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ARTIFACTS, OTHERS, AND TEMPORALITY: AN ENACTIVE AND  
PHENOMENOLOGICAL APPROACH TO MATERIAL AGENCY

by

Tailer Geoffrey Ransom

A Dissertation

Submitted in Partial Fulfillment of the  
Requirements for the Degree of  
Doctor of Philosophy

Major: Philosophy

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Preface:

Part of the text for Chapter 1 was taken from an article under the same title that was published in the journal *Phenomenology and the Cognitive Sciences*.

For Reverend Doctor David & Louise Ransom

## Acknowledgements

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I am, as always, grateful to my mother, father, brother, and sister. My friends and family have been a constant source of inspiration and support, although their specific contributions to a doctoral dissertation are hard to itemize and make explicit. Perhaps these contributions are, therefore, among the most important.

### Abstract:

This dissertation will be organized in the portfolio style. It will center around the themes that develop further and expand Material Engagement Theory, especially regarding the hypothesis of material agency. The dissertation will focus on (1) clarifying and making intelligible certain aspects of this theory from the perspective of embodied and enactive cognition and phenomenological approaches to contemporary cognitive science, and (2) using some of the ideas from MET to make interventions in and enrich the current state of literature. The independent papers of my dissertation will follow roughly this trajectory. The first will deal with a phenomenological approach to material agency drawing on Merleau-Ponty's understanding of habit. The second will deal with the implications of MET for group and collective agency, characterized in terms of heedful interrelations within the built environment. The third will deal with the ecological theory of affordances, and how the non-linear unfolding of time offers us a way of thinking about the historical depth of affordances that appear in material culture.

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## Introduction

### **Thought, Action, and Artifact**

In *Capital*, Marx gives a somewhat confounding description of the commodity-object:

A commodity appears at first sight an extremely obvious, trivial thing. But its analysis brings out that it is a very strange thing, abounding in metaphysical subtleties and theological niceties. So far as it is a use-value, there is nothing mysterious about it, whether we consider it from the point of view that by its properties it satisfies human needs, or that it first takes on these properties as the product of human labour. It is absolutely clear that, by his activity, man changes the forms of the materials of nature in such a way as to make them useful to him. The form of wood, for instance, is altered if a table is made out of it. Nevertheless the table continues to be wood, an ordinary sensuous thing. But as soon as it emerges as a commodity, it changes into a thing which transcends sensuousness. It not only stands with its feet on the ground, but, in relation to all other commodities, it stands on its head, and evolves out of its wooden brain grotesque ideas, far more wonderful than if it were to begin dancing of its own free will. (Marx, 1867, 163)

Marx is speaking here about the ways in which things that humans make, in a basic material sense, are use-objects: things fashioned and produced from the resources of nature to serve determinate human ends of survival and flourishing as a community. And the ways in which things are made in capitalist society—a way of monolithically organizing human society's productive practices toward the purpose of generating surplus monetary value through the machinations of the market economy—'mystifies' the nature of these use-objects. *Something's* use-value, its value conceived in terms of what it can do or what it's *good for* in connection to human ends, is no longer the sole arbiter of its value when it appears as something 'shot-through' with the commodity-form. The thing takes on a significance that no longer simply points to its own material constitution or what it is supposed to be *for*, its significance also points to the whole surrounding economic superstructure: the cultural practices of exchange, distribution,

private property, ownership, labor, and political relations that fix its value as a quantifiable monetary sum. Even if we want to express something's use-value in a way that can be intelligibly situated and communicated to the capitalist modes of practical social activity, this value must be translated into, or perhaps subsumed by, exchange value. It is expressed as a number, or an aggregate of singular units of the overarching, abstract commodity that holds all particular commodities in meaningful economic relation to each other: the money-commodity. Hence, to reiterate what Marx says above: "[the commodity] not only stands with its feet on the ground, but, in relation to all other commodities, it stands on its head, and evolves out of its wooden brain grotesque ideas, far more wonderful than if it were to begin dancing of its own free will" (163). In this sense, the thing is 'mystified'—its meaning is abstracted, torn away from itself, and always refuses to merely *be* the thing that it, in its most concrete sense, *is*. Its value is always expressed in terms of something outside of itself. And to express something in terms of monetary value does not result in an isomorphic representation of a thing's specific use-value, but rather conceals or covers over the specificity of value by transforming it into the neutral, quantified domain of generalized exchange.

What follows could be considered, in some minimally orthodox sense, a Marxist approach. At least to the extent that, like Marx, it places our human practices and activities at the heart of what we call the mind and cognition, and stresses the essential connection between the historical, technological, social production, uses of and dependence on *things* and how this structures forms of thought. This dissertation will concern ontology: the ontology of things, artifacts, built spaces, material culture,

materiality in general, social situatedness and, above all, the ontology of what we call the mind. My approach will emphasize the deep entanglement, mutual dependence, and dynamic interrelation between bodies, brains, and things, out of which the mind *emerges*. It is an approach to materiality that conceives of thought, action, bodies, things, space, and time as woven together into a fabric of Being, crossing, overlapping, and forming knots of relations, which forms a structure—they form, in the phenomenological sense, a meaningful world. There is no clean division between thought and matter. Instead there is an ecology *of* thought in which, analogous to Spinoza's inclusive disjunction of God and Nature, these things appear in one moment as material and in another as cognitive, while in an importantly ambiguous sense, always being *both at once*. Thought is a sociomaterial field.

It is inherently an ontology of processes—a way of talking about the unfolding of things, and how this unfolding does not play out because of the centrifugal directing power of a single agent that unidirectionally acts on patient entities. Processes unfold, rather, through the dynamic and heterogeneous contributions of different features of the processual assemblage that affects and shapes the emergent diachronic structure of how the process becomes. This is captured by Lambros Malafouris' (2013) framework: Material Engagement Theory (MET). This is an approach to cognition, semiosis, agency, and the mind, which claims that thinking *emerges* out of embodied engagement with the surrounding built environment. It relies on three grounding methodological presuppositions.

The first is the notion of *incompleteness*, or the idea that things are always in a process of becoming. As Malafouris puts it,

The view of the “nature” of the mind as a set of fixed and biologically determined capacities and genetically pre-specified inherited structures whose origins can be explained by appeal to some fortuitous mutations and whose products can be seen reflected in the archaeological record in a series of pre-conceived fixed behavioral traits (e.g., complex tools, body ornaments, intentional burial) fails to match the dynamical nature of human cognitive life (2015, 358).

MET deals, rather, with how thought is *becoming*—a kind of work in progress that unfolds personally, socially and historically. The mind is not characterized in terms of pre-given capacities, traits, modules, or standing capacities. It is neither a container that accumulates mental contents in the traditionally empiricist sense, nor is it a kind of pre-established biological hardware for performing internal computational operations on mental representations. The mind is not a pre-established schema for thinking about the world; its schema is open, incomplete, and in a process of becoming. A child learning how to walk reveals new horizons for engagement that only appear founded on the acquisition of this motor schema—possibilities that do not, for the child, appear as possibilities prior to the establishment of a metastable motor pattern for exploring the world. These embodied motor schemas are always established in dynamic transaction with their surrounding ecosystem; they are founded in engagements with the things *themselves*. And these things—the material culture that is inseparable from the meaningful structure of the world in which we find ourselves—is also, in some sense, incomplete and becoming. Things are most often created, not for their own sake, but as a solution to a tension, void, or ambiguity immanently arising out the very structure of human practices and material culture. For example, something like a potholder is created as response to an issue of the technological apparatus of cooking practices,

and seatbelts emerge as a response to the problems of driving cars of a certain kind at a certain speed. Also the meaning of a human artifact is not exhausted by the reasons for which it was initially created—it is incomplete upon its arrival, since it might have adjacent uses or disclose new possibilities that were not already anticipated in the motivated creation of that thing. In absence of a boxcutter, house keys can also adequately be used to open up a package even though that isn't what they are *for*; a saw can be bent and played with a bow in order to make music, even though *that use* was never intended or anticipated in its creation—the possibilities of a thing are not limited by the equipmental intentions that motivated their creation; their meaning is still unfolding upon being brought into the folds of human activities and engagements.

And this leads into the second notion: the importance of *things*. “Things are dynamic, perturbatory, mediational means. The presence of the simplest artifact has the potential of altering the relationships between humans and their environments” (358). Human becoming is constituted in continuous reciprocal transaction between brains, bodies, and material culture and practices. Malafouris (2013) draws on the example of the Archulean Handaxe: one of the first examples of a ‘mass produced’, so to speak, and broadly distributed tool in the archaeological record. One way of conceiving of this tool would be to hypothesize about the cognitive resources of a human who could have the sufficient internal cognitive representational resources such that they could first *imagine* and then construct such a tool—we would be inclined to take this as proof that the creator had a *concept* of symmetry to explain the double-sided face of the axe, for instance. Malafouris claims that this neither captures the embodied process of *making*

the handaxe, nor does it capture the *significance* of the axe once created. From a MET approach, the handaxe is nothing less than the axis on which the world of practices, engagements, possibilities, intersubjective relations, and productive activities turns. Like Merleau-Ponty's (2012) example of the blind person and the cane, the handaxe is not a mere object among objects—in fact it is much more like Marx's confounding table, generating 'grotesque' ideas. The handaxe reveals new possibilities for engagement with the world, and once woven into the interstitial fabric of community relations and becoming embedded in practices, the handaxe is not an object. It is the equipmental means through which possible relationships with the cognitive ecosystem are revealed and made possible. One could, for instance, make a similar point about the ways that the invention of the train changed the collective phenomenological orientation toward space, or how the internet changed our prereflective expectations about access to others, or how the ambient threat of nuclear weapons structures the forms of international relations. Things, upon being worked into a world of human activities, actively modulate the social and individual landscape of affordances, and produce ways of thinking about and *in* the environment. In this sense, MET highlights the importance of things in our understanding of the mind and the world.

The third important aspect deals with temporality. MET is, as I have said before, an ontology of process. And while it bears similarity to the tripartite horizontal approach to phenomenological lived time, MET emphasizes the role of material culture in structuring an intersubjective attunement towards the ambiguous flow of time. The western 'objective' understanding of time relies heavily on the technological means of tracking

the passage of time in an intersubjectively available and verifiable way. This contrasts with anthropological studies of the Nuer tribes understanding of lived time, whose orientation toward the passage of time depends primarily on structure of daily social activities (Malafouris 2015, 363). As a more general ontological claim, temporal processes extend beyond the lifespan of any particular individual, and the past continues to structure and exercise effects on the present. And, for Malafouris, this happens through the activity of material engagement. As he puts it,

[T]he phenomenon of material engagement brings within our reach and our conscious awareness the possible range of different time scales of activity available to us. Specifically, the engagement of mind with the material world provides temporal anchoring and binding that helps us to move and think across the scales of time. When humans engage the material world they establish a bridge with the larger-scale processes at work beyond their awareness or control which are embodied in the objects at hand. With things the past becomes present (2015, 365).

This is a non-linear approach to time, which deals with engagement as means of connecting scales of temporal processes. And this operates specifically through the narrow, situated activities of humans engaging with a history of practices, building, and making that extends beyond the duration of their own particular life-span, and opens onto an indeterminate, incomplete horizon of the future.

I take this ontology to be consistent with enactive, embodied, ecological, and dynamical systems approaches to cognition. Varela (1991) describes the minimal cases of embodied cognition consisting in the knotty dialectics between the self-organizing metabolic processes of the animal and its relation to its world. This produces an operational self-enclosure of the body, which should be thought of “not as substance, but as movement” (80). The process of thinking is tied up with the process of navigating

a world, not in the sense that an organism projects and navigates a personal or solipsistic world, but in the sense that the significance of something like the chemical compound of glucose as *food*, can only be understood in relation to the embodied activities and anatomical self-reproductive constraints of the organism. There is a mutually dependent dialectic of body and world, relative to which the environment is seen as the world of the animal. We can see a roughly similar ontology in Gibson's (1979) theory of affordances, which does not just demand that we re-conceptualize cognition, we also have to take a different approach to the ecological situation of cognition. An organism's world is perceived and navigated in terms of ostensible opportunities *relative* to the embodiment and abilities of the organism, such that "[a]n affordance cannot be measured as we measure in physics" (120). By the same token, dynamic systems theory also discourages us from identifying, in some totalizing or static sense, stable and substantial loci of cognition and action. It suggests a more developmental approach to analyzing systems that move, change, develop, couple and decouple with other systems—systems that are open, porous, nested and enveloping, overlapping and characterized in terms of patterns, stability, and instability. Importantly, however, the implication is that cognition is not a locationally fixed, internal process; it is a system nested *within* and composed of dynamic systems. It crosses boundaries, integrates other processes, and emerges out of the highly plastic dynamical patterns themselves.

### **Agency**

My topic here, however, is more focused than the general ontological framework above would suggest, although these themes will appear throughout my treatment of these



particular topics. My specific concern will deal, broadly, with agency. I will be specifically addressing the audience of contemporary philosophy of mind and cognitive science, in reference to the concerns and issues that are being negotiated in those fields. I explore the implications of MET's idea of material agency: the idea that agency emerges out of embodied engagement; it is a process whose unfolding involves the diverse contributions of humans, artifacts, and material culture writ large that are all transactionally involved in shaping the way that a goal-oriented process is enacted.

My approach to thinking about material agency will be phenomenological, inspired, for the most part, by the works of Merleau-Ponty and Heidegger. MET is not, by its own stated methodological orientation, a phenomenological approach. In fact, it could be argued that a MET approach is not, at its core, even consistent with a phenomenological approach, which takes a first-person perspective, especially given MET's focus on evaluating phenomena from a locationally uncommitted position. But I will not be taking, as Merleau-Ponty would put it, a high-altitude perspective on material culture in order to examine its effects, nor will I be adopting the stance of speculative realism or object-oriented ontology by taking an entirely 'flat' and immanentist approach to the relations between objects without qualification. I will be investigating, rather, the way that embodied engagement with material culture is *lived* or experienced and how things appear to a materially engaged subject, while stressing the inextricable intertwining of body and world. Drawing on Merleau-Ponty's reversible dialectic developing out of the ambiguity of Being—the ambiguity between the touching and the touched when we lace our fingers of the right hand with the left—I will begin from this

phenomenological stance as a way to move *into* and reveal our living relationship with things, others, and history. Whereas phenomenology begins from the primacy of perception as an essential methodological principle, it does not stay there in the course of phenomenological investigation. Heidegger's stated goal involves disclosing ontological structures of being in the world, and to this end he uses phenomenology as a method in the existential analytic of Dasein. My approach here is similar. I do not take phenomenology to be simply a way of taking stock of how the world appears *to me*. A methodology that begins with the 'things themselves' reveals that individual perception is not its own ground; perception is social, historical, embodied, temporal—that is, it is a network of entanglements within a certain style of being in the world that exceeds the individual perceiver. Thus, in spite of these methodological differences between phenomenology and MET, I do not take them to be irreconcilable approaches. In fact, I think that they will both prove, at different points in the investigation, to be enlightening in their own respects. Whereas both of these approaches involve a degree of methodological plasticity, tailored to the specific phenomenon in question, their compatibility is ultimately something that has to be demonstrated in the investigation itself, rather than abstractly justified in advance.

It is also important to point out that this discussion of agency does not straightforwardly map onto all existing conceptions of the meaning of agency. My aim is not to synthesize the notion of material agency as a supplement or amendment to every discourse in which the term *agency* meaningfully appears. In most traditional Anglo-American approaches to philosophy of mind, and standard theories in the cognitive sciences that

are directly informed by these philosophical traditions, the *sine qua non* of agency is that an action is generated by an internal mental state that involves reasons for acting, or some other sort of belief-desire complex that produces goal-directed behavior. An action is properly considered agential to the extent that a prior or concurrent mental representation—a quasi-syntactical, propositional state-of-mind with quasi-computational properties and relations to other mentally represented states-of-mind—executively motivates and guides the goal-directed movements of the body in the external environment. If not, it is just a *mere behavior*: certainly an ‘action’ on some level, but not an action with the kind of cognitive richness or sophistication (where cognitive richness and sophistication is narrowly defined in terms of the definition given in the preceding sentence) to count as a full-blooded expression of *agential* behavior. It is still an open question, according to these approaches, as to whether or not non-human animals are properly capable of anything that we would want to call cognition or agential action. Or if they are capable of this, which species and to what extent can they be considered a cognitive agent? Or, for that matter, is a habitual human action agential, or just a *mere* behavior, since such behavior does not appear to involve much internal-representational-computational processing of information in order to be performed?

The approach that I am taking here problematizes a sharp, categorical *mere* behavior/*genuine* agency distinction precisely because it reorients the basic foundations of cognition and agency—cognition is essentially enacted, and action is essentially cognitive. The individual mind/brain/centralized nervous system is not the container of

mentally represented contents that act as the locus or centrifuge of intelligent behavior. Cognition is embodied, enacted, and dynamically engaged with the affordances of the surrounding cognitive ecosystem. Agency, cognition, and significance emerge out of the organism's embodied engagements and interactions within a situated field of possibilities with spatial, temporal, affective, and interest-oriented dimensions. Cognition is not *in us*; we *inhabit* a cognitive ecology.

### **Chapter Descriptions**

The chapters of my dissertation will follow roughly this trajectory. The first chapter will deal with a phenomenological approach to material agency. I will address the connections between enactive, embodied, Dynamical Systems Theory and Material Engagement Theory approaches to cognition, agency, and significance. I will also draw on understanding the notion of flow state in psychology, Merleau-Ponty's understanding of habit, and Ahmed's analysis of (dis)orientation in order to get a better sense of how phenomenology can make contributions to the concept of material agency.

The second chapter will deal with the implications of MET for group and collective agency. I will discuss Weick and Roberts' understanding of the Rylean notion of heed, and how entrained heedful interrelations play a foundational role in the structure of how group processes are intelligently, reliably, and adaptively enacted. I will compare this notion of heed to Dewey and Merleau-Ponty's understandings of habit to create an understanding of collective and group agency as developing into a shared field of agency. I examine the synthesis of these approaches, and explore whether this hybrid

framework can help us make sense of certain cases that would typically fall outside of the purview of necessary and sufficient criteria that identify collective agency in extant literature.

The third chapter will deal with the ecological theory of affordances, and how the non-linear unfolding of time offers us a way of thinking about the historical depth of affordances that appear in material culture. I will discuss the phenomenological understanding of temporality, the timescales of intentionality and the field of presence. Additionally, making connections to Merleau-Ponty's understanding of historical institution, I will argue that the sociomaterial landscape of affordances that we encounter in this field of presence is, to some extent, actively shaped by pre-personal historical institutions that exceed personal life. In particular, I will examine the way that history is meaningfully embodied in the very structure of material culture, and therefore plays an active role in shaping the structure of agency that emerges out of embodied engagement.

## **Chapter 1: Process, Habit, and Flow: A Phenomenological Approach to Material Agency**

### **Introduction**

Some of the most compelling implications of the interdisciplinary study of material culture deal with the hypothesis of material agency (HMA)—the idea that the artefactual environment is not just the passive, inert background against which the drama of human and non-human animal life plays out; but rather, the built environment plays an active role in the structure of agency. This is an insight that Lambros Malafouris (2013) has articulated in his framework of Material Engagement Theory (MET). The theory is a broad, interdisciplinary approach to how material culture shapes the mind, that is, cognition, semiosis, and agency, in ways that encompass evolutionary history, ontogenetic development, and everyday situated action in the world.

However, HMA remains a contentious idea. I will start by laying out the position of Material Engagement Theory. I will also explain how MET both depends and expands upon enactive-embodied and dynamic approaches to cognition and action. I claim that material engagement is a natural development of these models of mind, specified to the particularities of the human historical situation. I will then explain how HMA falls out of this theory of cognition and human becoming, and discuss Theiner & Drain's critique of HMA. They argue that we should replace material *agency* with *materially-scaffolded agency*. I maintain, however, that scaffolded agency is too weak of a conception of how material culture shapes agency, and that their critique continues to privilege the *sense* of agency as a mark of what genuinely constitutes agency proper.

This motivation for wanting to replace material agency with materially-scaffolded agency may result from the fact that agency *pace* material agency still remains somewhat undefined. It is not the case, after all, that material agency simply takes the familiar notion of agency and expands its reach in order to include more entities within the set of agent-entities as we see in traditional (first-wave) formulations of the extended mind, according to which a normally internal mental process is, in some cases, realized by cognitive artifacts. By the ‘familiar notion’, I am referring to a diverse set of theories and approaches that rely on the common-sense intuition that the individual mind, brain or organism-as-a-whole is the primary or sole locus of anything that could be properly called ‘agential’. This is particularly clear in libertarian event-causal understandings of agency, according to which an action is considered agential to the extent that an action is caused by a prior or concurrent mental state with contents that involve motivated reasons for acting (cf. Mele 2003). But even in cases where the primary causal role of consciousness is called into question (Libet 1985; Wegner 2002; Wegner & Wheatley 1992), the assumption remains that even if consciousness is not the *cause* of agency, the causes still involve internal brain states (e.g., action is initiated by a readiness potential in the brain prior to conscious awareness of initiating the action). That is, even among those who disagree about the causal role of reasons-motivated intentions to act, dissenting accounts still identify the cause of agency as one that it remains relevantly *internal* to the individual who acts. Action may be influenced by external causal factors, but there is still an important distinction being made between external and internal causes—one to which, I claim, materially-scaffolded agency remains committed.

However, material agency does not merely increase the number of things that ought to be considered agents *proper*, or emphasize the causal power of external factors; rather it seeks to undermine any sort of totalizing metaphysics that separates agency and patiency as static properties of discrete entities or mutually exclusive predicates of their participation in a process. The point of material agency is to *change* how we think about agency in general, blurring the ontological boundaries between active and passive material, and identifying it instead as “a factor of ambience as a whole, a global characteristic of the world of people and things in which we live, rather than as an attribute of the human psyche, exclusively” (Gell 1998, quoted in Malafouris 2013, 134). But this is still imprecise. Drawing on Helen Steward’s (2016) processual account of agency, I suggest a possibility for identifying the ‘mark of agency’, where agency is defined as *an emergent structure, that involves a diverse coalition of contributors that actively shape or modulate the accomplishment of a goal-directed process*. This is a definition that captures the spirit of HMA since these diverse, active contributors include both human and non-human elements—and, importantly, within the diachronic unfolding of this process, different elements may, at different times, have more or less influence than others in shaping how the structure of this agential process plays out in the course of this “ongoing phenomenological struggle” (Malafouris 2013, 147).

Hence, the *sense* of agency is not quite enough to encompass everything that is involved in the agential process, least of all in identifying the artefactual features of this coalition. However, I will argue that there are other features that we can point to that



better express the phenomenological character of material engagement. I suggest that the experience of *flow*—i.e. the pleasurable feeling of being absorbed in a task; the experience of everything ‘coming together’ without resistance or frustration (Vuorre & Metcalf 2016)— might be a better candidate. And whereas the characterization of flow often involves the affective dimension of *enjoyment*, I will make some connections to the structure of embodied habit as articulated by Merleau-Ponty (2012) to describe the more ubiquitous phenomenological sense of material engagement in the form of the *habitual flow* of everyday being in the World. This line of argument should serve to do two things: (1) provide a counterargument to Theiner & Drain’s argument against material agency, and (2) suggest that even though the sense of agency might not be a reliable indicator of agency, there are ways in which phenomenology can make contributions to this discussion, even though MET is supposed to be a post-phenomenological or more properly metaphysical approach.

### **MET and The Hypothesis of Material Agency (HMA)**

Malafouris systematizes Renfrew’s (1994) notion of cognitive archaeology into the position known as Material Engagement Theory. MET highlights the role of material culture in our understanding of both the present mode and the evolution of human cognition (Malafouris 2015). Material engagement is “[T]he synergistic process by which, out of brains, bodies, and things, *mind* [my emphasis] emerges” (Malafouris 2013, 17). It develops from the insight that humans find themselves ubiquitously and inescapably wrapped up in material culture. Human life begins by being thrown, bodily, into a situation: a built situation of architecture, technology, productive tools and methods, cultural practices, art, written text, scientific instruments, etc. (not to mention,

of course, a familial, political, historical, and geographical, situation that we did not and could not choose). Humans (the humans who preceded me and who I join) do not just adapt and settle into a pre-given ecological niche, we *build* a world for ourselves—we construct our own niche. And this built environment precedes us; it has its own developmental history that sets the stage for how we find ourselves thinking, acting, and being involved with the world. This is not to suggest that humans are the only organisms that actively alter or creatively negotiate the surrounding environment, but we certainly find ourselves in a world uniquely and distinctively populated by cultural artifacts—a human world of things deliberately built, fashioned, designed and produced by humans for practical and aesthetic purposes. The built environment offers constraints and produces possibilities for action, where the artifacts and constructed spaces at the same time solicit and express the practices of the society of which they are a part. And when we encounter artifacts in our world, we do not simply invest them with meaning, or project meaning into them —a meaning that originates somehow or other, ‘in the head’ of an individual. Every living person in a contemporary community of hammer-users is thrown into and develops along an ontogenetic trajectory in which we find community hammer-using practices already underway that do not yet involve us. As de Beauvoir puts it,

The child's situation is characterized by his finding himself cast into a universe which he has not helped to establish, which has been fashioned without him, and which appears to him as an absolute to which he can only submit. In his eyes, human inventions, words, customs, and values are given facts, as inevitable as the sky and the trees (1948/2015, 37).

In the earliest years of our life the world of human life appears already determined, and it solicits us to participate. Not in the sense that we could establish or recreate or

undermine it; rather it appears as things to learn, rules to follow, ways to be, and things to use—things already set out before us. However, this should not suggest that MET implies a linear trajectory of development, according to which a pre-given human biological agency is merely mediated and affected by pre-given social and material conditions. In order to clarify this, it is important to explain how this approach is grounded in contemporary enactive, embodied, and dynamical models of mind.

These theories of cognition describe the organism as a precarious, inherently unstable, open system that operationally self-reproduces and self-organizes. This approach takes the activity of the embodied animal to be the basis for agency, where such capacities are developed when the organism produces stable patterns of coupling through homeostatic transaction with its environment. Rather than trying to isolate and analyze agency as an exclusively brain-bound process that formulates prior intentions and then marshals bodily resources in order to accomplish actions, it conceives of agency as something that is realized in the relational patterns of activity between the organism and the world.

Every organism is the product of a broad and distal phylogenetic development, which precedes its own individual development. However, the ontogenetic structure of this living body is not given as an entirely pre-established teleology of development at the outset, least of all for highly plastic human beings. The body remains open to the acquisition of new ontogenetically acquired patterns of activity and engagement with its environment. According to Kelso (2016),

In short, it does not seem too far of a stretch of the imagination to propose that evolutionarily constrained processes of self-organization (real organisms coupled to real environments living in the metastable regime of their coordination dynamics) are at the origins of (meaningful) information and *agency itself*. This step may signal an end to false contrasts about whether coordination in living things is a directed or self-organized process and point rather to their inherently complementary and unified nature (497; emphasis added).

This view lends credence to Dewey's (1896) notion of sensory-motor coordination. According to Dewey, we mischaracterize the structure of agency if we think of stimulus and response as discrete intellectual aspects of action, since this would conceive of the organism as a unit standing over against its world—a bundle of conditioned responses—connected to the world only insofar as stimuli that are presented to the sense organs motivate actions as wholly independent or separate acts. Separating sensation and action is as artificial as conceiving of the circulation of blood as a discrete series of events, rather than as a continuous recursive circuit.

This is an insight that has been articulated among those who approach organismic development from a Dynamical Systems Theory (DST) perspective. DST characterizes the organism as an open and porous system, nested in timescales of ontogenetic and phylogenetic development, composed of and situated within larger dynamical systems. The organism's digestive system is composed of a variety of contributing elements—teeth for grinding down food, an esophagus, an acidic stomach for further breaking down the material, small intestines for extracting nutrients, etc.—and it is out of this constellation of bodily moments that the structure of the digestive process emerges. No single part can be singled out as *the* digestive organ. A breakdown in any one part of

the system will disrupt and potentially collapse the multi-causal dynamic process of digestion. Further, the digestive system is integrated with other body systems such as circulatory, respiratory, endocrine, and, no less, cognitive systems. The circulation of blood is necessary for digestion, even if it cannot be narrowly characterized as a nodal aspect of the digestive system. By the same token, digestion of nutrients, vitamins, and carbohydrates is integral to the proper functioning of the circulatory system. And all of the above mentioned systems are dynamically, interdependently integrated into the living biological assemblage, out of which the animal emerges as a self-organizing system. And this dynamic coalition of organs is also situated in a dynamic environment, occupying a niche within a complicated dynamic ecosystem of energy transfer and interrelations between plant and animal life, along with topographical and environmental conditions. These systems are porous, open, inherently unstable, and nested within one another, with ever-changing and developing patterns of activity.

Agency, following the tradition of enactive and embodied cognition, is a relational phenomenon that is better described in terms of how the body is situated in a world that presents opportunities and constraints on action, movement, and activity. These organism-environment relations are described in terms of affordances (Gibson 1979, Chemero 2009, Rietveld & Kiverstein 2014). This is a way of describing perception, cognition, agency, and other 'mental' properties of an organism that highlights the organism's ecological situation. It is an action-oriented theory of cognition that places the relations between the organism and the environment, and the transactional patterns that emerge between them, at the center of cognition. This relational structure is not

static, but rather develops and modulates due to changes in the body and its skills and capabilities or limitations (Gallagher 2015, Rietveld 2008). That is to say, agency, in its development, sedimentation, and enactment is not a merely internal operation. Organisms do not develop as a self-enclosed unit, acquiring agential possibilities first as intellectual or cognitive capacities, which are translated into bodily movements in the 'external' world. Agency emerges out of engagement with the world, through exploratory sense-making, and the active homeostatic activities that the organism has to carry out in order to preserve and maintain itself (Di Paolo 2005).

The body is not just *in* the world, but is *open* to the world (Merleau-Ponty 1968, 28). It is not as if cognition is a strictly brain-bound process, ending precisely at the dorsal horn of the spinal cord. And it is not as if the brain, confined within the skin and skull of the individual, receives raw sensory data from the various sense organs and converts it into mental representations of the surrounding material world. But rather, "One's own body is in the world just as the heart is in the organism: it continuously breathes life into the visible spectacle, animates it and nourishes it from within, and forms a system with it" (Merleau-Ponty 2012, 209). The organism is in a constant push-and-pull relationship with its world: it is a body that touches the world while the world simultaneously touches it back, something that acts and is also acted upon; a metabolic system that carves out a precarious interior, but nevertheless relies on the world in order to maintain itself. It is an inherently unstable system in a constant spiral toward entropy, fighting to maintain itself against a world that promises its eventual destruction. As such, agency is a continuous co-developmental process, and accounts of agency cannot be limited to the biological individual. It is an inherently transactional process between the organism and

environment.

This position leads, I claim, quite naturally into the hypothesis of material agency. To take the enactivist, embodied, and dynamical stance towards the transactional relations between organism and world means that we will also need to have some understanding of how material culture—the ways that we build a world around ourselves and produce the ecological niche *into* which we develop—is relevant for our understanding of agency and human becoming in general. Humans, after all, do not just emerge out of the world *ex nihilo*. We are a product of a distal phylogeny, and a more proximal human history—a history of building, creating, writing, and world-making that precedes us, and is no less important for understanding the process of human becoming and agential development as any of the biological facts of our speciation.

