



# CONTENTS

**Preface**..... 3

## **On William H. Poteat**

Introduction to Poteat and Polanyi III..... 4  
*Dale Cannon*

Curing Dualistic, Disembodied Patterns of Thinking in the Academy..... 6  
*David H. Nikkel*

The Political Implications of William H. Poteat's Philosophy ..... 26  
*Murray Jardine*

Six Poems ..... 43  
*Elon G. (Jerry) Eidenier*

## **On Epistemology**

Non-Human Knowledge According to Michael Polanyi ..... 50  
*Mihály Héder and Daniel Paksi*

## **Journal and Society Information**

Editorial Board and Submissions Guide ..... 2

Notes on Contributors ..... 3

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Spelling: We recognize that the journal serves English-speaking writers around the world and so do not require anyone's "standard" English spelling. We do, however, require all writers to be consistent in whatever convention they follow.

## Citations:

- Our preference is for Chicago's parenthetical/reference style in which citations are given in the text as (last name of author year, page number), combined with full bibliographical information at the end of the article. One exception is that Polanyi's major works may be cited parenthetically using the following abbreviations (with abbreviations italicized):

<i>CF</i>	<i>Contempt of Freedom</i>
<i>KB</i>	<i>Knowing and Being</i>
<i>LL</i>	<i>Logic of Liberty</i>
<i>M</i>	<i>Meaning</i>
<i>PK</i>	<i>Personal Knowledge</i>
<i>SEP</i>	<i>Society, Economics, and Philosophy</i>
<i>SFS</i>	<i>Science, Faith, and Society</i>
<i>SM</i>	<i>Study of Man</i>
<i>STSR</i>	<i>Scientific Thought and Social Reality</i>
<i>TD</i>	<i>Tacit Dimension</i>

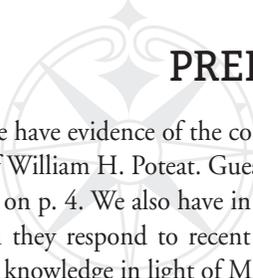
For example: Polanyi argues that .... (*TD*, 56). Full bibliographical information should still be supplied in the references section since many of us may work with different editions of his works.

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## PREFACE

In this issue, we have evidence of the continuing fruitfulness of the 2014 Yale conference on the work of William H. Poteat. Guest editor Dale Cannon's introduction to those essays can be found on p. 4. We also have in this issue an article by two of our Hungarian colleagues in which they respond to recent writings on the relationships between tacit, animal, and human knowledge in light of Michael Polanyi's ideas on those topics.

Do remember to go to [www.polanyisociety.org](http://www.polanyisociety.org) for the latest iterations of News and Notes and information about a June 2018 conference, "Michael Polanyi and the Post-Critical Turn" that will be held at Nashotah House Theological Seminary, Nashotah, WI.

Finally, if you are reading this online because you did not receive your usual print copy, make sure you paid your dues. We will be happy to send you a print copy.

*Paul Lewis*

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# INTRODUCTION TO POTEAT AND POLANYI III



**Dale Cannon**

*Guest Editor*

The following two articles and set of six poems are drawn from the June 2014 conference at Yale, The Primacy of Persons, which celebrated the teaching career and intellectual legacy of William H. Poteat (1919-2000), long-time apprentice and intellectual ally of Michael Polanyi (for more on Poteat, see [https://en.wikipedia.org/wiki/William\\_H.\\_Poteat](https://en.wikipedia.org/wiki/William_H._Poteat)). This is the third installment of papers first presented at the 2014 conference to be published in *Tradition and Discovery*. The first may be found in volume 42:1 and the second in volume 42:4. Another, longer group has been published separately as *Recovering the Person: The Philosophical Anthropology of William H. Poteat*, edited by Ron Hall and myself (Lexington Books, 2016).

The first article by David H. Nikkel, “Curing Disembodied, Dualistic Patterns of Thinking in the Academy,” brings out how Poteat’s philosophical teaching and writing, drawing upon Pascal, Kierkegaard, Merleau-Ponty, Wittgenstein, and Polanyi, pursued a kind of healing philosophical therapy within the academy. Nikkel then extends Poteat’s work by way of a post-critical, critical analysis of contemporary studies being done in what is called the Cognitive Science of Religion. He reveals how these studies remain subject to much the same dualistic, discarnate picture of human beings that was critiqued by Poteat and his mentors.

The second article by Murray Jardine, “The Political Implications of William H. Poteat’s Philosophy,” locates Poteat’s thinking firmly within the trajectory of 20th Century political theory that has for quite some time focused on diagnosing the origins and nature of the modern age. Jardine particularly highlights Poteat’s raising to our attention the dialectical, and at times incoherent, development of modern Western thought that has been the result of an unresolved competition between the ontologies of ancient Greek culture and ancient Hebrew culture. But Jardine’s article is not just retrospective; it prospectively sketches and provides a framework for conceiving how, once we understand this development, we might achieve a more stable resolution.

The third is not an article but is a set of six poems by Elon G. (Jerry) Eidenier, selected by Eidenier from a larger set that was sent to the Primacy of Persons conference, some of which were read by Bruce Lawrence, following his own opening plenary address. Lawrence, a personal friend of both Poteat and Eidenier, as well as a colleague of Poteat at Duke's Department of Religion, read them in place of their author, as Eidenier was not able to be present. The poems testify of Poteat's influence on Jerry in developing an approach to poetry where "feeling" is allowed to "become thoughtful as well as mindful," and, I should like to add, strikingly present in Jerry's poems.

