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**SPECIAL ISSUE:
HOW MATERIALS SHAPED
THE HUMAN WORLD**

**THE PHENOMENOLOGY OF
MIND AND MATERIAL:**

Ceramica Argentea Production In Etruria

Michael Dennis McCabe III

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THE PHENOMENOLOGY OF MIND AND MATERIAL:

CERAMICA ARGENTATA PRODUCTION IN ETRURIA

MICHAEL DENNIS McCABE III

ABSTRACT:

Ceramica argentata stands out in Etruscan ceramic production, particularly for its dialectical blending of two worlds into a finished product, metallurgy and ceramic production. Modern research on the topic primarily focuses on explaining the production sites and the step-by-step process of the production method. Recent developments in new materialist thought offer a new perspective on past analyses of *ceramica argentata*; the focus of this article is to demonstrate the applicability of material engagement theory (MET) on *ceramica argentata* to shed new light on the relationship between maker and material. This article combines past research on physicality, production and production sites with MET and the notion of prehension to break down previous delineations between mind and material, and frame new conversations around *ceramica argentata*. In doing so, this contribution aims to foster further conversations regarding agency and how it is produced, highlighting the role of sense-scapes and the mind as having no *a priori* location.

KEYWORDS:

Materialism, Prehension, Cognition, Ceramic production, Etruscology

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INTRODUCTION

The development of *ceramica argentata* stands out particularly in ceramic production within the Etruscan sphere of influence. *Ceramica argentata* is a process which involved the dipping of ceramics into molten tin or rarely other precious metals, and drying them to form a slip that resembled a valuable silver finish. This development had a significant impact on how the viewer perceived the finished product, the senses involved, and the transformation on behalf of the craftsman (Haynes 2000, 325). Understanding Malafouris' material engagement theory and how it applies to the case study of Etruscan ceramic production and, more specifically, the development of *ceramica argentata* offers to shed new light on this material development. What changes result from applying a metallic slip? How does the perception of the material change fundamentally when the slip is applied? What can be gained from applying material engagement theory's phenomenological perspective, and how does its application vary from traditional Heideggerian phe-

nomenology in this particular case? Material engagement theory and its impact on research on phenomenological studies are instrumental here in developing a new understanding of the impact and relationship between material and maker.

The resulting article will approach previous questions by first providing a brief synopsis of the theory used and how it offers a new perspective; then attempt to document the materiality of *ceramica argentata* (what is to be understood from this change and what physically happens to the material prior to and post slip application); then offer an overview of the production method itself; and finally discuss material engagement theory's usefulness in our understanding of *ceramica argentata*. This article aims to analyse what can be gained with such an approach, as opposed to taking the materiality at face value (a typological approach) or using the older Heideggerian phenomenological perspective.

MATERIAL ENGAGEMENT THEORY: THINGING, PREHENSION, THROUGHNESS

Heidegger stands as one of the foundation figures for post phenomenology and as a result, one of its largest targets. His philosophy of technology has been criticized for being essentialist or in short, holding a "one size fits all" model of interpretation (Ihde 2010, 114). Other criticisms have ranged from the former, to "failing to connect with specific technologies" (Verbeek 2005, 95). Regardless, Heidegger's early work such as *Being and Time* and the concept of *Dasein* inevitably lead to post phenomenological thought with its radical concept of "Being in the world" both of which play critical roles in the development of New Materialist thought (see Heidegger 1996).

Malafouris, in his *Mind and Material* engagement, explains how material engagement theory takes a step forward with its phenomenological position, pressing the notion of the act of creation in the production method itself. The mental exchanges throughout this process are laid forth as a phenomenological experience, rather than the artist and material *being in* the world as separate entities. In the case of *ceramica argentata* this new application comes to fruition through a dialectical method, merging two unique crafts to create a synthesis that blends two completely different worlds—the application of metallurgy to ceramic production changes all of the senses involved with its construction. For instance, sight, smell, and touch all react in a completely new way to the utilisation of the slip in comparison with the step preceding it, the shaping of the ceramic vessel.

