SCIENCE AND TRANSCENDENCE: WESTPHAL, DERRIDA, AND RESPONSIBILITY

by Nathan Kowalsky

Abstract. On the naive reading, "radical social constructivism" would be the result of "deconstructing" science. Science would simply be a contingent construction in accordance with social determinants. However, postmodernism does not necessarily abandon fidelity to the objects of thought. Merold Westphal's Derridean philosophy of religion emphasizes that even theology need not eliminate the transcendence of the divine other. By drawing an analogy between natural and supernatural transcendence, I argue that science is similarly called to responsibility in the encounter with that which lies outside its horizon of expectation. Science's rational autonomy is overcome by the heteronomy of realities that precede it. Understanding species as homeostatic property clusters is an example of nonessentialist, postmodern, and scientific realism. Science is still a vehicle for encountering natural alterity, thus decentering the relativism thought to characterize postmodernism. However, natural science must not attempt to place the whole of being at human disposal if it is to fulfill the potential of Westphal's philosophy of religion.

Keywords: deconstruction; Jacques Derrida; hermeneutics; heteronomy; homeostatic property clusters; metaphysics; philosophy of science; social construction; transcendence; Merold Westphal

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Whenever social construction is understood to undermine the epistemic status of science and the ontological status of the world, a reference to postmodernism is rarely far behind. And when postmodernism is interpreted as radically subjectivist or antinaturalistic, Jacques Derrida is all too easily trotted out as the worst offender in that regard. To the contrary, this paper will suggest, however modestly, that Derrida's thought can actually help sort out some of the more troubling issues concerning the social construction of science. Deconstruction does not abandon the critical Kantian project of fidelity to that which is thought. Merold Westphal's Derridean philosophy of religion emphasizes that even theology (literally, the science of God) does not necessarily eliminate the transcendence of the

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divine other. Rather, we are called to responsibility in the encounter with that which lies outside our horizon of expectation.

This paper will apply Westphal's hermeneutic to natural science by attempting a non-Spinozistic transposition from God to nature, thereby highlighting the potential for positive engagement between Westphal's Derridean philosophy and empirical science. Science at its best is a kind of nonessentialist realism, subject to play. Its rational autonomy is overcome by heteronomies that precede it, a decentering appropriate for finite beings such as ourselves. Yet, while science cannot claim to have the full intelligibility of a metaphysics of presence, neither does it deny the responsibility that results from the encounter with the singular other. It accesses beings in nature, which call us toward the relation of epistemic justice. At the same time, it remains to be seen whether science as presently constituted possesses the gift necessary for listening to natural beings as communicative in their own right, rather than attempting to place the whole of being at our disposal.

The first part of this paper will briefly survey some of the interplay between the social construction of science and postmodern philosophy. The second part will examine Westphal's philosophy of religion and Derrida's contrasting images of rabbinic and poetic interpreters. The third section will consider current work in the philosophy of biology in light of Westphal's Derridean hermeneutic before offering some tentative conclusions in the final sections.

The Social Construction of Scientific Knowledge

The social construction of science could pose problems for environmental thought. As an environmental philosopher, I explore issues of philosophical significance connected to concern about ecology. This also means that I often rely on various empirical claims about the natural world provided by conservation biologists, climatologists, and the like. I am usually quite content to take for granted what they might say about mountain pine beetles, global average atmospheric CO_2 concentrations, or the toxicity of oil dispersants. Indeed, many of my philosophical reflections *turn* on those fuzzy realities we call "scientific facts." If they turn out not to be true, then I have to adjust my reflections accordingly.

The social construction of scientific knowledge, however, is often taken to imply that said facts are not true in any authoritative sense. What is supposed to be interesting about scientific claims are the social factors influencing the people who *make* (construct) these claims, not the relation between the content of the claims themselves and their referents. Science supposedly tells us more about scientific culture than it does about the world. In an otherwise nuanced appreciation of social constructivism, Mick Smith claims that naturalistic scientists and deep ecologists alike assume

"that a current scientific opinion gives us privileged access to *the* truth and hence a permanent anchor for our values," which has the unsavory implications of ending debates, limiting human freedom, and leading into reactionary politics (1999, 370ff.). To his relief, social constructivism undermines this "(rather naive) faith in natural science as a human endeavor capable of revealing the truth about 'nature'" (1999, 371). Moreover, since none of our scientific statements can "get at the truth of an ontologically independent nature" (Skakoon 2008, 40), other theorists have suggested we may not even be able to say that we face an environmental crisis. Eileen Crist complains that applying social constructivism to ecology not only encourages skepticism about the reality of environmental degradation, but it actually encourages environmental degradation by implying that there is no "nature" out there that humans can avoid colonizing (Crist 2004, 14 note 30, 16–22).[1]

At this point, it is all too easy to invoke Derrida. On the naive reading, deconstructing science would result in "radical" social constructivism. If there is nothing beyond the text, then all that exists is the text. Science, to be anything at all, must be a text—a form of discourse. But that is all there can be, for there is nothing beyond discourse. It would appear that there is nothing beyond science, nothing that scientific texts could be about. Therefore, science does not map the real, because there is nothing to map. All that exist are maps. With the exception of ideas in our minds and shared social contexts, postmoderns and especially Derrideans are functional nihilists.

A somewhat more nuanced understanding of deconstruction could reinforce the radical skepticism sketched above. Deconstruction is supposed to show that all dichotomies are ultimately untenable, and as such it would be no stretch at all to find the distinction between (pure) "nature" on the one hand and (despoiling) "humanity" on the other to be unstable and false. Rather, deconstruction would reveal our world to be an indiscriminate "hybrid" of the two, ourselves "cyborgs" at home therein (cf. Haraway 1991). There is nothing "unnatural" about the world's largest parking lot, while there is nothing "natural" about termite mounds, gopher colonies, beaver dams, or anything else.