In addition to resources from enactive and embodied cognition, Malafouris also draws on the theory of extended cognition (Clark & Chalmers 1998, Clark 2008). Malafouris discusses how the archaeological examples of Acheulean handaxes and Mycenaean clay tablets are not just achievements of the ancient brain. The developing field of neuroarchaeology (in contrast to MET) investigates these artifacts by asking what the neurological structure and morphology *would have to have been like* such that there would be sufficient cognitive resources to *imagine* and *subsequently construct* these things. Malafouris, on the other hand, is interested in how these artifacts *create new opportunities for cognition*. That is, we should not examine these artifacts with the goal of reverse engineering an understanding of the invisible phylogenetic cognitive mechanisms of our evolutionary predecessors. The artifact should be investigated as a constitutively active member of the ancient world, and no less so than any member of

the human population in question. Malafouris writes, “Tool use offers new possibilities for cognitive extension. It affords new forms of embodied praxis, and thus opportunities for the development and experience of agency and self-awareness” (2013, 233). To this extent, MET already differs from the standard theories of extended cognition. The creation of a handaxe forges new relations and transactions between the human and the world in which they are situated—it expands the possibilities of cognition, and facilitates new possibilities for action and being creatively engaged. Material culture, from this perspective, is not just a way of offloading or anchoring pre-given cognitive abilities (see Hutchins 2004). But instead it produces new, and often unexpected possibilities for engagement and cultural practice. It is not the case, for example, that cell phone use was motivated by the desire to produce cell-phone-using practices, or even that we had any prior understanding of what the deployment of this technology would do to the nexus of social praxis. The ubiquity of cell phones has produced new and unexpected ways of being in the world and relating to one another that we are still, in some sense, trying to understand and reconcile. Said otherwise: whereas the traditional view of extended cognition reserves cognitive extension to unique or exceptional cases of coupling between brain and artifact, MET takes these cases of transaction between the human and the environment to be a basic and continuous condition of our being in the world—cognitive extension is the rule, rather than the exception.

In this way, MET importantly diverges from the traditional formulations of the extended mind, according to which cognition extends in just those cases where an otherwise



internal cognitive process is accomplished instead by an external, coarse-grained functional equivalent. In Clark and Chalmers' (1998) canonical example, we see Otto using his notebook as an external vehicle for memory—a kind of memorial operation that could, in principle, be achieved by Otto's native biological cognition, but is now externally archived. And now a process that is typically supposed to operate solely through encoding perception into a memory trace to be retrieved happens on the 'outside' through the vehicles of pen, paper, and pockets; Otto interacts with objects instead of retrieving a mental representation, but he achieves, roughly, the same result. Cognition, therefore, 'extends' outside of its primary neurological locus. This understanding typifies the 'first wave' of extended cognition, focused on a broad-strokes parity between internal and external functional roles in cognition, and, according to which, cognition mostly supervenes on brain states, but can also be dimly approximated by external media to the extent that we would not be wrong in *also* calling these 'mere' objects vehicles of genuine cognition, but only certain things and only sometimes.

The 'second wave' shifts from the parity of genuine biological cognition and 'close enough' approximations through external vehicles to 'complementarity' of internal and external processes. This approaches the ways in which internal cognition is integrated with external media in a way that does not require isomorphism between biological cognition and external cognition such that the latter is a rough caricature that functions similarly for all intents and purposes. Cognitive vehicles are the tide that raises all ships—external media are not just a distorted mirror image of internal states, but rather they are highly integrated in our epistemic activity, but not necessarily in the sense that

involves a strict and metaphysically necessary resemblance in the specific functional architecture of how vehicles constitutively factor into cognition. An object can complement and be deeply integrated in cognition, giving us a more liberal and inclusive account of what, beyond the brain, 'counts' as cognitive. And so cognition happens on the 'outside' in a way that involves more things than previously established criteria could account for, and a bit more often (See Menary 2010b and Sutton 2005).

The third wave of extended cognition is still very much underway (for an image of the history and current state of the debate, see Gallagher 2019). The theory seems to be moving toward thinking about extended cognition as emergent (Varga 2015), as a dynamic diachronic assembly modeled on phenomena like convection loops (Kirchhoff 2012, 2015), and in a way that blurs the rigid internal/external distinction in previous models (Kirchhoff 2016). The somewhat-extended-cognition-theory-adjacent, radical enactivist approach of *extensive* cognition (Hutto, Kirchhoff, and Myin 2014) is perhaps the best suited fellow traveler for MET. This approach regards "minds as naturally extensive—the idea that cognitive activity always already entangles embodiment, action, and world-involving resources and does not restrict itself only to what is inside the individual organism" (10). Accordingly, cognition as a constitutively "enworlded" and ecologically-entangled process is not a rarified or exceptional case. In fact, the organism exists, inextricably, in transactive engagement with the surrounding world, and decoupling from some aspect of, or process in the world is the more exceptional condition.

MET does not seem to straightforwardly fold into any particular established approach to cognitive extension however. This is due especially to its focus on material culture and the differences that emerge out of engagement, not through parity, or even, for that matter, complementarity, but rather through the heterogeneity of factors that shape, affect, and constitute cognition, agency, and semiosis. In contrast, I want to point out that the notion of materially-scaffolded agency still relies on a distinction, not in degree, but in *kind*, with respect to the role that something plays in a cognitive and agential process. Something is either (1) causally relevant, serving as an external support or facilitator of some *other* more or less independent process, or (2) is constitutively a part of that process, not merely as a matter of causal contribution, but as an integral part of what genuinely realizes the process *itself*. Mistaking a causal feature for a constitutive one (or vice versa) has been called the causal/constitution fallacy—a fallacy that Adams & Aizawa (2008) claim is at the center of any position that grants constitutive metaphysical status to anything other than brain-bound neurological events (i.e. the extended mind, embodied cognition, MET, etc.). Whereas, the meaning of a grocery list written with a pen on paper has to be derived by the person who reads and understands its shopping directives, the process of reading and interpreting the list cannot be derived from anything other than the brain states of the reader. The content of a brain state is non-derived, whereas the content of tools, equipment, or other features of the environment that we exploit in our thinking ultimately has to be interpreted by the brain. Hence, the former is constitutively a part of the cognitive process, whereas the latter is only causally relevant as far as thinking and acting are concerned.

Constitution, from this point of view, is meant in a synchronic compositional sense, and relies on a certain understanding of ontological grounding from substance metaphysics. That is, a static distinction is assumed between the brain (the composition of which grounds information processing) and the external medium of paper bearing signs (the informational content of which is grounded, not in those meaningful external markings themselves, but in a brain's capacity to interpret these signs as meaningful). If something is taken to be informationally relevant, it can only be relevant in relation to the kind of object that constitutively realizes thinking properties as part of its composition. Thus, we see why there is motivation, from this point of view, to categorically distinguish between objects that genuinely *ground* cognitive properties, as opposed to those that causally *have effects* on cognition. Material culture can play a role in shaping cognition and agency, but only as a causal scaffold; nothing cognitive or agential can be immediately, non-derivatively grounded in those supporting objects *themselves*. Constitution, as distinguished from causation, refers to the synchronic composition of an entity that grounds the properties of that entity.

However, the causal/constitution fallacy poses less of a problem for processual understandings of cognition and agency in MET and enactivist approaches. Kirchhoff (2015) has developed an alternative understanding of constitution which highlights the diachronic aspects of how a process unfolds, according to which the categorical distinction between causation and constitution becomes blurry. Constitution, by this account, refers to dynamic reciprocal causation that produces a phenomenon or event that is irreducible to the mereological sum of its component parts (e.g. convection loops and whirlpools are examples of metastable phenomena that are constituted by the

recursive causal interactions among parts that are patterned by the larger dynamic structure of the perdurant whole). This approach does not make composition irrelevant or suggest that diachronic unfolding systems have no boundary conditions; rather, “The enactivist notion of *dynamical* constitution differs from both the mechanistic conception of contemporaneous, non-causal constitution and from a merely diachronic (sequential/linear) causal conception of constitution” (Gallagher 2018, 217). Hence, the tendency to delineate between genuine internal processes, as opposed to external material scaffolds, depends on a distinction that enactive or third-wave extended approaches is calling into question as a false dichotomy for understanding the dynamics of ‘internal’ and ‘external’ features of a cognitive system.

MET’s approach to agency certainly maintains a close kinship to radical enactivism and third-wave accounts of extended cognition. In Malafouris’ discussion of stone tool knapping practices, he suggests the knapping process is not carried out through the internally-represented projection of an end product that achieves that ordinary intention, or that the tool maker’s activity is guided by a preestablished idea that unidirectionally guides the flow of activity towards the intended object ‘in mind’.

[T]he directed action of stone knapping does not simply execute, but rather *brings forth* the knapper’s intention. The decisions about where to place the next blow and how much force to use are not taken by the knapper in isolation; they are not even processed internally. The flaking intention is constituted, at least partially, by the stone itself...The best angles for flake removal are neither identified nor imagined in the knapper’s head before the act. The topography of the knapping activity and accurate aiming...are embodied, and therefore they must be *discovered* in action. Every stroke prepares and carves the platform for the next. Every stroke can also reveal something new about the stone’s characteristics. (2013, 173-4).

Agency, cognition, and the discovery of meaning are constituted in the very transactive engagement itself; they emerge, in this case, out of the process of making.

Whereas embodied, enactive, and DST theorists acknowledge the relationality of the body and the world, and the consequences that this has for the structure of the organism's activity, many of them, like Di Paolo (2005; 2009), conceive of agency as an asymmetrical operation. He claims that we have license to refer to an autopoietic system as an agent because it is the primary regulator of its own structural coupling between the constraints of its homeostatic processes and the processes in its environment (2009, 15). HMA, on the other hand, presents a much more reciprocal understanding of agency. According to this view, self-organizing biological systems coupled with environments are not just the *basis* for the development of organismic agency. HMA suggests a view of agency according to which organisms and environmental conditions make reciprocal contributions to the enactment of a process without giving a priori privilege to the agential role of any one element or entity that is involved in this unfolding dynamic. Di Paolo is right to point out that the organism plays a role in regulating, maintaining, and creatively altering its transactions with the world; however, it is not clear that this fact a priori gives us license to call the organism *an* agent – or to identify the agent exclusively with *the* organism.

The article in this phrase (i.e. 'an') is precisely what MET is calling into question to the extent that reifying the conceptual landscape of what categorically counts as *the* agent or *an* agent prior to investigation causes two problems. First, it implies a view of agency

that maintains an emphasis on approaching a phenomenon by reducing it to its putative source. In conceiving of the issue this way, the unfolding of an action is still understood in reference to a locus of origination. The process is considered agential because *an* agent was its antecedent sufficient condition, or, perhaps more generously, because *an* agent is the primary centrifuge of coordinating, organizing, and manipulating patient entities, which remain, for their own sake, static and inert until they fall under *the* agent's prehensile control. Second, anticipating what or who *the* agent(s) will be by whittling down the features of a process to discrete agent and patient units overlooks or covers over vital features of *how* and *why* a process unfolds in the specific way that it does. The agents are identified before the investigation has even begun. MET shifts our focus from the question of agents to the question of *agency*, where agency is *in* the *process itself*. In this way, the hypothesis of material agency is not merely drawing on resources from contemporary models of mind, but also has the potential to develop and bring new insights into how we should think of human agency from an enactive, embodied, and dynamical approach to cognition. The phenomenological approach to material agency, in particular, will be especially useful for MET's investigation of the unfolding of the processes themselves, as opposed to the traditional focus on the underlying metaphysics of the agent-entities.

Merleau-Ponty demonstrates precisely this approach in his investigation of the body as expression and speech. Expression is not, he argues, a secondary re-presentation of an hidden, originary, internal state-of-mind, translated thereafter into the expressive gestures and acts of the body; rather the thought which is supposed to cause the

expression is actually accomplished in the expression *itself* (2012, 187). For example, it would be strange, and inconsistent with the musician's experience to suggest that a song somehow pre-exists as an idea prior to writing and performance. Or even that, once written, the song resides 'inside' the musician as the cause for its performance—that its expression is 'already there', self-complete and ready for its secondary or consequent public expression in the performance. The expression is *in* the performance, accomplished through the exploratory actions, transactions with instruments, sheet music, recording devices, and other musicians; it is developed gradually out of dead ends, musical phrases repeated to exhaustion, and inspired fugues of creativity. And it is only through this process of performance that the expression is finally achieved.

The musical signification of the sonata is inseparable from the sounds that carry it: prior to having heard it, no analysis allows us to anticipate it. Once the performance has come to an end, we cannot do anything in our intellectual analyses of the music but refer back to the moment of the experience. During the performance, the sounds are not merely "signs" of the sonata; rather the sonata is there through them and it descends into them....Aesthetic expression confers an existence upon what it expresses, installs it in nature as a perceived thing accessible to everyone, or inversely rips the signs themselves—the actor's person, the painter's colors and canvas—from their empirical existence and steals them away to another world...the expressive operation actualizes or accomplishes the signification and is not merely a matter of translating it (Merleau-Ponty 2012, 188).

By the same token, I claim that we should seek to understand agency *in* the process, investigated from a phenomenological perspective that is constitutively attuned to the unfolding of the matters themselves. I take the phenomenological approach, therefore, to be consistent with, and illuminating for the hypothesis of material agency.



Malafouris takes the case of the potter at the wheel as a paradigmatic example of the general structure of material agency. As he puts it,

I propose that we should get rid of any *a priori* assumption about the causal or agential hierarchy of potter's (*sic*) brain/body/wheel/clay. Similarly, in terms of cognitive topology—that is, the question of where those cognitive processes reside—we should begin from a locationally uncommitted position. We should assume, instead, that every mental recourse needed to grow a vessel out of clay may well be extended and distributed across the neurons of the potter's brain, the muscles of the potter's body, the motions of the potter's sense organs, the affordances of the wheel, the material properties of the clay, the morphological and typological prototypes of existing vessels, and the general social context in which the activity occurs. The components mentioned above can be broken down further, but none of them should be allowed to determine the contours of the activity in isolation (2015, 213).

This theory relies on Hodder's (2011) notion of entanglement, which describes the mutual practical dependence between things and humans, humans and humans, and things and other things in the context of understanding cultural praxis from an archaeological perspective. Or, as Malafouris puts it, "If there is such a thing as human agency, then there is material agency; there is no way human and material agency can be disentangled" (2013, 119).

Malafouris borrows from Latour's (1991) example of the speedbump. The speedbump differs from the stop sign in the very material embodiment of the artifact. The stop sign solicits us to slow down and stop, but the speedbump does so in a very different way—the thing that it *signifies* is a product of its stubborn materiality. It says "Pass over me at a speed that will allow your back and your car's suspension not to suffer any damage" (Malafouris 2013, 124). It shapes the structure of agency as a feature within a broader context of driving practices, roads, signage, and legal regulation. It factors into the

coalition of agential forces—active to the extent that the driver, car, road, speedbump, and composition of the surrounding buildings (let us say that the car is driving through a school zone) form, for a period of time, a coalition, which shapes the structure of *how* the driver moves their car down the road, over the speedbump, and through the school zone. “Agency as an emergent property cannot be reduced to any of the human or nonhuman components of action. It can only be characterized according to that component that, at a given moment, has the upper hand in the ongoing phenomenological struggle” (147). Material agency motivates us to ask not *what* is an agent, but rather *when* is an agent—rather than identify these roles in advance, the particularity of the activity has to be taken into account, identifying when and where in the unfolding process any particular member of the coalition shapes and modulates action, and to what extent.

### **Cultural-Historical Activity Theory (CHAT) Contra Material Agency**

Malafouris makes a variety of references to Vygotsky’s (1978) theory of developmental psychology (Malafouris 2013, 35, 58, 221, 227). Theiner & Drain (2017) want to emphasize these influences in his work and appeal to a neo-Vygotskian framework called the Cultural-Historical Activity Theory (CHAT), which they claim accomplishes some of the same explanatory goals as MET, but without some of its more metaphysically contested principles: extended cognition and material agency.

CHAT centers the role of socio-historically contingent, materially-mediated social practices at the center of human cognitive development. The position claims that the activity of particular individuals is produced by broader cultural practices, developed

within zones of proximal development (Vygotsky 1978) that involve both technological, material, and artifactual scaffolding, as well as intersubjective scaffolds, where the latter operates in the form of guided participation in cultural activities (Rogoff et al. 1993). According to this theory something functions as a scaffold when “it provides a support; it functions as a tool; it extends the range of the worker; it allows the worker to accomplish a task not otherwise possible; and it is used selectively to aid the worker where needed.” (Greenfield 1984 quoted in Theiner & Drain 2017; see also Sterelny 2012). Moreover, this scaffolding guides activity toward the accomplishment of an ‘ideal’ reality—a use of the term ‘ideal’ that here means something more like ‘enculturated’. That is, the socio-historical and materially-mediated shape of cultural practices project ‘ideal’ ends, which direct and structure both individual and collective activities.

Theiner and Drain establish five general points on which MET and CHAT agree. (1) the idea that the relation between the organism, social conditions/practices and material culture have a deep impact on human cognitive genesis. (2) The human is *artificial*—that is, the mind itself is an artifact, produced out of technical, material, and social engagements. (3) Human activity is always mediated, where the scale of analyzing activity is highly relative, sometimes involving individual humans, dyads, groups, societies, and, additionally, the timescales of activity can range from cultural-historical development to the mere span of individual, situated actions in a context. (4) The human mind is not a fixed, transhistorical type of entity, independent of historical and material conditions; it is highly metaplastic (Malafouris 2015), and not just a pre-given inheritance of our biological speciation. (5) Cognitive properties do not just emerge as

properties of pre-given substance; development involves a variety of developmental trajectories in a relational, diachronic process, emerging out of heterogeneous elements of a socio-material assemblage; the human mind emerges as a situationally-relationalist entity (Thiner & Drain 2017, 10-11).

Theiner and Drain claim, however, that MET must do away with its commitments to both The Hypothesis of Extended Cognition (HEC) and the Hypothesis of Material Agency (HMA) in order to be consistent with CHAT. Getting rid of these hypotheses would allow MET to nest itself within and make contributions to CHAT—a more modest account that does not rely on these more theoretically vulnerable notions. For present purposes, I will focus only on their critique of HMA, rather than HEC.<sup>1</sup>

Theiner and Drain survey a few conceptions of agency that have minimally ‘metaphysically loaded’ assumptions; that is, conceptions that entail minimal criteria in order for something to be considered agency *proper*. They mention the functionalist approach, the enactive, and Bratman’s (2010) broad conception of agency. The functionalist approach emphasizes the interaction between an adaptive organism and its environment, while also holding that it is possible for either of these relata to decouple and change states independent of this interaction. The enactive approach, on the other hand, has been spelled out above—but here they are emphasizing the ways in

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<sup>1</sup> But as I have stated above, *extensive* cognition, as articulated by Hutto, Kirchhoff, and Myin (2014) is probably the best model for the general aims and commitments of MET. Vaccari (2016), for instance, makes a critique of often-implicit metaphysics of cognitive artifacts as they are usually supposed to figure into cognitive extension, but maintains that critiques of the traditional notion might not apply to Malafouris’ use of the concept within the framework of MET.

which enactivism focuses on (1) the living organism, (2) the way that this living organism cannot be completely de-coupled from the world, even if it is possible to de-couple from specific processes, and (3) the minimal sense of normativity that is generated out of the way that it occupies an ecological niche in order to maintain and reproduce itself. Last, Bratman (2010) requires only that there is a goal-directed behavior that involves a guidance mechanism—and distinctively human agency is characterized by the additional criteria that (1) our activities can have a broad temporal arc (we have a developmental history and can carry out projects over long periods of time), and (2) we can sew our intentions together with others in order to produce joint and collective intentions—we have the ability to do things *together* (17-8).

In light of these metaphysically undemanding conceptions of agency, Theiner & Drain reexamine some of the examples in Malafouris' (2013) chapter on material agency—focusing, in particular, on the examples of the speedbump and the hotel key. For Malafouris, the speedbump is a 'moral agent'; a 'sleeping policeman'—different from the semiotic value of a stop sign because of its material embodiment—an instance of conflation between signifier and signified; the medium itself *is* the message (124). However, Theiner & Drain contend that the speedbump is meaningful in light of what it *does not* afford—it does not shape the will *itself* and make us act morally, but rather it “turns the actions of many individuals into a ‘scaffolded’ display of altruism” (2017, 19). The agency of the person who drives over the speedbump certainly remains relational, and coupled with the affordances and constraints of the artefactual construction of driving practices. However, they claim that these material features do not properly

constitute agency—we are not jointly acting *with* the speed bump in any significant Bratmanian sense. But rather, the speedbump contextualizes our activity—it operates as a background feature of the way in which our action is situated, creating a situation that we must react to: we need to slow the car down, or else bad things will happen to its suspension.

And the same can be said in the case of the hotel key with a large, obtuse keychain. The keychain does not meaningfully affect our will to comply with the hotel's wishes that we do not leave the building with our keys, except insofar as the keychain makes us less selfishly inclined to walk around the city with an unwieldy object in our possession. And because it does not easily fit into a purse or pocket, it makes it more difficult to forget that it remains in our possession. Its very shape and weight make the keychain itself a nagging reminder of how the hotel wants us to conduct ourselves—the material properties of the artifact embody the hotel policy. But these cases remain, according to Theiner & Drain, artefactually-scaffolded displays of compliance, where the *things* in question do not act or interact with us in any sense related to the possible agency-models listed above. In fact, they seem to resist our actions rather than constitute them—they are causally relevant for how an action is performed viz. scaffolding, but this does not yet give us license to say that material things themselves play an *agential* role.

Scaffolding certainly has a place within MET, but to say that all cases of supposed material agency can reduce to, or be replaced by materially scaffolded agency seems to miss the point of HMA. Moreover, framing the case against HMA with the cases of the

speedbump and the hotel key fails to consider some of Malafouris' more compelling and paradigmatic examples—like, for instance, the potter at the wheel.

In what follows, I will clarify, from a phenomenological perspective, what HMA is claiming about the structure of agency. For one thing, it seems that appealing to other extant theories of agency, however minimal they might be, seems to be a question begging argument. If, as I have mentioned above, we begin from the assumptions of agency in the familiar sense—that is, if the individual organism and its consciously formulated intentions about the act that it chooses to perform are taken to be the benchmark of what constitutes agency proper—then it will be difficult to investigate what HMA is actually claiming. What we must explain is how material culture is meaningfully and symmetrically intertwined with the dynamic structure of embodied activity in a continuous transactional way, exercising effects as a condition of ambience.

### **Process, Flow, and Agency**

We should remember at this point that Malafouris understands agency as a *process* that unfolds across a variety of timescales (2015; Gosden & Malafouris 2015). Helen Steward (2016) has recently advocated the process view of agency—a position that emphasizes the inherent diachronicity of action. To use one of her examples, I might eat the sandwich quite loudly at first. But if I suddenly notice the offended glances of some people nearby, my shame will perhaps cause me to eat more quietly (76). This example is meant to illustrate that action is a diachronic event that involves a succession of changing states, with properties *inherent* to that event that do not necessarily persist across the event as a whole—contradictory phases and moments of action that

nevertheless belong to the temporal succession that constitutes the event. I neither ate the sandwich *loudly* nor *quietly*; I ate the sandwich loudly *at first*, and then quietly, and perhaps a bit shamefully. To engage in a goal-directed process always involves changing states-of-affairs that unfold over a period of time. Her motivations for taking this process view, however, involve bringing *the agent* back into view in our accounts of agency. She wants to highlight the agent not just as the *cause* of action, but as “the doer of the doing in which the action consists” (69). Here, by *agent* or *doer*, what Steward is referring to is the privileged role that the biological organism plays in sustaining the enactment of a process over time. However, if we take seriously the idea that the ‘mark of agency’, so to speak, involves the way that something sustains, modulates, shapes, maintains, or redirects the diachronic unfolding of action, then in principle there is no reason why we should not think of artifacts, equipment, tools, and other relevant material parameters as embodying the mark of agency. If we take, for instance, Malafouris’ example of the potter at the wheel (2010; 2013), there is certainly no doubt that the human who sits at the wheel plays a critical role in shaping and sustaining the process of creation that is underway. But skilled potters—those well acquainted with the practice, who have developed a skillful way of embodying relations with the clay—will be able to modulate their behavior according to these material conditions of the process. The potter’s ability to engage with clay also includes a sensitivity to how throwing pottery is a transactional process that involves a dynamic coalition of heterogeneous contributors and sustainers, and, above all, potters can optimally nest and entangle themselves within an unfolding process that is not always fully and completely under their control. As Malafouris puts it, “The wheel may seem to



serve as a passive means or instrument for the potter's manufacturing purposes, but in any stage of the dynamic operational sequence it can also subsume the plans of the potter and itself define the contours of activity" (2013, 217). Hence we can use Steward's process account of agency to define material agency as an emergent structure that involves a diverse coalition of contributors that actively shape or modulate the accomplishment of a goal-directed process.

Steward's processual analysis (interpreted through the lens of HMA) suits a narrow temporal scale of engagement. However, it is important to recognize that MET involves a variety of timescales of development: phylogenetic, historical, ontogenic, and the narrow scale of situated action. Engagement brings together these diverse temporal threads of development. To act in specific situations marshals the resources of a kind of phylogenetic anatomy, the affordances of a personal developmental history of engaging with the world, and a sensitivity to the affordances of a particular situation in time and place; it is to act from a position developed out of a history of practices and material conditions. Thus, things themselves bear the significance of this historical trajectory of becoming, and their meaning is actualized through engagement. "When humans engage the material world they establish a bridge with the larger-scale processes at work beyond their awareness or control which are embodied in the objects at hand. With things the past becomes present" (Malafouris 2015, 365). Engagement unites these temporal scales, meshing together threads of intentionality, which often exceed the individual, conscious significance of the act.

It makes very little effective difference, from this perspective, whether the speedbump constitutes our moral will to act altruistically. Theiner & Drain's contention is that this is not a 'genuine' moral act of the will; we do not intertwine our moral intentions with material things in order to make our ends consistent with the stubborn mandates of the speedbump with overt knowledge of what this artifact 'wants us to do'—the criteria of 'joint' action that material engagement would have to fulfill according to Bratman's account of agency. The speed bump does not explicitly change our sense of moral agency as much as it frames a situation to which we must self-interestedly react.

The "sense of agency" (Gallagher 2005, 2007, 2012) is the minimal prereflective phenomenological sense with which we experience our actions as *ours*. If, for instance, I turn my head ninety degrees to the left, I make no mistake about whether or not the room has suddenly started spinning around me—I recognize that I am the author of this movement which has changed the direction of my gaze. And I recognize that I am the agent of this action without having to make an explicit judgment about the situation; *that* I am the source of this action requires no reflection—it is a basic structure of my phenomenological experience. However this sense of agency, even in the cases of more reflective experiences of agency, remains too individualistic, and does not exhaust the possibilities of material agency (Malafouris 2013, 218). Quoting Bateson (1973),

Consider a man felling a tree with an axe. Each stroke of the axe is modified or corrected, according to the shape of the cut face of the tree left by the previous stroke. This self-corrective (i.e. mental) process is brought about by the total system, tree-eyes-brain-muscles-axe-stroke-tree; and it is this total system that has the characteristics of immanent mind...But this is *not* how the Occidental sees the event sequence of tree felling. He says "*I* cut down the tree" and he

even believes that there is delimited agent, the “self,” which performed a delimited “purposive” action upon a delimited object (318; in Malafouris 2013, 217).

The minimal sense or even the reflective judgment of our agency is not always the best indication of what sorts of features are constitutively, *agentially* involved in the enactment of a process. The phenomenological character of material agency might be better captured or revealed, in some cases, by the experience of *flow* (Vuorre & Metcalf 2016) than by the sense of *agency*. Flow is characterized by the experience that the world does not interfere with, resist, or otherwise frustrate our projects—“the effortless, pleasurable absorption in a task” (140). Flow is something that is certainly involved in the sense of agency, but not isomorphic with it, as Vuorre & Metcalf have empirically demonstrated by studying subjects’ experiences while playing video games in which level of control parameters were manipulated (136).

This study examines flow in relation to the dominant ‘comparator model’ for assessing the sense of agency, according to which the experience of agency is highest when the discrepancy between the intended outcome and the actual state of affairs is zero. The feeling of agency, in the psychological literature, is about the matching of informational signals: the predicted and actual feedback of performing some action. Flow, on the other hand, has more to do with matching between skills and the demands of the task—flow is optimally achieved when a task is roughly just as demanding as our performance skills are able to cope with. We are neither bored nor stressed by the operation in question. It is ‘just right’, and hence we fall into a state of “effortless, pleasurable absorption in a task” (140).

The experiments involved a simple game that involved a mouse-tracking task, and found that when the task became more difficult, self-reported experiences of agency tended to decrease linearly. However, these data were not isomorphic with the experience of flow, which tended to increase with the difficulty of the task but began to drop off when the difficulty became too intense. Hence the data provide an examination of these experiences that had previously not been compared, but were often supposed to be, if not isomorphic, then at least robustly correlative.

From the perspective of material agency, this experience of flow expresses the phenomenological character of how we often find ourselves materially engaged—*fitting ourselves into* processes that involve a coalition of influences that exceed our own agential contributions; processes that depend on a network of human and non-human forces operating in dynamic assemblies of confluent action. Although this study assumes that flow and agency are experiences constituted by a matching of internal process and internally processed information *about* the external world, I think that this theoretical approach is in danger of mischaracterizing the phenomenological character of flow. Flow, true to its metaphorical foundation, involves the feeling that everything is, so to speak, moving together in a common direction—in this case toward the achievement of a task. And that it is not something just happening ‘in’ us, but it is a situation that *we are in*. Things flow when negotiating a task involves the feeling that, for a while, all the features of a task form a coalition of interest, fulfilling their purposes and falling in to place as if ‘it were meant to be’. In particular instances of creative agency being in the flow sometimes involves a feeling of being patient to the unfolding of a process—a good potter, wrapped up in material engagement, can let the process unfold

the way *that it wants to*; the songwriter reaches a point in the process where the song starts to write *itself*; the painter is swept up in a feeling that the image is revealing itself, rather than being created; the philosopher feels as though she is not producing thoughts, but is acting as the midwife of truth.

And, similarly, the contributions of material things can also productively interfere with the enactment of a process—they can perturb and traumatize the sense of flow. But the perturbations, breakdowns, and resistances, as skilled practitioners know well, are often the means through which discovery and creativity are achieved. For instance, the appearance of anomalies in the experimental scientific process—the ways that the world resists extant scientific theories—are often the instances through which discoveries emerge. The process of *making* is always performed with the operant understanding that the world does not perfectly conform to our imagination and intentions—which is often a productive part of the creative process.

However, it should be noted that the experience of ‘flow’ is taken here to be a somewhat exceptional state. While, it is perhaps quite common in the cases of skilled engagement, it would be too limiting for HMA—an approach to agency that is supposed to be a ubiquitous, necessary and inescapable part of human becoming—to restrict its relevance to times when we are uniquely ‘in the flow’ of things. While it does, I claim, capture the phenomenological experience of the potter in Malafouris’ example, material engagement does not always involve the quasi-manic and almost-surreal feeling of inspiration that is usually associated with the experience of flow. Most of our experiences of material engagement are much more mundane, pedestrian, and ritualized than the case of the potter at the wheel. Thus, in order to really respond to

Theiner & Drain's critiques of HMA, I suggest that we consider the role of *habit*, following Merleau-Ponty (2012), and how it relates to Malafouris' (2016a ;2016b) description of embodying action and enactive significance (2013). I claim that this analysis will better articulate how the experience of flow is significant for understanding material agency in less exceptional, everyday cases of engagement, and should also serve to underscore the importance of approaching material agency from a phenomenological perspective.

