenomenal conception of material culture that it implies, are deeply flawed. For one thing, they misrepresent materiality as a passive means of adaptation (p. 109) and offer an erroneous view of the relationship between cognition and material culture. For another, they reiterate the nature/culture dichotomy.

We believe that neither the active nature of material culture nor the nature of change in material culture can be accounted for solely in Darwinian terms. We are not denying, of course, that cultural change, so long as it involves human beings, may well resemble or comprise elements that resemble Darwinian evolution in the basic sense of the term. However, even if one could borrow a Darwinian expression like “descent with modification” and use it as a metaphor to describe how, let’s say, a given “style” is changing over time, it would be a mistake to think that this metaphor reflects anything other than a superficial similarity between ways of speaking about change.

The historical continuity of material forms and skills we often describe using the term “style” in archaeology is doing much more than offering a passive collection of object types in the service of cultural transmission. Instead, different styles set up sensory and “cognitive ecologies”²⁶ of their own, into which people need to fit and adapt by way of skillful coping and learning. They also place obligations on the way we interact with other people and educate our senses, and they shape the ways we act and think. Moreover, object traditions or styles are able, in ways that escape the narrow logic of adaptation, to “use human muscles and skills to bring about their own reproduction.”²⁷

This is why we are skeptical about the value of applying biological metaphors and phylogenetic analyses to infer and reconstruct historical patterns of cultural artifacts and their transformation.²⁸ To be fair, some of the problems we have pointed out are now beginning to be recognized. To give one example, a 2007 paper by Ilya Tëmkin and Niles Eldredge focusing on the case of two musical instruments (the cornet and the Baltic psaltery) provides a detailed exposition of the differences between biological and material cultural evolution and the implications they entail for the application of traditional phylogenetics.²⁹ But overcoming these problems demands a more radical approach than the mere recognition that there are fundamental differences in the modes of information transfer in biological and material cultural realms, as well as in the nature of evolving entities themselves. Such a critique would implicitly reiterate the problem. Although it attacks the basic underlying assumption for homologous similarity, it retains the dichotomy between a biological versus a cultural domain. As a consequence, it continues to maintain the standard distinction between cognition and material culture. But in doing so, it leaves unaddressed precisely what matters the most, that is, the hybrid realm of the intersection of biology and culture—the realm of material engagement. In other words, the main issue here pertains rather to the nature of the connection and interaction (and potential information flow or exchange) between cognition and material culture. Specifically, it relates

to the implications of the claim for a constitutive intertwining of mind with the material world in human evolution.

The neo-Darwinian approach, in all its different manifestations, has had little success in bringing out the relationships between people and their object worlds. Although the “population thinking” approach to cultural evolution³⁰ manages to avoid the fallacy of classical sociobiology and memetics by recognizing that cultural change is not a mere extension of biological evolution, it nonetheless fails to incorporate a strongly (p. 110) interactionist and dynamical view that would enable overcoming this problem. The kind of “interaction” that one can find at the heart of the gene-culture coevolution approach is far too soft to provide an adequate description of the relation between cognition and material culture. We are not denying that for gene-culture coevolution theory, “culture” is indeed recognized as an important influence, but as long as the cognitive system and its development remain confined to the organism alone, environmental and cultural resources might influence the process of development and evolution, but they remain fundamentally distinct and secondary when compared with genetic influences.

To a large extent, the conceptual barriers currently confronting neo-Darwinian evolutionary biology have long been pointed out, especially from the niche-construction perspective.³¹ Niche-construction theory, since Richard Lewontin first introduced it to evolutionary biology in the 1980s,³² has consistently and explicitly emphasized “the capacity of organisms to modify natural selection in their environment and thereby act as co-directors of their own and other species’ evolution.”³³ The recognition that the relationship between an organism and its relative niche can be modified, and that those alterations (conscious, in the case of humans) matter to the evolutionary process, also demonstrates the evolutionary significance of the huge variability we see archaeologically in material culture and the built environment. From the perspective of material engagement theory, the recognition of the material world as a constitutive and efficacious part of the human cognitive system means that interaction elicited by our surroundings (human or nonhuman) not only influences our cognitive abilities and affective responses from the very beginning but also shapes the form and the constitutive mechanisms of interaction. Different forms of material culture demand and dictate different kinds of engagement and forms of relatedness. New materialities (objects, materials, or assemblages) bring about new modes of acting and thinking. Those changes are not simply epiphenomenal, adding layers of complexity and variation on a stable, evolved core of natural cognitive capacities. Instead, they penetrate and alter the historical constitution of that core. Evolutionary psychology and neo-Darwinianism misrepresent human nature because their account of material culture lacks this recognition.