# CURING DUALISTIC, DISEMBODIED PATTERNS OF THINKING IN THE ACADEMY



David H. Nikkel

**Keywords:** cognitive science of religion (CSR), critical, (dis)embodiment, dualism, mindbody, post-critical, prereflective, reductive physicalism, tacit, William H. Poteat

## ABSTRACT

*This essay develops aspects and implications of Poteat's critique of the Enlightenment's critical paradigm and development of post-critical thinking in dialogue with Pascal in his dissertation and four post-critical thinkers who figured prominently in his project: Kierkegaard, Merleau-Ponty, Wittgenstein, and Polanyi. Then it critiques from a Poteatian perspective the critical, dualistic, discarnate picture that still dominates the academy, especially attending to the cognitive science of religion. CSR involves both a reductive physicalism involving unconscious mental mechanisms and a re-inscribing of subjectivistic or mentalist (alleged) beliefs in disembodied supernatural and human spirits.*

This article will analyze the project of William H. Poteat's career, especially as focused on the themes of embodiment and of the dualistic, discarnate Enlightenment "picture" of human nature and of reality that he found troubling and ultimately insane. This insanity results in the loss of conviction that life is worth living, as modernity's controlling picture yields a subjectivism or mentalism—either absolutistic or relativistic—that sunders us from our bodies and our embodiment in the world or a physicalism leaving no place for the meaning or the sacredness of human and animal life. Focusing on several key themes/ideas/metaphors, it will make reference to his 1950 dissertation and to the ideas of four post-critical thinkers who figured prominently in Poteat's teaching and scholarship. Graduate students in Religious Studies during my time there from

1977 through 1981 referred to the following as Poteat's "canonical" thinkers, as Poteat rotated four courses on these four: theologian Soren Kierkegaard, phenomenologist Maurice Merleau-Ponty, philosopher of language Ludwig Wittgenstein, and philosopher of science and epistemology Michael Polanyi. I do want to emphasize that Poteat taught courses to other cohorts of his students on, and seriously engaged with, other post-critical thinkers. This piece will conclude with an application of Poteat's concerns to the so-called "cognitive science of religion," which has gained much currency in recent years.

Before delving into the four post-critical thinkers, I will attempt to unpack some of the various but inter-related meanings of being "critical" in the Cartesian Enlightenment sense and by way of contrast of being "post-critical." Descartes famously split the world into two radically, fundamentally different realities, thinking substances and extended substances. This dualism worked to discarnate human beings whichever pole one focused upon: 1) an internal pure mind unable to find any meaning in the world even as it pictured a god-like external and impersonal vision of things, or 2) a merely physical, spatial, externalized, objectified, de-personalized, machine-like body devoid of any meaning. Thus one absconds or absents oneself from one's actual minded embodiment in the world. Either pole discarnates one from one's living body that enacts and discovers meaning in the world. The specifically critical component of Descartes' picture centers on the demand for certainty. For any belief to count as knowledge it needs to find explicit justification according to formal, reversible logic expressed in clear and distinct ideas. Indeed, one had an obligation to exert one's utmost effort to doubt before believing anything. Relying acritically on any presumed knowledge was anathema. Given the split between mind on the one hand and body-world on the other and the demand for indubitable knowledge, finding truth and value—finding any meaning—becomes impossible. Plying the mind side of the divide, absolutistic beliefs about oneself or one's group cannot legitimately withstand such scrutiny; plying the physical side, the critical gaze turns one into a robot. Nihilism results when one unflinchingly approaches the world through this Cartesian picture. To the extent one allows this picture to influence one's day-to-day living, insanity will be the result.

In his essay, "Being Post-Critical," Dale Cannon notes several aspects of the term "post-critical," including its opposition to the Enlightenment program.<sup>1</sup> In being post-critical one rejects the Cartesian demand for explicit certainty. This rejection involves a paradigm shift that I will proceed to explicate. The post-critical paradigm refuses the Cartesian program of systematic doubt, where any and all truth and meaning must find explicit justification, must stand up to critical reflection. Instead, one recognizes that one always relies tacitly on knowledge not critically established, including one's body, language(s), and traditions. I would note here that one's language and traditions are not separate from one's embodiment in the world, but function as aspects of that embodiment. Indeed, the post-critical paradigm asserts that there are some things upon which

we must primordially rely acritically (and thus tacitly or prereflectively) in order to know anything at all. The fiduciary dimension of acknowledgement and embracing of our acritical reliance on our embodiment in the world for most of our knowledge then is crucial for being post-critical. This entails a personal commitment that one is grounded through one's embodiment in a real world, a common world. Thus, one's attempts to know bear a universal intent. Cannon also recognizes, however, as do I, the need to be "critical" when appropriate. Often, being critical happens prereflectively as we attempt to make sense of something that appears incoherent.<sup>2</sup> Sometimes being critical involves reflective reasoning in the attempt to achieve coherence. Clearly and most specifically for this piece, it is critical reflection within a post-critical stance that recognizes the critical paradigm, its genesis, and its dire consequences. In the following I will develop aspects and implications of Poteat's critique of the Enlightenment's critical paradigm and development of post-critical thinking in dialogue with Pascal and the four post-critical thinkers and then in relation to the cognitive science of religion.

In "Pascal's Conception of Man and Modern Sensibility," Poteat expounds upon some Cartesian Enlightenment conceits that would drive his future scholarly endeavors. In homing in on Descartes as the "fulfillment"<sup>3</sup> of Renaissance and Enlightenment conceptions of reality and human nature, Poteat emphasizes the "exteriorization of sensibility," whereby all is reduced to mathematical abstractions of space and time.<sup>4</sup> Here humanity has achieved autonomy with respect to God, yet the upshot of this high accomplishment is merely that humanity can exercise technical reason to purportedly control a machine-like universe.<sup>5</sup> Humanity has become an external object to itself, with mind losing any inherent meaning as it attempts to control a mechanistic nature whose only possible meaning might have resulted from the projection of meaning upon it by mind.<sup>6</sup> Poteat's assessment of the effect of Enlightenment assumptions on its understanding of human nature accords with his reliance upon Pascal as his principal interlocutor. Poteat begins Chapter 1 with a telling quotation from Pascal: "The eternal silence of these infinite spaces frightens me."<sup>7</sup> Pascal presciently anticipated the ultimate issue of the Cartesian paradigm of mathematical and physical space in relativism and nihilism.

