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Media ecology and *Bios Theoretikos*: Philosophy as extended cognition

ABSTRACT

In this article, I take a media ecology perspective on philosophy. This approach supports the German philosopher Peter Sloterdijk's claim that first philosophy is not metaphysics, aesthetics, ethics or epistemology but rather practice (askēsis). Sloterdijk's practice-centred view of philosophy is shared by Pierre Hadot and Michael McGhee, both of whom give askēsis a central role in philosophy. I draw on the work of these philosophers to show that philosophy is best conceived as an act of extended cognition performed amidst different media ecologies. To make this point, I start not with humans and our practices, but with spiders and theirs. When philosophy is seen as an instance of extended cognition, I argue, one can draw parallels between our practices and those of non-human species, who like us build artefacts to deepen their perception and understanding of their environments. To this end, I explore the settings that enable philosophical training. Philosophy on this view is facilitated by an ecology of affordance spaces – academies, libraries, monasteries and more – whose design helps the philosopher perform certain manoeuvres in thought, manoeuvres that make apparent the conditions required for the bios theoretikos *(the life of contemplation).*

In this article, I take a media ecology perspective on philosophy. This approach supports the German philosopher Sloterdijk's (2013) claim that first philosophy is not metaphysics, aesthetics, ethics or epistemology but rather practice (*askēsis*) in the direction of self-transformation. Sloterdijk's practice-centred view of philosophy is shared by Hadot (2004) and McGhee (2000), both of whom give *askēsis* a central role in the course of philosophical training and development. I draw on the work of these philosophers to show that philosophical ability is tied closely to practices that often begin with an act of suspension in perception or belief (*epoché*) and that in turn transform awareness and action.

It follows that philosophical training, as a set of practices, presupposes the availability of certain material spaces suited for the practice of philosophy, spaces that include tools and artefacts that the philosopher can use as part of his or her practice routines. To this end, I explore the media environments that enable philosophical training and the practices that promote philosophical shifts in perception and understanding. Philosophy, on this view, is facilitated by an intricate ecology of affordance spaces (Gibson 2015) – academies, libraries, monasteries and more – whose design helps train up the individual's capacity to perform certain manoeuvres in thought, manoeuvres that make apparent the material conditions required for what Sloterdijk (2013) calls the *bios theoretikos* (the life of contemplation).

The *bios theoretikos* foregrounds that philosophy, often portrayed as a mode of isolated introspection, is better conceived as an act of extended cognition executed and modified amidst different media ecologies (Clark and Chalmers 1998). To make this point, I start not with humans and our practices, but with spiders and theirs.

As I will demonstrate in the article, when we think of philosophy as an instance of extended cognition – that is, as mediated and amplified by carefully designed tools and practice spaces – we can draw many parallels between our practices and those of non-human species who, like us, build artefacts to deepen their perception and understanding of themselves and their environments (Laland et al. 2016; Odling-Smee et al. 2003). Specifically, I will show that there is a compelling similarity between what a spider achieves in perception through its web and what we philosophers achieve through our practices when amplified and modulated through the aesthetics of architectural space.

By reading our design practices as one instance of a more general and ecologically pervasive effort to modulate awareness through environmental modification, I will argue that philosophical environments are a kind of navigation tool that enhances perception and cognition, and that if one wants to become an adept philosopher, then one ought to emphasize the training regimes and practice spaces that enable philosophical ability and permit the philosopher to achieve insights isolated human beings could not achieve on their own. When we view philosophy as a mode of extended cognition, the practice spaces that scaffold and deepen our cognitive-perceptual systems emerge as a renewed site for media ecology research.