In sum, because deconstruction is (mis)understood as "a kind of all-licensing textualist 'free play' which abandons every last standard of interpretive fidelity, rigor or truth" (Norris 1998),[2] its application to science would yield something like "eliminative pluralism" in the philosophy of biology: there is an infinity of possible descriptions of the world, and all of them are equally valid. Thus, E. O. Wilson, the Harvard entomologist, who after having read Derrida, "his defenders and his critics with some care, . . . is not certain we are obliged to consider his arguments further." He explains why: "The philosophical postmodernists, a rebel crew milling beneath the black flag of anarchy, challenge the very foundations of science

and traditional philosophy. Reality, they propose, is a state constructed by the mind, not perceived by it. In the most extravagant version of this constructivism, there is no 'real' reality, no objective truths external to mental activity, only prevailing versions disseminated by ruling social groups." Wilson calls this the "Derrida paradox"—on the one hand, we can never be sure that is what his postmodernists mean (after all, there is no meaning beyond the texts themselves), while on the other hand, if they do actually mean to say this, they cannot be correct (because truth is an invention of the powers that be). Scientists are far too busy with discharging their responsibility to accurately describe and precisely manipulate the physical world to find postmodernism "useful" (Wilson 1998, 44–45).

On the other hand, social constructivists have gone on the defensive, trying to show that their theory does not—indeed cannot—deny all forms of ontological realism. Because Peter L. Berger and Thomas Luckmann's (1966) classic work *The Social Construction of Reality* argued that meanings, not objects, are socially constructed (2008, 42), the "ancient philosophical preoccupations" with epistemological or metaphysical questions were eschewed (Berger and Luckmann 1966, 1–2; cited in Best 2008, 43). Nevertheless, Steve Woolgar and Dorothy Pawluch claimed that constructivist claims were interesting only when they implied a schism between reality and the constructions themselves (Best 2008, 45–46). But if sociologists are held to this "strict" constructivist standard of relativism about their own claims, that would make the discipline incapable of contributing "to our understanding of the world as we have traditionally conceived that pursuit" (Woolgar and Pawluch 1985, 162; cited in Best 2008, 48). Therefore, Joel Best argues that these ontological conundrums were overcome by historical fiat: sociologists simply embraced the evidently inconsistent position known as "contextual" constructivism, where social constructivists withhold judgment about all claims except their own. The real problem, he thinks, is when humanities scholars get carried away by the vulgar version of constructivism that aligns so nicely with "postmodernism and other schools of highly relativistic thought" (Best 2008, 53). It is because of the influence of folk such as Derrida—whom Best is happy to mention by name, via a "conservative" critic—that the realist underpinnings of Berger and Luckmann's work have been lost (Best 2008, 55–56; citing Goldblatt, 2004).

In the same anthology, Sal Restivo and Jennifer Croissant argue that social constructivism is not itself worthy of critical notice; it is rather "a core concept in sociological theory and reasoning." Social constructivism *is* sociology; philosophically scrutinizing that fact is tantamount to denying the empirical usefulness of sociology and its status as a "discovery science." They rightly point out that postmodernism actually enhances "our capacities to tell the truth . . . even while complicating them," but

they argue that their position is both relativist and realist, that "things do not exist in themselves," and even that their own "scientific traditionalism" validates itself by exercising power over recalcitrant reality. Philosophy will not help untangle all this; rather, the 'confusion' persists because certain philosophical biases persist" (Restivo and Croissant 2008, 214, 216, 221, 223, 224, 226 note 4).

Even Darin Weinberg's philosophically informed defense of a constructivism that "validly [refers] to some thing(s) in the world" cannot refrain from citing Derrida's famous dictum *il n'y a pas de hors-texte* as precisely that kind of metaphysical antirealism that respectable social constructivism eschews (Weinberg 2008, 35, 32). Therefore, both critics and advocates of social constructivism see the humanities in general, postmodern philosophy in specific, and Derrida explicitly as detrimental to such a project. Against this, I will argue that Derrida's antirealism is *opposed* to scientific relativism, such that science may make reasonably just claims about an ultimately unknowable physical reality. To do that, we need to talk about God.

Westphal's Derridean Philosophy of Religion

But surely, theology—the systematic study of a being that (everybody knows) does not exist—is even more of a convenient story than radically socially constructed science must be! For instance, in a recent lecture, Erik Conway described the political ideology motivating the climate change skepticism of the George C. Marshall Institute as "theology" (2011). If theology can be used as an academic term of derision (although hopefully not by readers of this journal), then appealing to religion bodes ill for bolstering the epistemic credentials of science. But that is just it. Derrida viewed the question of God as quite legitimate. And if theological science is in some sense legitimate from a paradigmatically postmodern perspective, then it should be possible to show that natural science is also legitimate from a paradigmatically postmodern perspective—although we will have to wait until later in the paper to develop an analogy between the two.

Admittedly, the understanding of Derrida's openness to the project of theology presented in this paper is informed largely by Merold Westphal's philosophy of religion. Westphal has made a compelling case for a robust, critical, and postmodern theory of religious faith claims—specifically those of Christianity. Westphal relies on a variety of so-called postmodern philosophers, including Heidegger, Levinas, Foucault, Gadamer, and Marion, but our focus will be on his theological appropriation of Derrida. He argues that theology is not necessarily implicated in that onto-epistemologically suspect project Derrida calls "the metaphysics of presence," but it may—and ought to—provide appropriate "knowledge" (if we dare call it that) of God for humans. According to Westphal's Derridean postmodernism, theology is *conditionally* legitimate.

Westphal's argument begins by observing that postmodernism makes it clear that theology does not and cannot have "quidditative knowledge of God" (2001, 174). Westphal (and, he argues, Aquinas) denies that theology can know God as God would know God, stripped bare of any ambiguity, mystery, or other epistemic limitation. Human beings are not only quantitatively finite, but also qualitatively finite. God is absolute and infinite, not us; therefore, there is no way whatsoever that we could in any sense wrap our heads around God. The fact that theology actually does talk about God does not therefore make theological discourse absolute and infinite, any more than talking about grapes makes our speech purple (2001, 172). He notes that we see at best through darkened glasses and dim mirrors; even the self-revelation of God in sacred scripture is held in clay jars and delivered to us via God's self-emptying.[3] *All* revelation (general or specific) is presented to us in terms appropriate to our benighted state. These claims add up to nothing more than the *transcendence of God*, even when God might be in epistemic contact with us: the divine is completely beyond our measure. If it ever enters our experience, words/concepts/texts will inevitably fail us, even though we pile them on to infinity.