To ground material engagement theory within this analysis, its historical roots must be addressed. The pioneering contribution of Olsen, Shanks, Webmoor & Witmore (2012) in *Archaeology: The discipline of things* has led to a series of new theoretical models surrounding material culture, aptly named new materialist thought. Similarly, to many of the new materialist strains, material engagement theory had not developed within a vacuum but instead resulted from a culmination of frustrations regarding the cartesian heritage of cognitive archaeology (Thomas 2004, 27). The development of material engagement theory by Lambros Malafouris (2013) focuses on creating an approach focused on the ontological unity of mind, world and body. What this means in archaeological practice, is the intentional study of the relationship between material culture and cognition through space and time, and what the consequences of material engagement are regarding the shaping of mind (Barona 2021, 143). Material engagement theory comes amidst the backdrop of similar theoretical discussions, such as the social brain hypothesis (SBH), 4E cognition, and theory of mind (ToM) models, which aid in its genesis, notably in an attempt at a rebuttal against said Cartesian biases. Archaeologists have used SBH and ToM to interpret the relationship between social cognitive and technological evolution, especially regarding the Paleolithic (Gamble et al. 2011; Gamble 2013; Gowlett et al. 2012). What both theories leave out, however, is the relationship between maker and material, material agency and the evolutionary efficacy of material engagement. The fundamental step forward with the development of material engage-

ment theory is the perspective that while SBH offers to invoke matter more constructively by highlighting the underlying forces of change, material engagement theory suggests that these forces of change must be within the act of engagement itself, not before or following. The growing interest in 4E cognition is one of many perspectives attempting to push back against this cognitive view of the location of mind and the material world¹.

How is material engagement theory represented, and what makes it different in its approach to cognitive archaeology? First and foremost, the theory is shaped by the principle of the mind having no *a priori* location; this is fundamental in understanding the following process. There has been a significant effort to create boundaries and delineation between the mental and the physical in past analyses. However, as Malafouris argues, this frame of thought fails in most real-life situations where thinking and interacting with the physical are inseparable in a material ecology (Malafouris 2019, 2). This pushes the concept of materials playing a significant role in human cognitive evolution; humans think through construction and material interaction, thereby leaving memory traces (Malafouris 2008a, 363). These memory traces, for example, are one aspect of a built knowledge or rather learned knowledge in the larger ecosystem of the mind. MET is a theory seeking to understand intelligence, not merely as a reflected form originating within the physical brain, but as an intuitive process where intelligence is enacted through the physical (Iliopoulos 2019, 2). This contradicts earlier barriers between the mental and the physical, in that it argues for our bodies not to be considered as external markers of human mental architecture as Malafouris puts it, but rather as active participants in the process of the mind (Malafouris 2019, 3). If we take the mind as having no *a priori* location, it allows us an abstract stance in regard to what the mind really is. In that process we are given the ability to create a mindscape involving not only what resides within the human brain, but incorporating the senses in real-time, the build-up of memory through action, the surrounding environment and the material itself (Gosden and Malafouris, 2015).

MET varies slightly from the standard Heideggerian phenomenology, the phenomenological method developed by Husserl and later expanded by Heidegger in the early 20th century. MET does this in stepping away from the notion of being-in-the-world toward the process of becoming with and through the world.

'The concept of thinging denotes the kind of thinking we do primarily with and through things. For the material engagement approach, withness and thoroughness take precedence over aboutness... thinging should be seen itself as an act of consciousness' (Malafouris 2019, 7).

This is a transformative notion, the idea that experience is a mode of cognitive becoming. Rather than thinking that a flow of energies from materials to humans' forms agency, we have to detach ourselves from the notion that it exists independently and establish the perspective of agency through the action of creation. Understanding this form of agency is essential, as it allows us to step back from thinking of production in perfect phases of ex-

¹ Material Engagement theory and many of the New Materialist strains find themselves in relation to 4E cognition sometimes known as enactivism. The 4Es in their most basic form regard the mind as: Embodied, Embedded, Enacted and Extended see Thompson (2007) for a detailed description of enactivism.

ecution, rather it considers the production in its totality. The production then is a fluid process that takes form due to the cause and effect of the factors at play. In this case, this ontological gathering of mind-stuff, sensory experience, the ceramic or metallic material, or neural patterns is what Malafouris explains to be *thinging* (Malafouris et al. 2014, 1-4). The shift of focus from *think-ing* to *thing-ing* represents a twofold process: *think-ing* usually accounts for the understanding of something in its absence, whereas *thing-ing* can be understood as the process of thinking that occurs *with* and *through* materials. In essence, the purpose of Material Engagement Theory is to shift focus away from the experience of thinking *about* materials to an approach where *withness* and *throughness* take precedence in action.