How can we understand these processes better? A notion of *metaplasticity*, able to accommodate the hypothesis that the plasticity of the mind is continuous and inseparably constituted with the plasticity of culture, offers a promising avenue for building some analytical bridges between the short- and long-term aspects of human cognitive becoming.³⁴ Moving away from the dichotomous account of development and evolution toward an account incorporating elements from developmental systems theory (DST),³⁵ “niche-con-

Mind, Time, and Material Engagement

struction theory,”³⁶ and neuroconstructivism³⁷ and probabilistic epigenesis³⁸ will put us in a better position to recognize the multiplicity and dynamical character of resources contributing to the developmental process. What this means, essentially, is that there is no predetermined central driver (genetic or cultural) but instead a temporally emergent coalition of situated developmental forces. Karola Stotz phrased the issue in this especially insightful way:

(p. 111)

The focus on the human-being-in-its-developmental-niche dispenses with the need of a definition of humankind based on universal and genetically specified abstractions. It should help us to embrace plasticity, human self-engineering, and an openness to the world. The “nature” of the organism becomes the natural outcome nurtured through the open-ended process of development that is not genetically predetermined but reliably and flexibly guided by the process of developmental niche construction.³⁹

The proposed shift of focus on the plastic and changing nature of the human mind through an examination of the dynamic relationships or linkages among brains, bodies, and things changes, no doubt, our ways of looking at the past. But how exactly can all this aid historians and archaeologists?

Mind, Time, and Material Agency

Archaeologists, working primarily with material assemblages and artifacts of the past, are very aware and interested in the plasticity of the object world and the different forms it takes—although they use different terms (e.g., style and cultural change) to describe these phenomena. Archaeologists are far less familiar with or interested in the plasticity of the mind and brain, and as a consequence, they are unaware of the important consequences that the latter might have on the former and vice versa. The same applies to history. With some noteworthy recent exceptions, such as Daniel Smail’s book *On Deep History and the Brain*, the call for rethinking “humanity’s deep history as history, not just biology or anthropology”⁴⁰ has yet to receive the attention it deserves. There are many reasons for this, but Smail suggests that those that relate especially to historical writing essentially come down to simple academic “inertia” and the various “ghost” theories and ideas that structure the way we think about the mind in the past without our even being aware of their presence.⁴¹ For instance, a traditional obstacle to a deep history of mind is the common belief that archaeology in general and prehistory in particular study material culture because they lack other forms of historical (i.e., written) sources of evidence. But this assumption about the superiority or directedness of written evidence has been falsified and should be abandoned.

We are not saying this because we think material culture can be seen as a kind of text that the archaeologist could potentially decipher. This is not what we mean when we say that objects are active. Rather, it is because material culture, unlike any historical docu-

ment, enacts the history that a text can only describe. Objects can be viewed as historical agents because history would be different if they were not there. It is in the latter sense, namely, in its capacity as an enactive sign able to “bring forth” and constitute rather than simply “represent” or narrate, that the agency and materiality of the historical document as a “thing” should be understood. The study of history and the making of history are inseparably connected with the tangibility of everyday things.⁴² The written document (p. 112) is just such another “tangible thing” with its own special properties and affordances. Another good example of “ghost” ideas are the cognitivist theories found at the heart of evolutionary psychology and old-fashioned computational cognitive science. The controlling presence and influence of cognitivism on how we think about the mind is responsible for making most historians, archaeologists, and social anthropologists skeptical about incorporating a cognitive dimension in their study. As mentioned this is changing now.