The motif of the loss of the human self continues in one of the four post-critical thinkers, Kierkegaard. I confess that Poteat on Kierkegaard was the only "canonical" course of my years at Duke that I did not have opportunity to take. To my knowledge, Kierkegaard did not explicitly deal with the issue of (dis)embodiment. However, an important connection between the Pascal of the dissertation and Kierkegaard has ramifications for the embodied nature of life: the centrality of time and decision for the existential self. As Poteat notes in the dissertation, Descartes reduces "time to a mode for measuring motion in space...obscuring" that time in "creaturely existence" is "irreversible and decisive."<sup>8</sup> Kierkegaard, reacting against abstract conceptions where time is under our control, writes of the aesthete who can contemplate infinite possibilities

without ever having to decide. Although Poteat in *Polanyian Meditations* specifically refers to Kierkegaard less than to any of the other “canonicals,” temporality figures heavily in his expounding upon our embodied existence. His analysis of a musical melody in particular and of the temporal nature of existence more generally, with his frequent deployment of “pretension” with respect to stretching to the future and “retrotenion” with respect to stretching from the past, constitute a quintessential component of this effort.

Temporality also figures prominently in another crucial Poteatian theme, the contrast between the Greek proclivity to engage the world through vision versus the Hebrew tendency to do so through orality/aurality. Vision tempts us to imagine that we can cognize reality in a timeless instant, while the written text obscures the reality of time, because we can view a whole page or more at once, because of its physical fixity and permanence, and because of its transportability across time and place. Orality/aurality, on the other hand, entails personal engagement and responsibility in a particular context, a particular space and a particular passage of time. Thus a focus on vision allows for a discarnate and insane picture of human nature and reality in a way that orality does not, an idea that I will expand upon next.

From the first time Poteat in a class session shared with me and others Renaissance paintings where everything is crystal clear in foreground and background,<sup>9</sup> I was struck with the pregnancy of his observation. The picture of human nature these paintings convey clearly involves God-like (transcendent) cognitive powers, where all is fully known immediately—at least this becomes obvious as Poteat interprets its significance. This picture disembodies and abstracts us from our bodies and our convivial natural and social worlds. The desire to know all with certainty and without mediation becomes philosophically explicit in Descartes. Moreover, Poteat notes in his books how this standard for truth and reality, where the fullness of Being must be immediately present without any alleged slippage of time, continues to haunt deconstructionists and poststructuralists like Derrida and de Man. Thus, for them the sign never really signifies and meaning remains ever undecidable—except for the arbitrary decisions we cannot help but make. Poteat pinpoints the standard of truth and reality that haunts them:

When, however, under the blows of philosophic criticism, ahistorical Truth is exposed as a chimera and we are left, so we suppose, with “only” the realities that are disclosed amid the pretensions and retrotenions of time—when, in short, we are left “only” with history, by definition devoid of an ahistorical truth—the perfectly ordinary relativism that can be overcome in practice, now viewed through the afterimage of the doctrine of an ahistorical Truth and therein showing itself destitute of any mark of truth of this kind, becomes the

relativism, so heavy with pathos, that for us henceforth attests to the absence of *all* truth.<sup>10</sup>

I recently discovered Poteat's intriguing lecture, "The Banality of Evil: The Darkness at the Center."<sup>11</sup> Here Poteat references Hannah Arendt's notion of banality, by which she does not intend to deny the seriousness of the evil behind the Holocaust but rather to indicate the commonplace nature of the evil of many perpetrators through a lack of empathy and/or conformity. In this lecture and in *Recovering the Ground*, which has many references to Kierkegaard, Poteat ruminates further about the modern loss of self and its possible recovery.<sup>12</sup> In the lecture, he begins with Enlightenment pretensions (in the everyday sense) to transcendent God-like perfection, where humans can see everything with an absolute clarity that enables us to subject everything to mechanistic and bureaucratic scientific rationality. However, following this line of thought we inevitably end up becoming part of the machine and the bureaucracy—the type of problem Poteat identified in his dissertation. Thus we succumb to the banality of evil, which results in losing ourselves in the finite, in refusing spirit, in refusing transcendence, which results paradigmatically in the Holocaust. While the objectivist, materialistic, relativistic, and nihilistic sides of modern disembodiment may have the upper hand in how we humans picture ourselves and explain why many Germans cooperated with the Final Solution, we can also find in Poteat's thought the continuing influence of an other side, as he takes notice of the Gnosticism of fascism and communism: that is, the absolutistic, idealistic, transcendent aspects of the modern picture.<sup>13</sup> Paul Tillich, who lived for a while under Nazi rule before escaping to America, explains the attraction of fascism to European youth: alienated by "the emptiness of adjustment to the demands of the industrial society" and "the emptiness" of "playing with cultural goods," they longed for "something *absolutely serious*" (even if demonic).<sup>14</sup> In separating themselves from Jews and other undesirables, it's probably no coincidence that the Nazis harped upon the alleged disgusting physical bodies of these others. Additionally, participating in the projected glories of the Third Reich—as the ultimate consummation of history—served as a means to transcend death, even as the barbarity and insanity of mass death reigned.

Poteat's and Kierkegaard's recipes for recovering the human self are similar: claiming my givenness, my embodiment, as a self in community, as received from a divine source, in such a way that I take responsibility for who I am, what I say, what I do. That constitutes accepting oneself as spirit before the Spirit, as achieving the transcendence possible and appropriate for a finite human being, rather than the insanity of a supposed absolutistic transcendence of mind or of the non-transcendence of the human as a meaningless material object.

Maurice Merleau-Ponty is the post-critical thinker who most explicitly identifies and problematizes the dualism inherent in the Enlightenment discarnate picture,

as the dichotomous pair of idealism or subjectivism and empiricism or objectivism form two sides of the same Cartesian coin. In splitting us from our lived world and from ourselves, that picture assumes an either-or between a disembodied mind that finds meaning in abstract conceptions and mental images on the one side or material objects, including our own bodies, whose only possible meaning is merely physical or physiological, on the other. In either case, internally or externally, reality is already determinate, rather than becoming determinate in the mostly prereflective bodily engagement with the thing. The sense of Poteat's distinctive coinage of "mindbody" accords with the meaning of Merleau-Ponty's "phenomenal" (1962:105-106), experiential, habit, or lived body. The root for our living, being, knowing is the on-going correlation of our attentive, embodied effort to make sense of the things, the world, which call us into a mutually constitutive relationship. In Poteat's words:

My mindbody as imagination—as, that is, the pretension toward order, meaning, coherence, closure, logos—devises, that is, defines and arrests, an articulation within the hitherto indeterminate...

