

# A Theory of Natural Culture and Cultural Nature

On reading Nathan Lyons' *Signs in the Dust*

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**ABSTRACT:** This essay offers an extended, reasoned walk-through Nathan Lyons' path-breaking text, *Signs in the Dust*. Every so often, a book comes about that manages to show how a variety of philosophical paths, hitherto regarded as separate, are converging on a common terrain. The value of such texts is to *name* this common terrain, and to go beyond mere *juxtaposition* of different philosophical trajectories, actually to disclose the deeper affinity that makes them *belong together* in a coherent whole. This is what this book manages to accomplish: by showing the rich tapestry of inquiries converging around the nature/culture relationship, it successfully retrieves the medieval conversation on natural culture and cultural nature.

## I. Introduction

Why devote a whole essay to just one book, all the more so by a contemporary author? My short answer is that what Lyons accomplishes in his text, *Signs in the Dust*,<sup>1</sup> is nothing less than to make visible an entire field of inquiry via the retrieval of a conversation on natural culture and cultural nature

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<sup>1</sup> Lyons 2019: *Signs in the Dust: A Theory of Natural Culture and Cultural Nature* (hereinafter *Signs in the Dust*).

amongst key medieval authors (as an alternative to the modern approach of, *first*, positing a separation between Nature and Culture and *subsequently* seeking to unite these polar opposites).

His key to doing so, as he explains in the opening of the book, is by daring mobility over the terrain of *meaning*: one that modernity has irremediably fractured into *meaningful* culture and *unmeaning* nature. In order to do so, he begins by reclaiming “breadth,” based on John Poinso’s point that *all forms of cultural expression presuppose sign activity*. Next, he reclaims “height” by locating the origin of semiotic activity in the Trinity, a point he supports using Aquinas. Third, he establishes the mutual implication between these two dimensions of sign activity by revisiting the thought of Nicholas of Cusa. Finally, he goes for “depth” by observing that sign activity, or *semiosis*, is not the exclusive province of human cultural production, but extends both (i) to the processes of biological differentiation and (ii) even to inanimate matter—joining and extending Deely’s account of physiosemiosis.<sup>2</sup>

The title of Lyons’ monograph, *Signs in the Dust*, is a play on words on the book of Genesis, where Adam is told “dust thou art and unto dust thou shalt return.”<sup>3</sup> *Materiality*, symbolized by dust and identified with unmeaning nature, is often placed in opposition to *meaning*, which supposedly belongs to the province of culture. This dichotomy between nature and culture is what Lyons goes after, by trying to articulate “an account of cultural meaning that is at home in natural materiality.”<sup>4</sup> His argument is based, in Part 1 of the monograph, on reclaiming the “breadth” and “height” of sign activity through engaging with premodern sources, namely a friar (John Poinso), a saint (Thomas Aquinas), and a mystic (Nicholas of Cusa), all of whom belong to the Latin semiotic tradition that John Deely has so capably retrieved in the course

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<sup>2</sup> Deely 2014: “Physiosemiosis as an Influence of Signs.” *Chinese Semiotic Studies* 158(1–4): 375–407.

<sup>3</sup> Genesis 3:19, *The Catholic Study Bible*.

<sup>4</sup> Lyons 2019: *Signs in the Dust*, 3.

of his career.<sup>5</sup> In Part 2, instead, Lyons engages with the “depth” dimension of sign activity, by locating it both in processes of biological differentiation and even in inorganic matter. The two parts of his monograph ultimately cohere into an idea he states rather straightforwardly at the end of the introduction: “if culture is constituted by signs, and signs are in play through all of nature, then we can say that culture is natural and nature is cultural, through and through.”<sup>6</sup>

As I mentioned in the opening paragraph, one of the remarkable features of Lyons’ book—its breadth of scope—stands out already from the introduction. There, he undertakes to map the existing terrain and proposes a distinction between two extant approaches to the nature-culture question: one anthropological (focused on relating the “natural” conditions that bear on the life of human communities to corresponding “cultural” constructs) and the other biological (focused on revealing a deeper evolutionary continuity between pre-human nature and human culture). The pages in which Lyons introduces such a distinction are largely occupied by footnotes, in which a staggering variety of currents meet. For example, Lyons locates within the “anthropological” approach such currents as landscape studies, semiotics (yes, Deely makes a cameo appearance here too),<sup>7</sup> literary theory, environmental humanities, and even new materialism. Conversely, he places in the “biological” strand such authors as Deacon and Ingold (both working in the broad field of anthropology). The footnotes in these introductory pages are worth perusing, for the sheer variety of scholarship they bring together and for Lyons’ capacity to see order—by intuiting similarities and noticing differences across scholarly languages and philosophical positions—in what might just as easily appear a philosophical Babel to the untrained eye. At the same time, the distinction between anthropological and biological entry points to the nature-culture question is not meant to draw sharp opposition; in fact Lyons is quick to point

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<sup>5</sup> Deely 2001: *Four Ages of Understanding*.

<sup>6</sup> Lyons 2019: *Signs in the Dust*, 9.

<sup>7</sup> Deely 2011: *Purely Objective Reality*.

out examples that seem to adopt both entry points at the same time.<sup>8</sup> Finally, towards the end of the introduction, Lyons connects his interest in overcoming sharp nature-culture oppositions to a growing awareness of the present ecological crisis: in many ways, the latter stems precisely from seeing nature as an inert backdrop and sink for human activities, contrary to what a notion such as the “Anthropocene” might suggest instead, namely an epoch in which human activity has become a geological force capable of affecting the course of “nature.”<sup>9</sup>

## 2. Culture as Participation in Divine Art: A Retrieval of the Medieval Outlook

In the first part of the monograph, Lyons focuses on sign activity as an entry point for retrieving the medieval outlook. “On Earth as it is in Heaven” implied, to our medieval forebears, the notion of a cosmos whose order could reveal, by analogy, the very harmony of divine life. This is why Lyons devotes two whole chapters (c.2, “Word” and c.3, “Art”) to a discussion of whether sign activity is simply the communicative strategy of finite creatures or whether it is to be found—at a higher level of perfection—in the Christian Trinity. While these chapters will interest primarily scholars committed to philosophizing in the Christian tradition, they hold deeper historical value for all scholars, since they manage—successfully, in this reader’s view—to offer an intelligible account of sign activity as the perfection of a Godhead who is self-sharing, meaning “whose essential life is the generation of difference that is still conceivable as communion or continuity.”<sup>10</sup> The historical value of such an account is in making intelligible, even to modern ears, a medieval cosmology in which the world is created and sustained by God in His image: not as a deterministic product but as *creative* creation.