Therefore—according to Westphal's teacher Kenneth Kantzer—the Bible is "divinely revealed misinformation about God" (Westphal 1993, 172). No amount of historical-textual criticism, exegesis, or other rigorous method will ever allow us to get it right. Theology will never end, because our theological knowledge claims will "never simply correspond" to the object they refer to—namely God. According to Westphal, this means that theology is—by rights, if not in practice—postmodern, or, closer to our purposes, Derridean.

In true Derridean fashion, however, we cannot understand how this denial of absolute knowledge might be Derridean without finding out how it is not. Westphal contrasts his view of theology with the views of Spinoza and Hegel, who serve as excellent examples of what Derrida refers to as the metaphysics of presence. For Spinoza, God and Nature are one and the same thing. The Laws of Nature are *all that there is.* Moreover, this monism is taken to imply that we human beings can come to the full understanding of the Laws of Nature. Thus, for Spinoza, his/our powers of reason permit a completely transparent correspondence between the ideas in our minds and the objects in nature. That is, Spinoza completely repudiates the incomprehensibility of God. All that exists, is known and is necessary. Nothing contingent ever interrupts our knowledge projects (and we are quite pleased about this noninterference). In sum, these claims add up to nothing more than a denial of God's transcendence (and nature's) over against us and our projects.

Therefore, *we* possess the knowledge of all things. Human beings constitute the universe's own coming to self-awareness and consciousness (cf. Westphal 2004a, 53–58). Hegel, Westphal argues, is no better. Hegel

cannot distinguish between his eye and God's eye. Because we are *Geist*, all shall be revealed to us: "Man, because he is Mind, should and must deem himself worthy of the highest; he cannot think too highly of the greatness and the power of his mind, and, with this belief, nothing will be so difficult and hard that it will not reveal itself to him. The Being of the universe, at first hidden and concealed, has no power which can offer resistance to the search for knowledge; it has to lay itself open before the seeker—to set before his eyes and give for his enjoyment, its riches and its depths" (Hegel 1995, xliii). Thanks to Hegel's breathtaking philosophical system, God will finally come to know himself fully in us. Our laws, our social order, our religion—the zeitgeist—is God's own. The mystery of God is laid bare, sheer presence before our knowing gaze. We know it, we master it, we make it ours; the mystery of God (and nature) *is* us.

This metaphysics of presence, this laying bare of being before our penetrating gaze, this full comprehension of alterity's essence, is the denial of transcendence. There is *absolutely* (and in no uncertain terms) *nothing beyond* our ultimate knowledge of God/everything/history/nature/us. Nothing transcends us, not even God, because we are one with all. Our concepts will (if they have not already) perfectly correspond to their object. Sheer immanence and transparence is the promise in Spinoza and Hegel; transcendence shall be utterly overcome.

But deconstruction is *not* the denial of transcendence. It is rather the denial of the will to power that would deny transcendence. Therefore, even though Derrida's hermeneutics abandon "the striving of philosophy for universal knowledge" (Westphal 2001, 156)[4]—even though speaking about God will *never* end in the adequation of the object to the mind of the speaker—the beyond must not be denied. For to deny it is to equate the realm of the Self with the realm of the All (what else *would* there?). This is the key: to affirm transcendence is to deny *both* the conceptual mastery of the other *and* the nullity of the other, for the other is nullified in its being (supposedly) conceptually mastered. Thankfully, this mystery is fleshed out (though never conceptually mastered) in Derrida's juxtaposition of the rabbi and the poet.

Rabbinic Responsibility

The rabbi is Derrida's explicitly religious image of the earnest textual interpreter and communicator (1978). The rabbi is not one with his God; the divine is absent.[5] Yet, his God is not absolutely absent: the rabbi encounters the *sacred text.* This is transcendence immanent within the text. But what does this uncanny truth require? The rabbi knows that the sacred text requires interpretation, because (as we all know) "God no longer speaks to us" (Derrida 1978, 68; cited in Westphal 2001, 160). God does not converse with us as we walk together in the garden's cool afternoon.

We are exiles from God's presence,[6] and all we have are the traces left behind: that is, *books*! The "whole world is a text, or better, a library of texts" (Westphal 1999b, 429), and texts must be interpreted. There is no sheer presence of God available anywhere that would negate the need for interpretation.

Derrida's rabbi also knows his interpretation to be an interpretation. A (proper) rabbinic interpretation does not attempt to know as if there were no book. No amount of careful attention and fidelity to the text could ever allow the rabbi to step outside it and comprehended the truth as it really is. All the signs, symbols, and language that the interpreter faithfully reads never lead the interpreter back to the things-in-themselves. Rather, even when our symbolic representations point at a thing, we do not understand that thing outside of our concepts for it—and outside of our concepts of what it is not. Even before we encounter the presence of a thing, we have conceptualized and/or contextualized it. We never encounter "sheer immediacy, pure presence" (Westphal 1999b, 430). Moreover, the (inevitably textual) presence of a thing cannot be understood apart from other (textual) things—specifically, the negations of that thing. There cannot be a one-to-one correlation between concept and thing, because the conceived thing is inextricably linked to an infinity of differences. The flower does not show itself, fully, until we have fully understood everything *else* (Westphal 2001, 162). Thus, for Derrida, "Encounter *is* separation." All the more so with God: according to Derrida, "God himself is, and appears as what he is, within difference . . . [and] dissimulation" (Derrida 1978, 74; cited in Westphal 2001, 164). The rabbi is no naive realist. Theology *cannot* be the beatific vision (assuming that the beatific vision is correspondence).