In time and through habituation, what Merleau-Ponty calls *sedimentation*, these and untold others become *usages*: what and the way in which we do and say; what and the way in which we are given to doing and saying; the repertoire of instruments and gestures that are their means—words and concepts, by what they exclude and what they include, establish one existential environment rather than some other...

Our mindbodies as imagination in its pretension towards meaning and coherence shapes and articulates the world and ourselves in it.<sup>15</sup>

To the extent we can (re)claim our mindbody or phenomenal body engaged in our natural and social world we can avoid the insanity of a mind sundered from its meaningful world or of a meaningless world of reductively physical objects, including our own embodied selves.

Ludwig Wittgenstein obviously focuses on language. He does not explicitly dwell upon embodiment or disembodiment. However, he does sometimes refer to the biological underpinnings of language and always roots language in common practices. Poteat recognizes that, for Wittgenstein, language use or any "language game" is always and necessarily embedded, ensconced, embodied in forms of life. So Wittgenstein's philosophy supports that language arises from our bodies, stems from our embodiment, not merely instrumentally but substantively. But Poteat makes that truth explicit. Here follows my favorite quotation from Poteat on language:

For I claim that language—our first formal system—has the sinews of our bodies, which had them first; that the grammar, the syntax, the ingenuous choreography of our rhetorical engagement with the world, the meaning, the semantic and metaphorical intentionality of our language are preformed in that of our prelingual mindbodily being in the world, which is their condition of possibility.<sup>16</sup>

At one point, Poteat notes that prior to the Enlightenment reading typically involved moving one's lips, if not actually pronouncing words out loud. Enlightenment sensibility, regarding language as strictly mental, looks down upon such benightedness. Poteat, though, realizes that the bodily medium of language cannot be neatly and absolutely separated from its message: "We cannot take possession of words by our 'pure' intellect, since, quite simply, there is no such thing. We apprehend them through our integral mindbodies; and 'moving our lips as we read' is a mark of this fact. Why would this ever happen, if it were not a condition of the comprehension of a text?"<sup>17</sup> Here lines between medium and message, instrument and substance, blur. Neuroscientist, Antonio Damasio, author of the popular trade book *Descartes' Error*, supports the bodily roots of all linguistic—and other—meaning, insisting that all human signs and symbols must involve some connection with bodily sensorimotor or feeling imagery to be comprehensible, to come into existence in the first place: "both words and arbitrary symbols are based on topographically organized representations and can become images." That is, such representations involve the correlation of our body with our environment as appropriately mapped in our brains. Moreover, Damasio continues, if our words "did not become images, however fleetingly, they would not be anything we could know."<sup>18</sup> Poteat recognized that, even when we read silently keeping our lips still, words on a page would mean nothing if we did not tacitly cognize their oral/aural bodily provenance.

Wittgenstein critiques the misuse of language by philosophers captured by the Enlightenment picture of atemporal language realism, where a uniform system of supposedly arbitrary internal signs possesses a simple one-to-one correspondence to independent external realities. Such philosophers fail to use common sense, fail to observe how people actually speak and listen. Instead, he notes the embeddedness of language use in particular contexts of meaning, within a plentitude of language games and within multiple forms of life. Rather than conforming to absolute, static categories, similar words and things bear "family resemblances." Wittgenstein's "dissolving" of miscast philosophical problems definitely bears relevance to Poteat's hope to cure the insanity of modernity, particularly in terms of doubting the meaningfulness of our lives.

In turning to Michael Polanyi, we invoke the only post-critical thinker with whom Poteat engaged face to face, body to body, as well as the one who arguably influenced

him the most. Of Poteat's books of which he is the sole author, *Polanyian Meditations: In Search of a Post-Critical Logic*, constitutes Poteat's first and longest book. While Polanyi does not often write of embodiment, he leaves no doubt that the inalienable root of our tacit knowing, of what we attend from as we attend to, is precisely our bodies. We tacitly rely upon our bodies for all practical and intellectual knowledge. He writes that "when we make a thing function as the proximal term of tacit knowing, we incorporate it into our body—or extend our body to include it—so that we come to dwell in it."<sup>19</sup> Here, like Merleau-Ponty, Polanyi recognizes that what constitutes inside and outside one's body always depends upon the context of our knowing, of that upon which we acritically rely. For Polanyi this tacit grounding of all articulate knowledge in our inarticulate powers of engaging the world in company with our fellow human beings precludes any dualism between the subjective and objective. Our knowing always engages both our personal commitment and, despite its fallibility, a universal intent. The centrality of the tacit for Poteat led some of us graduate students to coin the phrase, "tacit attack," where in focusing on normally tacit subsidiary elements we lose the ability to do something we normally do quite easily and quite well, momentarily failing to appropriately rely upon our bodies. And we might occasionally act out a tacit attack as we devolved into stumblebums in our walking.

For Poteat the post-critical paradigm calls for our grounding in something prior to and beyond critical, skeptical reflection. He metaphorically employs ground and place to point to that which is primordial. For example, from *A Philosophical Daybook*: "My mindbody is the absolutely radical and prior—at the root of and antecedent to absolutely everything (!)—*here and now: the primordial place*, whence all times and places are pretended; that every time and space retrotends. There being this place is not the *condition* of my mindbodily integrity; it *is* this integrity."<sup>20</sup> And in *Recovering the Ground* Poteat identifies "the unimpeachable ground of Being in which we are grounded" with "our lively convivial mindbodies in the world."<sup>21</sup> This prereflective ground of all meaning, this thick temporal engagement of our sentient, feeling, motile bodies with our social and natural world, forms the basis for all reflection and rationality, for all judgment of what is real, what is valuable. Thus inheres the insanity of allowing a discarnate, visual, atemporal, abstract, alienated picture of human nature to set the explicit or implicit standards for the real, the true, the good.<sup>22</sup>

Note that a crucial part of Poteat's post-critical paradigm is that meaning—and here I am including both making sense and affording value—is primordial with our convivial mindbodily engagement with the world. We begin and live our lives embedded, ensconced, embodied in meaning. Meaning in the first place is part and parcel of our embodiment in our natural and social world; critical reflection helps us make sense and determine value when certain problems arise. But critical reflection in the mode of Descartes or Derrida is helpless in establishing from scratch, from nowhere, out of

nothing, that something or anything has value. Traditions constitute a key element of the social world in which we are embodied. As Poteat argues, tradition and critical thought do not stand on the same logical plane; we cannot criticize our traditions whole cloth. He continues: “If tradition as that which is handed over, *given*—whether as one’s native language, a practice, inherited analogies, metaphors, imaginative pictures—exerts its force on us in such a way as hardly to be felt by us, though not less potent on this account, it is that within which we dwell at ease.”<sup>23</sup> Our prereflective mindbodily being in the world, including our social traditions, always then grounds us in meaning.