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<sup>8</sup> Kohn 2013: *How Forests Think*.

<sup>9</sup> Crutzen 2002: “Geology of Mankind,” 23.

<sup>10</sup> Williams 1997: “Interiority and Epiphany: A Reading in New Testament Ethics,” 44.

Lyons enters his retrieval of the medieval outlook by recovering the “breadth” inherent to sign activity. What exactly might “recovering breadth” mean here? To this end, he quotes a polemic Roger Scruton who, from the pages of *The London Review of Books*, calls into question the credibility of referring to natural and cultural phenomena through one and the same prism of sign activity: “Do we suppose that a cloud signifies rain in the way that *Je m’ennuie* signifies that ‘I am bored?’”<sup>11</sup> To answer “yes” to Scruton’s question is what “recovering breadth” entails. This is precisely what John Poinso’s theory of the sign authorizes one to do. Poinso defines a sign as anything that “represents something other than itself to a knowing power.”<sup>12</sup> This simple definition is then unpacked in a series of related implications:

- signs are *relations*, that is, they are entities of a “minor kind” (“*minimam entitatem*”)<sup>13</sup> distinguished by a characteristic set of effects (that of bringing awareness of an object via a sign-vehicle to a knowing power). As such, they are not reducible to mere attributes that can be predicated of the signified object in order to describe it. In other words, they do not emanate from the object alone, but manifest whenever a connection is formed to a knowing power external to the object itself.<sup>14</sup>
- in terms of *how* they may bring an object to awareness before a knowing power, signs may be merely *formal* (psychological entities not separately perceived, but immediately “seen through”—the concept “water” being indistinguishable from the water in my glass, until the

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<sup>11</sup> Scruton 1980: “Possible Worlds and Premature Sciences,” 14.

<sup>12</sup> Poinso 1632: *TDS*, 116/10 & 216/16–25.

<sup>13</sup> *Ibid*, 88/22–23.

<sup>14</sup> This is the distinction between *relatio secundum esse* (relation as a type of entity that lies between things—e.g. “head” signified by a spoken utterance and understood by another) and *relatio secundum dici* (the thing itself expressed in terms of its relatedness—e.g. the “head” in its implicit relatedness to the neck).

- connection somehow breaks down, e.g. the “water” in my glass starts to smell like white vinegar)<sup>15</sup> or *instrumental* (sensible things that get noticed separately from the thing signified, like smoke as a sign of fire);
- in terms of their relationship to the *object* they signify, signs may be *natural* (emanating from the object itself, like the smell of a cooked meal), *stipulative* (their relation to the object originating in an arbitrary human convention—“US dollar” being the name of the fiat currency in use in the US) or *customary* (based, remotely, in a free choice, which eventually recedes into custom via repetition; this makes customary signs potentially a very broad category—consider for instance how often the etymology of words reveals a connection between things’ names and their habitual uses).<sup>16</sup> For Lyons, Poinso’s notion of the customary sign helps account for the way in which cultural stipulations may become “second nature,” offering an argument for the mutual constitution of nature and culture that runs contrary to Saussurean “semiology,” which reduces all culture to arbitrary stipulation.<sup>17</sup>

Considering these implications together makes for a very broad scope of sign activity: “The breadth of the Poinso’s sign means that it applies as much to natural as to cultural phenomena, and to things as much as to thoughts.”<sup>18</sup>

Having established such a broad notion of what a “sign” is, Lyons goes on to show *how it works in human cognition*, always in keeping with Poinso’s account. Here, it is useful to situate Poinso’s account in Aristotelian-

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<sup>15</sup> Lyons distinguishes here between Poinso’s position and Augustine’s, who never considered the inner mental word as a sign akin to the uttered word.

<sup>16</sup> The lines between natural, stipulative, and customary signs may not be as clear-cut as Poinso’s categorization seems to suggest—these being more coexisting dimensions in every sign, see, e.g., Murphy 1991: “Nature, custom, and stipulation in the semiotic of John Poinso,” 57.

<sup>17</sup> Lyons 2019: *Signs in the Dust*, 32fn53.

<sup>18</sup> Lyons 2019: *Signs in the Dust*, 18.

Thomistic “faculty psychology”: a picture of human nature that departs both from the materialistic reductionism of neuroscience and the Freudian dichotomy of consciousness versus the unconscious. In their stead, faculty psychology posits a nested hierarchy of activities (sensation, perception and intellection) that the human person engages in, in response to the world.<sup>19</sup> The “nested hierarchy” aspect of Aristotelian-Thomistic psychology is important to show how signs, in Poinso’s account, can be both culturally constructed *and* still point to the things themselves, thereby remaining consistent with philosophical realism (*contra* Kant).<sup>20</sup> When a human person “understands” some thing, what this really means, for Poinso, is that it has developed a “concept” (one may think of it as a “mental word” and, hence, a sign) that is able to disclose that thing to the intellect. One may think, here, of the famous example of a deaf-mute Helen Keller suddenly realizing the meaning of the word “water”:<sup>21</sup>

Suddenly I felt a misty consciousness as of something forgotten—a thrill of returning thought; and somehow the mystery of language was revealed to me. I knew then that w-a-t-e-r meant the wonderful cool something that was flowing over my hand. The living word awakened my soul, gave it light, hope, set it free!

Because language can refer both to things themselves as well as to other signs, human beings are also able to look upon their sign activity *reflexively*.<sup>22</sup> It follows that one of the distinctive capacities of humans is not simply to be directed *by* signs towards objects, but to *make* those signs a distinct object of inquiry, which in turn enables properly “human” understanding as the *ongoing*

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<sup>19</sup> See Brennan 1941: *Thomistic Psychology: A Philosophic Analysis of the Nature of Man*. In fairness, the Aristotelian roots of this tripartite view of psychology are also mentioned, albeit in passing, by Lyons 2019: *Signs in the Dust*, 23fn32.