This immanent transcendence is what Derrida calls (always in French) *différance:* "the signified concept is never present in and of itself, in a sufficient presence that would refer only to itself. Essentially and lawfully, every concept is inscribed in a chain or in a system within which it refers to the other, to other concepts, by means of the systematic play of differences" (Derrida 1982, 11). But this does not mean that nothing transcends our semiological systems; *différance* does not justify gleefully sophomoric play with the sacred text. *Différance* plays, not us; we do not place spaces between things; *différance* does (without actually "doing" anything in a metaphysical sense). We can only signify something if the thing signified is *already related* to something that it is not. The differences precede, transcend us: "the [speaking] subject . . . is a 'function' of language." Indeed, differences "are 'produced'—deferred—by *différance*" (Derrida 1982, 5, 8, 13–15).[7] So much for nominalism or merely socially constructed meaning: the names of things and their meanings are given to us by something other than us. While the rabbi is no naive realist, he is not alone with the text.

Derrida knows it is tempting to say that *this* other beyond the text that is traced within the text is the rabbi's God. But when he says that "language has started without us, in us, and before us. This is what theology calls God" (Derrida 1992, 99; cited in Westphal 1995, 114), he is not saying that beyond our understanding of being and presence there is a super-being or a hyper-presence that we can conceptualize by negating our mundane concepts of being and presence (Westphal 1998, 154). Because *différance* is beyond the text, it is—minus the "is"—not a "thing," a hidden cause, or a "present-being (*on*) in any form." It cannot be (minus the "be") uncovered, for it is (minus the "is") other than absence and presence. *Différance* is (again, minus the "is") "the relation to an impossible presence, an expenditure without reserve, . . . the irreparable loss of presence, the irreversible usage of energy" (Derrida 1982, 11, 5–6, 23, 19). Our theologically negative claims fail the test of adequation required by our will for conceptual mastery no less than our theologically positive claims do: "our predications of God . . . will always be, *strictly speaking*, false" (Westphal 2004a, 134; cf. 137). Even in rapture or the beatific vision, we see only in part—that is, without comprehension. For Derrida and Westphal, onto-theological and calculative rationality is knocked off-center by proper writing about God.

This ethic of theological negation does not mean there is no divine voice in the rabbi's sacred text. When Derrida famously, said, "There is nothing outside of the text" (Derrida 1976, 158), he was not claiming that there is not an author to the essay you are reading right now (cf. Westphal 1999b, 429–30). There is always something behind a text (and this is not just a slip of the tongue).[8] The something that is behind texts is neither a "thing" nor does it "is." There is nothing *present* to us that is outside the text. Derrida's point is merely that we cannot know that thing in itself. It is always known within a context[9]—it is always to us a sign. So while we must ever remain within the book, there are "exits from the book" (Westphal 2001, 168; cf. Derrida 1978, 75); we can and must think (though not know) beyond the book. If we deny that there is anything other than our contexts, then we think ourselves to be the Father of Logos. We are not. That is why we must, along with "common sense, . . . assume that the world is out there" (Westphal 2001, 170). The divine voice in the rabbi's sacred text may not be a "thing," but it is not nothing. Otherwise the rabbi would *be* the text and could not be decentered by it.

Because there is a decentering voice other than the rabbi in the book, the rabbi is called to *responsibility.* According to Westphal's reading, the rabbinic "task of interpretation is to retrieve the divine voice in the written word, to return as nearly as possible to the garden where truth is immediately present" (Westphal 1999b, 431). This is *why*, as pointed out earlier, *différance* does not justify gleefully sophomoric play with the sacred text. Rather, the "*dis* of *différance*" calls for a "necessarily violent

transformation of [the language of being] by an entirely other language" (Derrida 1982, 25)! Just because we have to interpret texts does not mean we get to make it all up as we go or deny the facts of experience. Therefore, when we read texts and try to understand the world, we have to do them justice. Faithless reading is not permitted. The rabbinic text contains a trace of that which is outside the text—a thing that is not a thing that exceeds our grasp and transcends our interpretation (Westphal 2001, 165)—and the rabbi is responsible for giving that elusive trace its due.

Therefore, there is responsible interpretation and not only the dichotomy of antinomian freedom versus the metaphysics of presence; thinking is not necessarily mastery (cf. Derrida 1982, 7). This is what comes to trouble the poet.

Poetic License

In contrast to the rabbi, Derrida's poet points out that God is silent precisely so that we have room to speak. Because the stone tablets of the Mosaic law are broken, the poet is freed to *create* interpretations "against a Father of Logos" (Derrida 1978, 73; cited in Westphal 2001, 165). This is Derrida's way of saying that the poetic side of interpretation is not mere reproduction, but also production. Every act of understanding something is an act of understanding something "in a different way" (Gadamer 1991, 296–97; cited in Westphal 2001, 167). The poet rejoices in the knowledge that our pretensions to absolute certainty are shattered by our location within the text and the location of absolute being and truth outside the text. This *absence* is what makes books possible, after all (Westphal 2001, 167–68). Academia would not exist if the dialogues of Plato made philosophers superfluous, if historical facts made historians unnecessary, or if the sheer existence of nature made scientists utterly gratuitous.

But just as the rabbi's fidelity was limited by the finitude of interpretation, so is the poet's license limited by her own finitude. The poet is to call forth reality—that is what poets do—but she is not the creator of the reality called forth. No poet operates *ex nihilo.* Rather, Westphal understands Derridean poetic freedom as the freedom to *respond* to the other, which annihilates the poet insofar as she is an omnipotent world constructor. Like the rabbi, the autonomous poet is decentered by a heteronomy that exceeds her powers; the book *transcends* the poet. The whole point of creative thinking, for Derrida, is to engage that which is outside the text! He would not say that "every exit from the book is made within the book" if poets were to make no exits (Derrida 1978, 75; cited in Westphal 2001, 168). Poets too are called to responsibility by that nonthing that eludes our grasp within and outside the text.