A number of alternative, influential frameworks that open up new analytical paths to human becoming, and deal more seriously with the nature of the links between brains, bodies, and things, demonstrate that we no longer need to be bound by representational logic. The renewed interest, on the one hand, in the engagement of mind with the material world, and on the other, in the agency and vitality of things, has been especially useful for overcoming the problems with the cognitivist paradigm, and doing away with some deeply misconceived “internalist” assumptions about the function, ontology, and location of human cognitive operations.⁴³ Still, the question of what we mean when we speak about the agency of things remains open. There are at present various theoretical trends (ranging along a continuum of radicalness), both within and outside of archaeology, that explore these issues.⁴⁴ It suffices to point out here some of the underlying threads and potential pitfalls that could help us better understand the need for taking material culture seriously.

One very popular, but we believe unhelpful, way to think about the agency of things is to ascribe to them, as the anthropologist Alfred Gell⁴⁵ appears to have suggested, a kind of “secondary agency”—that is, to think of objects as agents with derived intentionality. But this conception renders material culture a passive instrument of human intentions and probably “distracts attention from Gell’s main point, which is that we should concentrate on the effects of objects and the formal qualities of objects which were aimed at creating effects.”⁴⁶ It is important to clarify, then, that the notion of material agency we advocate here does not aim to animate things in some way that will make them look more like people, but with certain deficiencies of intention.⁴⁷ Such an isomorphic conception will not help us overcome the distinction between animate people and inanimate objects. As Ian Hodder points out, one characteristic of the entanglement of people and things is that “our relations with things are often asymmetrical, leading to entrapments in particular pathways from which it is difficult to escape.”⁴⁸ The whole purpose of recognizing that the objects we make and use can be seen as prosthetic extensions of ourselves is to acknowledge material culture as a creative and constitutive part of social and cognitive life, rather than as a passive instrument of externalization. In other words: “Objects can be seen to be active, but they are active in the manner of objects not in the manner of peo-

ple. ... the active nature of objects lies in their ability to elicit and channel particular sensory responses on the part of people.”⁴⁹ Ultimately, what we are after in emphasizing notions of material agency is not to establish a symmetry or isomorphy between people and things; it is instead to establish an *isonomy* in the way people and things are treated when it comes to explaining human becoming. People and (p. 113) things have an equal right to participate, from their own distinctive perspective, in the process of becoming, and thus we should not privilege the one over the other when it comes to studying that process.

How, then, can an ecological approach to agency,⁵⁰ incorporating notions of material agency⁵¹ and vital materiality,⁵² change the way we conceptualize the role of material culture in human cognitive life and history?

A possible answer to this question can be found by concentrating on the effects of objects on the sets of social relations attached to various forms of sensory activity associated with their use and life history. A good starting point would be, for instance, to examine things as agents of tradition and change through the social relations they help create and maintain or renegotiate. Just by looking at the different forms and networks of production, exchange, and consumption, and by exploring their social and political consequences in different historical contexts, one could get an immediate, straightforward sense of the ways in which human and object histories inform and constitute each other through the creation and maintenance of social, emotional, and aesthetic links. The central idea that objects are capable of accumulating histories through their existence has been expressed in archaeology through the notions of “life history”⁵³ and “biography.”⁵⁴ The basic premise behind what has become known as the biographical approach is that “as people and objects gather time, movement and change, they are constantly transformed, and these transformations of person and object are tied up with each other.”⁵⁵ In this connection, a theory of material engagement incorporating notions of “metaplasticity,”⁵⁶ “cognitive ecology,”⁵⁷ and “social ontology”⁵⁸ can be used to exemplify the recursive relationship between brains, bodies, and things by providing new relational ways of thinking about the flows and interactions among brain-body-world, in which each of these three terms acts as cause and effect, without attributing a causally determinant position to any one. A historical biography of material engagement is thus needed, one that will allow us to think comparatively about the changing effects the variety of relationships between people and things have in different cultural and historical contexts. This brings us to the second major way that material engagement can aid history, which is temporality.