<sup>20</sup> Lyons 2019: *Signs in the Dust*, 25.

<sup>21</sup> Keller 1903: *The Story of My Life*, c.4.

<sup>22</sup> Lyons 2019: *Signs in the Dust*, 26.

reflexive adjustment of the intellect to the world (*adaequatio rei et intellectus*). Last, but not least, Lyons reiterates an interpretation of Poinot, which this reviewer has met at greater length in Kemple's work.<sup>23</sup> Namely: the kind of entity that a relation is (*relation secundum esse*) is broad enough to encompass *both* arrangements of a physical sort between objects (*ens reale*), e.g. a hoofprint pressed in the mud by a deer; as well as culturally-constructed ones (*ens rationis*), like the stipulation that "chair" be the English word attached to a particular kind of object. All this distinction implies is that the relation from which a "sign-vehicle" originates may, or may not, endure outside of a culturally-constructed context. However, as far as their ability to function as "signs" is concerned (i.e. to specify a knowing power so as to orient it towards an object), both kinds of sign-vehicles will be equivalent—the distinction between the "natural" and the "culturally-constructed" grounds of signification is, if anything, a later product of second-order inquiry into signs themselves,<sup>24</sup> and not already there in the apprehension of being "as first known".<sup>25</sup> The consequence of this equivalence is that Poinot's theory of the sign is able to encompass more than just *linguistic* signification, but also the *corporeal relations* that the human body entertains with its surroundings. In sum, "*culture*" for Poinot coincides with sign-mediated activity, and sign-mediated activity extends into every conceivable dimension of the human world.

In the second chapter, Lyons focuses on the other dimension he had anticipated at the start, namely: theological "height." Through a close reading of Aquinas, Lyons argues that sign activity can be a viable analogy for the Trinity, as a Godhead marked by "multiplicity-in-unity." The chapter's

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<sup>23</sup> Kemple 2017: *Ens Primum Cognitum in Thomas Aquinas and the Tradition*, 327.

<sup>24</sup> Ibid: "the realization of relation's proper nature occurs only in a scientifically-philosophical understanding, wherein one has engaged in conscientious reflection upon concepts themselves."

<sup>25</sup> Ibid, 326: "This sameness-in-kind of the intellectual acts involved is due to the all-embracing foundational unity of *ens primum cognitum*."



structure essentially follows a series of objections (and their attendant sub-objections) against carrying the semiotic analogy over to God's own being. I will review each objection and Lyons' response briefly below.

The first objection, which originates in the work of John Poinsett, is this: sign activity does not belong to the realm of divine life, it being an exclusive property of creaturely—and therefore limited—existence. This objection implies a series of attendant ones, which Lyons engages in turn by drawing from various places in Aquinas' writings, mainly the *Summa* and *De veritate*:

- Objection 1a (raised by Augustine): shouldn't signs be necessarily corporeal? In response, Lyons notices that while Aquinas often sticks to the notion of signs as corporeal, which he takes from the Christian philosophical tradition, he also holds a more general notion of sign as "a movement from known to unknown,"<sup>26</sup> which is obviously large enough to include all manner of conceivable incorporeal signs (e.g. the passions of the soul or the knowledge of angels).
- Objection 1b (discussed by Aquinas): can something predicated in its primary sense of material things be properly predicated of God? Aquinas deals with this objection by arguing that the doubt posed by the question does not actually apply to signs. This is because an inner word that gives rise to an external utterance is in a sense prior, since it is the latter's semiotic cause (it both gives it meaning and brings it into being). It follows that the quality of being a "sign" is more properly predicated of the (invisible) cause than of its (visible) effect, implying that sign activity does not have as its primary reference material effects—and it can therefore be properly predicated of God.
- Objection 1c (discussed by Aquinas): can there be a word *in God*? Aquinas answers that this is in fact the case: God's Word is the Son, who signifies the Father himself.

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<sup>26</sup> Lyons 2019: *Signs in the Dust*, 41.

- Objection 1d (discussed by Aquinas): even if a sign signifies something, it might not of necessity share in the same *substance* as that which it signifies. This would discard the possibility of sign-mediated communication intervening in divine life, should it imply different substances. Aquinas' rebuttal clarifies that the Son is in fact an *image* of the Father's *substance*—a type of sign that is consubstantial with the signified.
- Objection 1e (Poinsoot): Assuming a sign ought always to be “inferior” to the thing signified, how could the divine word be a “sign” of creation, rather than creation being a sign of God? Aquinas' response here works best through an analogy: like a book is a sign of things to be done, similarly, God's Word can be a sign of all the creatures it begets.

Having addressed the foregoing objections, Lyons then concludes that there is enough support in Aquinas' writings to argue that sign activity is not an exclusive province of human life.

The second main objection is one that Aquinas raises himself, through his preferred format of the *quaestio disputata*: if signs can only be signs of what they are not, implying “a sense of contrariety” between a sign-vehicle and its object, would this not introduce a cleavage in the Godhead? Lyons suggests that it is the relational character of sign activity, over which Aquinas and Poinsoot agree, that helps avoid this conundrum. The Trinity admits of *differentiation through relation*, as the Father, Son, and Holy Spirit are distinguished precisely by how they are related through filiation, paternity, and spiration. If differentiation by relation is compatible as such with Trinitarian life, then semiotic activity—being nothing more than an instance of relational differentiation—would not contradict the unity and simplicity of the Trinity. Related to this second area of questioning is the following sub-objection:

- Objection 2a (by Poinsoot): signs always imply a *distinction* between the sign-vehicle and the signified, which would disclaim the possibility of the Word being identified with the divine essence. Lyons responds to

this once again by going back to Aquinas and suggesting that the only distinction that sign activity implies is a distinction of *relation*, which—as seen—is not incompatible with the Trinity.<sup>27</sup>

The third main objection takes its cue from the most un-medieval Jacques Derrida, asking whether signs aren't *by definition* a mark of the Fall, in the sense that it would not belong to an infinite God to communicate through finite signs. Here, Lyons goes back to his reading of Aquinas to argue that there is another plausible reading of sign activity as something not primarily predicated of created things, but “a perfection in which all things *participate* (like goodness, beauty, or wisdom).”<sup>28</sup>