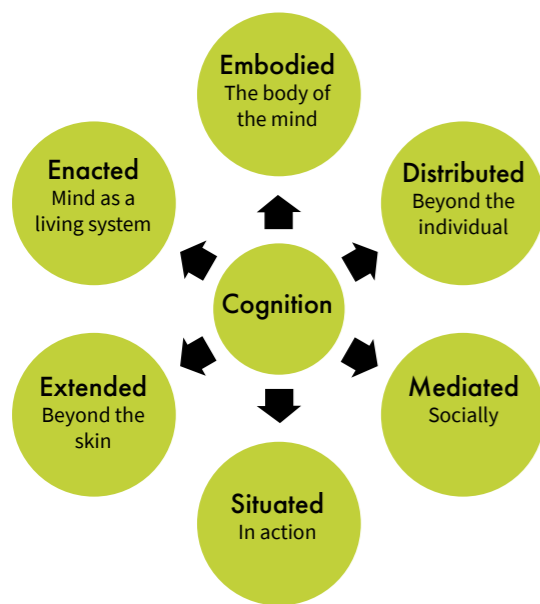


Figure 1. Chart detailing Material Engagement Theory's approach to cognition (adapted from Renfrew and Bahn 2016, 430 fig. 10.67).

The notion of *prehension* is critical to applying can material engagement theory in the case of *ceramica argentata* production (see Whitehead 1978). *Prehension* can be fundamentally defined as relatedness. This relatedness is exhibited as a worldly system of *relata*, reshaping the spatiotemporal configurations of entities and transforming perception and ideation into relations composing the world; blending time, memory and feeling, it is indicative of the perceivers enveloping the perceived either consciously or unconsciously into oneself (Griffin 2001, 79; Litman 1947, 236). The natural lean of MET toward this theoretical background, allows the understanding of a material consciousness, not just in the potter's brain or body as separate ontological units, rather as the ongoing exchange between biological and non-biological materials, energies and surroundings (Whitehead 1978, 208; Malafouris 2019, 11). The use of *prehension* here complements can material engagement theory in forming a fundamental base and offers additional scope in understanding the exchange that occurs between the various aspects of the mind, incorporating it offers to further integrate material and its affordances into the mind.

CERAMICA ARGENTATA PRODUCTION
As is the case with much of Etruscan ceramic studies, *ceramica argentata* has been subject to thorough scientific scholarship or, in a more traditional manner of a typological report (see Dionisio 2014 2021; Ramage 1970; Rasmussen 1979). While these reports and scientific studies have added much to the study, especially regarding conservation, the analysis of *ceramica argentata* generally lacks in conceptual approaches. In this way, applying new theoretical models to overlooked areas of Etruscan ceramics will add depth to our understanding of how these various developments shaped Etruscan society.

The ceramic production process and, more specifically, the production of ceramics with a metallic slip can be limited to three main production areas: Volsinii territory (workshops in Orvieto and Bolsena), Faliscan Territory (Falerii, Corchiano, and Vignanello), and Volterra (Michetti 2005, 112). The workshops flourished from the end of the fourth and third century BCE and consisted of various vascular forms related to wine serving and banqueting. While the objects are seemingly related to large container vessels, they have been primarily observed in funerary contexts (Turfa 2017, 988).

Ceramica argentata production is closely connected to the black varnished ceramic as far as the imitation of metallic prototypes is concerned. *Ceramica argentata* as an archaeological class also finds itself deeply rooted in the iconographic schemes of Magna Graecian ancestry and mythological portrayals (Ambrosi 2010, 60). The visual representation of the Amazonomachy attests to this (see Fig. 4), with connections being made between *ceramica argentata* production of the Volsinian production and the metallic prototypes of Taranto in the mid 5th- 4th century BCE (Fischer-Hansen 1993, 59; Michetti 2003, 34, 112).