Very much like archaeology, history is particularly concerned with the study of long-term change and distinguishing what came “before” and “after.” The latter is essential for making sense of causality and understanding the temporality of different events. Especially in archaeology, time and material culture are two themes that define, more than anything else, what differentiates the archaeological perspective on the human condition. Moreover, as many archaeologists have pointed out, the two notions of time and material culture are linked.⁵⁹ Geoff Bailey uses the term “palimpsest” to describe the process of superimposing successive activities over variable periods of time and the ways their material traces are partially destroyed, reworked, and transformed to create “complex layered

and multi-temporal entities that disrupt conventional views of temporal sequence.”⁶⁰ This intimate link between time and material culture can easily be extended to incorporate various aspects of human mind and consciousness. (p. 114) For instance, conceptualizations of selfhood and memory are inseparable from the temporal awareness of past peoples.

Obviously then, time is of the essence. Paradoxically, the study of human evolution has always been ahistorical and atemporal, as if the process of evolution exists out of time. The sense of time that one finds in classical evolutionary theory is predicated (explicitly or implicitly) as strictly separated from the lived time of human experience. The reason for this is quite simple: Evolution was seen as something that happens outside history (and development). On this construal, history begins when evolution stops. Against that claim, we argue that archaeologists and historians alike need to reconsider the problem of time through a rethinking of the nature of mind and evolution. The quest for establishing culturally sensitive and historically valid links between the brain’s functional structure and the plasticity of the object world calls for a methodology that, among other things, is able to integrate different temporalities and allow that connections can be made between microscale cognitive and neuroscientific theories and the macroscale material realities of the archaeological record. In this sense, material engagement provides a point of intersection for three interconnected time scales: evolution, development, and situated action.

How is this possible? The role of material things is crucial for “binding” the temporality of daily life and action to that of the “longue durée” of history and evolution. We should keep in mind that time is one of the defining features of human phenomenal experience and thinking. Moreover, “human time flows on a number of levels”⁶¹ and operates at different speeds. One important question that unites history, archaeology, and anthropology concerns the nature of the relation connecting the varieties of phenomenal consciousness, and the varieties of historical consciousness operating over different scales, durations, and rhythms. We propose that the phenomenon of material engagement help humans solve the problem of how to live and think between often widely differing experiential levels (e.g., neural, bodily, cultural, and evolutionary). It also brings within our reach and conscious awareness the possible range of different time scales of activity available to us. Specifically, the engagement of the mind with the material world provides temporal anchoring and binding that helps us move and think across the scales of time.⁶² In particular, when humans engage the material world by using a simple artifact, they establish a bridge with the larger-scale processes at work beyond their awareness or control that are embodied in the objects at hand. With things, the past becomes present. Through their physical persistence and durable properties, as Geoff Bailey writes,

[Things] give to human awareness a sense of time extending beyond individual lives and perceptions, and to archaeologists the opportunity for empirical exploration of human activities beyond the reach of personal observation, oral testimony or written records.⁶³

The latter process must be of special interest to the historian.

(p. 115) Epilogue

We started this chapter with a critique of current neo-evolutionary models of thinking about cultural change and their view of culture as a separate evolutionary system that operates in parallel to biological or genetic evolution. We proposed that the only way one could speak meaningfully of cultural and biological evolution is as forming a single inseparable and situated process of human becoming. Thus, we argued that a more holistic and relational conceptualization of human cognition as profoundly embodied, enacted, extended, and distributed opens the way to reanimate the importance of history and development in the study of human cognitive evolution. On this we also argued, with Smail, that although archaeologists, historians, and anthropologists alike need to be concerned with the workings of the mind, evolutionary psychology, at least as it is currently defined, “with its inexorable presentism is not ... the way to go.”⁶⁴ Instead, we argued that a focus on the phenomenon of material engagement provides a most productive and empirically accessible means to situate and integrate those processes (evolutionary, historical, and developmental). In particular, drawing on the principles of material engagement theory,⁶⁵ and building on notions of “social ontology” and “object plasticity,”⁶⁶ we sketched a different approach to the study of human becoming that recognizes the impact of material culture on the making and evolution of human intelligence from its earliest beginnings to the present day. The new focus on material culture that the material engagement approach brings with it will enable historians not only to rethink old questions and problems in new ways but to also construct a new approach to historical analysis, one in which minds and things play a more central role.

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Mind, Time, and Material Engagement

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