The main conclusion Lyons draws from this chapter is twofold. First, rather than sign activity being an extension *to* God of a creaturely mode of communication, it ought more properly to be regarded as *a property of divine life into which creatures may enjoy finite participation*. Second, if divine nature is identical to sign activity in the Trinity (relating together “signified origin, expressed sign, and eternal interpretation”<sup>29</sup>), and given that sign activity embraces all forms that cultural activity may possibly take (as established in c.1, “Sign”); then this implies that divine *nature* is also a *culture*: “in God the being of nature and the signification of culture are one.”<sup>30</sup>

Chapter 3 (“Art”) is Lyon’s attempt to weave together the consequences of the previous two. A key to this chapter may be found in a comment Lyons

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<sup>27</sup> At the same time, Lyons specifies that any predication of sign activity to the Trinity can only be done analogically, i.e. with the caveat that it provides simply one more way of imagining what “an eternal, non-discursive ‘movement’ of semiosis might be”. See Lyons 2019: *Signs in the Dust*, 55.

<sup>28</sup> Ibid, 58.

<sup>29</sup> Ibid, 60.

<sup>30</sup> Ibid, 61.

quotes from Catherine Pickstock,<sup>31</sup> who suggests that, on the one hand, Poinsoot lacked the notion of *participation* (even if he has to offer a well-developed theory of cultural development through signs). On the other hand, Aquinas lacks a theory of the *historical development* of culture (despite a concept of sign activity as a divine perfection in which human life is able to partake). As such, the semiotic “breadth” of Poinsoot and the theological “height” of Aquinas need to somehow be brought into contact. This is precisely what the third chapter is for.

Lyons begins the chapter by remarking certain points of contact between the fifteenth-century German mystic, Nicholas of Cusa, and John Poinsoot: the extension of sign activity beyond merely corporeal signs to include the “inner word,” as well as a realist view of sign activity as a “bridge” through which cognition-independent being may approach a knowing power, and so be known by the latter. Where Nicholas of Cusa goes further than Poinsoot is in the idea of sign activity as a *recursive process* by which some “thing” may be signified and re-signified, engendering in this way a richer appreciation of the thing signified. Lyons describes this as the “cumulative attainment of knowledge through signs.”<sup>32</sup> At the same time, in keeping with Aquinas, who considers the divine Word a *sign* of the creatures it brings forth, Nicholas of Cusa posits a “perfect name” for each thing—which only God possesses—and which human efforts at signification strive to approach. Cusa goes further than merely to say that human sign activity “approaches” the perfection of God’s knowledge of things. Decisively, he adds that the human mind is not only *receptive*, but it is also *creative*: it is able to generate “conjectures” (*entia rationis*) by which it gives form to the world, thereby participating in God’s infinite possibility. Nicholas of Cusa extends further this capacity for human creativity, beyond the generation

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<sup>31</sup> Pickstock 2005: “Epochs of Modernity,” 77–8.

<sup>32</sup> Lyons 2019: *Signs in the Dust*, 66. This reader noticed in this a resonance with Peirce’s notion of truth as an asymptote on which converge the iterative efforts at signification undertaken in a community of inquirers.

of *entia rationis* (conjectures), but also to the making of *artifacts*. In Lyons' intuitive rendition: "We participate in the divine Art not only when we construct ideas but also when we construct surfboards, violins, iPads."<sup>33</sup> Lyons adds that what the fifteenth-century mystic is doing here is to show (i) that signification has both a *receptive* and a *creative* prong, (ii) that it can take the form of *linguistic* signification but also of *material* production and, finally, (iii) that both these activities are instances of *participation* in acts that have their ultimate perfection in God.<sup>34</sup> Indeed, one finds in Nicholas of Cusa a notion of the Trinity as a "perfectly cultural nature, a nature which is identical with its infinitely expressive, semiotic art."<sup>35</sup> Human nature shares in this same artfulness—to a finite degree—as one of its defining attributes: it is indeed "natural" for human beings to be semiotically (therefore "culturally") creative. Human knowing, Lyons concludes, cannot simply be construed as a Platonic "downloading" of perfect forms, but is rather an ascending parable—a *diagonal*—of finite human participation in properly divine modes of semiotic creativity. On this combination of vertical ascension and horizontal breadth, Lyons concludes Part I of the monograph, and continues in Part II to "read," this time into the biological order, the "cultural" activity of semiosis that he has thus far predicated of human nature alone.

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<sup>33</sup> Ibid, 73.

<sup>34</sup> This reviewer was struck by the possible resonance between (i) Marshall McLuhan's theory of media as *extensions* of the human sensorium that foreground certain aspects of reality (while backgrounding others) and (ii) Lyons' reading of Nicholas of Cusa as stressing a representational and creative side to sign activity *embedded* in linguistic constructs and material artifacts. See McLuhan and McLuhan 1992: *Laws of Media*; Lyons 2019: *Signs in the Dust*, 76.

<sup>35</sup> Lyons 2019: *Signs in the Dust*, 77.

### 3. Nature: Biosemiosis, Evolution, Pattern, and Dust

[I]nterpretants can be other utterances, changes in attention, reactions, instruments, and heeding and wielding actions. Very few of these interpretants are “in the minds” of the interpreters, yet all of these semiotic processes embody properties normally associated with mental entities: attention, desire, purpose, propositionality, thoughts, and goals, Very few of these signs are addressed to the interpreters (in the sense of purposely expressed for the sake of their interpretants), and therefore most semiotic processes (such as wielding an instrument) are not intentionally communicative.

—Kockelman 2007: 377.

This quote, which is found at footnote 18 in chapter 4 of Lyons’ monograph (“Biosemiosis”), holds a crucial point for being able to unpack the “depth” of sign activity with respect to the biological world beyond the human. If a sign is some thing that is able to make a knowing power aware of an object that is not the same as the sign-vehicle, then a key argument to be made concerns the nature of a “knowing power.” Lyons evokes this later in the chapter,<sup>36</sup> but such a concern informs the chapter as a whole. One of the key obstacles to recognizing sign activity as it takes place in the more-than-human world can be the over-identification of an interpretant (the Peircean term for a “knowing power” in Poinsett’s definition of the sign) with a *human* interpreter and with the human capacity for linguistic articulation of knowledge.