This recovery of meaning, of the ground, of common sense, and of a genuine human self, suggests another Poteatian theme: that we are at home in the world; or at least we can be if we overcome a discarnate picture of human nature and the nature of the world. This at-home-ness contrasts with a Cartesian world where thinking and extended realities never cohere, a Heideggerian/Sartrean world into which we are indifferently thrown, or a Derridian/Foucaultian world where we can never be present nor mean what we say. As Poteat pens,

We are *at home* in the world insofar as we dwell in our lively mindbodies in the matrices of our form of life. To suffer from bad conscience because of this—as is the Enlightenment’s way—to, alternatively, talk in Heideggerian terms of our being “thrown” into the world does not alter the *fact* of our having been “handed over” to ourselves precisely by that which has formed and continues to sustain us. It serves only to fashion an *Enlightenment* myth in the light of which we are declared to be homeless. And so we have taken ourselves since Descartes handed us our deracinate *cogito*.<sup>24</sup>

Thus for Poteat we are radically grounded in meaning as responsible persons through our mindbodily engagement with our social and natural world in its temporal thickness and in its tacit and fiduciary prereflectivity, which includes language, traditions, and forms of life, as the very basis for reflection and critical thinking.

Dale Cannon has raised the question: “When speaking of an ‘existential recovery of oneself,’ ‘a return to the ground,’ ‘a post-critical paradigm shift,’ and ‘a recovery of commonsense,’ was [Poteat] talking about the same thing or different things?”<sup>25</sup> I submit that all these phrases represent inter-related angles of a very coherent project; all these began as or became ways of speaking about overcoming an insane dualistic, disembodied picture of humanity in relation to the world.

However, by and large the academy and our culture have uncritically accepted the critical picture—a picture that attempts to subject everything to its discarnate, critical gaze. Therefore, it will take serious efforts by many in the way of critical reflection

in the post-critical mode—in touch with our radical embodiment—and widespread dissemination of that reflection to dissolve that picture and cure our insanity.

What then are the prospects of overcoming this insane picture in the academy and beyond? I confess that I am more pessimistic than in my younger days. As Cannon notes, becoming post-critical involves a personal transformation and a heuristic leap, shifts that are impossible existentially and logically as long as one views the world through the Enlightenment picture.<sup>26</sup> The absurdity of that picture when it becomes focal rather than tacit and the ubiquity of the “postmodern” contributed to my earlier optimism. Of course, deconstructive and poststructuralist forms of postmodernism won the branding wars for the term, rather than a more moderate or common sense postmodernism. While deconstructionism/poststructuralism has passed its heyday, various forms of constructivism that deny meaning inherent in our embodiment still hold sway in much of the humanities and social sciences. I have found that the American Academy of Religion’s Body and Religion Group seems to be just about how the body is constructed, rather than how one’s body in the first instance constructs. Such constructivism takes the subjective or mentalist or “idealistic” side of dualism, to use Merleau-Ponty’s terminology. The subjective side also takes other forms. In the earlier-mentioned lecture, “The Banality of Evil,” Poteat notes Descartes’ rhapsodizing about human transcendence, “even to the point of perhaps one day overcoming death.” Poteat goes on to clarify, “I’m not making this up. These were his very words.” Yet today, some scientists look forward to preventing the aging and the regeneration of cells such that we might indefinitely postpone death. Furthermore, some futurists, Ray Kurzweil having garnered the most fame, foresee a time when human consciousness as information will be uploaded to a great computer, thereby totally eliminating the human body in our ultimate consummation. What insanity to imagine we will continue to exist as immortal bodiless information!

Many natural scientists and other academics adhere to the objectivist or “empirical” side in the form of a reductive physicalism, which in its own way alienates and disembodies us from our lived body and its inherent meaningfulness. The influence of this reductive physicalist picture extends beyond the academy, as non-academics sometimes wonder, “Am I just the synapses of my brain?” or “Am I just my (selfish) genes?”

And then there is the so-called cognitive science of religion.<sup>27</sup> On the one hand, cognitive scientists of religion generally assume a reductive physicalism as their own metaphysical or ontological stance. As indicated earlier, from a Poteatian perspective, this simply opts for one side of Cartesian dualism. Meaning and value pertain to the subjective side of the divide, making them unreal, illusory for the physicalist. So we are left with meaningless physical processes, thus alienating ourselves from our personal meaning-laden embodiment in the world. An example of such a process is postulated in unconscious mental mechanisms that are supposed to cause humans to detect supernatural agency when none exists. Undoubtedly in immediate processing of stimuli

from our environment, we do have a prudent tendency to suppose agency. Better a false alarm when there's a rustle in the bush than to ignore a dangerous predator. But CSR utilizes this truth to oversimplify things. Something I learned from Poteat is that our attempts to orient ourselves in more abstract realms have some continuity with our most primordial attempts to orient ourselves in our environment. This desire involves a concern for truth, accuracy, and coherence. We breathe a sigh of relief when the rustle isn't a tiger. Our concern for truth involves both our prereflective and more reflective efforts. CSR presumes that human reflection regarding possible extraordinary, supernatural, or ultimate causes must always be overridden, overwhelmed by prereflective mechanisms. Lost is a responsible person or self who can be appropriately prereflective and appropriately critical. Most of us accordingly are supposedly powerless to overcome unconscious mechanisms that render futile our universal intent to discover truth and meaning.