In sum, Westphal's theological Derrida denies that humans can have definitive knowledge of the divine, while simultaneously denying that the

divine is simply a product of the human imagination. The appropriate way to understand theology is not in terms of this either/or opposition; after all, deconstruction's inversion of meaning is precisely the attempt to articulate the illegitimacy of these hierarchical dyads. We do not have to choose between "Platonic absolutism . . . and sophistic relativism" (Westphal 1995, 118). Rather, "the goal of theological rigor [is] to think about God as humans should think about God, rather than to think about God as God thinks about God" (Westphal 1997, 77). Humans must interpret the signs they encounter as best as they can. Ultimately, Westphal's Derridean lesson is *ethical*, not merely epistemological or metaphysical. One might say that theological truths can only be such when subservient to human excellence or appropriate to our telos. Our talk about God will always be transcended by God, and thus relegated to an approximation at best. Yet, "we can call our [theological] beliefs true when we apprehend the world as we *should*; but they are not True, since that would require us to apprehend the world as we can't" (Westphal 1997, 79; emphasis mine).

When we think that we can know God as God does—when our theology participates in the metaphysics of presence—our pretensions are overthrown by *something that is not a thing* (i.e., a nothing that is beyond the text). Within our own experience, transcendence arrives—but only in leaving, not as appearing. God's presence is an absence, and that privation (a lack that is never *just* a lack) disallows our project to grasp it, nail it down, and "know" it.[10] We are capable of experiencing the trace of the transcendent other, but we are decentered by the fact that we do not give ourselves this capacity of experience. We are the *recipients*, not the givers, of the experience and the conditions for the possibility of having it. There is meaning in the world (in the book, in the text) that is *prior* to our ability to be its origin. Meaning has always already *been established* for us, even though we are neither the origin nor the telos of that meaning (Westphal 2004a, 191–200). Both the rabbi and the poet are decentered: the rabbi, because he cannot master the meaning; the poet, because she cannot ignore the meaning. We do not "play" with texts; Westphal says we are *played* by them. Our desire for mastered presence resists this being played, and that will to power is the problem: "Nothing is more distinctive of postmodern analysis than the vigorous denial that we are or can be in control" (Westphal 1995, 115).

Therefore, Westphal's Derridean philosophy of religion tries to explain how humans can speak of transcendence without trying to make it subject to immanentizing will. The holy other must be allowed to enter on its own terms, which removes us from our putatively central role. This suspicious will and the terms it dictates are anthropocentric: we would make all of being intelligible to us so that we can put it all at our disposal. Deconstruction denies this project; in Westphal's words, it "is the denial that we are divine" (Westphal 1995, 119). It is thus possible (even though

miraculous) to speak about God without boxing up God in our discourse. Westphal prays: "I think this is true, Lord; help me to see where it isn't" (Westphal 2004b). This is the voice of the decentered self to whom it has been made "clear that we are not God" (Westphal 1995, 117). This is the way to speak about God without compromising God's transcendence.

Homeostatic Property Clusters

What has divine transcendence to do with science? For one, Westphal is clear that the "postmodern critique applies to all human knowledge, not just ethics and metaphysics" or religion (Westphal 1995, 111). So there is nothing preventing us from applying a logic similar to the one just examined to discourses other than theology. For another, Derrida (ever obliquely) names Nature-with-the-capital-N as the "nothing" outside the text: "we have read, *in the text,* that the absolute present, Nature . . . have [*sic*] always already escaped, have [*sic*] never existed; that what opens meaning and language is writing as the disappearance of natural presence" (Derrida 1976, 159). Here is the rub: absolute nature—the Enlightenment's God-replacement—is beyond us, and God is, too. The metaphysics of presence is just as much about nailing down supernatural reality as it is about nailing down natural reality. There are imperfect but informative parallels to be drawn between God's putative transcendent relation to the world and nature's transcendent relation to us. In the case of God, the object of our epistemological desire exceeds our grasp because it is not present in the world except through the trace. In the case of nature, a rich example of how the object of our epistemological desire exceeds our grasp is found in how homeostatic property cluster theorists conceptualize biological kinds.

A biological kind is a category or taxa of some aspect of natural life, such as a species (e.g., "mule deer") or analogues (e.g., "wings"). The question is what makes a species a species, or a wing a wing. When is an appendage a wing and *not* a flipper or a fin? When is a mule deer *not* a Columbian blacktail, or a hybrid, or a transitional form? While we may learn conventions that help to distinguish one kind from another, the thorny issue is *what*, *really*, makes that kind what it is instead of something else.

"Essentialism" is one way of explaining a biological kind. On this view, there is an *essence* or classical Form to mule deer, or to wings, and when a particular thing is a copy or instance of that essence, then it is a member of the corresponding kind. Essences do not mutate; they are not fuzzy around the edges. They do not change, and they can conveniently be defined in terms of necessary and sufficient conditions. If a mule deer ceases to be a mule deer, that is not because the essence of mule deerness has changed or is unclear, but rather because the mule deer has taken on a new and

different essence (say, venison sausage). On essentialism, biological kinds can, in theory, be fully comprehended by human beings as long as we put our minds to it.

Essentialism, however, is bunk. Scientific theorists and practitioners tell us that species do not have "fixed essences," but are rather "thoroughly heterogeneous collections of individuals whose phenotypic properties [change] over time, and [vary] across the population at any given time." Variance, in fact, is often part of what it means to be a member of a biological kind. Essentialism relegates individual differences to "accidental" or "insubstantial" status, but in biology, individual difference is one of the aspects that makes species tick. Without variance, natural selection would not have anything to select! Moreover, there simply "are no universally instantiated traits," and so essentialism is denied its central requirement (Wilson, Barker, and Brigandt 2007, 193).