Much work goes, in this chapter, into the task of locating sign activity in the biological world, looking at the forms of interpretation that animals and plants *can* deploy. To this end, Lyons begins by looking at the “internal” acts of sensation and perception as forms of sign activity. Sensation entails receiving a specification in the external senses of a living being. However, it also entails “rudimentary acts of discrimination,”<sup>37</sup> e.g. the fact that stimulations received in

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<sup>36</sup> Ibid, 106.

<sup>37</sup> Ibid, 88.

one sensory mode (“proper sensibles” in Poinso’s terminology) rarely remain as isolated dots, but are sensed as disclosive of the outline of things in the organism’s environment (“common sensibles” in Poinso’s terminology). Lyons then moves on to perception, arguing that it, too, involves “interpretive assessments of environments”<sup>38</sup> relative to the biological interests of a particular being (e.g. judging some “thing” as beneficial or harmful to its life). These “interpretive assessments” can manifest as emotions (e.g. fears) or as actions (e.g. a change in direction): here Lyons relies on Kockelman’s opening quote to argue that these behavioral responses help reveal the forms of interpretation that other living beings *can* deploy, and offers these as evidence of their use of signs. Last, but not least, Lyons looks at outward communication: living beings like animals and insects also produce vocalisations, and these vocalisations are another instance of sign activity beyond the human realm.

Having affirmed as much, Lyons then distinguishes—relying explicitly on Poinso—between the “method” of sign activity (which differs between humans and other species) and its logical structure (which remains the same): for Poinso, sign activity logically occurs every time a relation is established such that a sign-vehicle “makes present” to a knowing power some object other than itself, regardless of whether the being “using” the sign holds any awareness that it is indeed using a “sign” and of the particular “method” it follows to make use of the sign. This theoretical clarification is followed by a range of captivating examples to illustrate semiosis in the biological realm:<sup>39</sup> from the dance of the honeybees; to “quorum sensing” by bacteria (whereby individual bacteria emit molecules that—having reached a certain concentration—shift the behavior of the entire colony); to the alarm calls of velvet monkeys, the whistles and clicks of dolphins, and bioluminescent signaling by sea creatures.

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<sup>38</sup> Ibid, 90.

<sup>39</sup> Lyons goes as far as to posit the extension of semiosis to extraterrestrial life, building on remarks made by Nicholas of Cusa, see *ibid.* 108–9.

The next two chapters, titled “Habit” and “Evolution,” develop further the “cultural,” sign-mediated aspect of biological life. They do so in two steps: the first chapter looks at how individual organisms might be said to engage in “cultural” production through the inscription of habits directly in their bodies; the second looks at the forms that “cultural transmission” across generations might take—with a particular focus on the Extended Evolutionary Synthesis in biology.

Chapter 5 on “Habit” is essentially an attempt to tackle the objection that would deny the presence of “cultural” activity in the more-than-human world, on grounds of the lack of comparable forms of cultural production to the human making of media.<sup>40</sup> In response, Lyons adapts Poinso’s notion of a customary sign to other forms of life beyond the human, and he does so by integrating it with Félix Ravaisson’s theory of habit formation.<sup>41</sup> Ravaisson situates habit primarily in the biological domain, and he describes it as the passage from mere *receptivity to external forces* to *spontaneity*, as the living being musters the capacity to respond to those external forces after repeated rounds of exposure. Ravaisson

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<sup>40</sup> Lyons does not cite his work, but Marshall McLuhan’s media theory offers precise ways of framing the conundrum Lyons is seeking to address at this point. Marshall McLuhan, along with his son Eric, describes media as *extensions of the senses*, which “emphasize” certain specific features of an environment (new figure) that were hitherto implicit (old ground)—in the process obsolescing older ways of perceiving the same environment (old figure) and leaving other potential features in the background of attention (new ground). This feature of media can make them both suitable to “amplify” aspects of the world that were once neglected, but it can also distort the balance of the human sensorium, inducing a sort of bias. In the limit, any medium may “overheat” when unnoticed features of the environment that have been steadily ignored give rise to unintended consequences. See McLuhan and McLuhan 1992: *Laws of Media*. If human media are, essentially, extensions of the human senses, the question one might then ask in relation to other living beings is not “what do their media look like?” (in the hope of finding something resembling human media), but “how do they extend their senses?” It appears to this reader that, albeit through a different path, Lyons eventually comes to this same question.

<sup>41</sup> Ravaisson 1838: *De l’habitude*.



finds the inorganic world unable to develop such spontaneity and, therefore, considers it to be stuck at the level of brute reception of eternal forces (a position Lyons is set to challenge in the final two chapters). Moreover, always for Ravaisson, habit is the process by which willed intentions slowly become “inclinations” that influence the material form of the body of a creature—and in so doing they inscribe those intentions into a material form.

In the remainder of the chapter, Lyons homes in on an important distinction Ravaisson employs, between *natura naturans* and *natura naturata*. In the scholastic tradition, the former referred to God (the Nature who makes nature), while the latter to creatures (created nature). These meanings shifted somewhat as Spinoza took up the distinction, in such a way that the former came to mean the *productivity* of any being as possessed of agency (in Spinoza the term would lose its earlier theistic implication), and the latter would mean nature, regarded as a product or an object. Ravaisson does not go as far as Spinoza in obliterating the notion of a transcendent God, even though he views God as primarily *sustaining* the self-perfecting powers immanent in nature (and therefore acting from *within* nature, rather than from *without*): “nature is a productive, self-naturing movement of habit that is led on by the ongoing creative act of a transcendent God, who sustains things in being and in movement from the inside.”<sup>42</sup> On Ravaisson’s account, nature appears as constantly self-perfecting through the accretion of habits into the bodily structure of each organism. Moreover, when one views habits as *inscriptions* in the material makeup of an organism, it becomes easier to see them as signs that orient the organism to some end outside itself. This remark makes it possible to integrate Ravaisson’s theory of habit with Poinso’s theory of customary signs, in such a way as to posit the presence of customary signs in the more-than-human world.<sup>43</sup> In addition, Lyons makes clear in the conclusion that what he

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<sup>42</sup> Lyons 2019: *Signs in the Dust*, 120.