### **Phenomenology of Habit: Habitual Flow, Embodying Action, and Enactive Signification**

Agency ineliminably involves embodiment, the embodied agent of the organism who acts, but not in the sense that agency (and cognition more broadly) is simply decentered from the brain but still remains internal to organismic boundaries as its primary locus (Malafouris 2016a; Malafouris 2013, 65). Embodiment refers, rather, to a way of being open to the world and embodying ways of being materially engaged: "Embodiment is what brings those diverse resources and their properties together to form what we define as the human mind" (2016, 292). Embodiment does not signify the body in isolation, but in terms of how we are *situated* in the world; how the body comes to take up relations with its world and develop ways of living through an ecological situation. And the body develops these relations in a coordinated transaction with reciprocal contributions from both the body and the world—the body develops ways of *embodying* actions (Malafouris 2016b).

Merleau-Ponty (2012) argues that every habit is a way of coagulating, consolidating, and integrating action into a core. A habit is not just a mechanistic re-creation of the past as Ryle (1949) puts it, but a “[G]eneral power of responding with a certain type of solution to a certain form of a situation” (Merleau-Ponty 2012, 143). Someone who can cook does not engage in this activity by simply recreating the past of their cooking experience. To know how to cook—to have acquired cooking habits, sensitivities, and skills—means that this ability can be carried out in variety of different circumstances: by a camp fire, in a well-equipped commercial kitchen, in one’s home, in a stranger’s home, etc. This habit does not produce an automatic or mechanistic response, but rather it involves the grasping of a *Gestalt* of know-how that can be plastically and adaptively deployed in a diverse array of circumstances. We see this for instance in Merleau-Ponty’s example of the organ player who sits in front of a new organ that is organized differently than the one to which they have become accustomed. A skilled organist requires only a brief rehearsal to fluently play their songs again; they reestablish and reorganize the way that the performance of a piece involves different vectors of expressive bodily movement within the new spatial organization of the organ (146-7). “[T]he habit has been acquired when the body allows itself to be penetrated by a new signification, when it has assimilated a new meaningful core” (148). Enacting a habit is not a mechanistic operation—the organist does not just develop a habit of playing *this* or *that* organ, but instead has grasped a general capacity of learning how to produce meaningful and expressive bodily responses in relation to a dynamic range of organ-playing-situations. And the habit, once acquired, is not just something that the organist carries with them as a capacity of engaging neutral objects. The foot pedal of

the unfamiliar organ is not experienced as two inches displaced in objective space; the organist reorients their body toward a new situation of expressive possibilities—something that is accomplished only through rehearsal and adjusting themselves through embodied engagement.

And habit is neither *in* thought nor *in* the objective body (146). If you cut open my body you will not find my ability to walk. You might find anatomical indications that I am a bipedal animal by looking at the curvature of my spine or the development of certain kinds of musculature, but this is not the habit *itself*. Neither will you find this habit in the brain, except insofar as certain activations of the motor cortex might be correlated with the performance of the action. But even investigating these neural correlates cannot be done unless I am actually *in the process of walking*. The habit is realized in the relation between my body and the world. If we look at Niemitz's (2010) survey of the theories of bipedalism, we see that our way of walking is very distinctive, involving the "harmonic cycles of anatomical pendulums [hands and feet counter-balancing each other's motions]" (241). Moreover, our way of walking also involves leaning forward and putting our center of gravity over our base, and moving our legs to catch our 'falling' and propel us forward—it is a kind of controlled falling. Which is not to say that human bipedal locomotion uniquely depends on the acquisition of habit in ways that other ways of walking do not. But even some of these basic habits of the living body involve ways in which my body can take advantage of resources afforded by the world that I am in. The pull of gravity and how leaning forward creates torque in order to aide in the mechanics of forward movement is part of how the biomechanics of walking operates—something



performed in a habitual coordination with the world; an embodied pattern that is both part of the way that the motoricity of the body becomes coordinated with itself, and becomes coordinated with and responsive to an ecological situation. A habit is the ability to take up residence in the world, as well as to envelop *things* into the voluminosity of the body—“habit expresses the power we have of dilating our being in the world, or of altering our existence through incorporating new instruments” (Merleau-Ponty, 145).

And this is an idea which is not inconsistent with the Heideggerian (1927) understanding of equipment: in our everyday activity, we encounter things in the mode of *Zuhandenheit* or readiness-to-hand. The things that we use to achieve our existential projects are not encountered as mere material objects, but rather they take on a kind of discursive quality—*something for the sake of which*. The hammer is not phenomenologically grasped as a composite of wood and iron, but as something *for* hammering (68). The default mode of being in the world involves a kind of habitualized engagement where things fluidly mesh together with our pedestrian activities. And we navigate the world with an operative understanding of how to do and *use* things—an understanding which is expressed in our actions and bodily comportment, even if it is not an understanding that is richly articulated and thematized in our explicit theoretical knowledge. And it is when things break down or resist our projects that we become aware of how our everyday activities are supported by a network of dependencies—equipment that affords and enframes our activities and way of life, even though the everyday intuition that we live through motivates the judgment: *I did it*. To conceive of everyday being-in-the-world in terms of the *Zuhandenheit* expresses precisely this idea

that there is a kind of habitual flow that characterizes how we usually navigate the world, but not an experience that involves excitement or an intriguing feeling of ‘being in the zone’—but rather it is a way of being prereflectively and almost ritualistically absorbed in our daily projects that most often operates in the affective mode of mundanity.

But what underlies this feeling that we are the executive, isolated agent behind the action is the habitual structure of the living body, wherein habits are not *in* the body, but involve ways of embodying stable relations within a network of affordances, constraints, and cultural practices of the material culture in which we are situated.

Here, we can return to and reevaluate the example of the speedbump. Whereas Theiner & Drain (2017) claim that this is merely a case of materially-scaffolded agency, this seems to miss the ways in which the habitual structure of the body finds itself transactively situated in the flow of being in the world. Their critique relies on intuitions about the *sense* of agency—the driver who goes over the speedbump does not *actually embody* an altruistic intention to slow down when they are supposed to; the selfish intention, as they say, is scaffolded by an external medium, using self-interest to coerce an altruistic reaction in this context. But we have to take seriously this diachronic, processual, and materially entangled understanding of agency, which involves the active contribution of a variety of elements over a period of time. At different moments of the process, one element or the other might have a greater or lesser influence in “determining the contours of action” (Malafouris 2013, 217). Hence, it does not contradict HMA if the driver’s personal will and intentions are not constituted *altruistically* in their encounter with the speedbump—what matters is that the coalition of

forces that shape the structure of action is not *limited* to the driver's sense of agency; the activity of driving—and of being-in-the-world in general—always involves our transactional relation with the artefactual environment in which we act, an environment that acts *with* us.

It does not make as much sense to say that the driver's experience in this case is characterized by a 'flow' or 'being in the zone' or that he is really *enjoying* the experience of driving, as we might say of the potter or other skilled practitioners who engage with things. However, we could, in these cases, talk about the habitual structure of the driver's being in the world, and ways of habitually embodying ways of conducting themselves in the material culture of roadway praxis. In the context of driving, we develop and institute habits of engaging in the activity where the artifacts of significance—signs, traffic lights, lines on the road, speedbumps, etc.—are taken up and engaged with prereflectively. We can, for instance, drive from one place to another, passing through and abiding the push and pull of navigating material culture in the mode of 'highway hypnosis'. That is to say, we can get to our destination without having thought about the specific details of the trip at all. In the everyday lived-activity of driving, we engage with the speedbump neither with a sense of agency that involves a feeling of altruism, *nor for that matter* with the feeling of *selfishness*. The body that develops habits in the context of material culture—as all human bodies do—takes up the significance of the speedbump, and transactively coordinates embodied action with it, on the basis of how we have learned to coordinate ourselves with things in our built environment. And whereas this is sometimes done very thoughtfully, with deliberate manipulation of the artifacts and instruments that are given to us, it can also—and most

often is—done in such a way that our living body is enveloped into the space of practice; a space composed of artifacts, instruments, and conditions that do not just scaffold a pre-given agential will, but actively constitute the habitual world-involving patterns that we enact in our everyday life. And this is the sense in which habit expresses the active contribution of material agency, even in our most mundane experiences, even though common sense might compel us to say that agency is solely *ours*, in our head, and that we are acting alone: that *we did it*.

To draw these threads of embodied habit, material agency, and the phenomenological experience of flow together, it will be useful to consider Malafouris' (2013) idea of enactive signification. This, I claim, will lead us to a phenomenological approach to material agency, and demonstrate, in some final sense, why materially-scaffolded agency is too weak a concept to do justice to MET. The treatment of material culture as a form of scaffolding for the development and internalization of a particular kind of personal agency might result from thinking about the artefactual environment in a mechanistic or functional way. If we see the influence of engagement with an artifact as influential but not quite constitutive in the structure of action, then to classify it as a form of scaffolding would be a reasonable conclusion. If we take a speedbump to be nothing more than a mechanism for slowing or interrupting the flow of traffic by virtue of how its bare material features fulfill a functional role in producing a certain socially-preferred style of driving, then we will end up with an impoverished understanding of what an artifact *is*.

The meaning of a speedbump might be better articulated through the everyday, folk understanding of its purpose. If we were to attend a town hall meeting about whether or

not to install a speedbump, it would be strange to hear utterances about the functional role of the speedbump in interrupting the flow of traffic; we would be more likely to encounter justifications for its installation that sounded like, ‘we should keep our neighborhood safe’, or ‘this would be good for the children in our area who like to play outside’. These everyday practical concerns reveal something about the nature of material culture, and are no less important for understanding its role.

The role of the speedbump is not just a mechanistic contributor to the linear unfolding of cause and effect, but a meaningful contributor to the unfolding of expressive engagement. And habits of the living body are not just mechanistic, impersonal reactions to a stimulus. We miss the point of both material culture and habitual flow—and, further, miss the ways in which they are interrelated—if we do not understand them as fundamentally expressive, meaningful, and shot through with significance. As Malafouris puts it, “If we ask for the meaning of an artifact (a material sign), the questions evoked will far exceed the...definitional realm...the meaning of the material sign is *expressive*. That means that the material sign does not stand for a concept but rather substantiates a concept” (2013, 97). We do not mechanistically react to an artifact, nor do we, in our everyday living engagements, have to take an intellectual and reflective stance in order to interpret its meaning: “In real life, to interpret a material sign is not to provide a verbal substitute; rather, it is to become habituated with the interactive possibilities and consequences of its performance in context without bothering about exegetical questions. Material signs do not represent; they enact” (118). Habitual flow in our everyday engagements tethers the expressive habits of the living body together with the expressive significance of material culture to form a cohesive

whole of material engagement. Hence, to drive over a speedbump without the reflective or explicit moral will to comply with the ethical norms that the artifact expresses does not mean that the action ceases to bear moral significance. It does not mean that our prereflective habitual encounter with the artifact is not a meaningful negotiation with material culture. Agency is here neither a solely personalistic operation nor a mechanistic response, but it is something that emerges out of the enactive dynamic between bodies and things—it emerges out of engagement. And this, I claim, captures the meaning of the entangled, dynamic structure of material agency far better than conceiving of it in terms of an external material-scaffolding of personal agency.

### **Flow, Breakdown, and Agency**

We should, however, be careful with this understanding of flow. It is tempting to suggest that habitual flow can serve as the criterion for when material agency is at work, and that when the process breaks down and the flow is interrupted, agency is cut off from the world, retreating back into the brain or body as its primary locus. Understanding habitual flow would, from this perspective, be nothing more than a phenomenologically inspired replacement concept for Clark's original parity principle. And that would leave us roughly in the same place where we started.

If we revisit Heidegger's example of the broken hammer—the moment in which the otherwise fluid, everyday engagements with things in our equipmental context is suddenly interrupted—we see that he is not describing the situation as if breakdowns suddenly, and in one fell swoop, remove us from the thickness of the world, and throw our being into a remote and disengaged Cartesian subjectivity. In fact, the example, I

argue, is meant to demonstrate precisely the contrary. The interruption of habitual flow is a moment of phenomenological disclosure. It reveals something about our engagement with the world that is not usually explicitly confronted or negotiated in the everyday mode of what Merleau-Ponty calls objective thought.<sup>2</sup> It forces us to confront our *reliance* on things in enacting our projects, and that these projects are not merely cognitive projections onto an inert, silent world; our projects are not negotiated and achieved as an isolated individual. It shows us how deeply our concerns and commitments are supported, afforded, solicited, and accomplished through the equipmental context of material culture. Even reflective thinking about projects does not happen solely ‘in the head’ of an isolated individual. Thinking about taking a new job with a 30-minute commute or what one should have for dinner already situates the establishment of a project within a deeply entangled socio-material, economic, political, and cultural fabric of interdependencies which constitute the possibility that such a project could even proximally appear as an existential horizon. A breakdown of habitual flow, far from dissolving the parity between the functional matching or complementarity of binary ‘internal’ and ‘external’ processes that is usually supposed to constitute the criterion for cognitive extension, *in fact* reveals the depths of our entanglement with material culture. It discloses the always-already sewn-together habitual schema of everyday life that is neither subjective nor objective. The breakdown of ready-to-handness that typically characterizes our relation to the world demonstrates the ubiquity

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<sup>2</sup> Objective thought refers to the socioculturally established, but by no means primordial, stance on nature that conceives of the subject as a neutral observer of pre-given objects in the phenomenological field; it holds the mind at arm’s length from the world which is given to us as bundles of empirical sense data. It is the received understanding of being in the world, the ‘common sense’ that phenomenology seeks to disrupt. For a more in depth discussion, see Merleau-Ponty (2012, 69-73).

(or perhaps intractability) of how agency is solicited, shaped, carried out, and constituted through engaging things in our sociomaterial equipmental context.

And, beyond revealing the ubiquity of material agency, a breakdown does not dissolve agency like the way that a malfunctioning node in a closed circuit interrupts the flow of electricity throughout the whole system. Thinking about an interruption or breakdown in the sense of flow *phenomenologically*—the experience wherein the world appears to resist, frustrate, or inhibit the achievement of our projects—allows us to conceive of the situation in a way that isn't merely negative or deficient. Sarah Ahmed's (2006) book *Queer Phenomenology* deals not just with the subject of sexual orientation but involves a phenomenological interrogation of 'orientation' and 'disorientation' more broadly. Disorientation, she claims, is not a mere deficiency of 'normal' attunement to the world or a subtraction of sense. Neither, for that matter, can it be reduced to a brain-bound state of confusion wherein mental representations fail to veridically track material states-of-affairs in the environment. Disorientation is rather when the usually navigated existential coordinates of the environment cease to act as phenomenological anchorage points, cease to direct or solicit our activities and projects, or otherwise allow us to fluently navigate our environment. If, for instance, someone were to rearrange the furniture in the kitchen overnight, the otherwise prereflective everyday pattern of making coffee and breakfast in the morning would be disoriented. We would have to 'get our bearings' in this new configuration and reestablish the coordinates of our typical behavior—the project of making breakfast appears now as an *issue* in a way that it previously had not.



What is described above is a mundane, though significant case of disorientation, unlike more global sense disorientation as when a person caught in a riptide might lose a sense of their orientation toward 'up' and 'down' by being tossed in the waves. But it nevertheless speaks to the way that we are oriented towards things in space, while at the same time these things *orient us*. As Ahmed puts it, "[B]odies do not dwell in spaces that are exterior but rather are shaped by their dwelling and take shape by dwelling" (9). But this understanding of orientation does not imply that disorientation is always affectively negative, or even that it necessarily inhibits movement and the achievement of projects. Rearranging the kitchen can also create what Ahmed describes as a sense of 'giddiness' (10) that can arise out of the disruption of the familiar; different configurations of household spaces can reveal new possibilities of dwelling in those spaces. And these possibilities do not necessarily need to be anticipated in advance of the rearrangement, they can be discovered through reestablishing the embodied practice of reorienting our habits of dwelling, and settling into this artifactual configuration. New contours of the space and possibilities of engagement are revealed through reciprocal contributions from the things and the embodied process of negotiating with a disoriented space.

The disorientation or breakdown of the habitual sense of flow not only reveals, in the phenomenological sense, our reliance on the equipment of material culture; it has productive effects on the shape and structure of agency. The embodied negotiation of a breakdown or interruption does not cut off the transactive agential entanglement of bodies and things; the engagement required to reorient one's self from an interruption is still shaped by the material conditions of this equipmental context.

We should turn to the example of moving a bookcase from Gallagher and Ransom (2016). Moving furniture is not a project that many people would describe as ‘flowing together’ very nicely. It is often frustrating, tiresome, and seems to involve nothing less than a rigorous and effortful overcoming of resistance from the artifacts in question. They seem to ‘want’ to stay put—something like a bookcase is specifically designed to stay put. Its excellence qua bookcase involves the way that it keeps things (usually books) in their place. It’s role as equipment is not expressed and totalized by the facts of its material composition, but rather by how it affords, maintains, and organizes other artifacts and participates in a somewhat stable style of dwelling in that space. Its ability to do so, therefore, relies on a kind of sturdiness; its contribution to our world is to, in a sense, preserve a kind of stasis that orients our world. And, now, it must be moved:

The bookcase is of a certain shape, size, weight and material, and these properties constrain our movements. Getting the bookcase through the door may involve standing it upright and twisting it just so – but this entirely depends on how the bookcase is shaped, its weight relative to our strength, etc. Similar things can be said about the doorway – its height and width, where it is positioned in the room, the proximity of other walls and corners, etc. I move my arm to this grip and then move the bookcase this way precisely because I need to move it at a certain angle through a certain angle of the door.. This project of moving and balancing immanently couples our movements...[it] can be achieved simply because we jointly attend and react to the situation from unique, but coordinated perspectives on the same *thing*...It’s also quite possible that the jointness of our action... fails or dissipates temporarily and then quickly gets reestablished because it is supported by the structure that is reflected in just the way that our bodies are dynamically coupled to each other, to the things, and to the specifics of the environment (343).

We see in this case that it is precisely through removing the bookcase from its equipmental context that its properties are revealed in a new light. Its dimensions, density, and composition are not negotiated in terms of how they make the artifact a good book-keeper, but in terms of how the task of fitting it through the door (which is, itself, similarly disoriented and reconsidered in light of the project) has to be negotiated

and achieved. Its artifactual being takes on a new significance—the project at hand neither makes it into a ‘new’ artifact nor does it, in some fundamental sense, alter the facts of its materiality. But it is torn away from its settled role in the living room, and its materiality makes significant demands on *how* it must be jointly held, manipulated, and moved out of the room. And the way that this is achieved, beyond the initial disorientation and breakdown of the living space, is no less shaped by the bookcase than any of the humans who coordinate and reflectively contemplate the possibilities of its movement.

Moving is a process where our everyday phenomenological experience of living amongst things might appear to be inverted: things solicit the ways in which we need to carry them along, in contrast to the familiar ready-to-handness of our usual patterns of dwelling, in which artifacts might appear as passive equipment lying in wait and almost automatically anticipating our projects. But the case at hand cannot be analyzed as a simple inversion of the familiar relations of agency and patiency; rather it demonstrates the depth of how these supposedly pre-established categories of activity and passivity are always-already entangled. The bookcase that we are moving out of the apartment becomes a kind of center of gravity that casts significance onto the material constraints and possibilities of the doorway, staircase, moving vehicle, etc. It disorients and reestablishes the meaning of these familiar lived spaces, and actively structures the agential process by which it is to be removed. The topography of an agential process is more obviously navigated through the embodied, transactive, reciprocally-constituted engagement with material culture than it typically appears to be in the habitual flow of everyday life. Although, on some basic level, it is no less true in everyday life that *this is*

*how things are*. The contours of how agency is *in* the process of engagement is differently navigated in flow versus frustration, but material culture is nevertheless navigated and engaged within both circumstances. And, considered phenomenologically, MET is not simply expanding, but redefining the notion of agency. The agential entanglement of brains, bodies, and material culture does not simply abide in conditions of parity or prereflectively-enacted, unfrustrated complementary flow; it is an intractable, ambient condition of our orientation toward, and being in the world.

## **Conclusion**

MET has promise for developing and providing new insights for emerging enactive, embodied, and dynamical cognitive models. But there is still more work to be done. I have suggested a definition of agency that captures its processual spirit and accommodates the possibility of material agency. And whereas the sense of agency is not always a reliable phenomenological indicator of how we tend to find ourselves materially engaged, I claim that the experience of flow, especially in relation to the Merleau-Pontian understanding of the habitual structure of the body will provide us some tools for thinking about material agency phenomenologically. That is, flow can reveal our reciprocal interdependency with material culture, especially in the breakdown or interruption of flow. And this approach to understanding material agency should also suffice to show that replacing HMA with a notion of materially-scaffolded agency, as Theiner & Drain suggest, is too weak to fulfill the demands of MET's radical approach to material culture.



## Chapter 2: Material Engagement and Heedful Interrelation: Toward a Hybrid Theory of Collective Agency

### **Introduction**

This chapter deals with the phenomenon of group and collective agency. It seems almost trivial to point out that when we act, we are seldom the sole actor in this process. Perhaps we never are. Personal agency does not play out in a vacuum. We live in a world richly populated with entities that support, scaffold, create conditions for the possibility of, and transactively constitute the achievement of goal-directed processes. To act is always to act in a situation. To act is always to act among others. The development of personal habits, skills, aptitudes, abilities, personality, character—in general, ways of being in the world—emerges out of a natural, social, historical, and material context.

The claim that the social precedes the individual appears to be, in all but recent Anglo-American approaches to social ontology, a fairly uncontroversial proposition. The Hegelian tradition conceives of the positive content of spirit as necessarily actualized in a social context (Hegel 2005/1821); In the Marxist tradition there is a direct relation between socio-material conditions, modes of production, and forms of consciousness (Marx 1867, Althusser 1970, István Mészáros 2010)—a claim that is more thoroughly fleshed out in the Vygotsky's Marxist approach to developmental psychology, which situates the internalization of cognitive capacities within a social zone of proximal development, where personal thought is ontogenically developed through guided participation in cultural processes (Rogoff et al. 1993). We see similar ideas in Habermas' (1994) discourse ethics, which is not simply an ethics of how best to

communicatively adjudicate incommensurable concepts and values, but describes an ontogeny of how one *becomes* individuated out of a sociolinguistic and cultural background. Regarding individuality, Mead writes, “[The individual] is what he is in so far as he is a member of this community, and the raw materials out of which this particular individual is born would not be a self but for his relationship to others in the community of which he is a part.” (Mead 1934, §26). At least this much is asserted in the phenomenological tradition in the form of Husserl’s (2014) transcendental intersubjectivity, the natural attitude and sedimentation (Husserl 1976); Heidegger’s (1927) thematization of *das Man* as the more-or-less default mode of being in, coping with the world and handling situations also serves this point. For Merleau-Ponty (2012) the human *is* a situation—we are characterized as an embodied style of coping with the world that is not any more biological than it is sociohistorical and personal. He writes “We must rediscover the social world, after the natural world...as the permanent field or dimension of existence...Our relation to the social, like our relation to the world, is deeper than every explicit perception and deeper than every judgment” (379). Inhabiting the world with individual styles, dispositions, tendencies, and characteristics emerges against the background of how we are always-already socially situated.

When we deal with the question of group agency, we should consider that we might be dealing with a distinct facet of social life than what is referenced in the claims above. It is one thing to claim that there is an ontological sociality that precedes and subtends the possibility of individuality—i.e. the idea that being-individual is itself, as a matter of ontological necessity, already a way of being social. It is something else, however, to

talk about the specific, concrete means by which we go about engaging in projects, sharing intentions, and coordinating our actions with others in a shared social context. These are the questions with which the shared agency literature is concerned. Most approaches remain agnostic about, or at least attempt to bracket ontological questions. This field deals, more narrowly in the mechanics of how people deliberately engage in shared projects together, which, in theory might look quite similar regardless as to whether we conceive of the human as always-already entangled in a nexus of social relations or if we are atomistic individuals communicatively forming shared intentions to act from the ground up. The approach is construed as a methodological one: from what foundations can collective human activities best be described?

In this chapter, I will synthesize Weick & Roberts' (1993) account of what they call 'group mind' with some insights from phenomenologically-inspired enactive and ecological approaches to cognition, and Lambros Malafouris' (2013) Material Engagement Theory (MET). I suggest that these approaches can build on each other's strengths and account for some of their respective limitations—MET gives a somewhat sparse account of intersubjective relations, and Weick & Roberts' concept of heedful interrelations would benefit from emphasizing the entanglement of equipment, instruments, and artifacts in the enactment of group-level processes. By a similar token, enactive approaches have given compelling descriptions of social cognition and joint action, but lack a fully fleshed out theory of collective intentionality. The resulting hybrid approach may help us account for some minimal collective actions and activities that do



not fulfill the necessary and sufficient criteria of other approaches to collective intentionality and action.

Although this three-fold hybrid may be productive in some regards, it is also important to point out that it might not be the best way to evaluate and analyze *every* case of collective intentionality and action. There are, of course, many cases in which groups come together to form explicit joint agreements and policies that have normative force in organizing and enacting collective action. However, this hybrid account is perhaps uniquely suited for a specific range of timescales of action—that is, cases in which collective actions occur rather quickly, causing interrelated members to respond to and enact group processes “on-the-fly” and without opportunities to engage in the robust deliberative mechanisms usually associated with group action *proper*. Thus, my intention here is not to disprove or bar any extant theories of collective intention or action from having explanatory value for certain collective phenomena. Rather, I want to identify a way of talking about some group processes that are outside the epistemological resources of these approaches. However, the necessary and sufficient criteria established by these theories are too restrictive to deal with some of the more basic forms of meaningful group processes that we enact together.

I cannot give a full survey of every account that claims to have explanatory purchase on this question of shared agency. I do, however, want to point to some common features that consist in establishing static, necessary and sufficient criteria for when, how, and *if* the satisfaction conditions for ‘groupness’ are met. Huebner (2014) claims that we see

evidence of group-level macrocognition to the extent that the group relations bear coarse-grained functional similarity to the functional structure of individual cognition. It could also apply to List & Petit's (2002, 2004; see also List 2012) judgment aggregation accounts of group deliberation and decision making, in which the aggregations of group member judgments can produce group-level decisions that structurally resemble a certain image of rational individual choices. These group level choices might be irreducible to the choices of the group members—they have a functional structure of aggregating and processing judgements over and above the members' individual cognitive processes—but they nevertheless resemble something like individual choices that could be modeled by a computational structure of neural network information processing. By modeling group-level processes on individual ones, a particular image of individual cognition is pre-supposed—for these approaches it is a connectionist or functionalist model of cognition, which assumes that the structure of thinking involves the computational processing of mental representations—or, more minimally, that the cognition *can be* computationally modeled without sacrificing much fidelity to the actual dynamics of human thought. Even if one is not convinced by the depth and breadth of the critiques against representationalism, functionalism, computational models of thought, and connectionist approaches to cognition<sup>3</sup>, at the very least it seems to be imprudent to structure accounts of group-level cognition so robustly on models of individual cognition that are far from being settled and universally-accepted facts.

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<sup>3</sup> See Varela, Thompson, & Roche (1991); Dreyfus (1992); Gallagher (2005, 2017); Chemero (2009); Merleau-Ponty (2012); Malafouris (2013); Barrett (2016); Hutto & Myin (2017), among a variety of other scholars in the phenomenological tradition and phenomenologically-oriented approaches to cognition such as radically embodied, enacted, embedded, and ecologically-situated.

Furthermore, we should consider that whatever mentalistic properties we would want to attribute to collectives might be discontinuous with—and sometimes very different from—the kinds of processes that we might expect from something like an individual.

Some other approaches to shared agency start with individual mental states with explicitly and propositionally-formulated belief contents about their commitments to accomplish something with others. We see such accounts, for example, in Bratman's (2009, 2014) emphasis on meshing intentional sub-plans and common knowledge under a guidance mechanism that ensures social coordination toward a shared goal. Or Toumela's (2005) description of explicitly shared beliefs about the project that the group intends to accomplish, among others who take a broadly intentionalist account of social phenomena grounded in individual mental states<sup>4</sup>. I distinguish the following account of shared agency from these other accounts, not because individual intentionality is unimportant in accounts of shared agency, but rather because there is an important discontinuity between the enactive and embodied understanding of intentionality and the understandings employed in traditional Anglo-American philosophy of mind. I want to claim that there is something more basic in the heedful interrelations that constitute shared agency.

There are also accounts that provide more minimal criteria. Gilbert (1990) claims that groups require shared commitments, and form plural subjects. The success conditions of a group, in this case, appear in terms of the establishment of normative conditions,

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<sup>4</sup> See Tollefsen (2002, 2017) for a discussion of methodological commitments in the philosophical investigations of social phenomena, especially with respect to methodological individualism and intentionalism.

which make individuals subject to rebuke if they renege on these shared commitments even if these normative conditions are not explicitly established. If, for instance, we are walking together, and I suddenly begin to walk away without explanation, you would have license to ask me why I am countervailing our shared project of walking together. You would, at the very least, have license to feel surprised by the sudden dissipation of our shared commitment, even if it had only been loosely established. Fiebich & Gallagher (2012) argue that joint attention is the minimal criterion for achieving shared agency in the forms of common path-goal actions (actions like dancing together or playing chess, where the shared activity itself is the goal) and end-goal actions (actions that specify a specific state of affairs to be achieved, e.g. robbing a bank or building a fence), where these actions can be more or less explicitly rule-governed.

I am not claiming, however, that these methods for approaching the question of group agency by establishing explicit criteria for achievement cannot be fruitful. Rather, I want to claim that there are more basic ways in which groups emerge, procedurally maintain themselves, and develop dynamic patterns of heedful interrelations among group members. To this end, I will appeal to Weick & Roberts' (1993) Rylean account of heedful interrelations as embodying what they refer to as 'group mind'. Group mind, by this account, should be understood in accordance with their Rylean commitments that emphasize the category mistake at the heart of taking an invocation of mind to refer to a substantial entity or discrete, tangible thing among things. Group mind should be interpreted as a process, or a way of describing the more-or-less reliable and adaptive dispositions of how a group process is enacted. Hence, I think that this account can be

illuminating for discussions of shared agency in general (whether this involves joint actions, group actions, collective processes, or any other relevant characterization of how we engage in social activities that exceed our individual contributions). I will then turn to Merleau-Ponty and Dewey's accounts of habit in order to develop an account of how the embodied and socially situated habits can play a role in understanding the heedful interrelations of group members. That is, there is a habitual dimension of shared agency; a group is something that we *inhabit*. I will also bring Material Engagement Theory into the fold of this account in order to clarify some of the minimal features of how shared agency is constituted—not simply as a matter of putative intersubjective agreement, or the matching of mental states about beliefs or goals in isolation. Rather, I want to emphasize the ways in which material culture plays an active role coordinating and facilitating shared agency. I will end by discussing some of the possible implications of this hybrid approach.