Extended cognition, media ecology and niche construction theory

Clark and Chalmers (1998) first defined their version of extended cognition using the phrase *active externalism* to describe how objects in the surrounding environment aid in driving cognitive processes. To name just a few of their examples, Clark and Chalmers point to the use of pen and paper to assist

in mathematical calculations and the use of other media, such as books and diagrams, to achieve certain feats of cognition otherwise inaccessible to human thinkers. Human beings, on this view, form interactive systems with their media environments, creating two-way cognitive exchanges that transform thinkers and media alike. As the philosopher Alva Noë observed, 'What emerges from this discussion is a new conception of ourselves as expanded, extended, and dynamic' (2009: 67).

The connection between extended cognition and media ecology is clear enough, especially when we define media ecology as the study of how media technologies affect human perception, understanding, feelings and values (Strate 2017). Echoing Clark and Chalmer's view of extended cognition, Strate writes, 'The changes that we introduce into our environment, that alter the environment, feed back into ourselves as we are influenced, affected, and shaped by our environment' (2017: 63). Like the philosopher of extended cognition, the media ecologist seeks to make these environmental dynamics explicit by turning medium backgrounds into medium foregrounds, thereby articulating how media participate in structuring how people think, feel, perceive and act.

On this account, 'media' include not only the obvious examples of televisions, radios, mobile devices and social media but also specific narrative technologies such as novels, poems and essays; built environments such as roads, buildings, bridges and cities; and learned practices and skills such as language, grammar and speech (Strate 2017). Noë's descriptions of consciousness are helpful on this point: 'Consciousness is not something the brain achieves on its own. Consciousness requires the joint operation of brain, body, and world' (2009: 10). This view does not undercut the importance of brains and nervous systems in cognitive processes, but rather accounts for the media ecologies that extend and modify cognitive capacities by linking our embodied systems to the changing environmental scaffolds within which we find ourselves.

Noë continues along these lines, writing, 'Our life is a flow of activity, and it depends on our possession of habits and skills and practical knowledge whose very activity in turn implicates our particular niches' (2009: 69). Media ecology is precisely the study of relationships among minds, habits, skills and environments, but it is more than this: media ecology is a discipline capable of not only making observations about our niches but also of offering design imperatives for the construction of specific kinds of environments. The media ecologist can ask, 'How can we build environments that amplify this or that perceptual or practical ability? Can we build spaces that deepen our potential for understanding ourselves, each other and our world?'.

The idea that non-human species engage in their own media ecology practices is not new. As Strate (2017) notes, Lewis Mumford and Buckminster Fuller both argued for a loosening of the division between nature and technology, pointing to the existence of damns, hives, colonies, webs and more as evidence of pre-human design technologies. In Strate's words,

Rather than the binary opposition between biology and technology, I would again note that all forms of life both adapt themselves to their environment in order to survive and propagate, and also alter their environment by their very existence, by their metabolism, propagation, and behavior.

(2017: 70)

In this way, Strate notes, 'Technology can be understood as, in its most basic sense, the activity of altering the environment, an activity engaged in by all forms of life' (2017: 70).

The fact that media ecologists recognize the blurred lines between biology and design technology makes them natural allies with niche construction theorists, who to a greater extent than their human-centred media ecology peers emphasize the role of built environments in the lives of non-human species. Laland et al. offer the following definition of niche construction:

> Niche construction is the process whereby organisms actively modify their own and each other's evolutionary niches (Odling-Smee et al. 2003). Examples include the building of nests, burrows, mounds, and other artifacts by animals; the alteration of physical and chemical conditions; the creation of shade, influencing wind speed; and the alteration of nutrient cycling by plants. When such modifications alter natural selection pressures, evolution by niche construction is a possible outcome.
>
> (2016: 192)

Along similar lines, one can see how media ecology and niche construction theory complement the general thesis of extended cognition: in the view of all three approaches, animals of all kinds use aspects of their environment, both built and pre-existing, as scaffolding for their cognitive, affective and perceptual processing.