<sup>43</sup> In c.4, Lyons argued, following Aquinas, that animal sounds would constitute *natural* signs, rather than customary ones. However, once one sees the bodily affordances of living

is after is not merely the argument that nature “produces” culture, but that nature is itself “cultural”: “nature is culturally shaped over evolutionary time by the semiotic habits of organisms.”<sup>44</sup>

The account of “cultural” activity in the biological realm comes to fruition in the subsequent chapter on “Evolution.” This chapter asks not just how organisms may cultivate habits *during their lifetimes*, but also how these habits might be passed *across generations*. Here, he contrasts Lamarck’s theory of habit transmission (which gave habits *primacy* over genes in inducing bodily modifications) with the Modern Synthesis that views genes as the primary locus of bodily modification through random mutation and natural selection (but which does not have a place for habits). In response to the shortcomings of either of these earlier theories, Lyons provides a useful overview of the Extended Evolutionary Synthesis (hereinafter “EES”), which essentially posits gene-culture coevolution.

Lyons focuses his account on three core themes of EES. The first is *phenotypic plasticity*: it posits the relationship between genetic inheritance and outward bodily form less as a one-to-one correspondence and more as genetic “affordance” of a *range of possible bodily expressions* in light of environmental constraints. The second core theme is *genetic accommodation*: the idea that, when bodily adaptations (resulting from phenotypic plasticity) to a new environmental constraint translate into a variable for reproductive success, the gene variants affording such adaptation will be passed on in the population.<sup>45</sup> Third is *niche construction*, whereby organisms are not mere takers of

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beings as issuing from a process of second-naturing through habit, one can also see reason in Augustine’s view that animal vocalizations might be equally construed as *conventional* rather than purely natural. In fact, both views hold a grain of truth: animal vocalizations are natural insofar as they issue from the bodily affordances of animal species. Yet, they are also cultural because they issue from a species-specific repertoire of signs that is subject to various forms of transmission, which are dealt with in c.6 (“Evolution”)—especially at pages 147–49.

<sup>44</sup> Ibid, 128.

<sup>45</sup> Ibid, 138–39.

environmental constraints, but they also *shape* their environments, thereby exercising a degree of agency in setting the conditions to which their bodies will have to adapt. These key elements of EES do show that habits can be the object of transmission between different generations of a species, even if this transmission needs for its stabilization to translate into a selection of certain genetic variants over others.

Lyons closes the chapter by revisiting Nicholas of Cusa's idea that human cultural activity isn't just representational but positively *creative*, since it brings into being *new* forms that would not have been there had it not been for the creative act. In a similar way, he argues that, together, (i) living beings' "cultural" capacities for the cultivation of habits and (ii) the different mechanisms involved in "transmission" of those habits across generations *also* bring forth forms that would not have materially arisen had it not been for the "cultural" acts of semiosis performed in the biological realm. It follows from this that more-than-human life participates in its own right in the divine creativity. God enables such creativity in its creatures by *sustaining* them from within, but does not intervene from without (say like a watchmaker with respect to a watch).<sup>46</sup>

In a subsequent chapter, "Pattern," Lyons revisits the notion that sign activity ought merely to be a property of living beings and not also of inanimate matter (thereby nuancing, in this respect, what seems to be Ravaisson's position discussed earlier). This is the issue of *physiosemissis*, which he approaches from two different angles. The first is the semiotics of John Peirce, echoed for instance in John Deely's writings on the matter.<sup>47</sup> The second is Aquinas's doctrine of "intentions in the medium."

Peirce's position can be summarized as follows: if one defines sign activity as the relation between a sign-vehicle and an object, *such that the sign-vehicle brings awareness of the object before a knowing power*, one can subsequently

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<sup>46</sup> Ibid, 251.

<sup>47</sup> See, e.g., Deely 2014: "Physiosemissis as an Influence of Signs."

distinguish between a fully-formed sign-relation and a merely potential one, in which a “virtual” signifying relationship exists between the sign-vehicle and the object—despite the sign-vehicle still being “in search of an interpretant.” On this reading, for instance, inorganic matter could be said to perform “virtual” semiosis in view of interpretations enacted by organic matter (e.g. the crack in the rock being a “sign-in-waiting” of a shelter for the probing roots of a sprouting seed or of a nesting place for a small oviparous):<sup>48</sup>

Without an interpretant we have only virtual and not actual semiosis, but this virtual semiosis is sufficient to establish the signifying relation between patterned sign and patterning signified, and because this act cannot be explained in purely efficient, dyadic terms, it counts as a semiotic phenomenon in a diminished but true sense.<sup>49</sup>

To make the presence of sign activity “hinge” on the existence of a knowing power that *realizes* the sign’s signifying potential can make sign activity particularly difficult to find in the inorganic realm: for example, this requirement can construe sign-relations as demanding what Ravaisson would describe as a degree of “spontaneity,” which goes much further than brute causality. With respect to inorganic matter, the line gets particularly thin since the latter is most visibly *shaped* by external forces through relations of efficient causality, but does not manifestly *respond* to those forces in ways that would indicate an interpretive act to have occurred. Lyons’ solution to this conundrum is to lower the threshold for what a “knowing power” might actually look like in an inorganic medium. If no “interpretive acts” akin to those observable in living beings are to be expected, it is nevertheless true that inorganic matter is able to *receive* the forms of objects that act on it. Here, to “receive” means that

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<sup>48</sup> For an example of developing Peirce’s and Deely’s theory of virtual semiosis into a theory of “nascent” semiosis see, e.g., Kemple 2019: *The Intersection of Semiotics and Phenomenology*, c.5.