### **Heedful Interrelations Embody Collective Mind**

Weick & Roberts (1993) propose an account of group mind that seeks to explain organizational performance in situations that require constant operational reliability in order to be achieved—that is, the kinds of processes that do not afford the possibility for carefully thought out responses, meetings, deliberation, or explicitly agreed upon joint decisions to act. Their approach is largely informed by their observations of flight deck protocol on aircraft carriers: a highly complex, precarious, fast-paced process, and one that, above all, relies on contributions from a variety of individuals. These individual contributions deeply rely on a whole heterogeneous network of contributions for the process to go smoothly. The process requires that the pilot is coming in at the right

speed and altitude; she must have activated the landing gear; she has to constantly correct her incoming trajectory—there is a whole sequence of operations to the plane-landing-process that go on inside the cockpit of the plane itself. But the pilot does not act alone in this process. She also relies on guidance, cues, and other process-relevant information from the control tower. Furthermore, the workers on the flight deck are no less critical for the enactment and monitoring of this process: they play a role in directing the incoming planes with marshalling wands; they set up hooks to catch the landing plane and slow it down within the space of the carrier's truncated landing strip; they attend to the condition of the runway; they include safety and emergency response crews that spring into action in case something goes wrong. And, in addition, the navigation crew will change the orientation or direction of the ship to better accommodate the wind. When we ask about *who* lands the plane, the answer includes the whole coalition of actors, performing heterogeneous tasks and taking on different responsibilities and interrelating their contributions with others in a way that makes the broadly distributed plane-landing-process possible. The collective mind consists in, and is embodied by the active coupling of all the interdependent and diverse know-how of group members.

This position is opposed to the connectionist models of group relations, according to which group level properties are in (1) the connections between interrelated nodes, or neuron-like units, and (2) the respective 'weight' of the nodes—that is, not all connections are of equal value; some connections will be weighted with greater significance and relevance than others. Weick and Roberts claim that this conception of

group relations tends to model a group after a single tightly coupled actor. In this critique, the authors have Hutchins' (1995) connectionist account in mind, according to which group cognition is distributed between and realized in the connections between individual actors and the task-specific equipment. Cognition, according to this approach, is genuinely distributed to the extent that the coupling between individual nodes (whether human or technological) is reliable, consistent, and integrated to the point that the interconnected group process resembles the cognitive architecture of an individual decision-maker and actor.

Weick & Roberts' account is in contrast both with approaches that treat groups as mere aggregates of individual activity and approaches that emphasize tightly coupled relations that ensure the more-or-less automatic or stable perdurance of cognitive structures over and above the group members. They claim that these approaches do not account for how some groups with operational reliability par excellence consist in loosely coupled systems of actors, out of which meaningful and intelligent patterns of interrelation can emerge. And to identify, analyze, and evaluate these patterns, we need to look at both the particularity of individual actors and collective aspects of the group—we need to see how individuals and groups are related, while also emphasizing their differences. In this sense, the approach is neither committed to a methodological individualism, nor collective holism—rather, accounts of the dynamics of group processes require an emphasis on both. And we should not always expect that intelligent group level processes will be isomorphic or robustly continuous with individual ones.

To this end, they introduce the concept of *heed* as the primary feature of collective mind. This notion is based on a Rylean dispositional understanding of mind, according to which ‘mind’ does not refer to a discrete, substantial entity. Rather, ‘mind’ refers to a disposition to act in a certain manner or style. Things like intellect, character, or personality are not standing properties ‘in the mind’; they are persistent tendencies to do X, Y, or Z or respond to a situation X-ly, Y-ly, or Z-ly. Heed is the latter kind of adverbial disposition: I attend to a situation carefully, or carelessly. I might walk down a crowded hallway heedfully—attending to the personal space of others, being mindful of the parameters of my locomotive task and how the situation affords ways of achieving my goals—or I might walk down the hall preoccupied by my own thoughts, heedlessly bumping into others, absent-mindedly going through the motions of the task without effort or care. It refers to the *how* question of the task; an evaluation of the style or character of a process. Something can be achieved more or less deliberately; it can be achieved well or poorly. If I fall down the stairs, this is because I have been walking down them heedlessly. Heedless behavior leads to accidents. If, on the other hand, a stuntperson in a movie acts out a scene in which a character falls down the stairs, then they will fall down the stairs heedfully using stage falling techniques, relaxing their muscles, protecting their neck and head, and rolling in a way that reflects the know-how that they have acquired through their professional entrainment. They perform this action heedfully, whereas I do not. It refers to how carefully, critically, consistently, and purposively one engages in a goal-directed process.



In the context of collective mind, individual actors are entrained into group processes. They develop personal heedful styles of performing and contributing to tasks; the individual members realize these larger patterns of group relations through their group training to act heedfully, together. Members have to be socialized into these group patterns, developing and internalizing a skillful disposition about *how* to be a group member—how to perform their specific duties, how their duties relate to others' duties, an attunement to risks, relevant cues for action, what sorts of things to look for, how to change or adapt their contributions in response to unstable conditions or when a process starts to break down. In this sense, Weick and Roberts maintain an emphasis on individuals *and* group level patterns of action without reifying the structure of either—individuals are neither determined by the group, nor are the emergent group patterns exhaustively reducible to the individual group members. And heed bears relevance for this analysis, since they claim that the heedfulness of group interrelations is more important for good organization than the tightness or density of coupled processes. In fact, tight couplings can be very dangerous (especially for fast and precarious group processes), since they tend to lack the fluidity and adaptiveness of loosely coupled heedful actors—heedful interrelations are more important for the development of a smart organizational system than tightly coupled processes, since such interrelations are more likely to produce the right kinds of responses in turbulent situations. The collective mind can 'comprehend' unexpected events through the connection of heedful know-how to meet a variety of situational demands that tightly coupled and more-or-less automatic relations for which might not have the adaptive resources.

There are a couple benefits of this approach. For one thing, it is an action-oriented theory of collective mind, and therefore a metaphysically parsimonious one. Drawing on the Rylean notion that individual mind is located *in* actions, they claim that collective mind is *in* the processes of interrelating: it exists as a kind of capacity in an ongoing activity stream and emerges out of and is realized by the style with which activities are interrelated. The individual air traffic controller on the carrier is coached on how to monitor incoming planes carefully, and the monitoring reflects the heedful style of performance that she has developed—she does not both heedfully monitor the planes and monitor her monitoring. The action is performed as an entrained stylistic disposition within the group context without the need to posit another level of higher order cognition behind the act itself. And this is not to say that she lacks the ability to thoughtfully reflect on her entrained disposition; however, it is the case that she does not tend to reflect on her training *while* she is performing her duties. The same holds for the dispositions of group level patterns of interrelation—we do not have to look for an extra layer of information that we can attribute to the group; the interrelations themselves are the embodiment or the substantial character of the collective mind itself. It would not make much sense to attribute any kind of substantial groupness to a collection of people who claimed to be a group, but did not actually *do* anything together, or meaningfully interrelate in the service of a common goal or interest.

The second benefit is that this gives us a scalar understanding of groupness. Interrelations can be more or less heedfully performed—processes can be achieved clumsily, but even a process poorly performed can count as a genuine case of

groupness. Additionally, know-how can be more or less evenly distributed among group members and the connections between interrelated processes can be more or less tightly coupled. This gives a more expansive definition of what can count as a group or collective activity without having to draw sharp borders according to overly-demanding necessary and sufficient criteria. This motivates us to take a more empirically oriented approach to assessing degrees of groupness and integration of collective mind.

One drawback of this approach, however, is that Weick and Roberts rely on Asch's (1952) idea of the "envisaged system" based on structurally similar representations of the group as a group, as the basis for how individuals organize their activities. That is, groups exist to the extent that group members *imagine* that the group exists, and are able to normatively organize and subordinate their actions according to the imagined collective schema in which they participate. It is because they act *as if* the group exists that the group *actually does* exist. Because group members envisage a common group system in which they all participate, the group demonstrates behavior *as if* it were controlled by a single, executive organizing core. While this does not seem like an entirely misleading approach, the envisaging or belief-dependent status of substantial groupness seems like an overly psychologistic and cognitively demanding criterion for the groupness. And while Weick and Roberts try to place this envisaging in the interrelations themselves, this does not seem consistent with Asch's system that they are borrowing from. Asch is not saying that the group imagines *itself* as a result of its emergent structural patterns, but rather that the group *members* have to envisage the group. And this kind of requirement seems inconsistent with the kind of Rylean, action-

oriented framework that they suggest for the dispositional modeling of group relations. To address this inconsistency I claim that we ought to align the notion of heed with pragmatist and phenomenological approaches to habit, as well as with the enactive and ecological understanding of affordances and skilled perception.

### **Heed, Habit, and Skilled Perception**

Weick and Roberts have identified heedful interrelations and the envisaged system as the primary features of group processes. They have also distinguished heed from habit:

Heedful performance is not the same thing as habitual performance. In habitual action, each performance is a replica of its predecessor, whereas in heedful performance, each action is modified by its predecessor (Ryle, 1949, 42). In heedful performance the agent is still learning. Furthermore heedful performance is the outcome of training and experience that weave together thinking, feeling, and willing. Habitual performance is the outcome of drill and repetition (362).

This is, indeed, consistent with the Rylean understanding of habit. However, there are other descriptions of habitual action that could be more fruitfully contrasted with heed—especially of the sort that we find in Merleau-Ponty (2012) and Dewey (1922).

Dewey distinguishes between intelligent and routine habit, where the latter bears a greater resemblance to the Rylean understanding of habit as a more-or-less rote re-creation of a behavioral response. This image of habit characterizes it as an automatic, ritualized behavior that does not require much thought or attention for behavioral performance. Whereas heed involves care, attention, and an explicit attunement to the parameters of the task, a habit is basically a learned, mechanistic response. For Dewey, although habit certainly involves an aspect of mechanism and repetition:

Repetition is in no sense the essence of habit. Tendency to repeat acts is an incident of many habits but not all...The essence of habit is an acquired predisposition to ways or

modes of response...Habit means special sensitiveness or accessibility to certain classes of stimuli, standing predilections and aversions, rather than bare recurrence of specific acts. It means will (1922, 735-6).

Some habits are, indeed, routine. Tying my shoes is an example of such a habit: it is an action performed without a great deal of care of attention, and does not require much heedful attunement in order to be successfully achieved. This certainly inclines me to think of the habit as a bare repetition of a previous action. However, habit more generally—or in essence—is not about a single action, but describes a kind of responsiveness to the world. Merleau-Ponty argues that a habit is developed when the body “acquires the power of responding with a certain type of solution to a certain form of situation” (2012, 143). Rather than being the repetition of action, habit is characterized as the open and adaptive way in which the body learns to cope with familiar situations. There is certainly something structurally homogenous about these habitual “types of solutions,” that we deploy; responses often have a broadly stereotyped character in terms of how they are enacted, otherwise these actions might not be properly characterized as habitual. The deployment of a motor habit adapts to the spatial and existential contours of the situation—different situations will make different demands on how the habitual task, here and now, ought to be achieved. My ability to competently drive a car, for example, is not simply about the repetition of actions, otherwise this task would explode into an uncountable series of mini-habits: I would develop a habit of pulling out of my driveway, merging onto the freeway, passing cyclists on a one-way street, navigating the intersection near the university, and so on ad infinitum. To have acquired the motor habit of driving refers, instead, to the prereflective sensitivity that I develop about *how* to respond across all the variant (and sometimes novel) situations in which I drive. It refers to the sense of the parameters of

how I can achieve tasks as a driver: the way that my feet drift between gas, break, and clutch; my ability to sense whether the lane on the right affords enough space to pass; my ability to swerve in response to the appearance of obstacles, etc. My body inhabits the spatiality of the vehicle, and the demands of my tasks appear in light of my habits of motor vehicle operation—far from a mere repetition of action, I develop a style of coping with the demands of driving, with a general form that is open and responsive to situations.

We are also inclined to acknowledge that it is one thing to say that habitual action is performed prereflectively with a responsive attunement to the demands of a situation. It is another thing to claim that a habitual action is always performed heedfully. I might very well have driving habits, but it would be a stretch to say that I always perform them heedfully. In fact, it would be exhausting to drive heedfully at all times. When I begin the 222-mile drive from Memphis to Nashville, I pay close attention to the way that I pull out of my drive way and the following routine, opening moves of the task. I then settle in to the task. I've already traveled half of my normal commute to the university, but the accomplishment appears trivial in light of the project at hand. I fall back on my habits of driving, and, especially once I've reached the highway, time begins to collapse, folded into the demands of my travel. Mundane habits guide me, my eyes dilate, attuned only to minor corrective tasks of keeping the car centered in the lane, maintaining distance from other vehicles, and occasionally taking note of some figure on the horizon or fixing on salient landmarks in the journey. The feeling of motion is lost except for minor breaking or accelerating—the field seems to move beneath me. I am fixed in a

mundane task; on some level, a very dangerous task, but it has nevertheless become routine. My thoughts also begin to wander. Sometimes listening to interviews or stories helps to orient my thoughts towards something more concrete, and embed within the mundane task some other form of narrative structure that helps give sense to the traversal of space and my being-into the more distal project. It would be absurd to demand the same level of heedfulness for this task that we would for an almost qualitatively different situation of driving. Consider, for instance, driving into a new metropolitan city for the first time: the ambiguous feeling of being lost, the contingency of making the right turns, dealing with the comparatively tight-knit proximity to other drivers. Employing the same domain of sensorimotor habits that allowed us to space out on the highway, we are now required to deploy our generalized, responsive habits much more heedfully.

This also demonstrates that this heedful stance seems to be different from taking a *reflective* stance on our way of being in the world. When one is engaged heedfully in some sort of habitual activity, we refer to a way of being absorbed in the task, being more thickly entangled in the demands of the task than we were in mundane, hypnotic highway driving, even though the activity could certainly be described as less cognitively-demanding. There is a different kind of stance taken toward the phenomenological givenness of a task when, for example, we explain heedful driving to somebody who is just learning to drive. At least as much is evident in the difficulty of expressing, verbally, gesturally—that is, explicitly—an account of something we often perform habitually, even when this is a habit that is deployed adaptively and creatively.

Even if the engagement is not reflectively achieved, there is no doubt that there is something *thoughtful about what we do and how we do it*.

It could be that heedfulness is what differentiates something about the phenomenological character of Dewey's intelligent habits from routine habits. As he puts it,

How delicate, prompt, and varied are the movements of a violin player or an engraver! How unerringly they phrase every shade of emotion and every turn of idea!...If each act has to be consciously searched for at the moment and intentionally performed, execution is painful and the product is clumsy and halting. Nevertheless the difference between the artist and the mere technician is unmistakable. The artist is a masterful technician. The technique or mechanism is fused with thought and feeling (1922, 734).

Intelligent habits open unto new adaptive possibilities and ways of being in the world: like an infant discovering patterns of motility that allow them to move around their environment. Once the focus of the task is more directed toward some solicitation on the horizon of their phenomenological field (rather than the prehensile movement of the limb itself) and a pattern of locomotive motility sediments, a habit forms. A habit is intelligent to the extent that it affords new possibilities of establishing projects and pursuing ends in the proximal environment. These world-revealing habits also correspond with a change in the topographical fabric of existential space. No longer simply coordinating the embodied sensorimotor patterns of movement, these habits of movement become sedimented in the prereflective background against which possibilities for action appear. The appearance of the flickering candle in the corner of the room that grabs the child's attention takes on a new significance—it becomes oriented as an object in an 'over there' region of the immanently reachable space. The zone of reachable things, previously delimited to the constraints of child's peripersonal



space, now leads into new spatiotemporal horizons of where distance takes on a different value.

Habits are not simply motor sequences or patterns of action. “[E]very habit is simultaneously motor *and perceptual* [my emphasis] because it resides, as we have said, between explicit perception and actual movement” (Merleau-Ponty 2012, 153). The acquisition of a habit corresponds to a change in the phenomenological field—a new sense of existential space emerges with the development of a new sense of possibilities for action and engagement. Consider wearing high heels: this takes some practice. Not only does one have to embody a different dynamic of balance and shift which part of the foot bears the weight of the body, it also attunes us to the surrounding environment differently. The sewer grate on the sidewalk takes on significance as an obstacle, the wet grass demands a different style of walking, we readjust how we grasp the handrail on a familiar staircase given how the heels change our height. While these motor and spatial changes might be, initially, disorienting, eventually we settle into a habitual pattern of mundane habits about how to navigate the world in heels. In order to further make sense of these claims about the sensorimotor signification of habit and heedful performance I will draw on ecological psychology and the skilled intentionality framework (van Dijk & Rietveld 2017).

Ecological psychology conceives of organism-environment relations in terms of affordances (Gibson 1979). Affordances are, simultaneously about action and perception. The world appears to the organism in terms of how it is available for action

and engagement. Affordances have a kind of in-between quality—they are neither ready-made, objective features of the environment, nor are they ‘in’ the organism, whether ‘in’ refers to containment in either the mind or body. They consist rather, ‘in’ the relation between the organism and its surrounding environment. The way that the affordances of my phenomenological field are carved up depends on the shape, morphology, and anatomy of my body—it matters, for instance, that I am bipedal, have forward-facing eyes, and opposable thumbs; this shapes how the surrounding situation appears ready for the kinds of things I *can do*. These affordances are also potentially innumerable—at any given moment I am confronted with a plenum of possible action—however, certain affordances appear with a greater salience than others. If I am rushing out the door of my apartment, there are, in principle, no fewer action possibilities in my apartment than there normally are. My guitar still affords making music, the couch still affords taking a nap. But in light of the project at hand, they do not appear with any significant degree of salience; my field of affordances is tightly constrained by those things aiding in the process of getting out the door. My keys, shoes, jacket, the doorknob, and staircase: these things, and how they fit into what I can do with them, take a far greater precedence at the moment.

The appearance of affordances is also constituted by intersubjective conditions and social situatedness. There is nothing about the environment that constrains my body’s possibilities and prevents me from breaking into dance at a funeral, except for the immense social and normative pressure that hardly makes such an abstractly available action even appear as an affordance. We are both constrained, and given possibilities

through our social environment, through social institutions (Gallagher 2012), scaffolded by cultural norms and practices (Ramstead, et al. 2017), or even affected by the embodied presence of another. Affordances describe not only how possibilities for action emerge out of the transactional engagements between the body and the surrounding environment, but the very way in which action constitutes the phenomenological givenness of perception—the manifest significance of the phenomenon is shaped by this kind of action-readiness.

Hence, appearance of affordances also depends on my embodied skills, abilities, and habits (Rietveld 2013, Rietveld & Kiverstein 2014)—as we have seen in the example above, the candle in the corner appears eminently available and affords grasping on the condition that the child has developed locomotive motor powers. To have developed a skill changes the prereflective appearance of the phenomenological field. Rietveld (2008) provides us with the example of the skilled tailor. The phenomenological givenness of the skilled practitioner’s world becomes infused with an aspect of situated normativity; the tailor looking at a poorly executed seam does not always, in the first instance, reflectively appraise the phenomenon in terms of detached, technical criteria about what *precisely* it is about the seam that demonstrates bad craftsmanship. The encounter with the bad seam is usually characterized by a feeling of disgust or frustration—a furrowed brow, frown, or a ‘tsk’. The poorly executed craft is experienced as manifestly poor before the skilled practitioner has discerned what, on the more explicitly technical level, makes it bad. Just as, for instance, in musical performance bad notes are described as ‘sour’—a judgment that the musician makes, not with explicit

assessment of what is wrong with the note in a music theoretical sense, but as wince of discomfort, or a contortion of the face. Embodied skill shapes the givenness of the phenomenological field and the landscape of affordances that are embedded in our form of life.

Skill is certainly related to habit in this sense. Both have a deep and essential role to play in the very character of perception, just as perception essentially involves, and is oriented by action. Habitual action, in establishing meta-stable motor patterns of responding to situations, imbues situations with a motor significance—they appear in terms of how we can cope with them. It seems clear that skill necessarily involves habit; it would be difficult to imagine a skilled practitioner who did not feel into the performance with the responsive fluidity of embodied habit. It would be difficult to imagine a skilled musician who still fumbled with the basic mechanics of playing their instrument. Skill, therefore, refers to a domain of integrated habits, integrated by the sense of performing some activity. There is not a particular habit that we designate when we describe someone as a skilled musician. The motor habits of playing the instrument become a kind of second nature, but skill certainly refers to something broader than mere technical prowess: a skilled musician uses technical chops to play expressively, reactively, attentively; they coordinate their playing with others, responding to and leading dynamic changes, picking up cues for section changes, responding to the phrasing of a soloist, or, as a soloist, responding to the accompaniment. The prereflective habits of technical musicianship, open up a field of musical affordances—actions, engagements, interactions, and group projects—things that the musician copes

with creatively and intelligently; that is to say, heedfully. The musical space opens up as a domain for heedful engagement and interaction.

### **The Habitual Group: Entrainment and the Shared Field of Heedful Practitioners**

At this point we ought to connect the discussion of habit, heed, and the skilled intentionality to the issue of shared agency. This appears to relate, in particular, to what Weick & Roberts refer to as the aspect of ‘entrainment’ that makes heedful interrelations possible. To this end, I want to develop a notion of a group-specific field of affordances—not as an abstract set of affordances belonging to any group member in particular, or as the aggregate set of all individual affordances—but rather the way that entraining an individual into being able to skillfully achieve heedful interrelations involves developing an attunement to the proximate situation *as group-member*.

Consider the first day of a new job, and being asked to get something from the back stock room. Stock rooms are not, except in rare circumstances, organized according to any kind of immediately accessible logic. Or, for that matter, anything like what we would want to call ‘reasons’ in the sense of explicitly articulated, communicable justifications for its structure. These spaces nearly resemble, at first blush, the “blooming, buzzing confusion,” that James refers to when describing the world of the infant (1890, 462). And this is not an entirely facetious remark—the space of the stock room is still uninhabited just as the world is not yet inhabited for the infant—it is a jumbled mess without a distinct layout. Nothing, for me, is yet signified except in the superficial sense of ‘the stockroom’ being the place where I am supposed to look for the

thing. But no particular region particularly solicits me as the place to begin the search for my target. The best I can surmise is something like a hasty, serial scan from one thing to the next—top to bottom or left to right. The space bears indications of sense; things seem to be vaguely grouped together, but this is usually too vague to offer much guidance in my search.

However, I am usually not left strictly to my own devices. There is a period of entrainment; a co-worker shows me around. Regions of the stock room are pointed out, their purpose is described, the shape of the room begins to settle into a navigable pattern. Entrainment involves a kind of apprenticeship in developing a group-process-oriented habitual attunement, a shared landscape of affordances. Entrainment, in this case, does not simply refer to a certain kind of conditioning that mechanistically produces an online attunement for a specific task. I learn to inhabit the group to the extent that I develop an entrained familiarity with a certain ‘form of life’ (Rietveld 2014) in which shared affordances are embedded. Weick & Roberts describe the entrainment process, which also amounts to, as they put it, a kind of ‘socialization’:

When experience insiders answer the questions of inexperienced newcomers, the insiders themselves are often resocialized. This is significant because it may remind insiders how to act heedfully and how to talk about heedful action. Newcomers are often a pretext for insiders to reconstruct what they knew but forgot. Heedful know-how becomes more salient and more differentiated when insiders see what they say to newcomers and discover that they thought more thoughts than they thought they did...Candid insiders who use memorable stories to describe failures as well as successes, their doubts as well as their certainties, and what works as well as what fails, help newcomers infer dispositions of heed and carelessness (1993, 367-8).

Here we see that entrainment cuts both ways. It not only socializes ‘newcomers’ into forming heedful ways of inhabiting a shared landscape of affordances, but it also serves to usher ‘insiders’ into taking a reflective stance on how they perform their group

membership. The act of communicating the process to the uninitiated can reveal aspects of their heedful engagement that “[p]rior to this coming to awareness...exists silently and as a solicitation” (Merleau-Ponty 2012, 379). The very act of expression concretizes something about their behavior that may have become sedimented in their embodied habits of performance—the reflective stance reinitiates an awareness of their habits that may have become so ritualized and mundane that it settles into the prereflective background. It thereby both reinforces and reveals more thought to their thought than they thought that they thought; that is to say, heedfulness. The coworker who explains where to find something in the stockroom may, in the process, find themselves concretely expressing something about the implicit patterns and logic therein that they had habitually navigated in the habitual flow of everyday work. Hence, while I am using Weick & Roberts term ‘entrainment’ here, I think that what they are describing, as I have said above, is a kind of group-specific socialization that fosters our ability to heedfully act and interact with others.

And in terms of the person becoming entrained, simply having the process explained is not enough to achieve group inhabitation. Learning to embody these heedful interrelations takes time; it is a process. The space of the stock room slowly begins to take shape, and I become oriented towards the affordances immanent in what was, previously, a noisy heap of disintegrated particulars. As I walk to grab something my body is drawn toward a region of the room—*that* region is where we usually keep *those* things. Some things I have to retrieve from the stock room more frequently than others; I settle into those affordances more quickly. And, moreover, the stock room takes on a

new significance—it becomes familiar, it's regions become meaningful in light of how to achieve my tasks.

Sometimes I'm forced to return to naïve search patterns again, sometimes I ask for help. Even after working there for a long time I am sometimes confounded by a request and I have to deploy these more systematic, scanning search patterns. Even when habitual actions begin to sediment, a stable pattern is never completely or exhaustively achieved. If this were possible then we might have license to describe habit as a mere mechanism—an impersonal, automatic, pre-given reaction to an external stimulus. There is a key difference between an action performed prereflectively and something performed mechanistically.

Upon becoming adequately entrained, what emerges is a relatively stable, shared field of activity. And importantly, this field does not pre-exist my entrainment; that is, it might already be shared by some people prior to my engagements therein, but this does not mean that the shared field of the group is already laid out before me like an object or a given protocol. Group processes often are depicted in the form of a charter, rules of conduct, or list of duties and expectations that is provided prior to our actual engagements. But the shared field of activity depends on a more robust form of entrainment that produces these prereflective embodied attunements and heedful reactive dispositions that realize one's adequate participation in a group process. This shared field of activity has to be inhabited in order for it to appear in the full-blooded sense that the solicitations of group tasks phenomenologically appear—where task,



responsibilities, problems, etc., are encountered with a kind immediacy. We find ourselves attuned to the workspace where we do not have to reflect on expectations and protocol to make sense of how we are expected to participate. They are perceived with a kind of affective draw. Issues, duties, and tasks stand out within this field of shared agency.

An example of this is when a defensive line has to run a zone defense—that is, when a defender is in the penalty box (in lacrosse or hockey, it could either be a midfielder or a defender in the box) so that they can no longer match every offender with a defender. The defense is one person short; thus, the strategy is about creating a defensive zone where defenders slide in reaction to the moves that the offense makes. Depending on which offender has the ball, and in which direction they are moving, a defender might follow while other defenders slide in response to these movements to maintain the defensive zone. Sometimes another defender will slide in order to cover an offensive break, or slide away from the defender who is covering the player's movements who currently has possession. The defensive strategy has to become more dynamic, responsive, and adaptive. It is one thing to see a defensive zone charted out and explained on a white board—in fact, seeing it charted out from an abstract view-from-above with Xs, Os, and arrow vectors of movement can be a useful tool for entrainment, in the sense of becoming socialized within the dynamics of the group. However, it is something else entirely to be a heedful member of a defensive line. The latter requires an entrained attunement for how and when to change positions in the field, whether to slide toward or away from the offensive action, how to cover the space vacated by

another sliding defender. In theory, the slides ought to follow a fairly constrained, circular motion—a rotation from one position to another. But in practice, the prescribed routine, conceived of as a set of rules for *how* and *when* to slide, frequently falls apart and requires heedful, adaptive behavior to deal with the specificity of the offensive play. In practice, the players often have to deal with ambiguous situations where one defender could just as easily slide towards the play as the other. And this is not just a personal skill—it inherently relies on an operative understanding of the other members of the defensive line. The success of the zone defense depends not only on an abstract understanding of the mechanics of the play (in fact, in the moment such things are rarely considered), but on one's role in the defensive line, the reactive dispositions of one's teammates, who is faster, more voracious about covering as opposed to maintaining the zone, and how one is called on to respond to these play-specific and intersubjective dynamics. Being a good defender is being a good member of the defensive line. And the heedful, adaptive dispositions that a defender develops are not just about reacting to an offensive play, but also involve a shared field of agency that is attuned to maintaining the zone, reacting to breaks, being aware of which offender is open when a slide occurs. It is no longer a question of playing defense on a specific member of the opposite team, but about maintaining the dynamics of the zone for the period of time that the team is missing a player. This heedful attunement depends precisely on developing intelligent habits of being a group member—*inhabiting* a group dynamic. It is a matter of being a member of a group in which one becomes attuned to the relevant affordances within this field of shared agency, where the development of

embodied skills and habits are not solely individual achievements. They emerge out the shared actions, interactions, and projects of the group that one comes to inhabit.

### **Material Engagement Theory (MET) and the Active Artifact**

Material Engagement Theory, as systematized by Lambros Malafouris (2013) is a broad, interdisciplinary approach that emphasizes the role of material culture in shaping the mind. It draws on anthropology, archaeology, sociology, cognitive science, and philosophy of mind to give an account of how human phylogeny, ontogeny, and everyday situated action is entangled with and ubiquitously involves our engagement with the built environment, as the ecological niche that we actively and historically construct.

MET draws on enactivist theories of cognition, which emphasize the situated activity of the living, embodied animal that develops patterns of coupled relations with the affordances and constraints of its environment in order to optimally carve out a stable niche within dynamic systems of action, interaction, and ecological energy transfer. As such, it locates cognition in the transactive relations between the organism and its environment, rather than narrowly locating cognitive properties within the brain of the living organism itself—an approach that does not claim that the brain is unimportant for cognition, but expands boundaries of what can count as a genuine part of the cognitive system to include the body and the ecological situation of the animal. This approach is fairly consistent with the Rylean framework that Weick and Roberts use in their analysis of group mind, especially in their common understanding of cognition as action-oriented

and situated, rather than as a detached, private, quasi-syntactic manipulation of internal symbols and mental representations.

Inspired by, and further developing this enactivist framework, MET highlights the role of the material culture in our understanding of distinctively human cognition. It is not the case, after all, that we just adapt to an environment, but we also actively construct a world around ourselves. We are born into a world of practices, traditions, artifacts, architecture, technology, and tools that have their own history that precedes our own individual development. And this history of building, writing, creating and modulating our environment is important for understanding the structure of human cognition. Malafouris draws on the theory of extended mind, enactive semiotics and material agency in order to frame a research program for investigating specifically *how* material culture shapes the mind. In general, the point is not to regard the built environment as the passive, inert setting in which thinking and behavior take place. The point, rather, is to take seriously the ways in which our constructed niche plays an active role in expanding and contributing to the possibilities of cognition, the construction of social meaning, and the possibilities for practical engagement.

Consider the example of writing, which is certainly a way of meaningfully engaging with things in the world. The practice of writing always requires media: at least an instrument and a surface on which the instrument can create meaningful, visible (or otherwise accessible) marks. It is not the case, however, that writing is a mere externalization of pre-given cognitive capacities—that we write something because, first, we think it. The

practice of writing makes possible new ways of thinking. The ability to record one's thoughts on a material medium entails a change in the structure of memory and thought. The thoughts are expressed through my material engagement with the written artifact such that a new dimension of the field of memory emerges. To engage the world in terms of creating meaningful marks on a surface generates new ways in which memory can appear as a tangible dimension of my cognitive ecology (cf. Overmann 2016). It creates possibilities that do not emerge first on the basis of neurological changes that cause changes in the structure of behavior. Rather, these methods of thinking, remembering, and acting could not, in any meaningful sense, pre-exist the actual embodied process of engagement *with the things* that constitute their possibility.