It is within this larger perspective of extended media ecologies that I situate the practice of philosophy, and in so doing I aim to draw parallels between human philosophical practice spaces and the built environments of non-human species – in this case, the spider's web. The goal is not to equivocate between the cognitive performances of spiders and philosophers – thereby reducing the unique capacities of the one to the other – but rather to place both actions along a unified theoretical continuum, a continuum that serves to naturalize (or ecologize) the contemplative acts of the philosopher whilst elevating our view of the spider's capacity for design ingenuity.

Thinking like a spider: Recursion and extended cognition

To this end, I first summarize Japyassú and Laland's (2017) recent essay 'Extended Spider Cognition', which makes the claim that a spider's cognitive ability ought not be conceived as restricted to its central nervous system (CNS). Instead, this central cognition view, wherein cognitive processing is seen as located entirely in the CNS, is replaced with the extended cognition view, which sees cognition as coupled with modes of peripheral processing that extend into the organism's environment, and specifically into the tools and artefacts the organism constructs for its own perceptual betterment. The spider web, on this view, is a participant in the spider's cognitive capacity.

As Japyassú and Laland note,

> The claim of the extended cognition approach would be, in the case of web building, that the use of structural connections and organization of the web as integral components of the cognitive system itself would reduce the necessity for cognitive processing within the CNS.
>
> (2017: 384)

The extended cognition approach in this way helps solve the problem of how a relatively simple CNS can coordinate complex behaviours by outsourcing to built artefacts in the environment the cognitive resources required for complex interpretation and response. As the authors note, the extended cognition view may apply to niche-constructing organisms in general:

> It may be no coincidence that some of the most cognitively sophisticated invertebrates (e.g., social bees, wasps, ants) are renowned for their niche construction (e.g., nest building). We thus have a double prediction: that miniaturization will select for extended cognition and that niche construction will facilitate the outsourcing of information processing.
>
> (Japyassú and Laland 2017: 389)

In the extended cognition view, then, the organism's developmental trajectory is seen as anticipating the use of peripheral processing tools, leading to a kind of reciprocal causation (or recursion) wherein the created artefact (the web) and the organism (the spider) continue to co-evolve over multiple generations, causing the spider's sensory systems to form alongside capacities for web spinning.

The authors here refer specifically to the 'reciprocal causation between the organism and the artifact' (Japyassú and Laland 2017: 377). The idea of reciprocal causation is central to this discussion, as it places boundaries around the notion of extended cognition. While the extended cognition view accepts that many species engage in the construction of external cognitive scaffolds, the point is not that any and all features of an environment will count as part of the organism's cognitive system. Extended cognition researchers use the mutual manipulability (MM) criterion – the idea that changes in the external entity (the web, in this case) must lead to changes in specific parts of the cognitive system and that, in return, changes in the cognitive state of the organism must influence changes in the external entity – to identify what elements of the external environment can be properly understood as playing a participant role in the organism's perceptual understanding (Japyassú and Laland 2017: 379).

In acknowledging the reciprocal causation between the spider and its web, one can, without too much difficulty, see that the web is part of the spider's media ecology, and like all media ecologies, it serves a function more profound than that of a simple trap for prey; it is not a passive background upon which the spider lives. More accurately, the web functions as an extended cognitive-perceptual system capable of enhancing specific sensory details for the spider. In other words, the web modulates the spider's attentional system, making it more attentive to different kinds of stimuli. From this perspective, the whole media ecological system, rather than the encapsulated organism alone, is both the unit of evolutionary selection and the minimum necessary condition for understanding how a spider apprehends its environment.

Importantly, the level of attentional modulation achieved via the spider's coupling with its web is not activated by a simple mechanical trigger. Instead, the web is constructed in different sections, each one geared towards enabling awareness of certain kinds of events (i.e. the web enhances types of interpretation). 'In this manner', write Japyassú and Laland,

> spiders are able to tune the overall attentional system extended through the web to become more sensitive to distinct kinds of stimuli. In this

> sense, web threads cannot be understood as passive transmitters, or even passive filters of vibratory information. Thread properties are adjustable and thus can process the same information in different and adaptive ways.
>
> (2017: 381)

The spider is thus able to enhance its cognitive situation by linking itself with its own perception-enhancing artefact.