Cognitive scientists of religion find an avenue of support for their position in the supposed proclivity of young children to believe in supernatural agents. Deborah Kelemen has concluded that children probably are natural teleologists and even intuitive theists, because they theorize that inanimate natural objects have an intended purpose.<sup>28</sup> Olivera Petrovich goes further in holding that young children possess innate "core religious concepts," since they overwhelmingly answer that plants and animals have been created by God.<sup>29</sup> Of course, the fly in their ointment is that young children have encountered the concept of God from adults. No evidence exists that young children have on their own, *de novo*, invented the idea of a powerful supernatural agent. Indeed, one study purports to show that young children do not invoke animistic or magical thinking to explain natural events.<sup>30</sup> Moreover, at least two studies cast doubt on how much of a tendency children have to teleologize or ascribe intentionality to phenomena: a 1932 study of tribal children by Margaret Mead and one by contemporary psychologist Frank C. Keil.<sup>31</sup> Mead concludes that Manus children, despite growing up in a very animistic culture, "not only show no tendency towards spontaneous animistic thought, but that they also show what may perhaps legitimately be termed a negativism towards explanations couched in animistic rather than practical cause and effect terms."<sup>32</sup> As part of a series of experiments on categorizing life forms with children in grades kindergarten, 2, and 4, Keil described and asked questions about a "thing" that could enter a human body and cause harm. Subgroups were given alternative descriptions of this "thing": 1) functional or teleological where the thing has to get inside people's bodies and use parts of their bodies, or it won't last long;<sup>33</sup> 2) simple mechanical where the thing causes abrasions; 3) intentional "that directly attributes goals and desires" to the thing; 4) artifactual where a human designed the thing; or finally, 5) no description at all.<sup>34</sup> "Children at all ages thought that the 'teleological' thing did not know what it was doing any more than the mechanical one,"

Keil concludes—that is, a large majority of children did not attribute knowledge or intention to the “functional/teleological” thing.<sup>35</sup> If the human propensity to ascribe intentional agency were as pervasively strong as CSR generally holds, one might expect that at least the youngest children would attribute such to the “functional/teleological” thing. After all, blaming evil spirits for disease is rather common among tribal peoples. While Kelemen has parenthetically referenced the Mead and Keil studies, she does not specify, let alone engage, Keil’s results, while only briefly engaging Mead’s study in a footnote.<sup>36</sup>

CSR also attempts to assert the decisiveness of unconscious mechanisms, which involve rather crude anthropomorphizing, by claiming that they override more abstract theologically correct conceptions in normal processing. That is, agency detection favors “minimally counterintuitive” rather than more maximal supernatural concepts. An experiment involved reading stories involving supernatural agents and then asking participants questions about said stories. My take is that the researchers were much too picky in holding their test subjects to the standard of a quite literal remembering or retelling of the story, rather than allowing the participants to go with the gist of the story, even allowing for employment of some metaphor, before judging that the participants really believed the anthropomorphic rather than theological ideas.

Magic, mentioned just above, represents another area where CSR appears narrow in its outlook. Most cognitive scientists of religion ignore magic. This neglect does limit human ability to find or form meaningful patterns in nature and human social life to only those practices in which individual supernatural agents are directly involved. James Frazer famously distinguished between magic and religion, consigning them to different eras of human prehistory. Scholars of religion since then have corrected Frazer in that both appear in indigenous religion and that some beliefs and practices combine both. Yet there seems to be little room for doubt that some ritual practices of indigenous peoples involve the belief that, if the ritual is performed correctly, a certain magical result will eventuate apart from the intentions of any supernatural agent. This absence of agency fails to fit into CSR’s paradigm.

This sole focus on *personal* agency figures into CSR’s inability to allow for any overall directionality or meaning to the universe. Edward Slingerland for his part dismisses the possibility of any larger meaning: Some modern Westerners harbor “a more diffuse, non-theistic sense that what we are doing ‘matters’—a conceit that makes no sense unless we project some sort of abstract, metaphorical agency onto the universe.”<sup>37</sup> Slingerland attributes this projection to the sphere of social interaction, specifically the human need for social approval. I would mention that our basic biological drive for orientation to our world involves both the social and physical—and perhaps in the human case orientation and explanation beyond our physical and social universes. Slingerland’s dismissal appears to apply not only to those with the vague sensibility he

cites, but many Eastern believers as well as some Western religious naturalists who see the universe or aspects of it as divine, as involving some non-theistic directionality. These folks do attribute precisely some metaphorical agency or causality to the universe or to the overarching (traditionally more Western) or underlying (more Eastern) source of the universe. That these Eastern believers and Western religious naturalists have deliberately rejected metaphors of personal agency for their version of ultimate reality constitutes an argument against Slingerland's assumption that our need for social approval must lie behind all belief in an ultimate or overall direction or meaning to the universe. The purported impossibility of any ultimate or overall meaning to the universe tends to leave us with subjectivism and nihilism.

While CSR for the most part adopts a reductive physicalist stance for itself, it tends to view the benighted populace of humanity as inveterately dualistic. The dualism it so attributes is quite Cartesian and disembodied. In so doing, it interprets religion in a discarnate way, thus reinscribing and reinforcing a discarnate dualism. To make sense of an indigenous shaman imagining he or she is flying in the body of an eagle, a shaman being possessed by the spirit of a mountain, or a modern movie goer following the transfer of bodies and consciousnesses in *Freaky Friday*, cognitive scientists like Slingerland, Jesse Bering, and Paul Bloom, assume that the shaman or movie-goer must be a Cartesian philosopher who at some level is abstractly and logically explaining these strange happenings.<sup>38</sup> This is to misunderstand our usual prereflective assumptions to the point of absurdity: we do not imagine ourselves in even a momentary disembodied state before we take on a different body or spirit. The more reasonable alternative would be to recognize that we humans are embodied beings who naturally imagine in various bodily ways.