At the other extreme are various sorts of antiessentialism. One sort denies that there are biological kinds at all. In reality, there are no "mule deer." There are just those whatevers running about over there. Another option is to reconceptualize the species as an *individual*: the mundane mule deer we see are actually component parts of a very large mule deer(ness?) entity. Finally, late scholastic nominalism returns: science does nothing but impose names drawn from a contingent cultural repertoire onto a contingent group of things. The so-called fact that there are mule deer out there tells us virtually nothing about what is out there, virtually nothing but our own linguistic and cultural grouping preferences and all the biases and foolishness that come along for the ride.

Advocates for the homeostatic property cluster understanding of biological kinds reject essentialism, but they also reject the sorts of nominalism and antiessentialism glossed above. The reasons for rejecting both are the same: neither essentialism nor the usual alternatives "do justice to natural kinds as they are studied in biology and other special sciences" (Brigandt 2009, 79). Evidently, biologists experience the kind of flux in species and other biological categories, which militates against essentialism, but at the same time they do not feel as if the categories they are studying are themselves nonexistent, or individuals, or mere language conventions. Homeostatic property clustering (stable grouping) is something *experienced* by the scientist, not created by the scientist. There is something *real* (what else does one call it?) about mule deer, wings, and so forth, even though that reality is not perfectly encapsulated in the clear and distinct ideas we usually want to have.

What is the nature of this reality scientists think they are encountering? Homeostatic property clusters are determined by what is *typical* about a kind, not what is necessary. No one trait in the property cluster is "definitive of the kind." Sometimes it would not even be clear which properties constitute a cluster (Wilson, Barker, and Brigandt 2007, 193, 201),

because there may be "variation in the very features determining the kind's metaphysical identity" (Brigandt 2009, 93). Sometimes this indeterminacy may be the result of actual indeterminacy in nature (who knows?), and other times it may be due to the finite limitations of the scientists themselves. In any case, it is precisely in this vagueness of boundaries between biological kinds that defenders of homeostatic property clusters find a virtue. The fuzziness surrounding what makes a mule deer a mule deer, or a wing a wing, appropriately tracks the "natural flexibility" biologists find in things, which in turn provides the kind of "explanatory integrity" they are looking for (Wilson, Barker, and Brigandt 2007, 197).

Crucially, the properties that do make up these clusters are not merely structural or internal to the kind of thing in question, but also extrinsic and relational—that is, how the kind interacts with kinds other than itself. There may be nothing structurally intrinsic, which all predators hold in common, but we can make relatively accurate generalizations about the biological kind "predator" based on relatively stable patterns of *relations* (Brigandt 2009, 92). Thus, biological kinds can be—and usually are—social or functional—that is, contextual claims.

Indeed, defenders of homeostatic property clusters are quite honest that the kinds of properties biologists look for when identifying biological kinds are determined by context. Depending on the kind of knowledge goals scientists have, different aspects of a natural phenomenon will be captured (Brigandt 2009, 95, 84). Presumably ecologists would delineate different biological kinds than would morphologists, even though they might be examining the same scene. Biological kinds depend on what scientists want, on what they think is important. In a manner of speaking, species are whatever scientists say they are (McOuat 2009).

Even so, biological kinds are *not* determined arbitrarily. Defenders of homeostatic property clusters argue that both the intrinsic and relational properties that comprise these stable groupings do not cluster accidentally (Wilson, Barker, and Brigandt 2007, 204). They are in some sense out there, and are brought on by something out there, not by the scientist. These assemblages are "rooted in objective features of nature," such that the limits of one kind as opposed to another "are not conventional" (Brigandt 2009, 79, 86). So at some level, homeostatic property clustering is a realist theory. Scientists, when classifying something in nature as a "bat" or a "flying mouse" or whatever, are not *only* working within a conventional framework. They are not just making something up. They are attempting to do justice to what a thing is insofar as it is *different from what the scientist is.* To be sure, this judgment of what a thing is cannot be absolute or perfectly clear; it is determined by things that the thing is not, and is yet related to; and it comes to be determined as such because of the subjective

concerns of the human being(s) related to it. But none of this is supposed to imply that scientific categorization is simply a convenient story.

Science and Transcendence

This example of scientific practice—or rather, this interpretation of scientific practice—is eminently Derridean. The rejection of essentialism is nothing more than the rejection of the metaphysics of presence—that is, the Plato-plus-footnotes idea that there is absolute truth out there that we can grasp and use in service of our own projects. Essentialism about biological kinds denies the Derridean dictum that any being, thing, or concept can "be" outside the text.

Similarly, Derrida is not a nominalist. We have seen that he is not a nominalist about God, so why should he be a nominalist about nature? It is precisely because there is meaning in the text *before* we start interpreting the text that Derrida evokes what theologians call God. Analogously, homeostatic property cluster theory points to differences in the text of nature that *precede the arrival of the scientist* who could construct those differences. In fact, Derrida literally speaks of taxonomy when he says that the priority of linguistic structure is precisely the priority of linguistic difference (Derrida 1982, 11). The differences between wings and flippers, or between mule deer and whitetail deer, *are out there.*

This does not make Derrida a naive realist; the differences are out there *in the text*. He is quite clear that "differences themselves are *effects.* They have not fallen from the sky fully formed . . . [They] have been produced, are produced *effects*, but they are effects which do not find their cause in a subject or a substance, in a thing in general, a being that is somewhere present, thereby eluding the play of *différance*" (Derrida 1982, 11). Notice what he says: the difference that *precedes* the scientist is neither produced by the subject (for our purposes, the scientist) nor by a substance (for our purposes, an "essence"). Therefore, it stands to reason that biological kinds should be understood as Derridean traces that penetrate the text of scientific "writing." There is no getting around the claim that biological kinds are "known" because scientists have an interest in knowing them, but *nature is at work in these conventions* (Westphal 1994, 250–51). Homeostatic property clusters are thus situated outside the either/or dyads of nominalism versus essentialism, or Platonic absolutism versus sophistic relativism.