There was an extended period of replicating ceramics using metal prototypes in Etruria leading up to the fourth century BCE. Early Bucchero ware was a fundamental stepping stone in this process, attempting to replicate the desired appearance of metallic objects with its dark finish (Ramage 1970, 11; Perkins 2015, 4). There is a long-standing desire by Etruscan aristocrats to acquire advanced metallurgical constructions and the role that toreutics plays on Etruscan craft construction is significant. Examples of advanced metalworking can be seen stretching back centuries in constructions such as Etruscan armaments (Cowan 2014, 747).

Therefore, we can see that a thorough understanding of metallurgy developed in Etruria for some time, with increased interest in replicating it through shape or form in ceramic production. *Ceramica argentata* serves as a cheaper method at replicating Etruscan toreutics, a tradition that has its origins deep in the ancient past, well into the creation of Bucchero ware a staple of Etruscan material culture with its roots in the 8th century BCE (Dionisio 2014, 1; Perkins, 4). The development of *ceramica argentata* arose from the incorporation and deep understanding over generations of metallurgical production.

The producer understood the finished ceramic product, its qualities, and operated concerning temperature, appearance, time to cool, and means to carefully 'dip' the ceramic vessel into the molten tin. All of which follow the material engagement needed to produce ceramic vessels, which comes from a complex working relationship with the material to produce a finished product (Ramage 1970, 11).



Figure 2. Fragmentary plate in *ceramica argentata* (adapted from Barbieri 2003, 213).



Figure 3. Fragmentary Krater in *ceramica argentata* (adapted from Barbieri 2003, 209).

THE MATERIALITY OF CERAMICA ARGENTATA

Understanding the physicality of *ceramica argentata* will help situate the application of can material engagement theory while applying the theory to the production method. Shifting toward the material make-up of *ceramica argentata*, the example given by Barbieri represented in Figures 2 and 3 illustrates this well. Figures 2 and 3 show homogeneous clays, which are well-purified, and have an orange interior shade when finished. The coating, which seldom lasts into the modern period, can be identified via its light green shade. Through microscope analysis, abrasions that suggest the process of cleaning and maintaining the finish can be seen. The remaining shade from the original coating does not appear homogenous, likely due to its deterioration; grey and white spots can be seen scattered throughout, which Barbieri has linked to the possibility of fungi (Barbieri 2003, 208). The examples provided highlight a crucial element, the division of the production into three separate 'stages' of development: first, the construction of the vessel form; second, the application of moulds or reliefs following the vessel's construction (as illustrated with the decorative handles in Figure 2); and lastly, the 'silver' finish that is applied (Barbieri 2003, 207-210). While we may be presently inclined to view distinct and different premeditated production stages, it is fundamental that we not focus on the individual acts as stages, but rather the totality of working with the material and construction of the product.

During the production of the vessel form (representative of the first 'phase'), a potter's wheel would have been requiring the potter to interact with the material through the senses of sight and touch to feel the movement of the vessel as it began to take shape. These senses of sight and touch play a fundamental role in the build-up of sedimented gestures and motor habits forming practical knowledge. The second phase, which can be seen as a decorative transition, required the application of various tools to allow the craftsman to feel their way through the material and the allowances given to the potter, via the clay. This decorative phase serves as a primary example of the *throughness* that occurs in this process. The plasticity of the clay, while still open to change, significantly impacts the future of its construction and application of various elements (decorative and slip); the potter must carefully feel their way through the material and its allowances. This then affects the following stages, the plasticity of the material must be equally as represented in the mind, effectively creating a sense-scape, a state of consciousness in the moment of its creation and through a continuous flow of energies wholly intertwined with the action. This state of consciousness can be seen to be representative of the concept of *metaplasticity*². This, too, continued into the final step, applying the slip. The metallic slip involves the process of melting down tin (or sometimes other precious metals) and dipping the ceramic vessel into the molten material, then allowing it to cool once removed. This step completely changes the

² The notion of *metaplasticity* refers to the concept of 'human becoming' as put forth by Malafouris. Metaplasticity refers to the relationship (or series of *relata*) that encompass the physical and non-physical aspects of a mindscape.

sensorial experience of the material, creating a new plasticity of metal in addition to the clay's natural plasticity.