Despite CSR's claim that our agency detection anthropomorphizes, some cognitive scientists of religion claim that we humans over-detect *disembodied* gods, goddesses, and spirits. Primal and ancient animistic belief entailed embodiment in nature or in some kind of anthropomorphized—or animalized—body. Of course, these embodied spirits do not suffer all the limitations that humans and animals endure with their bodies. And their bodies may be hidden from us or even invisible to our ordinary vision. As some ancient religions developed, as in Greece, for example, some animistic beliefs gave way to a god or goddess who controlled a part of nature, like Poseidon and the seas. However, such ancient gods and goddesses were blatantly anthropomorphic in body. Not only did primal and ancient people typically depict deities as embodied, they believed their representations bore some analogy to actual divine bodies. While ancient Judaism prohibited representation of God (the historical reality of which happened much later than depicted in Hebrew biblical narrative), it did not explicitly deny, and in some scriptural passages specifically refers to, God's body. The underlying rationale was that the greatness of God and the divine body in comparison to human or animal

bodies would countenance no visual representations. The complete disembodiment and immateriality of God in learned Jewish and Christian theology resulted from a long journey strongly influenced by Greek philosophy, particularly of the Platonic and Aristotelian varieties. (Even Stoicism, influential in the ancient world and in some respects on Judaism and Christianity, affirmed some materiality to the divine, in its pure state of Fire.) I would note that the argument of some cognitive scientists that our unconscious supernatural agency detection usually overcomes abstract theological thinking runs counter to the notion that religious or supernatural agency is essentially discarnate. The insistence of some cognitive scientists that belief in spiritual beings like us in various ways exist as essentially disembodied simply reinscribes the presupposed picture.

Also tending to reinscribe our essential disembodiment, cognitive scientists often regard belief in life after death as tantamount to a dualistic belief in disembodied spirits. Jesse Bering and David Bjorklund did an influential study on children's beliefs about what happens to a mouse eaten by an alligator.<sup>39</sup> Bering in a major article begins with this assertion: "By stating that psychological states survive death, one is committing to a radical form of mind-body dualism."<sup>40</sup> While I have written at some length about particulars of the Bering-Bjorklund study,<sup>41</sup> my main criticism is that I suspect that young children typically believed that the mouse continued to exist in another body in another world. Unfortunately, that possibility was not tested for. Ten years ago at a reunion at Yale University, I asked Paul Bloom whether any of the experiments with children supported the hypothesis that humans innately distinguish between disembodied souls and mindless bodies over the hypothesis that humans innately distinguish between animate, sentient, intentional embodied beings and inanimate things. He answered in the negative. In an e-mail from 2008, he indicated that he finds more "compelling" the thesis of mind-body dualism for interpreting the results of the most significant experiment(s), by Bering and Bjorklund, than the animate-inanimate distinction. Specifically he writes that the fact that most young children believe that a dead mouse's mental states continue while its biological states do not "strongly suggests that kids think it has no body but still has a mind."<sup>42</sup> As suggested above, the lack of testing the possibility that the children believe other bodily states continue in another realm makes dualism less than compelling for me. These cognitive scientists have begged the question of whether afterlife belief entails dualistic disembodiment.

Furthermore, this assumption about afterlife belief flies in the face of evidence from the history of religions. Primal religions typically believe in an embodied world in some spatial relation to our present one—though unreachable until we die—and often better than our present one, without all the evils. The clichéd "happy hunting ground" represents one version of this. Moreover, the spirits of ancestors as they interact with this world, though without some of the limitations of our bodies, are hardly

disembodied. Early theorist of religion E. B. Tylor reports that primal cultures, though often conceiving spirits as “vaporous,” most definitely do not regard them as “immaterial.” In one example, he notes how some tribal religions make sure an opening exists in a container where a spirit abides so that it could escape.<sup>43</sup> When the Toraja of Indonesia are about to sacrifice a water buffalo, they warn the spirits to keep away lest they suffer injury.<sup>44</sup>

As ancient agricultural civilizations developed, afterlife beliefs typically changed: In some cases afterlife belief died out, in many others an unhappy picture of the afterlife emerged. I attribute this change to the dominance of agriculture in these cultures and to their controlling pictures about life that arise from agriculture: like dead plants, dead human bodies are buried in the earth. While new plants come from the soil and nourish new human life, particular human individuals do not revive from the grave any more than do particular individual plants. Typically, afterlife belief focuses on an Underworld, where people are mere shades or shadows of their former selves, as in the Hebrew concept of Sheol. Note that the dead do have a body, albeit a shadowy one. While they do not suffer complete disembodiment, I sense that the lack of full-blooded, full-bodied life constitutes precisely the most unsatisfactory aspect of existence in Sheol or Hades. The unhappy nature of such an afterlife takes some of the steam out of the argument for a human compulsion to believe that some (disembodied) part of us survives. Annihilation appears a better prospect than “life” after death in Sheol.

Additionally, I would note that resurrection of the body represents the most original version of life after death in the Western monotheisms of rabbinic Judaism, Christianity, and Islam. The influence of Greek philosophy, especially (neo)Platonism, has complicated the picture in Western theology, introducing a disembodied soul—at least until the Judgment Day—with which to contend. Nevertheless, I suspect that for believers in an afterlife from these religions, the vast majority imagine immediate presence in heaven with a perfect body, reunited with departed family and friends whose transformed bodies they immediately recognize.

While Slingerland shares the official ontology of reductive physicalism with other cognitive scientists of religion, innate Cartesian dualism ends up playing a peculiar role in his attempt to make sense of life. Slingerland begins sounding rather Potentian, poking fun at poststructuralist types who maintain that our preferences are constructed apart from the constraining influences of our bodies and then declaring that “the mind is the body, and the body is permeated through and through with mind.”<sup>45</sup> Nevertheless, he concludes that the fundamental nature of consciousness is the same as that of everything else in the universe—a configuration of matter and energy, just more complex than most: “human beings, like all of the other entities that we know about, appear to be robots all the way down, whether we like that idea or not.”<sup>46</sup> But we do not like that idea! Here is where dualism re-enters in Slingerland’s account, in an ultimately