Again, the web is in this sense more than a simple trap or nest. It is a navigation tool that the spider uses to sense its surroundings more deeply. The spider uses its web to scaffold its own understanding of the environment and to discern more specific meanings from it. For example, different types of thread laid down in different patterns are used to modulate different types of signal transmission (e.g. for detecting small or large prey, or for identifying an approaching mate). Further, signal transmission is modulated by the spider's tensing and releasing of nearby threads, allowing it to monitor and perceive actions from a distance.

The spider constructs its web in part simply by laying down one thread at a time, using previously laid thread as a cue for the next piece of web to lay down, but it also modulates its web spinning and construction by drawing on memory of previous webs and in terms of the purpose for that section of web, making unique decisions as it goes. On this point, Japyassú and Laland write,

> while walking on previously laid lines, spiders do not solely respond automatically to stimuli, but also rely on memory and attention […] the spider must decide where to fix its current thread based on memories about previous decisions in the web-building process.
>
> (2017: 382)

The spider with its web is thus able to achieve access to its world in a more complex way than it would with its own internally located CNS alone. In taking all these details into account, it becomes arguable that Japyassú and Laland (2017) are engaged in a media ecology study of the spider and its web – of the way the web extends and transforms the spider's perceptual space. This is a multispecies approach to media ecology that explores how an organism modifies itself and its environment through the construction of awareness-enhancing artefacts and niches. From the perspective of a multispecies media ecology, one can see that the spider's situation is similar to our own human situation in that we also construct architectural environments to modulate our own perceptual capacities.

Media ecology and practice as first philosophy

What does media ecology uncover when turned towards the practice of philosophy? Its first comment would be to see philosophy as composed of a series of actions executed within built environments or contexts, using a set of unique navigation tools that modify the efforts of the practitioner. The media ecology view of philosophy complements Sloterdijk's (2013) claim that first philosophy is not metaphysics, aesthetics, ethics or epistemology, but rather practice or training (*askēsis*) in the direction of self-transformation. Sloterdijk's practice-centred view of philosophy is shared by other philosophers, including Hadot (2004) and McGhee (2000), both of whom give *askēsis* a central role in the course of philosophical training and development.

'From this perspective', Hadot writes, 'we can define philosophical discourse as a spiritual exercise – in other words, as a practice intended to carry out a radical change in our being' (2004: 176). Stated differently, philosophy for Hadot is a meditative discourse, 'a kind of dialogue which philosophers carry out with themselves' (2004: 179). The spiritual and philosophical exercises included in the work of *askēsis* are most broadly understood for Hadot as any 'voluntary, personal practices intended to cause a transformation of the self' (2004: 180). Hadot notes a variety of practices that exemplify kinds of *askēsis*, including habits related to diet, fasting, sleep and physical exercise (2004: 189), but he also identifies contemplative exercises, such as examinations of consciousness, perceptual representations and dreams (2004: 199), as kinds of *askēsis*.

Hadot points to the 'reciprocal causality' between the theoretical understanding suggested by a philosophical world-view and the practices or choices of life that it implies (2004: 175). At the root of these practices is an initial *askēsis* of self-awareness (or what he calls 'self-duplication'), an exercise wherein attention is redirected upon itself in a practice of sensing *that* one senses. In turn, this separation of the 'I' from immediate sensation yields a greater freedom from the ongoing flow of thoughts, feelings and representations that characterize first-person experience (2004: 191–93). On this view, *askēsis* often involves a doubling back of perception upon itself. Hadot writes, 'Spiritual exercises almost always correspond to the movement by which the "I" concentrates itself upon itself and discovers that it is not what it had thought. It ceases to be conflated with the objects to which it had become attached' (2004: 190).