<sup>49</sup> Lyons 2019: *Signs in the Dust*, 165.

inorganic matter gets *patterned* after the form of objects acting on it: “these [energy and chemical] patterns are sign-vehicles that refer to signifieds, namely the real things ... that have patterned the sign-vehicles in ways that reflect their physical form.”<sup>50</sup> Implicit in this patterning is a *reorientation* of the physical medium towards the object, whose form it has received through the *rearrangement* of its energetic and chemical structure. This reorientation, while short of a conscious act, nevertheless makes it possible to define sign activity in a basic enough form as to be able to see it at play the inorganic domain, in a way that Poinso’s “virtual” semiosis still left hanging:

Poinso’s claim that exercising signification is something ‘which inanimate things do not do’ remains true in a sense because it accurately marks the novel semiotic capacities and expressions that we see in living things. However, Aquinas’ participatory metaphysics of cognition runs deeper than these more obvious behavioral expressions of signification and recognizes a rudimentary action of semiosis even in the exchange of matter and energy among inanimate things.<sup>51</sup>

Having offered these two arguments for the presence of sign activity (albeit in rudimentary form) across the spectrum of created things, Lyons takes them as confirmation of Aquinas’ *identification of being with meaning*, in such a way that “all things are knowable because all things are made known by communicated signs.”<sup>52</sup>

Chapter 8, “Dust”, marks a change of direction. Having hitherto established the full breadth of sign activity all the way down to inanimate matter (and all the way up to the divine life of the Trinity, in which creaturely sign activity partakes to a finite degree), Lyons engages in an *extended counterfactual*

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<sup>50</sup> Ibid, 161.

<sup>51</sup> Ibid, 167.

<sup>52</sup> Ibid, 168.

*thought experiment* to understand the implications of creaturely sign activity anchored in materiality.

For this purpose, he compares human communication with medieval accounts of angelic communication. He adds that the former is necessarily “externalized” through media, whereas the latter is purely intellectual, without producing inscriptions in material media. The main implications of these differences would be the “detour through the real” and “generation.” The “detour through the real” entails that creaturely signs are inscribed in materials that undergo both decay and that may conversely yield surprises. Communication entails a form of *poiesis* that is both vulnerable to failure and interpretively open, indeed “poetic.” In contrast, angelic communication seemed, to this reader, to resemble the experience of the “*déjà vu*”: the intelligible forms of things having being provided to angels at creation as a divine gift, they do not need to be received *from* other beings but are signified in a purely intellectual manner. In this sense, human communication necessarily presupposes “true others,” in a way that mirrors the Son’s “true otherness” from the Father in the Trinity: “the Son’s possession of real being grants him a certain exteriority to the Father in virtue of the relation of generation.”<sup>53</sup>

The second implication of sign activity rooted in materiality is the experience of *generation*. While angels are not subject to corruption and therefore do not need powers of generation to endure, humans are corruptible and hence subject to the need to pass life from one generation to another. In so doing, while the permanence of angelic life becomes figural for God’s *transcendence*, the powers of generation inherent in material creaturely existence mirror the *eternal creativity* of God, whose life is a “movement of self-sharing in which difference and continuity are effected at once.”<sup>54</sup>

In the conclusion, Lyons makes a final attempt at situating his theory, both philosophically and theologically. Philosophically, he places himself at a

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<sup>53</sup> Ibid, 180.

<sup>54</sup> Ibid, 187.

distance from “soft dualisms” that imagine human culture as something that’s “added on” to brute biological nature. While he shares many of the reasons that might justify such a position (for instance, wanting to carve a space for human ethical deliberation sheltered from biological reductionisms), he also argues the following: “the soft dualist saves culture from reduction by insulating it from nature, I say a better way to save culture is by the *inflation* of nature ... we save the appearances of human culture while also recognizing that culture is metaphysically continuous with the non-human nature from which we come and of which we remain a part.”<sup>55</sup>

Last, but not least, Lyons ventures into theological ground by asking whether Christ as the Incarnate Word should be construed “semiotically,” i.e. as a “sign” of God. His answer is that, while the signified and the sign-vehicle are *normally* distinct in a sign-triad, this cannot be the case with Christ—on penalty of denying the Incarnation (which, unlike with Trinity, does not admit of relational distinctions between human and divine nature): Christ does not merely *point* to the Trinitarian life but *joins* created nature to Trinitarian life. The implication of this is that “as Christ shares in the fate of dust, dust shares in the fate of Christ,” so that his Resurrection marks the possibility that the fragmentariness of human culture might also be “re-read” and find meaning in God—the Resurrection being “the ultimate cultural act” by which “the world is worked into a renewed meaning.”<sup>56</sup>

#### 4. Conclusion

Having offered an extended and reasoned summary of Lyons’ book, I feel I have one precision to offer for aspiring readers before some closing considerations.

Throughout the book, Lyons stresses primarily the *relational* aspect of signs in Peirce’s semiotics: sign are relations. However, not all relations are signs!

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<sup>55</sup> Ibid, 201.

<sup>56</sup> Ibid, 208.

This is implicit in the notion that *both* “natural” signs (in which the relationship between an object and a sign-vehicle stems from efficient causality) and “culturally-constructed” ones (in which the relationship between object and sign-vehicle is the product of earlier rounds of sign activity) are ... just “signs” as far as their *ability to bring awareness of an object to a knowing power* is concerned. While Lyons largely presupposes that signs imply this particular type of relation throughout his monograph—and even engages the question explicitly in chapter 8 (“Pattern”) to differentiate it from mere efficient causality as he discusses physiosemiosis<sup>57</sup>—this point could be elaborated further, something I will do briefly here.

Not all relations are signs. Relations are not indifferent or reducible to the things they relate. However, such a general definition can also apply to relations in which sign activity is not at play, like relations of efficient causality:<sup>58</sup>

[W]hen the stamp is pressed into the seal, leaving a similitude of itself in the wax, the one stamping is an efficient cause (and the stamp an instrumental efficient cause), the wax is the material cause, and the retained shape the adventitious formal cause resulting in the consequent similarity. In such cases, the foundation of the relation is the acting of the agent (the one stamping), the terminus is the reception by the patient (the wax being stamped), and the relation itself—the *relativum secundum esse*—is the action (the transitive act of stamping): the action brings the one stamping and the thing stamped into a relation of efficient cause and material recipient of the effect.

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<sup>57</sup> See Lyons’ discussion of signs as the inscription of patterns in inorganic matter, where he explicitly evokes formal causality as operating *alongside* efficient causality (ibid. 159), in such a way that patterns also hold “a representational character ... [as] they disperse a representative form of the thing into the surrounding media” (ibid. 158).