MATERIAL ENGAGEMENT THEORY AND ITS RELEVANCE TO CERAMICA ARGENTATA

With the culmination of *ceramica argentata*, we see a new step in the phenomenological experience of ceramic production. The multiplicity of factors lending themselves to the process of throwing clay and forming it into a vessel take on new meaning when synthesized into a process that merges metalworking and ceramic production. However, it is fundamental that this conversation remains independent from the modernist perspective of what matter and mind consist of; in other words, reshaping the conversation from entities to events. For the craftsman, viewing the events in snapshots of time, as we now typically recognize them to be, would not have been the case as the work with the material unfolded (Malafouris 2008b). Additionally, the material takes a primary (mind having no *a priori* location) rather than passive (mind having *a priori* location) role in the construction of a finished product, which happens as a result of interaction, this interaction is explained below.

What then, can material engagement theory offer in its approach to the archaeological significance of *ceramica argentata* and how can it be applied in a practical manner? If we, for example, think of the processes of ceramic production and visualize the events unfolding: the experience of working the clay, pushing and pulling the elements together, the spinning of the wheel, the pressure involved from the fingertips, how moist the clay is, from here we can gather pieces of an event unfolding, a flow of energy between potter and material (Malafouris 2019, 9). Here we can recognize the cognitive experiences that occur between material and mind, the affordances given by the material, and the reaction and production that is reformulated back into the clay to produce a particular form; there is no definitive demarcation that occurs between the mind-stuff and the inanimate material-stuff (Thompson 2007, 13). The development of the product occurs via the act of creation, as argued by Malafouris. However, if we remove MET and its applications, what would be the traditional approach? The traditional approach would lead us to believe that a model of mental causation would be applicable. A predetermined act of creation within the physical brain is followed by an enactment which leads to a finished product. The traditional Cartesian models leave no room for flexibility, the only productive creativity that is taken into account is that which resides within the physical mind as opposed to Malafouris' mode of becoming which pulls from the concepts of enactivism and active externalism (see Valera et al. 1992; Di Paolo et al. 2014). This is where the clear demarcation between the mind having *a priori* location and not factoring in the engagement with the material or agency, fails to explain developments in the process of creation; the analysis for cognition must be responsive to the subject under study (Hutchins 2010, 426).

Agency is then the result of a flow of energies, a material engagement, whereby energies are transformed into

agencies as a result of the creative tension that coalesces with form and flow. This is where the potter's skill comes into the equation, 'it is the precision in discovering the right balance of agency for each specific stage of the process of form-making... a new form brings about a re-working of the potter's imagination and ways of seeing and a new understanding of the agentive capacities and vitality of the clay' (Malafouris 2019, 11).

The visual examples help us understand the processes occurring in the production of *ceramica argentata*. The above-mentioned process of this exchange of energies occurring through material engagement illustrates the affordances given to the craftsman by the material (Gibson 1977, 68). This can be seen here with the post-application of frieze work to the outside of the shaped product. Working through the material, the potter would have faced countless pressures and changes in imagination as they worked with the clay. This is demonstrative of agency not existing as a permanent feature of the maker or the material – rather, it emerges through this creative tension. Rather than human intentionality forming the object through fixed directional capabilities and thoughts stemming from the brain, it results from the material being enveloped into the mental, during the act of creation, employing Whitehead's notion of *prehension* (Hartshorne 1978, 256). We have a problem in our understanding of agency, if agency is to be accepted as not within material or the physical brain and rather understood in action: the question of agency then shifts from 'what' to 'when' (Barona 2020, 143). It is only after that a separate but similarly unique example of material engagement occurs in the frieze application. However, this application depends entirely on the process that occurs before it, suggesting the cognitive imagination between material and mind. If there was too much pressure, not enough moisture, or any other mistake during production, the following application of a frieze would not have happened. Therefore, the relevance of a thoroughly planned out human methodological impact as a sole representation of how this production came to fruition loses all meaning in creating the craft (Wynn and Coolidge, 2014). Thus, the frieze work depended on the potter's level of imaginative thinking and reaction (skill) to the material resulting in a highly complex phenomenological experience of material engagement (Barbieri 2003; Michetti 2005).