McGhee (2000) also sees philosophy as rooted in *askēsis*, an activity or practice necessary for training up the ability to understand the ordering behind the moment-to-moment construction of experience (2000: 10). McGhee describes *askēsis* as 'a certain quality of receptive attention that needs to be cultivated first' (2000: 10) and suggests that its practice may form 'the interior conditions upon which doing philosophy may turn out to depend' (2000: 11). In reading first philosophy as a practice of cultivating specific modes of receptive attention, McGhee's understanding of philosophical practice is close to Hadot's. McGhee writes, 'The task of the philosopher is to capture the structured movements of mind and action, coiled up unseen in particular thoughts and particular actions, but unfolding and flickeringly displayed by the power of the imagination in aesthetic experience' (2000: 5).

Important for our discussion of philosophy, media ecology and extended cognition are the close parallel Hadot (2004) sees between philosophical and athletic exercises, a parallel that Sloterdijk (2013) also observes in his work. On this topic, Hadot writes,

> The notion of philosophical exercises has its roots in the ideal of athleticism and in the habitual practice of physical culture typical of the gymnasia. Just as the athlete gave new strength and form to his body by means of repeated bodily exercises, so the philosopher developed his strength of soul by means of philosophical exercises, and transformed himself.
>
> (2004: 189)

The idea that physical practice regimes require suitably designed training environments – gymnasia, weight rooms, yoga studios and so on – is plain

enough to see. However, the question of what a philosophical training environment looks like is a more subtle question, at least when the idea of *askēsis* as first philosophy is hidden from view. It is precisely around this question of philosophical practice spaces where Sloterdijk (2013) emerges as a helpful media ecologist of philosophy and where our spider companions re-emerge as parallel examples of how contemplative spaces interface with the subtle performances of philosophical understanding.

In this analogy, what plays the role of the spider's web for the philosopher? In other words, what artefacts and practices are available to the philosopher that enable him or her to go beyond the limitations of the isolated human CNS? Answering this question reveals how Sloterdijk brings into relief the media ecology of philosophical training. In particular, Sloterdijk speaks of constructing 'new circumstances of practice' (2013: 323) – in other words, new media environments – that can serve as practice-amplification zones for the training of philosophical ability. What do these practice zones look like? How do they modulate our attentional and perceptual systems of understanding?

In this context, Sloterdijk (2012) speaks of specific spaces as externalized forms of *epoché* (suspension). For example, of Plato's academy, Sloterdijk writes,

> Plato was concerned to provide appropriate accommodation for persons in the precarious state of complete devotion to their thoughts. The original Academy was dedicated to nothing other than innovation in spatial creation. […] The Academy is the architectural equivalent of what Husserl apostrophized as *epoché* – a building for shutting out the world and bracketing in concern, an asylum for the mysterious guests we call ideas and theorems. In today's parlance, we would call it a retreat or a hideaway.
>
> (2012: 32–33, original emphasis)

As Sloterdijk himself notes, the details surrounding the creation of Plato's Academy (the founding of which Sloterdijk dates to 387 BCE) are 'unreliable' (2013: 33). However, Sloterdijk is more intent on establishing the purpose of the Academy as a kind scaffolding for contemplative ability – one could say he reads back into history a media ecology understanding of Plato's school – than he is with giving a detailed history of the Academy and its founders. Instead, Sloterdijk positions the Academy as a material *epoché* facilitated by architectural media ecologies such as retreats, monasteries and libraries. On this view, the philosopher is the person who trains in these contemplative practice zones, using them as navigation tools for increasing signal transmission and for attuning to new senses of self and world, expressed as transformations in the cognitive and perceptual capacities of the individual achieved through *askēsis* and *epoché*.