Science is (better: can be) decentered by nature's transcendence. Homeostatic property clusters do not constitute absolute knowledge of nature (that is, the project of intellectual mastery is rejected), even though they are supposed to be pieces of knowledge about nature worth respecting. But this limited legitimacy of scientific knowledge decenters scientific relativism as well. Even though Thomas Kuhn thought that revolutionary

paradigm shifts were supposed to better incorporate otherwise anomalous data, he did not think there could be progress in scientific theory (Kuhn 1970). But the argument of this paper has been that even though our paradigms do not and cannot bring us any closer to the absolute truth about the cosmos, that does not mean our paradigms do not bring us closer to the truth about the cosmos as humans should know it. As Kuhnians, we are aware that science is a text, and moreover, that the data itself are contextual and within the text. Yet as Derrideans, we *also* recognize that data interrupt and decenter the text of science, just like the recent discovery of fossilized tetrapod footprints in a Polish quarry interrupts and decenters the received scientific text that would have had these traces appear some 18 million years later in the fossil record (Taylor 2010). Science is *always* in the process of getting decentered, which is why it *can* be a means of doing justice to a text.

We can sketch a preliminary conclusion, now. Science can (and ought to) be outside the metaphysics of presence. Its claims about the world can be recognized as (con)textual, not absolute. Most scientists likely know this anyhow, although perhaps it is easy to get carried away at times—especially when 100 percent certain knowledge is expected of science by the general populace and when such knowledge would come in very handy for guaranteeing our theories. Simultaneously, science can (and ought to) be understood as a rigorous interpretation of the book of nature. When it eschews absolute claims, it allows the trace to enter our discourse and decenter us, be we poets or rabbis. This can be particularly annoying to poets, nonempirical researchers like myself who try to draw out the larger implications of certain ecological deliverances, only to find those deliverances at play—that is, not standing still enough to be nailed down for all eternity. But the trace that decenters our theories would be even more disconcerting to those relativist poets—the nominalists, the sophists, the radical social constructivists—because the outside of the text never stays conveniently outside of the text so as to leave them comfortable nominalists, sophists, radical social constructivists. Disconfirmation can happen—even if nature can only provide factual statements inconsistent with a pluralistic theory-set, rather than give an unambiguous "no" to a single theory (Lakatos 1970, 129–31). The trace that science can allow to come forth (without actually coming forth) is one way (and not the only way) that the license of the poet may be limited and called to responsibility. Science can be a vehicle for the kind of decentering alterity that many humanistic thinkers would rather not encounter, because it disrupts the unfettered free play of their art.

What, then, of the social construction of science? Let us consider my reading of Westphal's Derrida against Eileen Crist's environmental critique of social constructivism. She cites Macnaghten and Urry's claim that the (epistemological) "natures" we construct are "not inherent in the physical

world" (1998, 95). This, she complains, implies antifoundationalism: no knowledge can "transcend socio-historical contexts"; scientific knowledge is plural, contingent, and diverse, and thus cannot function as a metanarrative in Lyotard's sense—that is, it has no "canonical" authority (Crist 2004, 6). Thus far, Derrida would affirm the antifoundationalism she laments: (1) none of our concepts are mirrors of nature; (2) none of our knowledge is outside "the text"; and (3) thus, we cannot have divine knowledge of anything, in the world or out of it.

But we are not left with nothing but sophistry. First, our concepts may not mirror nature, but our concepts are not mere projections onto nature either. Remember, the rabbi is not alone with the text. Second, nature *is* a text—and (absolute) "Nature" enters the text, albeit on its own terms and not as a thing presenced. Third, we are therefore called to *justly interpret* the text and/or what enters the text from beyond it. Thus, Derrida's constructivism—if we dare call it that—recognizes that "knowledge is a boon from nature not [just] a human project about or projection onto it" (Crist 2004, 12; interpolation mine). There are appropriate conceptions about nature, and inappropriate ones, just like there are good and bad interpretations of literary texts. Derrida is an antirealist the same way that (some) social constructivists are realists: there is a reality out there, and science can offer adequate accounts of certain aspects of it, but none of this is final. It is provisional and appropriate at best, not "essentialist."

Crist complains that even when constructivist scholars admit that empirical data constrain theory-making, their language reveals that they still conceive of science in anthropocentric, mechanistic, fabricating, and artificing terms: "meaning making is a one-way affair from human arenas to the natural world" (2004, 8). This may be true about many social constructivists of science, but it is not true of Derrida. Meaning precedes us; that is what *différance* is all about! We do not play with nature, we are played by it. Derrida gives Crist what she wants: a "substantive role [for] nature . . . in how it is represented," where "meaning [is] already afforded *within* the world" (Crist 2004, 8, 9). The other is not "intrinsically voiceless" (Crist 2004, 11); on the contrary, it calls us to responsibility and justice. Appropriate interpretation requires the "alacrity and acumen" of the rabbi (Crist 2004, 9) while moving the poet toward "the cultivation of receptivity—opening oneself, listening, watching, being within, letting be, or merging into" (Crist 2004, 12). Crist realizes that phenomenologists have a sense for this, but later calls Derrida a postmodernist who does not (2004, 16 note 39). It seems, then, that Derrida is too easily lumped together with the social constructivists who deny that science can be in any sense true, rather than seen as assisting the social constructivists who deny that science can be in any sense absolute.

(Techno) Science as Will to Power

Ironically, Crist seems not to realize that her most basic complaint against social constructivism—that it preconceives the natural world as an inherently valueless *Urstoff* suitable only for our instrumentalist and self-aggrandizing technical domination—is still very much constitutive of (at least) Western civilization, "science" included. While she does not think we should have "blind faith in the scientific establishment," she thinks science "must, at least some of the time, hit a bull's-eye" (Crist 2004, 14). Crist does not see that as soon as science becomes "a transparent instrument for understanding and expressing nature" (2004, 13), it is implicated in the metaphysics of presence. Science can provide good interpretations of nature, but its bad versions include the attempt to have godlike knowledge of the world.