Writing allows me to develop and sustain my thoughts in ways that would be difficult or impossible absent the written medium. The materially engaged practice of writing makes possible a sophistication of thought, and also opens the possibility of new forms of communication—we can communicate with others at a distance, we can communicate (in some sense) with ourselves in the past, or even, by the same token, communicate with others after our death. In a broader sense, it also makes possible a richly articulated and concretized narrative understanding of human history that informs and shapes how we live through the present<sup>5</sup>. In this sense, our engagement with the

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<sup>5</sup> This does not imply, however, that writing is the only way of establishing a narrative sense of history. Oral history expressed through stories and songs can serve these purposes as well. There does seem to be, however, a difference in the style of written history, as much as we could also say that a story and a song are different to the extent that the narrative practice consists in different mnemonic methods of engagement (e.g., how a kind of patterned prose is woven together with a patterned tonal melody in the case of a song; how rhyming or alliteration is used in a story to scaffold the ease of recitation).

world does not just allow us to offload cognition or externalize thinking that could have otherwise been performed ‘in the head’; material engagement offers us opportunities for cognition, opening up space for creative engagement and thinking that was not afforded to us prior to our ability to deliberately and meaningfully engage with things. When we engage with the world, we do not phenomenologically encounter things as merely passive material objects, but as epistemic and cognitive resources entangled with the process of human thought itself. The interaction between the human, the writing instrument, and the expressive medium form a transactive, dynamic cognitive system that is greater than the sum of its parts.

Because action and cognition are an essentially interdependent process, our material engagement does not just shape the possibilities of cognition as a detached ‘internal’ process, scaffolded by the built environment. There is a more deeply entangled dynamical patterning, which emerges out of the process of engagement itself. Material culture also shapes the structure of agency—material things *have agency*. This is not to say that artifacts have independent, discrete agential properties independent of their participation in human life—an object is not *an* agent any more than an individual is *an* agent. As Malafouris puts it, “If there is such a thing as human agency, then there is material agency; there is no way that human and material agency can be disentangled.” (2013, 119). That is to say, agency is an emergent structure that involves a diverse coalition of contributors that actively shape or modulate the accomplishment of a goal-directed process—a process that is not just limited to the human contributions as *the* agent of the process. This is a claim that is consistent with Ryle’s rejection of

substantial understandings of the mind; agency is neither a discrete, substantial thing, nor it a discrete property of a particular *kind* of thing. Understanding agency as emerging in the process of engagement motivates us to say that things can *have* agency in the sense of taking part in shaping these processes, while rejecting the notion that agency is a static, pre-given property of certain *kinds* of entities. Thus, an artifact is no less *an* agent in the static categorical sense than a human being is. Considering the example of the potter who is throwing clay on a wheel, Malafouris writes:

I propose that we should get rid of any *a priori* assumption about the causal or agential hierarchy of potter's (*sic*) brain/body/wheel/clay. Similarly, in terms of cognitive topology—that is, the question of where those cognitive processes reside—we should begin from a locationally uncommitted position. We should assume, instead, that every mental recourse needed to grow a vessel out of clay may well be extended and distributed across the neurons of the potter's brain, the muscles of the potter's body, the motions of the potter's sense organs, the affordances of the wheel, the material properties of the clay, the morphological and typological prototypes of existing vessels, and the general social context in which the activity occurs. The components mentioned above can be broken down further, but none of them should be allowed to determine the contours of the activity in isolation (2015, 213).

The ways that humans develop, think about, meaningfully engage, and enact their projects are always actively bound up with the affordances, constraints, opportunities, and history of the material culture in which we are situated. Understanding it in this way is a logical consequence of enactive, embodied and ecological approaches to cognition. Cognitive and agential possibilities are always situated, coupled with, and developed in the context of a cognitive ecology, and the human cognitive ecology consists in a socio-material situation and its history.

These claims could be further developed by Weick & Roberts' approach to group cognition. At the same time, MET also has some tools to further develop their account of heedful interrelations and intelligent group processes.

### **Synthesizing These Accounts: Toward an Action-Oriented and Materially Entangled Approach to Collective Intentionality and Action**

As I said above, Weick and Roberts' account might rely too heavily on a belief-dependent understanding of heedful interrelations by using Asch's envisaged system as the basis for collective mind—the idea that envisaging the group is what actualizes its substantial character. And while it probably would not make much sense to claim that there could exist some group that nobody believed existed, to locate the substantial character of a group solely in the imagination of the group members is an overly psychologistic account of collective mind—something that Weick and Roberts' are ostensibly trying to avoid.

This is where I think that MET can make some contributions to this theory. If we reconsider the example of the aircraft carrier, we see that these actors are interrelating in a context richly populated with artifacts, instruments, technology, communicative media, and other on-board, process-relevant equipment that plays an active role in shaping, sustaining, and contributing to how these patterns of heedful interrelations emerge. The constructed technological environment of aircraft praxis is a constitutive part of the substantial character of how these heedful interrelations are organized into consistent and reliable patterns that make the precarious process of landing an aircraft on a seaborne vessel possible.



Hutchins (1995) makes a case for how pilots rely on the information from their cockpit in their flying activities; information is not just processed in the head of the individual pilot, but rather the cockpit has cognitive properties in and of itself that form a larger cognitive system with the pilot. And whereas Hutchins relies on a connectionist model of cognition, taking the pilot and the cockpit to form a cognitive system to the extent that these processes form a tightly coupled system, Weick and Roberts motivate us to situate these coupled processes within the broader and more loosely coupled dynamics of heedful group interrelations. After all, on the aircraft carrier the tightly coupled system of cockpit-and-pilot does not act alone in the process of landing the plane. As described above, the pilot and the plane are only one region of the total process, which involves the air traffic controllers in the tower—whose heedful monitoring of the incoming plane no less relies on instrumentation that keeps track of the incoming trajectory, wind speeds, weather conditions, etc.—as well as the contributions of group members on the runways and the ship’s navigational team. Each of these group members form coalitions that involve both human and non-human, instrumental means that attend to specific features of this pattern of interrelation—they have different duties, concerns, and features that they must monitor and react to, but these things are non-independent parts of the total emergent patterns of how the plane lands on the aircraft carrier. It is not unlike how an old jazz band director of mine always used to ask us whose responsibility it was to keep the time of the music piece that we were playing. The uninitiated band members would intuitively respond that it was the drummer’s responsibility. The correct answer, however, is that *everybody* keeps time—there is no executive time-keeper in

the band. Keeping a consistent tempo is something that must be maintained in the heedful interrelations of skilled players. From the diverse, overlapping contributions of the players and sections heedfully listening and interrelating, the time of the band consistently and reliably emerges and realizes the substantial character of collective mind. The materiality of the instruments themselves is also relevant here: musicians coordinate on a variety of timescales at once—the motor level of playing their instruments, coordinating the musical phrases with others, and the broader temporal dynamics of the song. And the kind of instrument differentially affects how band members achieve a common tempo—playing eighth notes at 140bpm is much easier on a saxophone than it is on a trombone, for instance.

Perhaps the example of a musical group too obviously, and perhaps arbitrarily, involves the use of artifacts. The point, however, is to show that there are few (if there are any at all) cases of group interrelations that do not constitutively involve technological mediation, heavily relying upon features of the built environment, or minimally involving the skillful navigation of the spatial dynamics in which these interrelations take place. Fiore & Wiltshire (2016) discuss the sociotechnical constitution of team cognitive processes, and how the technological aspects of these groups play an active role in the macrocognitive structure of these group dynamics—technology realizes cognitive properties of the group that do not reside ‘in the head’ of the human contributors, and it shapes the emergent patterns of group interrelations as much as any of the people involved in these distributed processes. We can return, for example, to the case of the zone defense. If we consider how this happens in lacrosse, being able to run a zone

defense is only possible on the condition of the motor habits of throwing, catching, cradling, and scooping the ball from the ground. The coordinated and interrelated activity of the players plays out within, and is constrained by, meaningful lines and goalposts that constitute the relevant field of engagement and its meaningful zones. A sport does not make sense as a sociomaterial field of possibilities and constraints that shape the very structure of how creative agency is realized.

This is all to say that the schema of these relations is not enacted, monitored, and sustained by the envisaging powers of the human actors alone. These patterns of interrelation are constituted by a dynamic, entangled system(s) of human and material forces that achieve these emergent patterns in highly interdependent coalitions. Coalitions in which, I claim, it makes sense to say that agency of the collective mind is also actively structured by the artefactual features of the situation. While it might not make sense to say, simply, that the group constitutes itself by envisaging itself, it might be reasonable to claim that the material features of a group process play an important role in producing the group structure. They organize behavior, guide participation and contribute to the reliable, consistent, and heedful interrelations that embody group mind. This is an understanding of collective mind that maintains fidelity to Weick and Roberts' dispositional action-oriented account, and could serve as a candidate for collective processes that is germane given the theoretical commitments of MET.

## **Conclusion**

The synthesis of these approaches should serve to mutually support one another, playing on each other's strengths, and help to address their respective weaknesses.

Even if we deem Asch's envisioned system as too cognitively loaded, we will still need to, by way of conclusion, account for how group members conceive of themselves as group members. Here, Kutz's (2000) notion of participatory intentions can be used to help capture the spirit of this hybrid framework. Participatory intentions is a minimal and relatively undemanding criterion for collective action, requiring only that individuals have an understanding and explicit awareness that their personal actions are, in fact, part of a larger social process to which they are deliberately contributing. He writes,

Groups can act jointly although members have only very weak expectations about each other's intentions, do not and are not disposed to respond strategically to one another, and do not intend that the group act be successfully realized. So long as the members of the group overlap in the conception of the collective end to which they intentionally contribute, they act collectively, or jointly intentionally (17).

Incorporating this criterion into our hybrid account enables it to provide a fruitful analysis of minimal collective action cases not currently accounted for by extant theories; such an analysis will be especially significant insofar as we take seriously the idea that material culture plays a part in shaping the structure of collective agency. Could there, for example, be implicit goals and imperatives embodied in the very artefactual composition of material culture that organize and motivate our collective actions? This approach could lead to empirical analyses of collective patterns of activity that might yield surprising results and contradict some of our folk-intuitions about collective action. In this regard, perhaps accounts of collective action should not just attempt to describe how our familiar understandings of agency can be isomorphically reflected in

macrosocial patterns; rather, they should also be challenging us to reevaluate these intuitions.

We might still wonder, however, whether even Kutz's very minimal notion of participatory intentions still establishes criteria that is too strong to capture every case in which something like a collective or joint form of agency is relevantly taking place—at least in the sense that there might be some explanatory value in appealing to how our behavior is structured by taking part in collective intentions where our membership in these *group* might not always be something of which we are reflectively aware. Or rather, awareness characterized as the formulation of an explicit participatory intention might not be required for agency to be shaped by group membership, or for our actions to meaningfully contribute to collective projects. But this requires an example—one that I think will only be clear on the basis of the preceding hybrid account of the enactive/phenomenological approach with MET and theories of collective intentionality.

We can consider the practices of driving—personal vehicle operation, traffic patterns, roads, regulations, practice/training, licensing, legal structures, enforcement, etc.—and all of the various factors involved as amounting to a sophisticated nexus of social practice which can appear as a banal feature of everyday life, a life-threatening issue, a subject of political controversy, an administrative issue, or otherwise. I suggest that our most common engagements with these practices are banal. Driving is usually boring at best, but often annoying—at least for those of us for whom it is a sedimented feature of daily life. It is a mere means to an end, where this end is not about the project of driving

for its own sake. Thus, the complex supportive background that makes driving possible does not arise as a matter of our awareness; we do not usually self-describe as ‘a member of the driving community’ with a great deal of existential value. In fact, this very banality supports an image of *what it means to drive* as solely individual, self-interested achievement: something that *I do alone*<sup>6</sup>.

However, driving consists in a whole network of shared understandings, norms, and material culture. Even to have been administered a driver’s license is, by the very standards of what counts as a joint agreement, tantamount to agreeing to a social contract. And the expression of these norms and agreements is not a mere matter of each individual holding an itemized list of propositions about the rules and expectations of traffic conduct. I would argue that drivers develop habits that are constitutively formed in the transaction with the sociomaterial landscape of the driving world—things like signage, visible markers of how and where one drives, intersection protocol, using blinkers, yielding for pedestrians, and so on. The norms of driving are embodied in and shaped by material culture in an incredibly careful and litigious way. Being part of the driving community does, at some point, involve participatory intentions—like, for instance, when we sign contracts in order to get our license at the department of motor vehicles. However, in practical everyday life, these participatory intentions fade into the

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<sup>6</sup> We can recall for instance the Republican outrage when, during the 2012 election cycle in the United States, Obama modestly suggested that even wealthy business people and so-called ‘job creators’ were not supported solely by their own individualistic achievements, citing the uncontroversial fact that the conduct of business and commerce is supported by things like roads, bridges, trains, and other forms of infrastructure that make their business projects possible. For Obama to suggest that rich people were supported by a sociomaterial infrastructure that they, themselves, did not *personally* create was interpreted as an affront to American individualism and boot-strapping excellence. Obama was, in this case, trivially correct. Republicans were fascinatingly incorrect. But I will not explore the implications of this ignorance (or perhaps motivated-incorrectness) here.

background of our activities; these intentions are not frontloaded in our understandings of what it means to drive, nor do we have to explicitly reflect on these intentions in order to interrelate with other drivers. The traffic light tells us when to go in a more-or-less habitual way, the street lines tell us where to drive such that these tendencies are enacted even on dirt roads or places where the artifactual layout of the driving culture is not as robustly actualized. The very constitution of driving habits and conduct is formed within and emerges out of collective driving practices in which we participate. This should come as no surprise in light of Dewey's (1922) conception of habit as the basis for will in general, according to which habit is, essentially, a social, intersubjective function. Habit is not founded in the minds of individual subjects; it is embodied, intersubjective, and constituted by the material structure of the social world and its institutions.

This kind of collective activity seems at least consistent with Gilbert's (1990) analysis, according to which it is not merely shared *personal* goals that achieve the 'plural subject' of action. Rather, this collective achievement must also include a kind of normativity that makes demands on group members, imposes *obligations* in terms of what *we* are doing, and justifies rebuke when members of these shared activities renege on these obligations. We *do*, in fact, rebuke other drivers when they violate expectations and obligations about the conduct of how *we* drive together. And we do not do so solely when they impose on our personal rights and safety as a driver. We rebuke other drivers for not following the rules that we habitually follow as part of our driving conduct, especially when we perceive that someone is not driving *heedfully*, when they

are not driving in a way that is carefully attuned to how their actions are carefully and adaptively related to what others are doing.

We could also consider an even more minimal sense in which group agency is shaped with even fewer explicitly codified agreements and personally established participatory intentions than the driving example given above. Ahmed (2007) gives a phenomenological account of whiteness—what whiteness does, and how it operates—that does not reduce the racial category of ‘being white’ to an essential or biological given that a body naturally inherits. She conceives of whiteness in terms of a kind of habitual orientation “which orients bodies in specific directions, affecting how they ‘take up’ space” (150). That is, whiteness involves a certain way of being situated in and having an existential bearing on the world such that it affects the way in which space appears available or unavailable for engagement. It is an orientation that cannot be disentangled from the historical, political, economic conditions, power relations, or cultural hegemony in which whiteness becomes a meaningful category. Hence, whiteness-as-orientation is not a solely individual thing. She analyses “whiteness as a category of experience that disappears as a category of experience, and how this disappearance makes whiteness ‘worldly’...whiteness is what bodies do, where the body takes the shape of action” (150/156). This historical-racial orientation becomes ‘worldly’ to the extent that it constitutes a *background* and shapes the existential contours of space and the landscape of affordances of embodied engagement; yet, it does so without necessarily appearing as *an* orientation—at least, white folks are not given occasion to become aware or reflect on this orientation as a condition of living in



the world as often as non-white folks. She writes, “white bodies do not have to face their whiteness; they are not orientated ‘towards’ it, and this ‘not’ is what allows whiteness to cohere, as that which bodies are orientated around” (156). However, it is nevertheless true that whiteness is a way of being a member of a collective that shapes, on a basic level, the structure of agency.

One potential concern that could be raised is that while the examples of driving and whiteness may involve a certain kind of group membership that shapes our agency, affordances, and interrelations with others, the extent to which this groupness actually establishes shared intentions about what we are all doing together is less apparent. To what extent does this mean that we are part of a collective that acts as a body or forms a plural subject? We could certainly claim that driving or whiteness refers to an *interested* group, where these interests exceed our own individual participation. An ascriptively white person may haplessly participate in the maintenance or proliferation of white hegemony; a heedful driver might contribute to maintaining a safe driving environment that assures a diverse array of other human projects can be fluidly achieved. But that seems to be the most that we can say about these groups’ explicitly formulated collective intentions independent of how membership shows up and becomes relevant in a particular situation. So perhaps this critique poses a problem. It certainly poses a problem if *what we are looking for* in our analysis of collective agency are necessary and sufficient criteria for when, where, and how collective agency can be identified in the abstract, or prior to any particular situation in which it takes place. If we are interested in abstract methods of delineation, identification, and prediction of group

agency, then I concede that my account does not provide abstract principles for carving the social 'at its joints' in this way.

However, we should consider the difficulty of enumerating the myriad groups in which any given individual takes part—group memberships which, depending on the specific existential situation, could be irrelevant in certain situations, but of paramount importance in others. Hence, if our question is about the structure of *agency* and the extent to which collectives are important for understanding this, universalizing necessary and sufficient criteria might be an overly-limited method for evaluating collective agency 'in the wild'. To this extent, I think that Tollefsen's (2015) interpretivist account of group agency might be helpful here. Drawing on Dennett (1987), she claims that an intentional stance can be useful for interpreting group-level phenomena insofar as such an approach does, in fact, track real features of a collective process. It must also have explanatory value such that it captures something about the phenomenon in question that is not captured by a physical or design stance of interpretation. That is, taking an intentional stance is warranted so long as it is useful for elucidating and making sense of this process. Thus,

If we view our practice of making sense of certain groups as agents as an extension of our practice of making sense of others, then the attitudes we regularly ascribe to certain groups are to be identified not with sets of individual attitudes that are interrelated in various ways, but with dispositional states of the whole group" (Tollefsen 2015, 111)

We should be clear that this view presupposes that group and collective agency is (at least explanatorily) taken to be continuous with those of the individual sort; as I have suggested above, it might not always be fruitful to model our understanding processes on an image of what an individual process is assumed to look like. However, this

approach has merits in terms of how it centers the pragmatics of valuable explanation. At the outset of this chapter, I claimed that to be an individual is always already to be part of the social—we are always, to some extent, part of a group. Tollefsen's interpretativist stance on groups, however, can be useful for these purposes since our participation in one form of collective agency, as opposed to another, might be more or less useful in our explanations, depending on the situation, and the phenomenon that we are interested in describing. In terms of the ontology of cognition and agency, we can say that we are always intractably socially situated, materially engaged, and interrelatedly coordinated with others. However, it would be, in most cases, useless to account for a particular phenomenon or process by enumerating *everything* that has *any* sort of proximal or distal influence. In some cases, the role of whiteness or being a member of driving community might be a critical explanatory feature of the way that agency is shaped—sometimes it will be fruitful to think about what whiteness *is doing*, or what traffic *is doing*. For certain purposes of explanation, however, this might not matter at all.

Hence, we are left with pragmatic criteria, rather than universal necessary and sufficient criteria for dealing with and accounting for group level processes, which is not a dreary conclusion. What I have hoped to explain in this chapter is that when we conceive of collective and group agency, we must account for the role that the sociomaterial environment always plays in the structure of individual agency, and that being a member of a group has a more basic habitual and heedful structure than propositionally-formulated intentions can account for. The collective and sociomaterially

engaged nature of individual life is the rule of being in the world, not the exception; social coordination is the foundation of individuality, not the achievement of individuality. With regards to conduct and agency, especially if our concerns about conduct and agency are *ethical* concerns about making this world a better place in which to live—a world in which our conduct expresses and *really* achieves the proliferation of justice and general welfare, Dewey (1922) writes:

For however much has been done, there always remains more to do. We can retain and transmit our own heritage only by constant remaking of our environment...We may desire abolition of war, industrial justice, greater equality and opportunity for all. But no amount of preaching good will or the golden rule or cultivation of sentiments of love and equity will accomplish the results. There must be a change in objective arrangements and institutions. We must work on our environment not merely on the hearts of men (15-6).

## **Chapter 3: Historicizing Affordances: Material Culture, Institution, and Temporality**

### **Introduction**

One of the less explored dimensions of MET in the contemporary enactivist uptake of this theory is the deep and non-linear conception of time—the multiple scales and vectors of temporality that are drawn together in engagement. In this chapter, I will argue that MET involves a variety of timescales of development: phylogenetic, historical, ontogenic, and the narrow scale of situated action, where embodied engagement brings together these diverse temporal threads of development. To act in specific situations marshals the resources of kind of phylogenic anatomy, the affordances of a personal developmental history of engaging with the world, and a sensitivity to the affordances of a particular situation in time and place, and to act from a position developed out of a history of practices and material conditions. Thus, things themselves bear the significance of this historical trajectory of becoming, and their meaning is actualized through engagement. “When humans engage the material world they establish a bridge with the larger-scale processes at work beyond their awareness or control which are embodied in the objects at hand. With things the past becomes present” (Malafouris 2015, 365). Engagement unites these temporal scales, meshing together threads of intentionality, which often exceed the individual, conscious significance of the act—the structure of engagement is hylonoetic (Malafouris 2013, 2015) insofar as the very meshing together that engagement achieves is constituted by more than just the human contributions to situated agency.

This is an interpretation of mind and material culture that does not just conceive of history as merely the sufficient conditions for our experience of embodied affordances in their immanent presence, but suggests that the historical bears on the present—that there is a kind of historical depth to material culture that we encounter in our everyday engagements that continues to play an active role in shaping the landscape of affordances. And this is an idea that should be put more directly into conversation with contemporary enactive-embodied and ecological approaches to cognition.

### **Affordances: Affective, Action-Oriented, and Perceptual**

The notion of affordances comes from Gibson's (1979) ecological psychology; it is as much a theory of perception as it is a theory of action and agency. It claims that an organism perceives meanings and values of things in the environment directly—that is, the organism does not just perceive raw empirical sensory data from a neutral environment, information that has to be mediated by cognitive representations in order to be interpreted (see Hurley 1998). This approach specifically emphasizes the way that things appear as opportunities for, or constraints on action and engagement: these affordances for action appear immediately in the givenness of perception. Perception is therefore structured by the embodiment of the organism: things appear to living systems in terms of the transactional dialogue between embodied capabilities and the surfaces of action-oriented meaning in the surrounding environment.

Affordances do not just change our approach to thinking about an animal's psychology or phenomenology, they also demand a different conception of the environment itself:

As an affordance of support for a species of animal, however, they have to be measured *relative to the animal*. They are unique for that animal. They are not just abstract physical properties. They have unity relative to the posture and behavior of the animal being considered. So an affordance cannot be measured as we measure in physics (Gibson 1979, 120).

This mode of thinking problematizes the clean Cartesian distinction between *Res Extensa* and *Res Cogitans*, as well as the neutrality of sense-data theories of empiricism. Nature, as investigated by the physicist, cannot exhaustively describe an animal's world. That is, there is more to an environment than its objective, physical properties and the internal representations of them.

In addition to giving us a radically species-specific orientation in our understanding of world and mind, we also have to consider the individual animal, considered both in the course of its development, and as it pertains to the acquisition of skills, habits, and particular methods of embodied negotiation of environmental conditions. These organism-environment affordances have a dynamic, developmental structure modulating with changes in the body, environment, skills, social conditions, and the demands of the specific situations in which we find ourselves (Chemero 2009, Ramstead et al. 2016, Gallagher 2015). Rietveld & Kiverstein (2014) emphasize the ways that affordances are embedded in forms of life, and dependent upon skills and capabilities. Moreover, the direct perception of affordances appears to us in an affective mode that cannot be disentangled from cognition in general (Colombetti 2014). Rietveld (2008) gives us, for instance, the example of the skilled tailor who does not initially confront the appearance of sloppy stitching in terms of explicitly formulated rules and criteria of good sewing practice, evaluating piecemeal the formal features of the

situation with an itemized calculation of its deficiencies and flaws before arriving at the judgment that the stitch has been poorly executed. The tailor reacts with disgust, or discontent—something *feels wrong* before they have even managed to put their finger on what, in the concrete sense, is deficient about it. It is a prereflective judgment, which already expresses a very minimal sense of normativity in skill-based, habitual, and everyday sorts of activities: the ability to fluently carry out embodied engagements with the world with an interrelated perceptual attunement to how these things *ought* to be done, and, sometimes, how they are being incorrectly (or at least non-optimally) performed. For instance, when walking we tend to swing the right arm when we step forward with the left foot: a kind of pendular counter-balancing movement of the body. There is something uncanny (and for that matter difficult and confusing to perform) about watching somebody swing their right arm in synchrony with their right foot. Most of us will perceive the peculiar gait as unnerving or it will make us feel vaguely uncomfortable. It's especially hard to perceive *why*, or which *specific features* of the situation we are reacting to, when most of us are not reflectively aware of the fact that we swing our arms in counter-balancing movements in the first place.

In addition to perceiving affordances in terms of their affective immediacy, Chemero also describes the ways in which engaging with things—taking up and dynamically coupling our embodied actions with things in the environment—amounts to a kind of *feeling into* things, or what he calls sensorimotor empathy (2016). He takes this position in order to purge some of the potentially intellectualist remnants in Noë's (2004) notion of sensorimotor contingencies in the essential interdependence of embodied action and



perception. Noë claims that part of the immediacy of what is given in perception *also includes* (albeit not always explicitly in terms of a mental representation) *counterfactual* knowledge about, for instance, what the cup I am looking at *would look like*, if I were to reach out and turn it around so that the not-currently-visible surface of the thing could be seen from my perspective. But, of course, I don't have to actually reach out and perform the action in order for the visible surface of the cup to be perceived *as* having another side. My perceptual field constitutively bears the significance of how I can move around and engage with the world that I occupy. In this sense, the motoricity of my body appears in the phenomenological character of perception: Action is *in* perception. Chemero expresses roughly the same idea without Noë's emphasis on counter-factual *knowledge*. Depicting the enactive structure of perception as mediated by some kind of knowledge condition seems to front-load a sort of knowing-that in perception that would be at odds with the kind of directness to which Noë's theory of perception is committed.

Drawing on Merleau-Ponty, Chemero gives an account of the motoricity of lived body, opening onto the world through habits and skills—as plastic body schema that forms synergistic ways of coupling and engaging with things. And this is not done in terms of the orthodox extended mind mechanisms of course-grain cognitive or informational isomorphism (what Clark & Chalmers [1998] call the parity principle) realized, in some circumstance, by something 'out there' as opposed to 'in the head'. The synergistic coupling relations between the body and the world operates through an affective mode: a sensorimotor empathy, or a way of feeling *into* things. And, further, this does not just operate in a unidirectional way; it is not that there is a kind of primordial affect that

centrifugally moves outward and animates things with significance. It is a transactional, multidirectional relation between the body and things, in which the coupling brings things together and makes them into a kind of synergistic unit. A dynamic system emerges out of the engagement. This kind of affective resonance characterizes the motoricity of our engagement with artifacts and instruments, our relations with Others (especially in the context of a shared project). We even see the structure of sensorimotor empathy in our perception of the phenomenological field to the extent that our very way of directing our attention to something—to constitute something as a figure against the thickness of the background—is itself an *act of attending*, in contrast to empiricist theories of attention that conceive of attention as a spotlight illuminating pre-constituted objects. Although these different modes of engagement certainly have different dynamics, the important point of Chemero's analysis is that affordances, the direct perception of the world in terms of action-oriented significance, and engaging or interacting with things and Others, operates primarily in terms of embodied affect, rather than something like counterfactual knowledge.

### **Social Cognition and Affordances**

And there is no doubt that our affective modes of engaging with objects are quite different from the interactive affective ways of engaging with persons. To disambiguate this we will need a discussion of the role of social cognition. After all, we would be remiss if we did not emphasize that the human's landscape of affordances does not just play out through the dynamics of the body and the world, but also involves the ways in which we find ourselves in a social world: a world of human practices, shared

understandings, norms, etc., that shape and modulate the landscape of affordances—the landscape of affordances is embedded in forms of life (Rietveld & Kiverstein 2014), where a form of life is something that is always, to some extent, shared with others. The possibilities and constraints on action and engagement are modulated by the presences of Others, cultural norms and prescriptions, our social positionality in relations to others, and even the particular situated moment in which we feel the immanent gaze of other. We might confront others in terms of how they could engage in joint actions with us; they might be sources of emotional support; they could restrict or constrain our actions. The phenomenological field will be modulated depending on whether we find ourselves in the presence of a close friend versus a police officer, for instance. And we find our perception saturated by the social even when we are alone. The social is not an object, but, as Merleau-Ponty puts it, “[it is] the permanent field or dimension of my existence: I can certainly turn away from the social, but I cannot cease to be situated in relation to it” (2012, 379). Even for the person who dwells in solitude, their solitude still bears its meaning in light of the social—the decision to be solitary is not the negation of the social dimensions of one’s being, but a way of situating one’s self in relation to it. Even Thoreau’s lonesome expeditions to Walden Pond and encounters with the wild teeming forest do not cease to appear with a social significance. This is not to say that being alone bears a merely negative relation to the social, but the mere fact of not being among others does not manage to escape from or negate the social dimensions of consciousness. Solitude is possible; asociality or a total negation of the social, however, is not possible. The total negation of social dimensions is an impossible project

precisely because there is no pre-social mode of being in the world to which the condition of solitude could return us.

There has been a great deal of work on the social dimensions of cognition—Gallagher (2012, Gallagher and Crisafi 2009) argues that aspects of cognition are constituted by social intuitions like the legal system. Menary (2010, 2018) describes social cognition in terms of socio-cultural practices that become complementarily integrated with individual cognition. Tollefsen, Dale, and Paxton (2013) argue that cognition extends, not through institutions or enculturation practices, but through more proximal interactions among humans whether in the context of group relations (Tollefsen 2015) or in cases of close relationships in which interaction forms a transactive memory system. That is, if cognition is, to any extent, constituted by “the social,” then we will need to explain the specific grounding processes and forms of engagement through which individual cognition couples with social resources (Tollefsen, Dale & Olsen 2013). Alternatively, mirroring the structure of extensive cognition (Hutto, Kirchhoff and Myin 2014)—the idea that cognition does not just ‘extend’ into the environment in discrete instances or rarified conditions of proper structural coupling—Hutto, Gallagher, Ilundáin, and Hipólito (2017) claim that culture and social conditions do not just penetrate the pre-given pre-socialized or non-enculturated mind, nor does the individual mind extend outwards and take advantage of social resources in a piecemeal way. From this perspective the social permeates the mind like a dye in a solution, shaping cognition, perception, and embodied action in an ambient and ubiquitous way. Sterelny (2010, 2012), on the other hand, argues that the mind does not extend, but is scaffolded by social relations of

transmitting skills and practices, and other external means of cognitive offloading, and, moreover, that these processes are at the core of the evolution of human cognition. Tomasello (2014) and Zawidzki (2013) also give accounts of the development of specifically human forms of cognition through the mechanisms of evolutionarily-motivated social interactions. Ramstead et al. (2016) make a case for the notion of cultural affordances, operating through culturally-shared regimes of shared attention—the idea that forms of socialization and enculturation amount to different ways of attending to the shared environment. And these ways of being attuned to social significances and culturally salient features of the world—or even ways of being prereflectively sensitive to ways of navigating the cultural world—shape the landscape of affordances.