It is instructive here to note that McGhee also picks up on the theme of suspension when he writes, 'We need to learn how to *suspend* thought, and then to see what emerges out of this silence' (2000: 20, original emphasis). The theme of suspension connects Sloterdijk's (2013) emphasis on *epoché* with Hadot's (2004) reading of *askēsis* as a kind of separation of the 'I' from the stream of immediate feelings and representations and with McGhee's (2000) sense of a suspension within thought that allows for reflection upon the ordering of one's own in-the-moment experience. This emphasis on practices of suspension, or *epoché*, in turn yield insight into the design of environments that would facilitate such manoeuvres in thinking, feeling and acting.

In successful circumstances, these environments allow for navigation through conceptual and perceptual spaces otherwise inaccessible without the proper training. As McGhee echoes, 'It is the task of the philosopher to bring to mind what is normally concealed from view' (2000: 105), where 'the task of philosophy is to illuminate sense, lighting up, perhaps, the *field* of sense, the filaments of connection and disconnection' (2000: 105, original emphasis). Along these lines, Sloterdijk (2013) will speak of 'the connection between effort and self-experience' (2013: 285), a Stoic approach to living that is in part made possible by the meditative training camps of the philosophical life, wherein existence is shaped through practice.

Thus, in the same way, the spider tunes and styles its web for specific purposes; the aesthetics of contemplative spaces modulate the philosopher's cognitive faculties, amplifying attention, permitting sustained practice and repetition, and affording insights that an isolated cognitive system likely would not achieve on its own. A media ecology is in this sense an ecology of facilitation, an affordance space, to use Gibson's (2015) term, that encourages certain kinds of cognitive modulation and training. Sloterdijk's architectural *epoché*, for example, aims at the production of spaces designed for suspending the mundane and promoting the practising life, a place for practising the suspension of thought and the *askēsis* of examination that are so central to Hadot's and McGhee's accounts of philosophical practice.

The aesthetics of contemplative space, on this view, serve more than a merely cosmetic role. The attention to detail in design supports the efforts of philosophers as they attempt to tune their attention to the metacognitive concerns of epistemology, ontology, aesthetics and so on. Philosophy in this sense always issues from within different ecosystems of activity, from within different practice landscapes and basecamps, to use Sloterdijk's (2013) terms. We ought then to think of these spaces as training grounds for physical transformation, as gymnasiums for contemplative exercise that are aided by unique tools and practices, such as reading and writing.

A book, on this view, is more like a navigation tool that scaffolds and extends in certain ways our cognitive-perceptual system than it is a store of information available for download into a mental database, as in a computer. Noë's (2015) work is again instructional on this point. For Noë, writing is not merely a way of mirroring or representing speech or thought – though it can do both – rather, writing on this view is a way of putting thought and speech on display for investigation. 'We do not write to record language', Noë notes, 'like language itself, writing is to think with' (2015: 40). In other words, we use works of writing as scaffolding for our own ability to put on display a set of implicit processes that would otherwise evade our investigation. A written work, then, functions primarily as a re-organizer of our system of understanding and perception; the work re-organizes our organization, to use Noë's language.

The idea is that the book is to us like the spider's web is to it; it is a tool for navigation, a perception-enhancing artefact, an antenna array for capturing new signal transmissions; it tunes the perceptual system to new environmental details, modulating our sense of space and time by affording fresh ways of arranging our perception, making the world available in a new way. Just as a web is geared towards modulating specific transmissions, so a book should be thought of as a set of intricate affordance chains that we call sentences, each one stylized and laid down to extend our perceptual system. To understand a written work is to participate in the transformation it makes possible, to place oneself at the centre of a new navigation array.

Conclusion

My point in this article has been that acts of philosophical practice are best understood as modes of extended action executed and amplified amidst larger media ecologies that afford the *bio theoretikos*. In this definition, we see a close affinity between the life of the spider and the life of the philosopher, as both are engaged in the construction of media ecologies that facilitate better navigation and understanding of self and world. If one accepts Sloterdijk's (2013) argument that practice is first philosophy, then it follows one should be attentive to the affordances and media ecologies that create the scaffolds and aesthetic amplifications of the philosophical life. In doing so, media ecology may aid us in creating better circumstances of practice.

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