Recall that the reason for attempting the conceptual mastery of the other-than-self is to put that knowledge to work in service of one's own selfish desires. We want to know the other in its fullness so that we can direct it to *our* ends, not its own. This is not "doing justice" to the other; this is not the right way to comport oneself toward transcendence. Therefore, we do not merely have an epistemology that looks like an ethic; we have an ethic that comes out of an epistemology. It is not only a question about the way that humans should seek knowledge; it is also a question about whether we should *have* certain kinds of knowledge at all.

Any scholar of science, technology, and society studies will at least admit that the distinction between modern science and modern technology is blurred. Thanks to patriarchs such as Francis Bacon, the distinction between theory and application is analytic at best. All we have said up to this point concerns how science should speak about nature. But a critique of the metaphysics of presence must also ask, what should (techno)science *do* to nature? Clearly, deconstruction will deny that science gives us sheer presence, the things in themselves. But that alone is not enough to preclude us from acting as if we did anyhow, and proceeding to use our scientific understanding of the world (which is, in fact, textual interpretation) to make the natural world do pretty much whatever it is that we want it to. We are responsible to the world, not only as interpreters but as users.

This leads us to a deeply ironic appreciation of scientific knowledge. On the one hand, nature is a form of transcendence that both decenters science as a matter of course and permits science to decenter textualist free play. On the other hand, current scientific practice both embodies and is embedded in a social project that would deny the transcendence of nature and make it subject to our immanentizing will. In a brief exchange of comments, Derrida called this latter entanglement to Westphal's attention:

Derrida: "[The metaphysics of presence] is not simply a critique of theology, not simply an academic discourse, but a real culture."

Westphal: "Yes, if technology is the metaphysics of the atomic age, then [the metaphysics of presence] is all over the place." (Westphal 1999a, 165).[11]

The question is, then: if scientific knowledge is at best the reading of signs that precede it, what is the status of that knowledge if it is (or only can be) put to use mastering other beings? After all, just because a piece of knowledge is provisional does not mean it would not be dreadfully effective at domination. Neither seeking nor possessing absolute truth is a necessary condition for violating the other.

Fully addressing this quandary exceeds this paper's scope, but one can hazard a guess if permitted to invoke Heidegger's distinction between *rectitudo* and *alētheia* (1992, 39–54, 57–58). On the one hand, there is the question of how our interpretations of nature are derived; on the other, there is how we act on our interpretations. There may be confluence between the two, there may be separation. It is possible that (as already mentioned) appropriately conceptualized knowledge of the world be put to effective use mastering the world, just as inappropriately conceptualized knowledge can. Some (much!) knowledge would not even be possessed by us had we not already been pursuing conceptual and world mastery—but effective knowledge it still is, even if inappropriate and inhuman.

Therefore, our understanding of the legitimacy of scientific knowledge must be plural. Some scientific claims may be true (*alētheia*), while others may be merely correct (*rectitudo*). Either sort carries a trace of the transcendent over to decenter the poets; not all confessions gained under torture are false. But poets are called to speak the truth back to the torturer, that there are some accuracies that we should not know. When Derrida envisions a rigorous and irreversible transformation of all the sciences, he means them all: natural, social, theological, humanistic, whatever. The constructions of science should respond responsibly to the reality that transcends it, and can transform those constructivisms that resent the decentering presence of the natural other. But the arts, as other to the "real" sciences, can transform those technoscientific practices that resent the reminder of their implication in the will to power. This is why Derrida's transformation of *both* cannot be merely "contained in theoretical or philosophical discourse" (like journal articles), but can only happen "on the scene of what I have called elsewhere the text in general" (Derrida 1982, 26 note 26)—that is, our so-called civilization.

Notes

1. On p. 14, Crist is referring to Hannigan 1995, 30. On doubting environmental crises, see also Skakoon 2008, 47.
2. To be clear, this misunderstanding is not Norris' own, but his description of the misunderstanding.
3. Westphal is referring here to 1 Corinthians 12:12, 2 Corinthians 4:7, and Philippians 2:6–8.

4. Westphal is quoting Dilthey via Makkreel 1975, 3; see Westphal 2001, 157 for further comment.

5. Even were his God present, *identity* with the rabbi is not anticipated thereby, but communion.

6. While it is strictly tangential to my purposes here, we are wont to wonder how that Edenic state where God would have walked and spoke with us "in the garden" might not then be a prelapsarian (and/or eschatological) hope worthy of the metaphysics of presence. While Westphal goes on to speak of a beatific vision where God seems to be laid bare before us, it is important to note his distinction between the hermeneutics of suspicion and the hermeneutics of finitude. While the rabbi may hope for a conversation with God untainted by the will to power, lacking identity with God, the rabbi cannot hope for a conversation outside the limits of being the rabbi. That is, even if one were with pure motive to converse with a present God, that would be an encounter with an other through the lens of language. If finitude is conflated with suspicion and divine-human identity envisioned, then Westphal and Derrida align with Gnostic rather than Judeo-Christian theology.

7. Derrida's own scare quotes around "produced" must be noted here. He does not want *différance* to be understood as a metaphysical foundation, for example, a production akin to Aristotelian causality (which is supposed to be fully transcribable by the knowing intellect).

8. Derrida himself speaks of the outside of the text: "I have attempted to indicate a way out of the closure of this framework via the 'trace' which is no more an effect than it is a cause, but which in and of itself, outside its text, is not sufficient to operate the necessary transgression" (1968, 12); "How to conceive what is outside a text? That which is more or less than a text's own, proper margin" (1968, 25).

9. Westphal (1994, 248 n. 5; 1995, 124 n. 45; 1998, 170 n. 22) recognizes this contextualist reading of Derrida as Critchley's (1992, 31–44).

10. Westphal plays on the sexual connotations of "knowing" in the biblical sense: "Having taken the hermeneutical turn, we must acknowledge that we can never get out there for a naked romp with Being in which, having shed the latest style (and all others) of prejudices, we can coax Being to disrobe before our voyeuristic gaze" (2001, 170).

11. See Westphal 1999a, 166 note 8, for the rationale behind replacing the term "onto-theology," which is in the original, with "the metaphysics of presence," as I have done here in brackets.

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