What remains to be developed in these theories of social cognition, and consequently their implications for the theory of affordances, is a robust account of how the history of material culture plays a role in shaping affordances. Van Dijk & Rietveld (2017) emphasize the importance of affective, embodied and enactive transactions between organism and environment by arguing that we should foreground sociomaterial practices in our understanding of skilled intentionality and the landscape of affordances. Gallagher and Ransom (2016) have also developed an account of how artefacts play a role in the structure of joint action, based on idea that joint attention to features of the built environment can lead to ways in which things play an important dynamic role in how joint action are coordinated.

However, I think that Material Engagement Theory still has more to add to the theory of affordances. In particular, I think that MET's conception of time presents the possibility of historicizing affordances—presenting ways of thinking about the historical dimensions of how narrow situated action plays out in a way that remains undertheorized in the current literature. Most of these conceptions of affordances emphasize the immanent possibilities for action and engagement in terms of how they are directly perceived in the here-and-now situation of the organism who acts. Even when the more distal history of the organism is considered, it is usually limited to developmental ontogeny—the life of the organism such that it has acquired the sufficient embodied skills and habits enabling our abilities to be solicited by opportunities for action in the present. Even when philosophers consider deeper historical perspectives beyond the individual organism's lifetime (see Tomasello 2014, Zawidzki 2013, Sterelny 2012) these perspectives involve a linear, progressive understanding of time—the idea that there is a line of phylogenetic development that played a role in constituting us as biologically modern human beings, but relinquishes its influence once our speciation processes achieve modern anatomical and neurological humanness. As Malafouris puts it, they run the risk of claiming that “[H]istory begins when evolution stops” (2015, 363). Or, said otherwise, once the anatomically and cognitively modern human arrives on the scene, the deep past ceases to bear on us, and the drama of human historical contingency begins to play out.

### **Phenomenological Method and History**

How do we find ourselves here, in this particular mode of Being-in-the-World as such, solicited by things and Others, and seeing meaningful affordances in the places in

present transactional dialectic between the body and world? Although it might, on the surface, appear to be an unproductive method for investigating the historical dimension of affordances, I think that we ought to approach this issue phenomenologically. There is a sense in which consciousness itself is historical. History does not just appear to the “high altitude thinking” of the historian, who collects facts and written accounts and other historical data in order to reconstruct the past, although these are, of course, indispensable tools for understanding history. There is also a sense in which the pre-personal depths of history are concretely lived by those of us in the present.

In Heidegger’s (1927) ontic analysis of Dasein, he notes that when Dasein reflects on itself, it finds itself being there in an always-already interested sense. Our projects, activities, expectations, and prereflective ways of navigating the world are not first established on the condition of reflecting on them. Upon reflecting—taking a deliberate philosophical stance on the world in which we are situated—we find ourselves already engaged in projects, already interested in things, already related to Others in concrete ways. Our personal history is not constituted “by the actual survival of states of consciousness or of cerebral traces, nor by a consciousness of the past that would constitute it and arrive at it immediately...” as Merleau-Ponty (2012, 381) put it. “If something of the past is to exist for us, then this can only be an ambiguous presence, prior to every explicit recollection, like a field that we open onto...and all of our recollections must be drawn from this opaque mass” (381). Recollection is an act—a process of recovering something from our past and living it ‘as if’ it were now, which has a different phenomenological character from the living present. And this kind of

remembering is not the kind of operation that we have to go through in order to directly perceive a bicycle as offering the affordance of riding. My ability to ride a bike does not survive 'in me' because I am able to explicitly remember the ordinary experiences of acquiring this skill; I do not have to vividly recall every moment of the sequence of learning how to do it, or propositionally represent to myself every step of the operation as if the skill consists in an itemized list of knowing *thats*. It is a knowing *how*: a stabilized and sedimented possibility of my body's motor intentionality—a habit that was instituted in the past, but does not require that a constituting consciousness explicitly recalls that past in order for me to draw on the 'opaque mass' of resources of my personal history, here and now.

This, I take it, is the less controversial sense in which consciousness is historical: the idea that there is a personal depth to my present experience in the world that does not always explicitly appear to me. It will take more work to show that my present mode of being situated in a landscape of affordances—the way that the mind emerges out of embodied engagement with the world—is also, to some extent constituted by a history that precedes me. There is, of course, the obvious sense in which the distant past structures the affordance landscape of the present: the fact that I am born as an animal with a certain kind of anatomy—opposable thumbs, ears, eyes, nose, and vocal cords of a certain shape—refers to a phylogenetic history that far exceeds my personal history, but plays a critical role in shaping how I navigate my world. But as Malafouris notes above, the human does not cease the process of becoming once the anatomically modern human appears on the scene; we do not cease to develop, change, and, in



Bergson's (1998/1907) sense of the term, *creatively evolve* through the more proximal historical epochs.

There are ways in which the mind is enculturated, as Menary (2012, 2017) describes: language, mathematics, literary traditions, cultural norms and practices deal with a cultural history that precedes us. And this enculturation certainly affects the way that we find ourselves situated in a landscape of affordances, since it opens our development onto forms of life that precede our personal involvement; a form of life that *precedes* us, and that we develop into through guided participation in cultural practices. However, I want to claim that there is a deeper sense in which history shapes affordances; a way in which consciousness bears the pre-personal traces of history that does not just depend on learning about them through the active enculturating instruction-practices of community members. If, for instance, a practice or tradition were to cease, it would be difficult to imagine that this historical vestige would disappear and no longer have effects on the present. Menary appears to imply such a scenario by suggesting that the extended complementarity of the social and individual is integrated insofar as social cognition 'supervenes' on practices. This gives us an image of social history that seems to depend solely on intersubjective modes of being indoctrinated into social practices—the idea that the mind is historical to the extent that it is *made historical* through the direct intervention of community members. This is where I think that Material Engagement Theory has something to offer with regard to thinking about the historical depth of affordances.

Merleau-Ponty writes,

Objective and scientific consciousness of the past or of civilizations would be impossible if I did not have—through the intermediary of my society, my cultural world, and their horizons—at least a virtual communication with them, if the place of the Athenian Republic or of the Roman Empire was not somewhere marked on the borders of my own history, if they were not established there like some particular individuals to meet, indeterminate though pre-existing, and if I did not have the fundamental structures of history within my own life...Prior to this coming to awareness, the social exists silently and as a solicitation (2012, 379).

Merleau-Ponty's claim about the 'opaque mass' of history, or the depths of the historical world whose fundamental structures nevertheless play a role in my own life become a bit less mysterious when we take seriously the role of material culture in our understanding of the mind. Culture and history are not just 'in the heads' of individuals, nor can they be limited specifically to social practices, intersubjective relations, and cultural norms conceived as abstract mind-dependent institutions, subsisting and reproducing themselves to the extent that there are people there to *think them into existence*. How could it be, from this perspective, that the redlining policies of The New Deal in the 1930s and the events of 1960s in Memphis surrounding the assassination of Dr. Martin Luther King and the Reagan administration's economic policies in the 1980s and the contemporary Urban Crisis all play a role in shaping the material landscape of my neighborhood, and shape the landscape of affordances for the people who occupy this place? And, moreover, how can these things shape affordances even for those who might not have a rich narrative sense of how these events—events not simply conceived in terms of ideas, decisions, symbolic 'watershed' moments, or 'turning points' that we read about in history textbooks, but *rather* events that also shape the concrete actuality of the built environment—can shape the activities and relations among people, and in a more fundamental sense the phenomenological significance of

the place that they occupy, even when they might not have an explicit historical narrative to describe how the living conditions of the present came about?

Describing the effects of our more proximal cultural history on the landscape of affordances, even if it is a history in which we have never personally participated, requires attention to the role that material culture plays in shaping the mind, and the understanding of time that comes out of MET. History, with respect to the structure of the built environment in which we find ourselves, is not just the antecedent sufficient condition for our experience of the present in a linear, causal sense. Our activities, in a collective and cultural sense, are not just intellectual permeated by cultural norms, but are also ubiquitously enveloped in materiality of culture itself.

This is because if we take seriously the hypothesis of material agency—the idea that agency emerges out of engagement, and that action is shaped by more than just the individual contributions to the assemblage of action; the idea that agency is equally shaped by artifacts and the material environment—then this will lead to a way of understanding affordances that gives us an avenue for talking about the historical depths of how the landscape of affordances is constituted. That there are aspects of material culture, things like the sewage systems in Paris, of the roads built by the Roman Empire, or the path of the transatlantic railway, or the ways that university buildings on many campus were constructed and organized in order to make student protests more difficult—myriad examples of how the significances of material culture that refer to a past that did not originally involve *us*, but continues to exercise effects on

how human activities are structured and how affordances appear to humans situated in the built environment, even when the significances of the artifacts, buildings, and built spaces have changed over time. Just as when the body-schema in habitual action dredges motor intentions out of our past in a way that manifests embodied ‘pseudo-presents’ without the explicit recollection of a constituting consciousness, we can think about affordances in their historical depth in the form of engaging with the history of material culture. As Malafouris puts it,

[T]he phenomenon of material engagement brings within our reach and our conscious awareness the possible range of different time scales of activity available to us. Specifically, the engagement of mind with the material world provides temporal anchoring and binding that helps us to move and think across the scales of time. When humans engage the material world they establish a bridge with the larger-scale processes at work beyond their awareness or control which are embodied in the objects at hand. With things the past becomes present. (2015, 365).

This is the intervention into the literature on affordances that I hope to flesh out and articulate further in this chapter.

### **Agency and the Multi-Scalar Temporal Dynamics of Intention Formation**

The body operates on a variety of existential timescales. This is reflected in the structure of timescales of intentionality that Pacherie (2008) describes. Motor intentionality (m-intention) refers to the basic intentionality of the body, the kind of meaningful behavior in things as simple as walking, turning a door handle, or reaching for the right keys when I type. As far as these basic motor actions are concerned, they are mostly pre-reflectively performed—the violinist does not have to carefully consider when, where, and how to place their fingers on the fretboard in order to perform the

song. These m-intentions are performed in the context of broader projects; they take part in, and are enveloped by the proximal intentions (p-intentions). The motor sequence of reaching for a particular key plays out within the more temporally-protracted sequence of writing this sentence. I reach for the 'p' key as I write the word 'phenomenology' and I write the word 'phenomenology' because I am writing a sentence about phenomenology in a paper about phenomenology. The meaning of my sentence, and how that fits into the broader thesis that I seek to develop, occupies the scope of my attention, as a finger prereflectively makes its way toward a key on my laptop. By the same token, the violinist thinks about the expression and dynamics of the phrases that they are playing within the broader context of the song, not the specific place to put their finger in order to play a properly intonated C#. The p-intention deals with the temporal scale that deals with a network of more protracted and entangled intentions (keeping with the writing example) about the sentences, paragraphs, and sections that make up the general point of the paper. Moreover, these p-intentions play out against a background of even more temporally protracted intentions. My decision to agonize and fixate on editing a paragraph so that it flows with clarity and purpose in this paper makes little sense except against the background of my intention to earn my doctorate in philosophy so that I can write about and teach philosophy in the future. These distal intentions (d-intentions) concern intentions that operate on distinct timescale from my motor and proximal intentions. There is nothing that I can do, this evening, to receive my PhD, but there are things that I can do this evening *in the service* of that goal. These intentions usually appear as existential constraints on my actions; I might not even explicitly reflect on these intentions very often. In fact, sometimes I

almost forgot that the everyday minutiae of tasks, responsibilities, and concerns fold into this larger project; my tasks become worldly, habitual, and almost seem to appear with a quality of something-to-be-done for its own sake. My distal intentions might not appear to me except as a certain kind of affective solicitation: I feel guilty because I have not started my work yet, I resist the draw of how my musical instruments present appealing opportunities for distraction, I heed the alarm which means that it is time to wake up. I don't always confront these solicitations with the explicit, propositional coda "I must perform [p-intention] in order to [d-intention]." My proximal intentions become worldly: they are sewn into the everyday fabric of life and my dispositions for inhabiting my situation. But these p-intentions are nevertheless structured and appear as meaningful, meaningless, relevant, irrelevant, pressing, urgent, and/or arbitrary in light of these d-intentions. It is possible for any of these temporal scales of intentional action to become the focus of our explicit attention: at a fancy restaurant I might find myself unusually attuned to the specific position of my fingers as I try to hold my cutlery 'the right way'; I might take a reflective stance on whether I should read this article weighed against my desire to take a nap, rather than just responding to the affective solicitation of what I feel like I *ought* to do today; I could also take a step back and reflect on my broader goals and values in life—is this *really* what matters to me in the long run? While any level of intentionality is available for the possibility of reflection, it is also possible to go through the motions of an average day in a more-or-less rote fashion, never taking an explicitly reflective stance on these tasks—I live enveloped in the thickness of the everyday world.

It is tempting to think of the relation between d-, p-, and m-intentions as a unidirectional top-down cascade of meaning that matriculates from our highest priorities downward to the mere behavior. Gallagher (2012) clarifies that the relation between these intentional frames is much more dynamically entangled, with multidirectional porous interactions between scales that comprise, altogether, our style of being in the world. There are, of course, many cases in which d-intentions emerge out of our more proximal behaviors in the world. That is, sometimes we *realize what we are doing*; we discover something about our principles, values, or ends in the proximate habits that we have formed in coping with the world. For example, we often find ourselves *already being* friends with someone, rather than seeking out and accomplishing friendship. We realize that our everyday habits of care for another demonstrate principles of genuine friendship: we might find ourselves driving for miles to help them jumpstart their car, or surprising ourselves at the ease with which we confide intimate thoughts, encountering things in the world that remind us of them. Our everyday actions might give us occasion to notice that a principle or distal intention of having and maintaining a friendship with someone has coagulated and it is already at work in structuring our style of being in the world. This is similar to Althusser's (1970) interpretation of Pascal, wherein the ritual of prayer fosters and gives rise to broader principles about the meaning of what we are doing; the habitual performance of proximal intentions produces and reifies beliefs about what, in a more global sense, what we are up to. Our everyday participation in the material relations of production in capitalism gives rise to an ideological commitment to the socio-economic order and our position within it.

By a similar token, the formulation of basic m-intentionality consists in how affordances appear in the transactive dialogue between body and world. The constitution of my particular body, my skills, and embodied aptitudes for negotiating the possibilities of my environment do not lend themselves to encountering the skatepark as pregnant horizon for engagement. I can do very little with a skateboard; I have not cultivated any of the motor skills that make it possible, as Chemero (2016) would put it, to *feel into* the possibilities of a skateboard with the same kind of sensorimotor empathy as a skilled skater. A skilled skater can appraise the world of the skatepark and its possibilities, forming p-intentions about what to do and how to do it, in a much different way. Skating lines appear, sometimes from reflective evaluations with a kind of step-by-step planning, but sometimes ‘on the fly’; sometimes dropping into the ramp and running a line also involves spontaneous and creative ways of changing up and elaborating on the pre-planned line. All this is to say that something like basic m-intentionality plays a role in structuring the ways in which affordances appear and how we are able to concretely formulate p-intentions within that space. Rather than thinking of intention-formation as a unidirectional cascade from the top-down or the bottom-up, we should think of intentions as formed through the dynamic, multi-scalar interactions between temporal levels that do not always unfold as a linear sequence of cause and effect. The temporality of embodied intention formation is non-linear; it is situated, informed by a past, present, and future, and nested in a socio-material-historical ecology.

Brancazio (2018) emphasizes, further, how ways of being socially situated (focusing here on gender) informs the senses of agency and plays a role in the dynamic structure



of intention formation. Brancazio analyzes gender, not as a given fact of biology that automatically or essentially produces innate morphological, anatomical, or neurocognitive differences, but rather,

gender norms result from divisions of labor and kinds of activities in virtue of one's body type. Social roles, structured by these divisions, provide a (rough) set of associated norms and traits...That is, gender, at least in the sense in which it is used now (in contemporary Western society), is used as a means of domination. Gender has been used to maintain oppressive, hierarchical institutions through which free labor is secured and reproductive autonomy denied. It is to the benefit of the dominant gender group that our social structures encourage us to see ourselves as having a gender identity and to make sense of ourselves, explicitly or implicitly, in accordance with gender norms (9).

Gender, in this sense, is a historical institution that plays a role in structuring the narrative practices (cf. Hutto 2008) through which we make sense of ourselves, our actions, projects, and intersubjective relations. Moreover, the effects of gender are not narrowly relegated to the domain of broad-scope, narratively constructed d-intentions. Narratively-constituted social norms do not just operate 'in kind'—social narrative forces having effects on personal narrative intention formation. Brancazio argues that "The gender-related consistency constraints present in the narrative sense of agency, then, can also serve to constrain the embodied responses and action selections of an agent in the minimal sense of agency in the long term" (13). The normative effects of socio-historical narratives that inform possibilities and impose constraints on the consistency of our style of enacting gender self-conception sediment into and structure even our most basic levels of motor intentionality. Normative sociality penetrates to the core of our embodied motoricity and structures the ways in which affordances appear and solicit our engagements with the world.

The main points to emphasize are (1) that the relations between these analytically distinct temporal scales of intention formation are deeply ontologically entangled. The non-linear interaction between levels of intentionality demonstrate that the porous dynamic relations are not neatly divided into discrete levels as such, but altogether constitute a global style of engaging the world that is neither causally reducible to a bottom-up emergence nor a top-down cascade. And (2) the dynamics of intention formation are ecologically constituted, not simply by the material transactions between bodily morphology and aptitudes in relation to our surrounding environmental topography, but also by the ways in which we are socio-historically situated in a field of norms. These social norms and narratives can change and modulate over time, and are dependently grounded in human narrative practice; however, they point to how agency is structured by institutions that exceed our own lived temporality. The narratives and norms that constitute gender as a social institution have a historical depth that draws back into a pre-personal cultural history—they operate on a much more protracted temporal scale than we could meaningfully intend as individuals—and yet they nevertheless play an occurrent, active role in structuring our embodied engagements with the world. To delve further into this, we will need to flesh out the phenomenological understanding of temporality.

### **Phenomenological Temporality**

The present is never fully present. There is no such thing as a moment. These insights about temporality are at the heart of the phenomenological tradition. In Husserl's (1964/1928) later works he articulates the tripartite retention-primal intention-protection

(RIP) structure of time consciousness. According to this, it is not simply the case that an intention is at one moment projected and then subsequently fulfilled in one way or another. But rather, intentionality is always-already underway, engaged in some activity, holding commitments and priorities, and acting on the basis of a sedimented understanding of the world in which we are situated. An intention is modified, revised and adapted in light of the unfolding of time. Whenever an intention is formulated, it is always done in the context of the proximal and distal projects already in progress. Intentionality, far from being unalterably established and determinately projected into the world in a ready-made way, instead is in a fluid, dynamic temporal trajectory of development.

The articulation of this structure deals with the observation that experience consists of these three non-separable moments that bleed together into an apparently seamless flux of lived-experience. Time is not an intrinsically punctual phenomenon, consisting of discrete, unitary moments, each one being the antecedent sufficient condition for the next, following in order like beads on a string in an event-causal structure. Instead, the past, present and future are sewn together in a continuum of experience in what Husserl described as a non-thetic, passive synthesis. That is, time is not unified in consciousness by some deliberate intentional *act* of synthesis, in the phenomenological sense of the term. As you read the beginning of this sentence, by the time you have reached *this* word, your eyes have already passed across the first word. Yet you do not have to recollect the beginning of that sentence in the same way that you might recollect what you were doing on this day last year, referring to context clues, piecing

together a memory that refers to other significant features that help you achieve a more or less accurate narrative about a past event (e.g., determining what day of the week it was, how that period of time is connected to broader goals and projects, making connections to what sort of news stories or other events would have occurred alongside your own personal experiences, etc.). Within the structure of lived experience, the just-past is still present to consciousness in a way that is phenomenologically distinct from the distant-past insofar as the former is incorporated into present experience, not just as a something *easier to remember*, but as a necessary condition and invariant structure of experience in general. And just as the beginning of this sentence slips out of the present, trailing off like a comet's tail and becoming less and less distinct as you read further on, you are also indeterminately anticipating how the sentence will likely end. This future-directed protentional horizon of consciousness, like the retentional horizon of the just-past, also structures our experience of the living present—a present that never completely arrives—is never fully *present*—because it is experienced always in transit between the just-past and the just-now-coming horizons of experience. We anticipate the future of our experience in a way that my expectations are only explicitly revealed to me they when are not fulfilled or something breaks down, like, for instance when I move my foot in anticipation of another step in a staircase when I have already reached the top. My protentional anticipations do not operate in the same sense that one might make explicit, probabilistic predictions about what the weather will be like tomorrow or who will win an election. The forward-looking horizon of lived experience does not involve the same sort of richly articulated thematic quality that is involved in taking a deliberate stance on the outcome of a situation. Just like the proximal horizon of the

past, the future horizon is a necessary and invariant structure of basic lived experience. The sense in which you anticipate the end of this sentence is not postulated and confirmed or disconfirmed like a scientist experimentally tests a hypothesis, but something you fluidly live through. It is a protentional non-thetic anticipation that emerges out of a sedimented general familiarity with reading English sentences, the cultural norms of sentence-structuring, the fact that, for instance, this is an academic work, which puts situational constraints on what sorts of words, phrases and concepts will appear in the context of this paper, and so on. All of these factors are on-line, operant features of the future horizon of experience.

The tripartite structure of the living present is inalienably unified in phenomenological experience—as Merleau-Ponty puts it, time is given as a singular phenomenon that flows together; temporal flux envelops and harmonizes the past, present and future just as the oppositional muscle contractions in the body produce tension, stasis and bodily movement are organized in the meaningful performance of gesture (2012, 442). And this is not just a thesis about how time is experienced within some sort of inner-theatre of consciousness. The basic structure of bodily movement in the world also operates on the basis of this RIP structure—reaching for my cup of coffee is an act that emerges from a whole network of prior intentions, like, for example, the fact that I earlier decided to brew and pour myself a cup of coffee. Merleau-Ponty's account of temporality neither reifies temporality as a discrete object in the world, viz. atomistic fungible units of objective time, nor does it place the locus of temporality wholly within subjectivity itself, as an a priori faculty of perception or projection of the mind. He claims, instead, that

temporality consists in our embodied engagements with the world. Already in his account of embodiment, the living body is described as having a kind of melody, even in the most basic levels of motoricity. The most mundane and habitualized prehensile movements toward a horizon of the phenomenological field unfold as a temporal sequence—a melody of coordinated muscle contractions, reaching out and grabbing, reflexively adjusting my hand to the shape and size of the thing towards which I move, and informed by future of horizons of what I plan to with the thing toward which I move. Habitual embodied engagement with the world immanently contains a dynamic rhythmic temporality—the body, on a basic level, enfolds temporality in the living structure of its transactions with the world. When I reach for the cup, the action already begins to sketch out the future of its movement: my reaching hand forms into a shape that traces out and anticipates the shape of the cup; I raise my arm and move it towards the cup by extending and rotating my whole arm through the space that separates me from my goal. My grasp is, to some extent, informed by how recently I have poured the coffee, since, if I have poured it recently the heat of the liquid will conduct heat through the glazed clay mug and make it uncomfortable to grasp from the side, and so I will instead reach for the handle. However, I do not have to piece together a patchwork of discrete intentions to move my arms and fingers from one position to another, while carefully considering explicitly formulated beliefs about the heat of the mug or its shape—phenomenologically, the act, in its diachronic unfolding structure, unifies and coordinates the various aspects into a singular motion of *reaching for the cup of coffee*. I can perform this action in a very peripheral, background way, all while the sentence that I am reading on the computer at the moment of reaching for the cup remains in the

foreground of my attentional field. And once I have grasped the cup, the action proceeds fluidly into the movement of bringing it to my lips in order to take a sip. Even (or perhaps especially) the most habitually and casually performed bodily actions express the horizons of temporality and spatiality that are part of the basic ways that we navigate the world. As Heidegger puts it, the structure of consciousness is ecstatic—in the sense of the Greek term *ekstasis* (ἔκστασις), or to be *outside* of one's self—insofar as it is not immanently confined to the particular isolated moment in which it presently exists, but also constitutively involves a stance on the past and future that it fluidly lives through (1927, 328-329). Our experience of the present exceeds itself; the present is never fully present as a clearly demarcated, singular moment.

### **Embodied, Situated, Engaged Temporality: The Field of Presence**

This living temporal *ekstasis* is not a purely psychological phenomenon. Merleau-Ponty claims that we “make contact with time and learn to recognize its flow in [our] ‘field of presence’” (2012, 438). Time is not self-contained within, nor does it emanate from a constituting ‘I’—it is a field in which we are situated with depth and dimensionality that comes from its temporal horizons that always border on, and flow through the present. It is not a field ‘in us’ nor are we ‘in’ this field as an object among other objects. It is a field constituted between the transactions and engagements between the body and the world; the body's movements enfold time and open unto this field of presence, just as this field anchors our activity and gives sense to our situation. For instance, he gives us the example of how the day behind me and the evening before are not things that I need to represent to myself in terms of explicit predictions or recollections, although

they are certainly *available* for recollection or prediction. The day behind me is 'still there' as a weight on my field of presence. As I sit down and relax at the end of a day, the character of my living present—the relief of sitting down on the couch, the enjoyment of a beer, the way that I open unto a mood of idleness—is conditioned by the weight of the day behind me. The significance of the present is structured by the day I have lived, even if I do nothing to recollect or recount its events—hence the almost uncanny way that a beer at the end of a long day 'just tastes better'. The perceptual contours of the beer—its coolness and flavor—stand out more distinctly and with a greater intensity against the weight of a long day within the field of presence in which I take my first sip.

By the same token, future events loom on the horizon and weigh on this field of presence. It is, for instance, difficult to relax on a day off in advance of some grueling days ahead. The weight of the coming days saturates and gives meaning to this present 'down time', we feel almost an urgent imperative to relax and enjoy ourselves, where the urgency of relaxation is antithetical to actually becoming immersed in the mood to relaxation itself. The task of relaxation is less relaxation-for-its-own-sake than it is a sort of necessary self-maintenance in preparation for the future bearing down on us. Simone Weil gives a vivid account of the wage worker under capitalism,

There are moments when work is absorbing enough for thought to occupy itself within the limits just set forth. Then unhappiness, suffering comes to a cessation. But in the evening, once outside the plant, and especially in the morning when one's steps are bent toward the place of work and its time-clock, it is dismal to turn one's thoughts to the day's work looming up just ahead. And Sunday evenings! when the prospect that presents itself to mind is not one day but a whole week of such days, futurity becomes something so terribly bleak, so tremendously overwhelming that thought can only slink back trembling to its lair. (1977, 58).



This 'Sunday Feeling' that Weil describes is at least faintly familiar to anyone who has ever engaged in difficult and monotonous wage work, confronting with a sense of fatalism the unavoidable, constituted duration of time set out to be transubstantiated from time into wages. It looms on the horizon of the field of presence and pulls time towards it like a center of gravity: the twenty minutes before we clock in quickly slips away in contrast to the slow and stubbornly meandering twenty minutes thereafter, which account only for a disappointing fraction of the total shift ahead.

It is important to notice that this account of temporality demonstrates the primacy of existential temporality—there is an existential topography of time that does not reduce to homogenous, measurable impersonal objective time. In fact, objective time is derived from this ordinary time that is lived as a field of presence. It may be useful to think of this field as having a slope, or a kind of gradient constituted by the respective weights of the past and future. This captures something about how temporality can be experienced as a kind of laborious 'uphill' movement that is weighed down by the past, or as if we're uncontrollably sliding 'downhill' toward the weight of the future. Moreover, the gradient topography of the field of presence is affectively constituted. In Weil's description of the Sunday feeling, the weight of the coming week that signifies the meaning of the present, cannot be disentangled from the dread, monotony, and exhaustion yet-to-come. The future does not bear any weight on the field independent of our concerns and affective attunements toward the world; there is no urgency, anticipation, fear, joy, etc. without an affective orientation toward the future, and hence no shape or topography in the field of presence—the passing of time would be flat, uniform, and meaningless. These affective

attunements, orientations, and concerns about the passing of time deal with how we are embodied, situated, and find ourselves already engaged and committed to practices and projects, which condition the significance of the living present.

### **The Social Field of Time and Historical Affordances**

Practices, engagements, and our affective comportments play a central role in the constitution of the field of presence. However, in order to give a full account of temporality, we also have to consider the socio-historical-phylogenic constitution of the living present. As we have seen in the analysis of the timescales of intentionality, there are social practices and narratives that exceed our individual lifespan and personal history of engagements that nevertheless play an active role in structuring even the most basic levels of agency. Merleau-Ponty (2012) describes language as a kind of whirlwind or vortex into which we are swept up and pulled. This describes something central about our relation to the social in general—we are thrown into a world of social practices, norms, and customs that pre-exist our personal engagements in the world. We learn to cope with and feel into the endogenous logic and rhythms of the social world already in motion. And, in doing so, the topography of our field of presence is already penetrated and permeated by historical significances that structure the social domain and the meaning of our engagements therein.

There are a number of accounts that place the phylogenic development of sociality at the heart of our contemporary, individual cognition and how this conditions social possibilities for interaction. Tomasello (2014) identifies the capacity to share intentions

to act jointly, and our tendency to demonstrate re-engagement behavior when these joint commitments are violated, as the evolutionary centrifuge of developing complex, uniquely human cognitive capacities. Zawidski (2013), rather than presupposing the ability to share intentions, describes a more basic notion of ‘mindshaping’, which places proto-normative constraints on behavior, and socially patterns our activity such that robust and complicated forms of social interaction and propositional thought and language are made possible. Sterelny (2012) focuses instead on the role of apprenticeship in early hominid interactions, and how the transmission of social knowledge scaffolds cognitive evolution. Menary (2017) also argues, from a second-wave approach to the extended mind, that individual cognition is integrated with social practices that have a deep phylogenetic history of development; these social practices, and their history, play a constitutive role in the contemporary structure of human thought and behavior. All of these accounts emphasize that the past bears on the living present, and actively structures pre-personal features of how our landscape of affordances is constituted in ways that are deeper than the psychological history of an individual. And these accounts invoke our phylogenetic development in order to explain something about the *present* constitution of our cognitive capacities—how we find ourselves capable of sophisticated thought and language; how we find ourselves endowed with, or situated in a social ecology that scaffolds the development of skills and techniques for coping with our surroundings; how social and cultural development place particular selection pressures on our species’ ecological niche and translate into the eventual development of stable, heritable phenotypic traits (e.g. brain morphology and connectivity, body morphology, vocal cord shape, digestive organs, etc.). In order to understand some

features of how transactive affordances are given, one must appeal to a broader scale of temporality than the temporality that we, as individuals, live. However we find ourselves situated, whatever particular skills, aptitudes, habits, and competencies we come to ontogenetically acquire, however the body changes over the course of our lifetimes, however we find ourselves situated in ever-changing cultural practices and modes of relations to others (aspects that are no less important in constituting the landscape of affordances)—these all play out against the background of a past that has never been, for *us*, present. The individual, living present immanently contains traces of a pre-personal temporality.