The example of an amphora constructed in *ceramica argentata* ware (figure 4), initially formed on a potter's wheel, is an example of intimate engagement with the material throughout the above-mentioned process. The second part consists of the sculpting of the frieze element, which requires working through the clay to get to the desired depiction. Finally, the molten tin bath to form the slip would have needed to have been applied using precisely the correct temperature, time, and cooling. A very similar process occurs here as in the prior figures. Do all three stages (the shaping of the amphora, the creation of the amazonomachy frieze, and the ability to submerge it within the molten metal) represent different actualizations of material engagement? No, because how specialized the task work is when considering the prolonged period of working with and through the materials



Figure 4. *Ceramica argentata* production: complete amphora with a visual representation of frieze work, (www.getty.edu).

to provide a finished product. While it may be easy to separate this work into three distinct cognitive processes, it is tantamount that we view this as a complete and malleable process of the mind and take a serious phenomenological approach concerning the producer and the product. The process is constantly in flux, with all future actions dependent on the moment in which the producer is currently in and their response to the affordances given by the material, which in turn is a generation of agency not as a 'what' but as a 'when'. A prolonged material engagement between the plasticity of mind and material, cements the build-up of knowledge and motor behaviour as resulting from the material itself changing and building upon a cognition of becoming (Stout et al., 2011, 1335; Wynn and Coolidge 2014, 50).

Material engagement theory and its relevance to *ceramica argentata* becomes all the more interesting if one applies the theoretical framework to the Etruscan ceramic production's *longue durée*. If we understand the potential of applying MET as an evolutionary paradigm, questioning the neo-darwinian models in the development of human cognition, the larger scale of Etruscan ceramics can be taken into consideration³. It is known that organisms modify their own environments and as a result

play an active role in the dictation of their own evolution, these changes result in the creation of two fundamental building-blocks for the understanding of cognitive evolution; what Hutchins describes as 'cognitive ecologies' and landscapes of affordances (Hutchins 2010, 705; Rietveld and Kiverstein 2014, 326). What is significant here is the understanding that future generations are impacted by the material affordances of prior generations at any given moment within their craft vis-à-vis the cognitive mode of becoming that occurs in the act of creation (MET) (Hutchins 1996, 428). If we take a theme that resonates throughout the Etruscan *longue durée*, such as toreutics as mentioned prior in this analysis, new conceptualisations of Etruscan development can be brought to light. Such questions, begin with restructuring our understanding of mind and from there cognitive evolution; reshaping the position of *ceramica argentata* production to one that may be an apex to cognitive development fixated on toreutics offers ample opportunities for analysis of material engagement and the extended mind. These questions go far beyond the limitations of this analysis; however, they do offer depth and a radical shift toward our understanding of the deep past and the consequences that come as a result of our engagement.

CONCLUSIONS

What new perspectives does can material engagement theory offer in terms of *ceramica argentata* production? The production of *ceramica argentata* is a prime illustration of the concept of *thinging*. Through *thinging*, the depths and bounds of creative imagination run deep and are the result of a reworking of the ways of seeing and capacities of the material, which manifests itself in agency as a 'when'. A phenomenological approach and incorporation of Whitehead's notion of *prehension* allows for the introduction of multisensorial thinking and abstract conceptions of time and learned behaviour. Through material engagement theory, we can shift the thinking of production from a perfect set of phases that result in a perfect finished product, into an experience wholly defined by what happens in the moment of production.

This fluid process, always subject to change and development, is a relationship between material the senses and mind, and finally, a link between times and physical barriers that amount in its totality to a lived experience of material engagement. This process can be demonstrated well past the boundaries of mind and matter, even into other dimensions of craft production and learned knowledge. The application of MET provokes larger questions regarding the systems of *relata*, affordances, memory, time and the entanglement of mind and the world. Pinpointing themes of development and applying new theoretical moulds offers to reshape the creative histories of a peoples from one limited to the directional capacities of an individual to one where the mind is deeply embedded in the material. Themes and trends may be called into question not strictly as cultural influences separate from

³ For more in-depth critiques regarding the Neo-Darwinian models of evolution based upon genetics see Jablonka et al, 2014; Laland et al., 2014, 2015.

the mind, but as key cognitive developments. MET, 4E cognition and much of enactivist thought should play a foundational role in our understanding of archaeological material. MET holds a perspective specifically created to incorporate the archaeological realm into cognitive evolutionary theories and as such, holds much potential in its expansive reach in terms of what may be reinterpreted and how new data may be analysed. The material engagement approach is perhaps the best answer to understanding the phenomenology of material and mind, how they interact and blend together in a space where a clear demarcation between mind and material cannot exist.

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