<sup>58</sup> Kemple 2020: “Signs and Reality: an advocacy for semiotic realism,” 88.



What differentiates sign relations from relations of other kinds is the particular form of causality they express, namely “objective specificative causality.”<sup>59</sup>

This causality belongs to an object, which is a *res*, either *naturae* or *rationis*, precisely as it is the foundation of a relation with a cognitive faculty .... The stimulative relation is that relation whereby the object determines a faculty to receive an impression of the object as some specific *what*.

Looking at this difference through more explicitly Peircean terms, Kanzelberger nevertheless makes a similar point in an equally effective way:<sup>60</sup>

Communication ... depends upon a form of causality distinct from the efficient causality of natural agents, and distinct as well from the intrinsic structuring causality that determines physical material to be this or that kind of natural substance. In their common life, spouses act upon each other, not principally as natural agents exercising efficient causality (though they do that too), but as utterers and receivers of signs—as co-weavers of the semiotic web. Efficient causality is presupposed: mouths must move if words are to be spoken, sounds must reach the eardrums of receivers, auditory nerves must undergo stimulation and in turn cause cortical areas to be stimulated, and so forth. Physical interaction is the necessary channel thanks to which a sign-vehicle is able to affect the senses and elicit the subjective structures of percepts—this dimension is required, but is only what Peirce called the “body” of the sign.<sup>61</sup> *What makes a sign essentially such is the power to generate an interpretant—that is, to mediate an object to a being that is capable of “catching on.”*

This has a significant implication. If the relationship between a sign-vehicle and the object signified can be *both* of a naturally-constituted type (e.g. issuing from efficient causality) *and* of a culturally-constituted one (an object “as signified” may itself become the vehicle of further semiosis—e.g. after realizing

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<sup>59</sup> Ibid, 89.

<sup>60</sup> Kanzelberger 2020: “Reality and the Meaning of Evil,” 161fn15 (italics added).

<sup>61</sup> Peirce 1908: “A Neglected Argument for the Reality of God,” 435

that a chair is called “chair” one may simply go on to *use* the word “chair” to speak of arrangements of which the chair forms a part);<sup>62</sup> nevertheless a sign relationship is one in which objective specificative causality is at play. This always demands a *knowing power* of some sort as the terminus that the sign-vehicle makes aware of the object. From this follows the necessary presence of a cognition-dependent prong to all sign relations,<sup>63</sup> such that a sign-vehicle issues into a sign whenever it generates an interpretant, as Kanzelberger aptly puts it in the previous quote. From this it follows that:<sup>64</sup>

[O]ur understanding of *entia naturae* and *entia rationis* is continuous, complex, and potentially complementary. The *entia naturae* remain always primary, for their possession of existence independent of cognition marks a far greater actuality; yet the attendant *entia rationis*, though entirely dependent upon cognition for their existence, may enter into the suprasubjective cognition-dependent realm we call culture.

This precision adds clarity, this reader feels, to the way in which Lyons sometimes seems to use “sign” and “relation” in ways that might suggest

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<sup>62</sup> The fact that the products of already-accomplished semioses may be re-used as sign-vehicles for further acts of signification is what makes them work as “media” in McLuhan’s sense: as “prosthetic devices” that extend the human sensorium in order to distinguish and attune to particular aspects of the surrounding world but also, potentially, as sources of error when the original relationship between an object and the sign-vehicle, and by which the former is known, breaks down—like when a chair stops being a chair good for seating use after one of the legs cracks. See Morrissey 2014: “Analogy and the Semiotic Animal.”

<sup>63</sup> Lyons seems to criticize this, in passing, as a nominalist position (Lyons 2019: *Signs in the Dust*, 165). However, both the solutions he proposes to the problem of physiosemosis posit a “knowing power” of some sort for semiosis to obtain (this also applies to Aquinas’ theory of “intentions in the medium,” which is based on a re-definition of what a cognitive power is). Perhaps, in this passage Lyons is merely distancing sign activity from dependence on a (human) interpreter, which would amount to an excessive narrowing of the meaning of “knowing power.”

<sup>64</sup> Kemple 2020: “Signs and reality: an advocacy for semiotic realism,” 91.

identity.<sup>65</sup> Showing when that is the case—i.e. when a sign amounts to a relation and when a relation does not amount to a sign—can profit readers who might otherwise confuse efficient and objective specificative causality. At the same time, none of this invalidates the fundamental underpinnings of Lyons’ theory of natural culture and cultural nature—in fact Kemple arrives at similar conclusions elsewhere precisely by paying close attention to what a “knowing power” might look like (outside of the “model” of a human mind) for the purpose of describing acts of other-than-human semiosis.<sup>66</sup>

Having made this small terminological precision, it is fruitful to look back one last time on the *tour-de-force* that this young author has undertaken in his monograph. Lyons settles for nothing less than a ladder to heaven: signs being the medium of all human cultural activity *and* the fabric of biological life (which therefore displays a “cultural” character) *and* of inorganic matter. Not content with this, Lyons also depicts sign activity as a form of participation in divine life, entailing both communication *and* creativity.

It is simply impossible not to leave this rich and demanding monograph with ears ringing from “the music of the spheres,” in the form of a renewed sense of a knowable cosmos made in the image of God and sharing in His nature. Spanning theology, philosophy, semiotics and biology, this study is vibrant, interdisciplinary by design *and* it requires genuine commitment of readers less nimble on their philosophical and theological feet than the book’s author. Nevertheless, this reader can only recommend submitting to the demands of a text of breadth almost unimaginable for a time, like ours, of narrow disciplinary expertise—a book that offers an earnest, intellectually honest attempt at making accessible to a 21<sup>st</sup> century audience the medieval sense of wonder before the cosmos.

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<sup>65</sup> See, e.g., Lyons 2019: *Signs in the Dust*, 105 (“common to each method is one metaphysical mechanism of signification by which a representing relation—a relation *secundum sees*—is established between sign, signified, and interpretant”).

<sup>66</sup> Kemple 2019: *The Intersection of Semiotics and Phenomenology*, c.5.

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