However, I would point to one common feature of these approaches from which I want to distinguish my current account. There is a sense in which they all take the present merely as a *result* of the past. There is an implicit conception of linear developmental time—a time that, for us, is a pre-established immutable fact, and produces pre-given embodied, cultural, and environmental features—which fixes, constrains, and affords the possibilities of the present unto the indeterminate future. The present is the present as the consequent of the linear event-causal unfolding of its antecedents: a chain of causal connections that leads from anonymous distant past events to this event, here and now.

The account that I am developing here is a non-linear understanding of temporality. A past event is not totalized by having already occurred. It is not a self-complete, self-contained segment of time. A past event is not a pre-given fact—its meaning and

consequences are still in the process of being worked out in the living present. The meaning of 'what that was about' still waits on some indeterminate future in order to be completed. It weighs on and structures the significance of the field of presence ambiguously, as a solicitation that can appear more or less concretely, and calls on us to take up and institute its meaning. The past is not meaningless, rather its meaning is characterized by a degree of ambiguity that will come (and sometimes demands) to be settled.

### **Meaning, Attention, and Non-Linear Temporality**

Events are not indiscernible, even though they flow together in what Merleau-Ponty calls a transition synthesis (*Übergangssynthese*) in the movement of time (2012, 443). If we consider *this* word in the current sentence, it does not cease to be discernable from the others, although its sense and meaning is enveloped in the broader sense of the sentence. Which is to say, even upon flowing into the past horizon of the field of presence, its meaning is still unfolding; it seems to anticipate the subsequent words, and its meaning is modified by those words that follow. The words are synthesized in the transition process as we read the sentence from beginning to end, and when we pass over the word in question, its meaning is not self-contained in this bygone event. As it passes from its ordinary presence (*W*) and falls away, it does not escape the field of presence—it is still part of what is happening *now*. It modulates into *W'*, then *W''*, and so on. And its meaning is affected in this process of transitional flow. Hence, neither the present nor the future completely escapes the past; *W* immediately comes on the heels of the preceding word, and opens unto what follows, wherein this flowing together

constitutes their sense. And the sense of the sentence is not a simple aggregation of meaning, proceeding from one atomistic signifier to the next, and completed by the expression of the last word. There is a non-linear process through which previous words are modified and revised in light of the unfolding sentence, and seem to anticipate and shape the possibilities of what will follow.

We see this structure at the core of how perception is constituted. Attention is an act. As I have mentioned above, attention does not operate like a spotlight that illuminates pre-given objects, revealing them as they simply are in-themselves. It is already clear that this metaphor already privileges the visual perception in the idea of a spotlight that dispassionately illuminates the spectacle at a distance. To form a tactile perception of something we have to reach out and touch the figure in question. A property like the ‘coarseness’ or ‘smoothness’ of a surface requires movement, contact and motion between the flesh and the surface. This impression cannot be decomposed into a single instant of a surface given-as-rough: “[It] completely disappears if the exploratory movement is removed” (2012, 329). Tactile perception forms through movements of the body that develop ‘roughness’ of contact through the synthesis of non-discrete impressions that unfold over time—a phenomenon that could not be constituted *without* temporality.

What is demonstrated in tactile perception is true about the structure of attention and perception in general. Attention is a process. It is not the disinterested apprehension of ready-made sense data, rather it is an active, interested process by which a figure is

made to stand out against a background within the ambiguity of the phenomenological field. Attention *constitutes* the figure, not as an arbitrary act of sense-making, but “Since I experience the clarification of the object through attention, the perceived object must already contain the intelligible structure that attention draws out” (Merleau-Ponty, 2012, 29). The attention articulates something *about* the world, but whatever figure is constituted is drawn out of a field of ambiguity. “Attention is the active constitution of a new object that develops and thematizes what was until then only offered as an indeterminate horizon” (33). That is, the attention has to actually latch onto and articulate something *actually out there*, however the thing out there does not come to us ready-made, independent of the attention’s work.

However, it not as if attention has to naïvely begin this process ‘from scratch’ at every moment. Attention develops habits; we have interests that sediment into pre-reflective attunements—things just seem to just ‘pop-out’ in a way that does not always clearly involve our active constitution, like the way that we might suddenly hear our name spoken from the across the room within an ambient murmur of conversation. This is because perception drags its history along with it. We develop habitual attunements that guide the attention toward articulating structures within the field. Merleau-Ponty gives us the example of color perception: to discriminate between blue and red does not require contemplation or careful consideration. The difference between them appears manifestly given, it does not *seem* like the attention has to disambiguate these phenomena. ‘Blue’ usually appears a categorical given, but in fact refers to an ambiguously delineated section of the color spectrum, where the category itself

immanently contains spectral ambiguity. Within this region of 'blue' we could make further distinctions between 'aqua' and 'cobalt'. I, personally, am not very good at making color distinctions; however, a skilled painter can make these finer-grained distinctions almost as prereflectively as I distinguish between blue and red. The way that attention makes these distinctions draws with it histories of engagements, concerns, and projects which structure these habitual attunements. This past history of engagements, and the interests toward which we are directed structure the ways that the attention articulates these meaningful figures from the inexhaustible ambiguity of the phenomenological field. To develop an attunement to color distinctions "is thus a change in the structure of consciousness, the institution of a new dimension of experience, and the deployment of an *a priori*" (32). That is to say, the sedimentation of attentional habits operates *aprioristically*, grasping and discerning the significance of these figures with a kind of apparent immediacy. However, even these prereflective attentional acts are still the result of a temporal development of interested, embodied engagement.

Additionally, the attunements that we develop are not solely personal achievements. Ramstead et al. (2016) argue that our immersion in patterns of cultural activities, viz. modes of relating to others, things, spaces, events, practices, etc., produce regimes of shared attention that shape the topography of the social landscape and proximal field of affordances. The authors aim to "highlight the dependence of certain kinds of affordances on joint intentionality, and effective social and cultural normativity and conventionality, or equivalently, the shared expectations (both implicit and explicit) that



codetermine the affordance landscape and local field dynamics” (6). The point is to demonstrate how cultural norms<sup>7</sup> do not always appear simply as external prescriptions that circumscribe our unconditioned will to act. Norms are not pre-determined obstacles or barriers. Enculturation shapes the prereflective structure of how the attention constitutes meaningful figures within the phenomenological field, apprehends the meaning of events, social cues, and, at its core, the saliency of how possibilities for embodied action appear. Jacobsen (2012) describes how Anglo-American philosophy perpetuates Enlightenment understandings of ‘objectivity’ (which continue to permeate theory and experimental practice in the cognitive sciences), viz. the assumption that vision operates as a kind of neutral access point to objective, external states-of-affairs. She argues that given the way that the purpose of vision in even the most basic non-human organisms is *for* action, and, certainly (although arguably not exclusively) for humans, informed by forms of social learning and navigating a historical-political field of social relations, *vision is a social phenomenon*. Seeing is always about seeing affordances; in the human world, these affordances are not exhausted by the dynamics between the body and environment considered in isolation. Feminist theory has long emphasized the way social and cultural positionality informs the way that action-possibilities are disclosed, not as a result of ‘cognitively rich’ deliberations and ‘high-level’ information-processing *about* neutral, self-evident states-of-affairs. But rather, in Merleau-Pontian terms, to see is already to prereflectively apprehend the significance of

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<sup>7</sup> More specifically, the cultural norms in which we are originally enculturated—that cultural world in which we find ourselves most ‘at home’. However, we should be careful not to reify cultural norms as a monolithic set of norms, and should keep in mind the multiplicity of normatively incommensurable ‘worlds’ that people move between, especially with respect to racial, sexual, gender, and class, and the situations in which those social ascriptions take on different meanings (see Lugones 1987, see also Ortega 2016).

a situation that is informed by interests, enculturated community-norms, social position—in short, it is to constitute a meaningful figure of significance within an ambiguous phenomenological field wherein there is always more to ‘see’ than the finitude of human attention could possibly articulate. Hence, Jacobsen argues, that gender, taken as a social position, ought to play an essential role in informing what it fundamentally means to see in the cognitive sciences, and in our understanding of the perception in general.

This understanding of temporality and attention, and its connection to how the social landscape and field of affordances are constituted, leads the conclusion that there is a socio-historical dimension of agency—a pre-personal history that plays a role in how action appears prereflectively available, and that there are depths to the nature of personal life that far exceed our personal psychological history,

### **Institution, Agency, and Material Culture**

In the Institution and Passivity lectures, Merleau-Ponty gives an account of the role of history that is opposed to the idea that “the past exists for [personal] consciousness only as consciousness of the past...a mode of presence that is entirely spectacular...by means of a represented result” (2010, 5). That is, we are not affected by history only to the extent that history is known as an object of consciousness, to the extent that we can develop a chronological account of events and construct an image of historical states of affairs such that we can sufficiently imagine *what it would have be like* if the past were our present. This is not to say that we are not affected by the historiographer’s accounts

of history or that making aspects of the past explicit has no bearing on the meaning of the present. Rather, to circumscribe the meaning and effects of history to only what is given through historical *accounts* provides us with an entirely too delimited understanding of the past. History, as he puts it, leaves a kind of ‘residue’ in the field of presence that we live, but not in the sense of some sort of objective, tangible remainder. History plays a role in constituting the sense of the present where “[It is deposited] as something to continue, to complete without it being the case that the sequel is determined. The instituted will change but this very change is called for by its *Stiftung*<sup>8</sup>” (9). We find ourselves in a world that has a pre-personal history that has a kind of inertia, an impetuosity toward continuation and completion without a constituting subject who wills it—a project with an anonymous projector.

We see the structure of institution in personal life as well. My commitments and projects are not always enacted with an explicit, thematic awareness of them. That is, I do not always enact these things with a full-blooded, reflective stance on the *reasons* that ground my behavior. We can return, for instance to my distal intention to get a PhD in philosophy. This is a decision that, at one point in time, was made as a thoughtful, resolute choice: I contemplated my reasons, went through the steps to begin this process, and committed myself to what is required for its achievement. Whereas this is

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<sup>8</sup> *Stiftung* is the German word that is translated here as ‘institution’. It can also be colloquially translated as ‘foundation’ or ‘founding’, but can also have the connotation of an ‘endowment’ or ‘donation’, especially in reference to charitable organizations. Whereas, in English, ‘institution’ tends to refer to the establishment of a more or less static and enduring structure of affairs, the German term that Merleau-Ponty takes from Husserl has a broader connotation; keeping its meaning as endowment *for the sake of* something in mind will help us understand its philosophical meaning in this context.

formulated as a distal intention (see discussion above), this intention becomes ‘worldly’. That is, it does not disappear from my consciousness altogether, but it does fade into the background of how my everyday personal life is lived, and plays a role in structuring the significance with which things, events, and opportunities for engagement appear. “Institution [is therefore] advent of a sense which is oblique...not a pure forgetfulness” (22). My commitment to get my PhD is *instituted* within my personal life—it is neither completely forgotten, nor do I have to continually, actively constitute this commitment as a figure or explicitly make it into an object of consciousness. It becomes sewn into the very fabric of the world that I navigate, and obliquely structures the meaning of the situations that I live.

We can consider the way that my Sunday afternoon is laid out before me as an open space of possible activities. However, this instituted commitment prereflectively constrains how these possibilities are given because of how I feel solicited by some courses of engagement over others. It is *possible* for me to spend the afternoon walking around the park, petting other people’s dogs and enjoying the weather. The possibility of going to the park does not particularly solicit me—I have things to do today. I rarely contemplate the possibility, but when I do (and sometimes I *do* decide to go to the park) the choice is not formulated against ‘rational constraints’ on my explicitly formulated decision theory—I do not usually say, “I am not going to the park today because I want to get my PhD.” Rather, this distal commitment appears as a kind of affective tension: I *feel* drawn into my work; the prospect of going to the park makes me feel uneasy, guilty, or irresponsible. A deadline looms in front of me, and weighs on the significance of the

afternoon ahead; there is a feeling of urgency. And this affective draw is not constituted by an explicit, rational evaluation about my distal priorities and commitments; it arises out of how this instituted project saturates my everyday life, and obliquely structures my habits, tendencies, and dispositions to act and engage with a field of possible affordances. Institution, in my personal life, gives shape to this field of action; it has a kind of inertia—it is something to continue. It is a commitment or project that shapes the phenomenological sense of the field of presence, and carries itself toward a future. But it does not mechanistically dictate or determine what will follow as a result. I am not drawn into my work because it is already predetermined, in some metaphysical sense, that I will get my PhD. Rather, it sets the stage for a future in which the meaning of this commitment will be borne out. There remains “the openness of the register in which all of the rest comes to be inscribed” (Merleau-Ponty 2010, 25). Or, said otherwise, when we consider the structure of our behavior in the world, and how agency is constituted, “[c]hoice does not always consist in being made from scratch...There is not *the* activity and *the* passivity, *the* choice and *the* non-choice...there is passivity right there in activity” (192).

The structure of institution cuts deeper than personal life. Just as habits, tendencies, distal projects, and existential priorities play a role in structuring the landscape of affordances, historical institution also carries through the field of presence. And this does not happen solely through (but no doubt involves) external representations of the past that make it into explicit images or concrete narratives that lead *up to* the present moment. Practices, understandings, situations, political structures, and material culture

have a historical depth such that we do not have to make up the present ‘from scratch’ at every instant. To be engaged is to both act and be acted upon; embodied action is always, in some form, interaction insofar as engagement constitutively includes both activity and passivity. Engagement is always situated, which means that there is always a dialectical, co-constitutive relationship between personal activity and how situations make demands on us, solicit action, and play a role in shaping the structure of how agency is enacted as much as any of the human contributions. Agency emerges out of engagement with things in contexts, wherein, “there is no way human and material agency can be disentangled” (Malafouris 2013, 119). Part of understanding historical institution, and how this shapes agency, will require an analysis of the role of material culture.

When I talk about material culture, I am referring to the ‘stuff’ that we are ubiquitously surrounded with in our daily life in the human world—the fact that we inhabit a sociomaterial ecological niche (van Dijk & Rietveld 2017). That is, when we consider the existential and cognitive topography of the landscape of affordances, this always entails that “material aspects of the environment equally partake in the constellation of practices” (3). In fact, in many cases the role of material things has an ontological primacy in constituting the structure of behavior, wherein primacy is different from having causal priority in a linear sense. As Malafouris puts it,

Strangely enough, the realm of material engagement can be thought of as one of the most familiar existential territories that we come to know and, at the same time, as an unknown existential territory. For example, it is familiar when the hand grasps a stone and makes it a tool, yet it remains *terra incognita* in that, despite a long genealogy of analytic efforts, just what this grasping implies for humans remains elusive and refuses to be reduced and read in the form of a linear evolutionary narrative (2013, 15).

There is an essential connection between the structure of human behavior and the sociomaterial world in which it plays out. When we deal with the question of agency, we should see it as emerging in the process of engagement itself. This leads us into the idea of material agency. “If there is such a thing as human agency, then there is material agency; there is no way human and material agency can be disentangled” (119).

Van Dijk and Rietveld (2017) draw on Costall's (1997, 2012) notion of canonical affordances, which refers to stereotyped, general forms of actions, like drinking out of a cup. This is a form of engagement that is routine, habitual, and mundane—mundane specifically in the sense that it is often performed with a kind of ritualistic regularity, usually somewhat carelessly in terms of its affective valence, and does not require any kind of robust attentional guidance in order to be successfully achieved. We can consider, for instance, the analogy between canonical engagement and what is referred to in developmental linguistics as ‘canonical babbling’. At a certain stage of human infancy, we see the emergence of “well-formed canonical syllables, [and] reduplicated sequences” (Oller et al. 1999). This is when a child, in the context of vocal play, begins to spontaneously and repetitively utter phonetic elements of language (e.g. “ba ba ba,” or “ta ta ta,” phrases). Like canonical affordances, the development of canonical babbling of phonemes is constrained by the child's linguistic environment—that is, children produce and are attuned to different phonemes depending on the frequency, presence, and absence of their use in their ambient linguistic setting (see Eilers, Gavin, and Wilson 1979). Just as canonical affordances do not automatically stem from a pre-

established or modular capacity, prodromal linguistic acts emerge in transactions and engagements with the surrounding environment. Further, canonical affordances resemble canonical babbling to the extent that the canonical structure of both implies some pretense to being a more-or-less basic unit of action or speech respectively, but these canonical ‘units’ nevertheless only become meaningful in broader ecological context. The phoneme is only meaningful once it is enveloped by a linguistic sign in the context of an expressive speech act in a shared, public language; the canonical affordance does not solicit action solely on its own merit, but within a broader situation of meaningful action. These canonical affordances—to the extent that they can be thought of as discrete independent units of actions—are always tied to particular things: a hammer is *for* hitting in nails, a chair is *for* sitting, a cup is *for* drinking. But, as van Dijk & Rietveld (2017) point out, the prereflective saliency with which affordances appear depends on broader sociomaterial constraints. The canonical affordance of drinking out of a cup might not appear with any degree of phenomenological saliency if, for example, it is not *my* cup of water, or if this would be an inappropriate time to take a sip—perhaps I am in the middle of a sentence. This emphasizes the fact that “we see how the details of the sociomaterial environment are changing and affordances are forming in the sociomaterial entanglement of people coordinating with others and materials in real-time.” (6).

Agency always entangles the sociomaterial context of action; the meaning and structure of how an agential process is enacted takes place within an instituted domain of significance, wherein there are not clean analytic divisions between individual



intentions, concerns about normativity and coordination, or the material context of built spaces, facilities, artifacts, tools, equipment, or however else we might want to refer to the meaningful contextual constellation of non-human *things* that broadly populate our lifeworld or particular regions thereof.<sup>9</sup>

Returning to our discussion of temporality, institution, and agency, we will still need to account for the particular role of material culture in our understanding of the historical depths of how the landscape of affordances is shaped within a living field of presence. This will require an evaluation of the semiotic value of material culture: how we actively navigate a meaningful world of *things* that bear significance, and operate as signs, not as a semiotic *property* added *to* or intended *about* their materiality that is representationally encoded and decoded, but through the immediacy of engagement itself.

Things act most powerfully at the non-discursive level, incorporating qualities (such as color, texture, and smell) that affects human cognition in ways that are rarely linguistically conceptualized...it emerges that the material sign is not the isomorphic substitute for the linguistic sign. From the semiotic perspective they should be understood as independent yet complementary. The distinctive properties of the material world bring about meaning in different ways that language cannot, and vice versa...this is the reason why the strong tendency inherited from traditional semiotics to reduce signification to a kind of contextual encoding and decoding of fixed meanings should be avoided in the case of the material sign...materiality objectifies a different semiotic path (Malafouris 2013, 95).

We have already seen something like this at work in the notion of canonical affordances, especially as they relate to the dynamics of the sociomaterial field and

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<sup>9</sup> I have defended this view of material agency as emerging out of the entanglement of brain-body-material culture in Ransom (2017) and in the first chapter of this dissertation.

landscape of affordances. The cup is *for* drinking, and the doorknob is *for* opening the door; these affordances appear as possibilities for engagement, wherein the action-possibilities that they signify cannot be disentangled from the encounter with these things themselves. The meaning of material culture consists in these habitualized, embodied engagements. The affordances of things appear with basic, canonical regularity that does not require a linguistic replacement or formulation of propositional or narrative prior intention for enacting their immanent action-oriented meanings. As Malafouris puts it, “to interpret a material sign is not to provide a verbal substitute for it; rather it is to become habituated with the interactive possibilities and consequences of its performance...material signs do not represent; they enact. They do not stand for reality; they bring forth reality” (118).

We need to explore the implications of this approach to enactive material semiosis. For one thing, it is clear from this perspective that the significance of some-*thing* is not simply a unidirectional, subjective *investment* of meaning. Significance is not the result of an individual’s cognitive projection of use, purpose, or value onto an otherwise indifferent, neutral world of ‘merely’ material things. Significance is neither a subjective investment of meaning, nor is it already objectively contained in the object in-itself. Just as canonical affordances cannot be disentangled from things, and affordances in general, for that matter, cannot be disentangled from the material structure of the world that we navigate, semiosis also cannot be completely disentangled from things themselves. Nor can we disentangle semiosis from the landscape of affordances. The theory of affordances is, as I have mentioned above, already a theory of perception—it

does not simply describe the coordination of an objective body with and objective environment, it deals with how things *appear* in terms of possibilities for engagement, where even the focusing of attention is a kind of engagement. As Merleau-Ponty puts it,

The object that is presented to the gaze or to the palpation<sup>10</sup> awakens a certain motor intention that is not directed at the movements of one's own body, but at the thing itself upon which it somehow hangs. And if my hand knows hardness or softness, if my gaze knows moonlight, then it is a certain manner of connecting with the phenomenon and of communicating with it (2012, 331).

This awakening of 'a certain motor intention' characterizes the essence of engagement. The structure of motor intentionality is not simply a matter of coordinating of the body with itself, but rather it is awakened precisely by the sociomaterial affordances of the field and the particular things with which we engage. To engage with something is never

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<sup>10</sup> The term palpation refers to a form of tactile investigation that usually has a medical connotation—it is a kind of exploratory feeling that is specifically attuned to consistency, size, texture, and other forms of regularities. This often refers to the way in which a doctor might tactilely explore a limb to check for a fracture or examine organs by feeling a patient's stomach. Whereas the normal connotation refers to the tactile mode of sensation exclusively, Merleau-Ponty uses this word to describe the structure of how the body interrogates its world more generally, especially in his later works. For example, the visual gaze can be described as 'palpating' things to the extent that things appear within an existential field of spatiality. Aspects of things like size and distance are perceptually coordinated through the prereflective consistency of how the perceptual field appears—the 'real' size of something is immediately perceived in tandem with its distance from the point at which we perceive it. Space is inhabited with an implicit understanding that things are smaller when they are further away. An estimation of distance and size does not require active scrutiny or explicit comparison with other things in order to concretely triangulate objective values for these judgments. This does not, however, entail that we are therefore always automatically 'correct' in our visual appraisals of space: further investigation of the phenomenon might violate our initial perception of size. Prior to discovering the error, however, these things were still given (erroneously given, but still *given* in the phenomenological sense) in terms of an implicit coordination of size and distance. Things appear to us as perceptually coordinated because of vision's palpating activity, which explores the visual field through an operational intentionality that is founded on a background of spatial constancy. Just as the doctor's palpating exploration of the limb is attuned to investigating skeletal anomalies against a medically skilled understanding of the consistent texture of a bone, perception in general is oriented toward figures against an inhabited existential background of spatial constancy.

a one-sided or unidirectional activity. The basic motor structure of intentionality already entangles and is shaped by the things. Discussing the construction of the stone handaxe, Malafouris explains how “the directed action of stone knapping does not simply execute but rather *brings forth* the knapper’s intention...the flaking intention is constituted, at least partially, by the stone itself” (2013, 173).

### **Hylonoesis and the Historical Depth of Affordances**

This understanding of intentionality as transactively constituted in the process of engagement itself has significant implications for our understanding of how agency itself is historically instituted in the sociomaterial world that we navigate in everyday life, in our field of presence. There is a kind of history, and a historical timescale of meaning, that constitutes the field of presence in a way that cuts deeper than personal life and everyday situated action, insofar as it is embodied in the very structure of material culture. The history of material culture exceeds the meaning of personal life in a way that does not need to be thematically or narratively represented in order for it to play a meaningful role in the structure of agency. “When humans engage the material world they establish a bridge with the larger-scale processes at work beyond their awareness or control which are embodied in the objects at hand. With things the past becomes present” (Malafouris 2015, 365). By this account, we clearly see how, phenomenologically, that the present is never fully present, and is not simply the result of its past. The past can be differently evoked and deployed in our engagements where the temporality of our worldly engagements fold into historical depths that saturate the field of presence. And this is not the result of a linear unfolding of events, but of a past

that has non-linear relationship to the meaning of the present and future. To engage is a kind of blending of the dynamic, emergent confluence of embodied and sociomaterial features out of which agency emerges. The meaning and structure of agency is actively shaped by concerns and influences that exceed the temporality of personal life, especially insofar as the very structure of our sociomaterial environment cannot be disentangled from the structure of historical institution. In fact, from the perspective of Material Engagement Theory, we ought to make an even stronger claim about the *primacy* of material engagement—it is not that historical institution is embodied in, or covariant with, or that it supervenes on the structure of material things; rather engagement *brings forth* historical institution in the very process of embodied engagement. Engagement always plays out within a field and landscape of affordances, in which “[t]hese physical relations should not be taken as mere ‘indications’ of ‘internal’ and invisible mental processes; they should, rather, be taken as an important form of thinking” (Malafouris 2015, 105). And as a kind of thinking that is not a one-sided projection of the mind, much less a kind of thinking conceived as a self-contained ‘internal’ logical or syntactical operation performed on belief states with semantic properties. Thinking, meaning, and agency are brought forth by engagement.

Just as we have seen in our discussion of the timescales of intentionality, the structure of agency is informed by instituted timescales of intentionality that exceed personal life. We should consider that the sociomaterial plays a primary role in the non-linear effects of history within the field of presence. That is, sociomateriality does not straightforwardly *determine* the meaning of the engagement—it does not dictate the meaning of the field

of presence, nor does it determine a necessary course unto the future. Rather, it is against the background of an instituted sociomaterial field that our possibilities for engagement appear. And it is precisely because of the reciprocity of engagement of embodied activity and the affordances immanent in our inhabited sociomaterial world that we can see how history impinges on our agency in the field of presence. “By engaging an object in the present we simultaneously share something of the object’s past. Sometimes we participate knowingly and willingly in the temporality of things. But more often we simply follow their rhythms” (Malafouris 2015, 365). Cognition occurs within a *hylonoetic field*, “a mindscape extending into the extra-organismic environment and material culture” (2015, 366; see also 2013, 235-6). Agency and temporality are not constituted by a wholly subject-side, self-enclosed inner experience. The sociomaterial field of presence plays as much of a role as any contribution from the individual brain or body; in fact, these contributions are mutually required for the emergence of agency. Hence our conception of affordances must always be hylonoetic, wherein the fields and landscape in which they appear involve material culture and its historical depth as much as our proximate, or for that matter distal interests and projects with this instituted sociomaterial domain.

We can consider the example of walking around an unfamiliar city for the first time. We are not required to have an explicit, narrative consciousness of the history of the city, this neighborhood, this block, this building, etc. in order for a certain kind of instituted history to play a role in the hylonoetic structure of agency. In a city, we find concrete embodiments of history—concerns, motivations, traces of events, projects, etc.—in the

very structure of material culture. History is instituted by these immanent conditions of the artifactual environment of the city that shapes the meaning of space, the affordances therein, the movements and flow of bodies and things within it. Cities have a sort of endogenous temporal rhythm that makes demands on our style of coping with the surrounding environment—walking, interacting, driving, idling in place, etc. Cities modulate the existential divisions between the meaning of day and night; whereas a small town might be enveloped in a kind of stillness and quiet during the nighttime, the city continues to buzz with lights, noises, and the traces of continued human activity that is not entirely delimited by the shared meaningful boundaries of ‘day’ and ‘night’. In fact, for many cities there is an instituted flow of activity that centers mostly around the rhythm of the conventional work-day where ‘rush hours’ appear almost as depersonalized forces of nature. Rush hours are not conventions or practices that we have ‘agreed upon’ in an explicit, contractual sense of agreement. They are a part of the instituted temporality of the city and surrounding areas like the temporality of high and low tide, where an interruption of this movement poses as much of a threat to the stability of the sociomaterial ecosystem as an interruption of the tides would be for a natural coastal ecosystem.

But this is not merely a matter of the instituted macroscopic tendencies of a city, considered as a sociomaterial ecosystem. On a basic phenomenological level, these instituted historical depths shape how affordances are given, even for the uninitiated interloper—they shape how space appears available for our movements, engagements, and transactions without any sort of robust consciousness of the concrete events that

led to a particular neighborhood or intersection appearing as-such. This is because material culture is not a neutral, given state of physical presence with history as its causal antecedent. Historical institution is still playing out in the sociomaterial topography of these inhabited spaces, implicitly and indeterminately setting up a future that guides our unfolding engagements within this field of presence. The flow of public transportation, the arteries of traffic, the pedestrian zones, the construction of traffic intersections, concentrated sociomaterial conduits of movement—all of these at-once social and material features are concrete embodiments of concerns, practices, and priorities of the shared human world. A system of transit that still organizes the movement of the city may have been oriented around the movement of workers from residential to industrial parts of the city, industrial regions that may have long since become dilapidated through the offshoring of industrial labor. However, the transportation system still bears this significance. The ‘residue’ of history is instituted and stubbornly embodied in the nexus of material culture, where the future of the transportation system and its meaning cannot be recreated or established ‘from scratch’ in the present. We cannot, in one fell swoop, reinvent *what this now means* as if it could be excavated from a history of purposes, concerns, and interests. The future is taken up as a sequel to this history, not as a negation of it, especially where this history does not merely consist in our *ideas about* history, but is expressed in the very structure of our sociomaterial ecosystem that plays a primary role in the constitution of the landscape and local field dynamics of affordances. It plays an active role in the hylonoetic structure of agency that emerges out of our everyday engagements in the inhabited sociomaterial world of the city.



## Conclusion

Even to be a tourist in a city, therefore, is to take up the historical institutions of the sociomaterial environment, and to have our agency shaped by it. The effects of history do not just consist in the explicit consciousness of history—its events, contingent progression, and narrative features that lead unto the present. There are historical depths of the landscape of affordances that we engage with. And this usually does not occur *without* some sort of operational image of the historical past; rather, history does not depend on its re-presentations in order to meaningfully inform agency in the lived field of presence. Material culture is a crucial *part* of this history as much as any of the human lives involved in the unfolding of a historical drama. As Malafouris puts it, “Things are treated, in the majority of studies, as epiphenomenal reflections of, or proxies for, pre-defined aspects of human thought...things have become passive markers in a pre-defined evolutionary journey” (11). We make a mistake in looking for cognition, intentionality, or history *behind* things, treating them as the self-complete result of some prior intention, and then thrown into the human world as a mere object among objects. The sociomaterial environment actively brings historical institution into the field of presence through the process of engagement itself. The human world of meaning, activity, history, and thought is not the mere combination of cognitive and material components: “As long as cognition and material culture remain separated by the ontological gulf of [mental] representation, our understanding of the nature of either are doomed to failure” (32).

## Conclusion

With the first vision, the first contact, the first pleasure, there is initiation, that is, not the positing of a content, but the opening of a dimension that can never again be closed, the establishment of the level in terms of which every other experience will henceforth be situated. The idea is this level, this dimension. It is therefore not a *de facto* invisible, like an object hidden behind another, and not an absolute visible, which would have nothing to do with the visible. Rather it is the invisible *of* this world, that which inhabits this world, sustains it, and renders it visible, its own and interior possibility, the Being of this being. (Merleau-Ponty 1964/8, 151).

[Things] do not represent; they enact. They do not stand for reality; they bring forth reality. (Malafouris 2013, 118).

### **Revisiting the Landscape**

Cognitive science has struggled with the notion of *world* in the phenomenological sense—the existential domain of meanings, activities, projects, shared understandings, equipment, and others, of which we are constitutively a part. The world is not a static, indifferent physical setting that consciousness is placed within as an object among objects; it is the background that we inhabit and against which our life stands out as a figure. The world is the pre-personal source of significance, and consists in the sociomaterial-historical fabric in which thought, agency, and meaning—far from being abstract, mental processes or opaque internal representations of an external world—are actively entangled. The structure of intelligence, thought, understanding, intentional action, or any other faculty of the mind that we would put under the umbrella of cognition writ large, is realized in the very process of embodied engagement.

Hence, I have suggested that when we think about cognition—what it *is*, how we characterize it, how we account for the fact of creativity and intelligent behavior, etc.—we should place a central emphasis on *habit*. However, when we talk about habit we should not merely replace the abstract, internal information processing models in

cognitive science with habitual ones. The habitual schemas and sedimented motor patterns that characterize our intelligent and creative ways of skillfully coping with the world should not be placed ‘inside’ us akin to how cognitive science places mental representations and the computational mechanisms *within* the obscurity of an isolated, individual mind. Habit consists in transactions: forms and styles of engaging with a situation. They refer, not to automatic conditioned responses to external stimuli, but rather to open and adaptive methods of coping with the demands of tasks, demands, and situations. Embodied habit is developmentally patterned, and becomes a routine mode of coping in *engagement*; its motor patterns and horizons of significance are realized between the body and the things with which we engage. It neither makes sense to place habit within the thought alone, nor should we think of habit as an objective, impersonal feature of the body or environment since habit is often enacted without the need for a kind of second-order reflection on the actions that we perform. Habits are in-between the body and the things with which we engage, where the formation of these dynamic motor patterns is not caused or exhaustively explained by one of these poles of activity exclusively. To put it otherwise, we *inhabit* the world.

However, the institution and sedimentation of habit should not be conceived as the emergence of a third term in the dynamic metastable equilibrium between the body in the world—as if it emerges in between, but leaves the body and world unchanged in the transaction. It is not the case that, in the tension between the body and the world an independent, objective pattern emerges that we call a habit, or that habit is a mere mediator between pre-given entities. Habits, as transactive patterns of embodied

engagement, change the living body and reveal possibilities of how the world is given—habit is a change in the structure of perception that modulates the body’s orientation toward possibilities, and, in the same dialectical moment, changes the very structure of how the world appears. It gives rise to a new significance of the phenomenological field that entangles the body’s operative motor intentionality and the affordances of the sociomaterial landscape in which we are situated. Understanding the structure of habit, flow, and (dis)orientation, as I have claimed in chapter one, is critical for being able to approach the concept of material agency phenomenologically. One could even, perhaps, go further to say that a phenomenological approach is necessary in order to reveal the existential and perceptual contours of material agency and to demonstrate how the artifactual environment is entangled in our living activities in world.

Furthermore, habits do not emerge in the isolated dynamics of an individual body and the environment alone. Here I draw on Dewey’s (1922) account of habits, at their foundation, as social functions. Being situated a sociomaterial landscape of affordances always involves being situated among, and in relation to others. To act is always to act within a field of shared agency; but not, however, in the sense that this field presents an identical range of affordances to everyone. By ‘shared’ field I do not mean that all possibilities are objectively given or universally realizable by all individuals with whom I share this field. It is to say, rather, that the field is socially-shaped; its meaning and possibilities for engagement are not things at I, alone, disclose or enact. As Merleau-Ponty puts it, material culture “emits an atmosphere of humanity that might be only vaguely determined (when it is a matter of some footprints in the sand), or rather highly-

determined (if I explore a recently evacuated house from top to bottom)....I experience the near presence of others under a veil of anonymity” (2012, 363). That is, even in absence of the actual, concrete presence of an other, I do not escape the presence of the cultural world, even if it is only ambiguously apparent; that is, not a presence in the form of a body, but in the very structure of the sociomaterial world that I inhabit. These roads, streets, buildings, books, utensils, etc., are not just *for me*; ‘one’ engages with these things, where I am a one among many.

Habit does not merely concern my behavior in isolation. Habits concern conduct of interaction, coordination, and manners of engaging others, and engaging the world *with* others. And material culture plays a critical role in the formation of intelligent forms of habitual coordination. This approach, therefore, has consequences for our understanding of collective agency and intentionality. First of all, the foundation of this claim means that it is not solely on the basis of explicit and avowed group membership that our agency is socially shaped—agency is always-already social. This, I claim, can expand our conceptions of when, where, and how collective agency is taking place, what sorts of social meanings and group memberships are being invoked or deployed in the constitution of action. Second, in cases of explicit or avowed membership, in which we deliberately coordinate (and *conceive of ourselves as* coordinating) our behavior with others, we can expand our understanding of how these processes are enacted. Weick and Roberts (1993) give an account of the adaptive dynamics of group processes that rely on processes of entrainment and heedful interrelations among members. Thus, group agency is not realized, at its most basic level, as a shared

proposition *about* what a group intends to do; it consists in the entrained development of habits that structure our attunements within a field of shared agency. It is on the basis of this way of *inhabiting* groups that we can become heedfully attuned to the demands, solicitations, expectations, and duties qua group-member. The fluid and reliable achievement of these group processes does not always—and in some cases *ought not*—entail a richly articulated reflective stance on our intentions and identity as a group member.

Moreover, collective agency is structured not only by intersubjective dynamics of entrainment and coordination, but also by the material culture in which these heedful interrelations take place. Collective agency always entangles artifactual spaces, architectural layout, and the meaningful built spaces in which these group processes play out. We see this particularly clearly in the case of traffic patterns, in which the habitual and (usually) heedful practice of drivers is neither achieved solely in an individual or even intersubjective basis. These dynamics constitutively involve a whole network of artifacts, signs, expressive markers, etc. that play a crucial role in expressing the norms of roadway practice and coordinating drivers' heedful attunements. Material culture is part of the structure of collective agency, and plays a role in the development of embodied habits of engagement.

Just as agency is social, it is also historical. Agency is enacted on the basis of different timescales of intentionality, some of which exceed the temporality of our personal lives. The structure of behavior, to use Merleau-Ponty's (2010) term, is historically instituted;

the past both bears on the meaning of the present and indeterminately projects a future. And part of how the past continues to bear on our field of presence in a non-linear way has to do the history of the material culture. Agency emerges out of engagement where the essence of engagement consists in reciprocity of how the agency of structure is shaped—to use Malafouris' term, its structure is hylonoetic (2013, 2015). It is not constituted solely by a subjective projection, rather the noetic structure of intentionality is transactively constituted by embodied intentions and the meaning of the things with which we engage. Accordingly, to engage with material culture is always, in some sense to evoke history in our behavior—a kind of evocation of history that is not just about a narrative expression of history, or a consciousness of history that re-presents it as an image. To engage with things is to take up and actualize a historical depth that exceeds the temporality of personal life. Material culture is, even without an explicit consciousness of historical events, a link to the past that actively structures the field and landscape of affordances in which we find ourselves spatially and temporally situated.

There are, perhaps, some ethical questions that ought to be dealt with in future research on this topic. If there is something to be said about a distinctively *human* kind of agency (or from this perspective, a distinctively human contribution to an agential processual assemblage), this seems to involve normative practices of blaming, praising, and assigning responsibility. What, if anything, would a MET approach entail in terms of dealing with these ethical questions? Do these ethical dimensions that are inherently tied to human practical reason countervail MET's approach to agency? Are MET's insights irrelevant for these social practices of responsibility assignment?

I raise these questions as something to be pursued in further research. I expect that the attempts to answer these questions will be quite complicated, and certainly outside the scope of the current project.

### **Toward a Field Theory of Mind**

There has been a conceptual motif in this dissertation—one that I have discovered in the process of writing it: the notion of the field. There are fields (and landscapes) of affordances, fields of shared agency, fields of presence, the phenomenological field, field of meaning, a social field, and so on. Whereas Rietveld & Kiverstein (2014) have done some extensive work on the field of affordances, leaving very little ambiguity about the meaning of the term, I would like to explore the notion of fields in general. My claim is that we should avoid thinking of the mind as something *in* a field, or that the field is something *projected by* the mind. I would suggest, rather, that whatever we might want to call the mind is *itself* a field.

To conceive of the mind as a field is not to make it into a substance or thing. It consists in the existential tension between things, bodies, space, and time. It is not a field in the sense of being a static or immutable architectonic structure; in fact, we should not think of it as *a singular* field. A field theory of mind seems to accommodate a diversity of existential fields. Emphasizing the diversity of fields (as opposed to a singular field) mirrors, to some extent, my previous claims that we should avoid talking about *the* agent or *an* agent in the narrowly delineated or categorical sense, and should instead



talk about *agency*. To talk about the mind as a *singular* field also runs the risk of reifying the mind as a particular, substantial *thing*.

Beyond the various fields that I have mentioned above we could consider how a childhood home that we have not visited in years is still for us, if distorted, a kind of existential field; an old videogame—even though it does not in any literal sense have spatial depth—is a field; Merleau-Ponty even thinks about the domain of geometrical thought as itself being “a field of possible movements,” (2012, 406) where meaningful figures with ideal properties are oriented, brought forth and actualized by the ruler and the compass. When we are reading a book, we are brought into a kind of narrative field; perhaps it might even be useful to think of imagination as a non-independent field of the mind among its multitude of fields. Hence, in developing this line of thought, a field theory of mind will always involve a multiplicity of fields while still staking a positive claim about the meaning of mind. Perhaps a *fields* theory of mind would be a more accurate characterization of this approach, even if it is less elegantly named.

It may be premature, at this point, to formally define the meaning of a field. But this does not foreclose the possibility of further clarification. I take it that ‘field’ is a valuable term to the extent that does not presume in some totalizing or pre-determined sense, a location or delimited substantial character of mind. It suggests, rather, that any process that we are inclined to call ‘mental’ or reduce to a mind as its executive or originary wellspring *in fact* takes place within and constitutively involves the multidimensional

features of the situation that we inhabit. A field, characterized this way, highlights the essentially transactive, engaged, and situated nature of cognition.

Furthermore, I do not think that I am suggesting a radically novel understanding of the mind; or, at least, this conception is not without precedent. This approach, I claim, might be able to achieve some degree of schematic integration among the diverse, but interrelated claims in phenomenology, embodied cognition, enactivism, ecological psychology, Dynamical Systems Theory, and perhaps others. These approaches seem to be, on some level, consistent to the extent that cognition is always nested in a situation. To describe its structure necessarily involves reference to its field of affordances in order to explain the unfolding dynamics of how intelligent behavior is enacted. To describe behavior as intelligent, on this account, really refers to how an organism, or group of organisms, is able to habitually cope with the possibilities immanently given in its field. It refers to how possibilities can be disclosed, how they are enacted on the basis of a sedimented history of behavior within the dynamics of the field.

This understanding of the mind as a field is an approach that applies just as much to the activity of a blacksmith as it does to a mathematician; crafting metal is as much a way of coping with and creatively revealing possibilities of the material with which one engages as mathematics is. Mathematics is a field that we can inhabit—it has its own immanent field dynamics of how to cope with mathematical entities. Possibilities immanent to mathematical systems can be revealed through creative mathematical thought. The

blacksmith does not engage with a field of pure mathematics, even though calculations about measurements or weight might be, at times, involved. But the mathematician does not engage with a pure field of mathematics either. To creatively engage in mathematical thinking is to engage with the history of mathematics—there are proofs nested within the figures that a contemporary mathematician deploys axiomatically;  $\pi$  does not have to be derived from scratch in order to play a role in a proof. This does not mean that the derivation of  $\pi$  is inaccessible to the contemporary mathematician, but the affordances immanent to the field of mathematical proof involves engaging with a field with a historical depth to how its possibilities are given. And this historical depth also cannot be disentangled from a history of mathematical thinking that had to first emerge, as a possible existential field, out of our creative ability to inhabit a sociomaterial environment. In the existential sense, numbers cannot precede counting, but counting does not already contain using numbers as a pre-given or ‘hidden’ possibility of abstract numbers (see Bar-On *forthcoming*, and Overmann 2018). Or perhaps I am equivocating too much about the meaning of the fields of blacksmithing and mathematics, being vastly different kinds of existential fields. Regardless, this field theory of the mind is a possible area that could warrant exploration on the basis of the work that I have done in the course of this dissertation.

## Bibliography

- Adams, F., & Aizawa, K. (2008). *The bounds of cognition*. Oxford: Wiley-Blackwell.
- Ahmed, S. (2006). *Queer phenomenology*. Durham, NC: Duke University Press.
- Ahmed, S. (2007). A phenomenology of whiteness. *Feminist Theory*, 8, 149-168.
- Althusser, L. (2001/1970). *Lenin and Philosophy and Other Essays*. New York: Monthly Review Press.
- Asch, Solomon E. (1952). *Social Psychology*. Englewood Cliffs, NJ: Prentice-Hall.
- Bar-On, D. (forthcoming). Crude meaning, brute thought. *Journal for the History of Analytic Philosophy*
- Barrett, L. (2016). Why brains are not computers, why behaviorism is not Satanism, and why dolphins are not aquatic apes. *The Behavior Analyst*, 39(1): 9-23.
- Bateson, G. (1973). *Steps to an Ecology of Mind*. Granada.
- Bergson, H. (1998/1907). *Creative Evolution*. Mineola, NY: Dover Publications, INC.
- Brancazio, N. (2018). Gender and the senses of agency. *Phenomenology and the Cognitive Sciences*, <https://doi.org/10.1007/s11097-018-9581-z>.
- Bratman, M. E. 2009. Shared Agency. In *Philosophy of the Social Sciences: Philosophical Theory and Scientific Practice*, ed. C. Mantzavinos, 41–59. Cambridge: Cambridge University Press.
- Bratman, M. (2010). Agency, time, and sociality. *Proceedings and Addresses of the American Philosophical Association* 84, 7–26.
- Bratman, M. (2014). *Shared agency: A planning theory of acting together*. Oxford: Oxford University Press.
- Chemero, A (2009). *Radical embodied cognitive science*. Cambridge, MA: MIT Press.
- Chemero, A. (2016). Sensorimotor empathy. *Journal of Consciousness Studies*, 23 (5-6): 138-152.
- Clark, A. (2008). *Supersizing the Mind: Embodiment, Action and Cognitive Extension*. Oxford: Oxford University Press.
- Clark, A. & Chalmers, D. (1998). The extended mind. *Analysis*, 58 (1): 7-19.

- Colombetti, G. (2014). *The Feeling Body*. Cambridge, MA: MIT Press.
- Costall, A. (1997). The meaning of things. *Social Analysis: The International Journal of Social and Cultural Practice*, 41(1), 76-85.
- Costall, Alan (2012). Canonical affordances in context. *Avant: Trends in Interdisciplinary Studies* 3 (2):85-93.
- Dennett, D. (1987). *The intentional stance*. Cambridge, MA: MIT Press
- de Beauvoir, S. (1948/2015). *The Ethics of Ambiguity*. New York: Citadel Press.
- Dewey, John (1896). The reflex arc concept in psychology. *Psychological Review*, 3, 357-370.
- Dewey, J. (1922). *Human nature and conduct: An introduction to social psychology*. New York: Cosimo
- Di Paolo, Ezequiel A. (2005). Autopoiesis, adaptivity, teleology, agency. *Phenomenology and the Cognitive Sciences*, 4 (4):429-452.
- Di Paolo, E (2009) Extended life. *Topoi*, 28: 9-21.
- Dreyfus, Hubert (1992). *What computers still can't do*. Cambridge, MA: MIT Press.
- Eilers, R., Gavin, W., & Wilson, W. (1979). Linguistic Experience and Phonemic Perception in Infancy: A Crosslinguistic Study. *Child Development*, 50(1), 14-18. doi:10.2307/1129035
- Fiore SM and Wiltshire TJ (2016) Technology as Teammate: Examining the Role of External Cognition in Support of Team Cognitive Processes. *Front. Psychol.* 7:1531. doi: 10.3389/fpsyg.2016.01531.
- Gallagher, S. (2005). *How the Body Shapes the Mind*. Oxford, UK: Clarendon Press.
- Gallagher, S. (2007). The natural philosophy of agency. *Philosophy Compass*, 2(2):347–357.
- Gallagher, S. (2012). Multiple aspects in the sense of agency. *New Ideas in Psychology*, 30(1), 15–31.
- Gallagher, Shaun (2012). The overextended mind. *Versus* 113:57-68.
- Gallagher, S. (2015). Doing the math: Calculating the role of evolution and enculturation in the origins of mathematical reasoning. *Progress in Biophysics and Molecular Biology* 119: 341-346.

- Gallagher, S. (2017). *Enactivist interventions: Rethinking the mind*. Oxford: Oxford University Press.
- Gallagher, S. (2018). The Extended Mind: State of the Question. *Southern Journal of Philosophy* 56 (4):421-447.
- Gallagher, S. (2018). New mechanisms and the enactivist concept of constitution. In M. P. Guta (ed.) *The Metaphysics of Consciousness* (207-220). London: Routledge.
- Gallagher, Shaun & Crisafi, Anthony (2009). Mental institutions. *Topoi* 28 (1):45-51.
- Gallagher, S. & Ransom, T. (2016). Artifacts and joint action. In *Embodiment in Evolution and Culture* (eds.) G. Etzelmüller and Christian Tewes. Tübingen: Mohr Siebeck.
- Gell, A. (1998). *Art and Agency: An Anthropological Theory*. Oxford: Oxford University Press.
- Gibson, J. J. (1979). The theory of affordances. In *Perceiving, Acting, and Knowing* (eds. R. Shaw and J. Bransford), Hillsdale, NJ: Erlbaum: 67–82.
- Gilbert, Margaret (1990). Walking Together: A Paradigmatic Social Phenomenon. *Midwest Studies in Philosophy*, 15 (1):1-14.
- Gosden, C., & Malafouris, L. (2015). Process archaeology (P-Arch). *World Archaeology*, 47:5, 1-17.
- Greenfield, P.M. (1984). A theory of the teacher in the learning activities of everyday life. In B. Rogoff and J. Lave (Eds.) *Everyday cognition: Its development in social context* (pp. 117–138). Cambridge, MA: Harvard University Press.
- Habermas, J. (1994). *Post-Metaphysical Thinking*. Cambridge, MA: MIT Press.
- Haslanger, S. (2012). *Resisting reality: Social construction and social critique*. Oxford: Oxford University Press.
- Hegel, G.W.F. (2005/1821). *Philosophy of Right*. Dover: Dover Philosophical Classics.
- Heidegger, M. (1927). *Sein und Zeit*. Tübingen: Max Niemeyer Verlag.
- Hodder, I. (2011). Human-thing entanglement: Towards an integrated archeological perspective. *Journal of the Royal Anthropological Institute* 17 (1): 154–177.
- Hohwy, J. (2014). The self-evidencing brain. *Noûs*, 50(2), 259-285.

- Huebner, B. (2014) *Macrocognition: A Theory of Distributed Minds and Collective Intentionality*, New York: Oxford University Press.
- Hurley, S. (1998). *Consciousness in Action*. Cambridge: Harvard University Press
- Husserl, E. (1964/1928). *The Phenomenology of Internal Time Consciousness*. Indianapolis: Indiana University Press.
- Husserl, E. (1976), *Der Krisis der europäischen Wissenschaften und die transzendente Phänomenologie* (2nd ed.) (Hua VI).
- Husserl, E. (2014). *Ideas I*. trans. Daniel O. Dahlstrom. Indianapolis: Hackett Publishing.
- Hutchins (1995) *Cognition in the wild*. XXXXX
- Hutchins, Edwin (1995). How a cockpit remembers its speed. *Cognitive Science*, 19, 265-288.
- Hutchins, E. (2004) Material anchors for conceptual blends. *Journal of Pragmatics*, 37, 1555-1577
- Hutto, D. D. (2008). Folk psychological narratives: The sociocultural basis of understanding reasons. Cambridge: MIT Press.
- Hutto, D., Kirchhoff, M. & Myin, E. (2014). Extensive enactivism: why keep it all in? *Frontiers in Human Neuroscience*, 8:706. doi: 10.3389/fnhum.2014.00706
- Hutto, D. & Myin, E. (2017). *Evolving enactivism: Basic minds meet content*. Cambridge, MA: MIT Press.
- Hutto, D., Gallagher, S., Ilundáin-Agurruza, J., & Hipólito, I. (forthcoming). Culture in Mind - An Enactivist Account: Not Cognitive Penetration But Cultural Permeation. In L. J. Kirmayer, S. Kitayama, C. M. Worthman, R. Lemelson, & C. A. Cummings (Eds.), *Culture, mind, and brain: Emerging concepts, models, applications*. New York, NY: Cambridge University Press.
- Jacobson, A. J. (2012). Seeing as a social phenomenon : feminist theory and the cognitive sciences. In Robyn Bluhm, Anne Jaap Jacobson & Heidi Lene Maibom (eds.), *Neurofeminism: Issues at the Intersection of Feminist Theory and Cognitive Science*. Palgrave-Macmillan.
- James, W. (1890). *Principles of Psychology*. New York: Henry Holt & Company.
- Kelso, J. A. Scott (2016). On the Self-Organizing Origins of Agency. *Trends in Cognitive Sciences*, 20(7),490-499.

- Kirchhoff, M. D. (2012). Extended cognition and fixed properties: Steps to a third-wave version of extended cognition. *Phenomenology and the Cognitive Sciences* 11: 287-308.
- Kirchhoff, M. D. (2015). Extended Cognition & the Causal-Constitutive Fallacy: In Search for a Diachronic and Dynamical Conception of Constitution. *Philosophy and Phenomenological Research*, 90(2), 320-360.
- Kirchhoff, M. D. (2016). Autopoiesis, free energy, and the life–mind continuity thesis. *Synthese*. Online first:1–22. doi:10.1007/s11229-016-1100-6.
- Kirchhoff, M. D. (Forthcoming). The body in action: Predictive processing and the embodiment thesis. In *Oxford Handbook of Cognition: Embodied, Extended and Enactive* (Eds. A. Newen, L. De Bruin, and S. Gallagher). Oxford: Oxford University Press.
- Kutz, Christopher (2000). Acting together. *Philosophy and Phenomenological Research*, 61(1), 1-31.
- Latour, B. (1991). Technology is society made durable. A Sociology of Monsters: Essays on Power, Technology, and Domination (ed. J. Law). New York: Routledge.
- Libet, B. (1985). Unconscious cerebral initiative and the role of conscious will in voluntary action. *Behavioral and Brain Sciences*, 8(4): 529–566.
- List, Christian (2012). The theory of judgment aggregation: an introductory review. *Synthese*, 187 (1). pp. 179-207.
- List, C., and P. Pettit (2002). Aggregating Sets of Judgments: An Impossibility Result. *Economics and Philosophy* 18(1): 89-110.
- List, C., and P. Pettit (2004). Aggregating Sets of Judgments: Two Impossibility Results Compared. *Synthese* 140(1-2): 207-235.
- Lugones, María (1987). Playfulness, "World"-Travelling, and Loving Perception. *Hypatia* 2 (2):3 - 19.
- Malafouris, L. (2010). Metaplasticity and the human becoming: principles of neuroarchaeology. *Journal of Anthropological Sciences*, 88, 49-72
- Malafouris, L. (2013). How things shape the mind: A theory of material engagement. Cambridge, MA: MIT Press.



- Malafouris, L. (2015), Metaplasticity and the primacy of material engagement. *Time and Mind*, 8(4), 351-371.
- Malafouris, L. (2016a). Material Engagement and the Embodied Mind. In Wynn, T., & Coolidge, F. L. (Eds.), *Cognitive Models in Palaeolithic Archaeology* (pp. 69-82). Oxford University Press.
- Malafouris, L. (2016b). On human becoming and incompleteness: A material engagement approach to the study of embodiment in evolution and culture. In G. Etzelmüller and C. Tewes (eds.), *Embodiment in Evolution and Culture*. Tübingen: Mohr Siebeck. 289-305.
- Marx (1990/1867) *Capital: A Critique of Political Economy*. London: Penguin.
- Mead, G. H. (1934). *Mind, Self, and Society*. Chicago: University of Chicago Press.
- Mele, A.R. (2003), *Motivation and Agency*, Oxford: Oxford University Press
- Menary, R. (2010b). Cognitive integration and the extended mind. In R. Menary (Ed.), *The Extended Mind* (227–243). Cambridge, MA: MIT Press.
- Menary, R. (2012). Cognitive practices and cognitive character. *Philosophical Explorations*, 15(2), 147-164. <https://doi.org/10.1080/13869795.2012.677851>
- Menary, R., & Gillett, A. (2017). Embodying culture: integrated cognitive systems and cultural evolution. In J. Kiverstein (Ed.), *The Routledge Handbook of Philosophy of the Social Mind* (pp. 72-87). Routledge, Taylor and Francis Group.
- Menary, Richard (2018). Keeping Track With Things. In Joseph Adam Carter, Andy Clark, Jesper Kallestrup, S. Orestis Palermos & Duncan Pritchard (eds.), *Extended Epistemology*. Oxford University Press. pp. 305-330.
- Merleau-Ponty, M (1968). *The visible and the invisible*. Evanston, IL: Northwestern University Press.
- Merleau-Ponty, Maurice (2010). *Institution and Passivity: Course Notes From the Collège de France (1954-1955)*. Northwestern University Press.
- Merleau-Ponty, M. (2012/1945). *Phenomenology of Perception*. New York: Routledge.
- Mészáros, I. (2010). *Social Structure and Forms of Consciousness, Volume I: The Social Determination of Method*. New York: Monthly Review Press.
- Niemitz, C. (2010). The evolution of the upright posture and gait—a review and a new synthesis. *Naturwissenschaften*, 97, 241-263.

- Noë, A. (2004). *Action in Perception*. Cambridge, MA: MIT Press.
- Oller, D. K., Eilers, R. E., Neal, A. R., & Schwartz, H. K. (1999). Precursors to speech in infancy: The prediction of speech and language disorders. *Journal of Communication Disorders*, 32(4), 223-245. [http://dx.doi.org/10.1016/S0021-9924\(99\)00013-1](http://dx.doi.org/10.1016/S0021-9924(99)00013-1)
- Ortega, Mariana (2016). *In-Between: Latina Feminist Phenomenology, Multiplicity and the Self*. New York: SUNY.
- Overmann, K. (2016). Beyond writing: The development of literacy in the ancient near east. *Cambridge Archaeological Journal*, 26(2), 285-303.
- Overmann, K (2018). Constructing a concept of number. *Journal of Numerical Cognition*, 4(2), 464-493.
- Pacherie, Elisabeth (2008). The Phenomenology of Action: A Conceptual Framework. *Cognition* 107 (1):179 - 217.
- Ramstead MJD, Veissière SPL and Kirmayer LJ (2016) Cultural Affordances: Scaffolding Local Worlds Through Shared Intentionality and Regimes of Attention. *Front. Psychol.* 7:1090. doi: 10.3389/fpsyg.2016.01090
- Ransom (2017). Process, habit, and flow: A phenomenological approach to material agency. *Phenomenology and the Cognitive Sciences*, 18(1), 19-37.
- Renfrew, C. (1994). Towards a cognitive archaeology. In *The Ancient Mind: Elements of Cognitive Archaeology*, eds. C Renfrew and E. Zubrow. Cambridge: Cambridge University Press.
- Rietveld, E. (2008). Situated normativity: The normative aspect of embodied cognition in unreflective action. *Mind*, 117, 973-1001.
- Rietveld, E. (2013), Affordances and unreflective freedom, in Moran, D. & Thybo Jensen, R. (eds.) *Embodied Subjectivity*. New-York: Springer.
- Rietveld, E. & Kiverstein, J. (2014). A rich landscape of affordances. *Ecological Psychology*, 26:325–352.
- Rogoff, B., Mistry, J., Göncü, A., Mosier, C. (1993). Guided participation in cultural activity by toddler and caregivers. *Monogr Soc Res Child Dev.*, 58(8), 1-174.
- Ryle, G. (1949). *The Concept of Mind*. Chicago: Chicago University Press.
- Smith, L. B., Thelen, E (2003). Development as a dynamic system. *TRENDS in Cognitive Sciences*, 7(8), 343-348.

- Steward, H. (2016). Making the agent reappear: How processes might help. in Roman Altshuler and Micahel Sigrist (eds.), *Time and the Philosophy of Action*. London: Routledge.
- Sterelny, Kim (2010). Minds: extended or scaffolded? *Phenomenology and the Cognitive Sciences* 9 (4):465-481.
- Sterelny, K. (2012). *The Evolved Apprentice*. Cambridge, MA: MIT Press
- Sutton, John (2005). Memory and the extended mind: embodiment, cognition, and culture. *Cognitive Processing*, 6:223-226.
- Theiner, Georg & Drain, Chris (forthcoming). What's the Matter with Cognition? A 'Vygotskian' Perspective on Material Engagement Theory. *Phenomenology and the Cognitive Sciences*:1-26.
- Tollefsen, Deborah Perron (2002). Collective intentionality and the social sciences. *Philosophy of the Social Sciences* 32 (1):25-50. Tollefsen, Deborah Perron (2015). *Groups as agents*. Cambridge: Polity Press.
- Tollefsen, D. P. (2017). "Collective Intentionality and Methodology in the Social Sciences", in *The Routledge Handbook of Collective Intentionality* ed. Marija Jankovic and Kirk Ludwig. Abingdon: Routledge.
- Tollefsen, D. P., Dale, R. & Paxton, A. (2013). Alignment, Transactive Memory, and Collective Cognitive Systems. *Review of Philosophy and Psychology* 4 (1):49-64.
- Tollefsen, D., Dale, R., Olsen, L. (2013). The devil's in the details: Mental institutions and proper engagement. *Cognitive Systems Research*, 25-26, 35-39.
- Tomasello, M. (2014). *A Natural History of Human Thinking*. Cambridge, MA: Harvard University Press.
- Tuomela, R. 2005. We-Intentions Revisted. *Philosophical Studies* 53: 367–389.
- Vaccari, A. P. (2016). Against cognitive artifacts: extended cognition and the problem of defining 'artifact'. *Phenomenology and the Cognitive Sciences*:1-14.
- van Dijk, L., Rietveld, E. (2017). Foregrounding sociomaterial practice in our understanding of affordances: The skilled intentionality framework. *Frontiers in Psychology*, 7, 1-12.
- Varela, F. (1991). Organism: A meshwork of selfless selves. In *Organism and the Origins of Self* ed. Alfred I. Tauber. Kluwer Academic Publishers, 79-107.

- Varela, F., Thompson, E. and Rosch, E., (1991). *The Embodied Mind: Cognitive Science and Human Experience*, Cambridge: MIT Press.
- Varga, S. (2015) "Interaction and Extended Cognition", *Synthese* 193 (8): 2469-2496.
- Vuorre, M. & Metcalfe, J. (2016). The relation between sense of agency and experience of flow. *Consciousness and Cognition*, 43, 133–142.
- Vygotsky, L. S. (1978). *Mind in Society*. Cambridge, MA: Harvard University Press.
- Wegner, D.M. (2002). *The Illusion of Conscious Will*, Cambridge, MA: MIT Press.
- Wegner, D.M., Wheatley, T.P. (1999). Apparent mental causation: sources of the experience of will. *American Psychologist*, 54(7): 480–92.
- Weick, Karl E. & Roberts, Karlene, H. (1993) Collective Mind in Organizations: Heedful Interrelating on Flight Decks. *Administrative Science Quarterly*, 38(3), 357-381
- Weil, S. (1977). *The Simone Weil Reader*. Moyer Bell.
- Zawidzki, T. W. (2013) *Mindshaping: A New Framework for Understanding Human Social Cognition*. Cambridge, MA: MIT Press.