futile attempt to recover some sense of human personhood. Part of us wants to know the truth, however unpleasant (a part which I view as continuous with our prereflective bodily desire accurately to orient ourselves)—in this case, the alleged physicalist truth that we are just things.<sup>47</sup> However, to quote Jack Nicholson's character in *A Few Good Men*, another part of us "can't handle the truth." For evolution has designed us not to think of ourselves and others as mere things—even though we are.<sup>48</sup> Or as he puts it in a subtitle, "We are robots designed not to believe that we are robots."<sup>49</sup> So not to worry, since evolution has programmed us to believe our subjectivity and our meanings are real and to act as if we were valuable. This dualistic thinking consigns us to irreconcilable conflict between supposed scientific and metaphysical truth on the one hand and what makes life meaningful on the other. The poignancy of this conflict comes out for me in an interview. Slingerland declares, "I love intensely" my six-year-old daughter. But then he confesses that this deep affection for his daughter is illogical, since he does not really believe in "love."<sup>50</sup> This is indeed insane dualistic thinking, where the embodied love of a parent for one's child is less real, less true than discarnate alleged scientific truth. Of course, I credit Ted Slingerland with really loving his daughter at the deepest level of his being—and at the deepest level of reality, both in terms of truth and value, in spite of intellectual protestations to the contrary. I also credit him with making unusually explicit the implications of the dualistic, discarnate, and deracinate picture that affects us academicians and many others, that alienates us from ourselves as responsible persons, putting us in conflict with our lived, embodied, convivial meanings, in the name of a perspective from nowhere that claims to be the perspective from everywhere. If, as suggested earlier, critical reflection must play a crucial role in undermining the power of this picture, then clear-cut examples of the absurdities that ensue when we follow this picture to its logical conclusions, and calling attention to those examples, should figure prominently in our attempt to fashion a cure.

To summarize, CSR in general adopts the reductive physicalist and scientific side of a discarnate dualism, as it imagines it sees things with perfect objectivity. This position renders dubious any human meaning. In particular it reduces religion in the first instance to unconscious mechanisms that imagine the existence of supernatural agents. Belief in such agents supposedly helps explain the illusory belief in any larger meaning. Recognizing the human desire for meaning, many cognitive scientists of religion also attribute to people the belief in disembodied divine and human spirits, thus further serving to explain supposedly illusory meaning, including belief in an afterlife or in any larger meaning. These latter thinkers therefore conjure up and reinscribe an allegedly innate dualism from the subjectivistic or idealistic side. Thus, cognitive scientists of religion on the whole relegate humans to idealistic or physicalist disembodiment, absconding from their own and disallowing others' personal, responsible, convivial embodiment in our natural and social world and the inherent meaning of

that embodiment, as we tacitly rely on our prereflective bodies. They also abscond from their own and disallow others' search for larger or religious meaning through reflection based on our prereflective embodiment in a meaningful world.

Cognitive science of religion could be more productive if it applied the post-critical insights of Poteat in the following ways to bring out our radical, grounded, responsible, and full-fledged embodiment: 1) design studies of theological language and of religious ritual that a) attempt to discern how literally versus how metaphorically people understand theological and ritual language and b) attempt to understand how people integrate prereflective with more reflective belief and practice; and 2) design studies of afterlife belief and of hypothetical situations where people appear to switch bodies that allow for the acknowledgement of embodiment in such beliefs and imaginary situations. This would involve actually attempting to discern whether people imagine or think about being in a totally discarnate state, rather than assuming that disembodiment is necessarily entailed in afterlife belief or in imagining being in another body.

What is Poteat's legacy in a world where the insane picture he saw and the insane condition he diagnosed still exist and exert great influence? In responding to an earlier draft of this essay, Dale Cannon asked, "Who (or what) has been *cured*"? I would answer that Poteat was cured as have been many of his students—and students of those students (though, more than once in his books Poteat catches himself being influenced by the discarnate picture;<sup>51</sup> and so I also catch myself in my own musings). Currently there appears to be no movement clearly countering this insane picture that has reached a level of general awareness among scholars of religion, let alone the wider academy community. Yet despite this lack and the various discarnating subjectivist and reductive physicalist influences in the academy mentioned above, reasons for tempered hope exist. Mark Johnson's embodied philosophy of mind does seem to have reached a level of general awareness among philosophers, though how influential that perspective, along with related theories of embodied cognition, is amidst the philosophy community is questionable. And American pragmatism continues to offer resources given much of its basis in embodied experience. Related to embodied cognition, non-reductionism among biologists, philosophers of biology, cognitive psychologists, and neuroscientists open to holistic meaning within nature offers encouragement. Such thinkers include Terrence Deacon, Stuart Kaufmann, Francisco Varela, Evan Thompson, Eleanor Rosch, Antonio Damasio, and Gerald Edelman. Also, the February 2017, issue of *Tradition and Discovery* focuses on biosemiotics, which acknowledges meaning at all levels of life. None of these just-mentioned thinkers or movements has evidenced any awareness of Poteat's relevant work—though hopefully that may change. In any case, because of the insight—and the hope—that Bill Poteat has given us, we need to keep that hope and keep the faith, combatting the insanity and helping people find sacred grounding in their bodies in our convivial natural and social world.

## ENDNOTES

<sup>1</sup>Dale W. Cannon, "Being Post-Critical," in *Recovering the Personal: The Philosophical Anthropology of William H. Poteat*, ed. Dale W. Cannon and Ronald L. Hall (Lanham, MD: Lexington Books, 2016), 24-26.

<sup>2</sup>William H. Poteat, *Recovering the Ground: Critical Exercises in Recollection* (Albany: State University of New York Press, 1994), 113; Cannon, "Being Post-Critical," 31-32.

<sup>3</sup>William H. Poteat, "Pascal's Conception of Man and Modern Sensibility" (dissertation, Duke University, 1951), i.

<sup>4</sup>For example, Poteat, "Pascal's Conception of Man," i-ii, 31-32.

<sup>5</sup>Poteat, "Pascal's Conception of Man," 83-85.

<sup>6</sup>Poteat, "Pascal's Conception of Man," 83-85.

<sup>7</sup>Poteat, "Pascal's Conception of Man," 1.

<sup>8</sup>Poteat, "Pascal's Conception of Man," 350.

<sup>9</sup>Suggested to Poteat by Merleau-Ponty (William H. Poteat, *Polanyian Meditations: In Search of a Post-Critical Logic* [Durham, NC: Duke University Press, 1985], 59).

<sup>10</sup>Poteat, *Polanyian Meditations*, 64-65.

<sup>11</sup>William H. Poteat, "The Banality of Evil: The Darkness at the Center" (paper presentation, University of North Carolina at Charlotte, November 13, 1988).

<sup>12</sup>Poteat, *Recovering the Ground*, 18, 26, 123-24, 134, 142, 156, 172, 197.

<sup>13</sup>In an interesting but somewhat cryptic reference, Poteat calls "militant Marxism" the "most cruel and unforgiving of all forms of gnostic apocalypticism" (Poteat, *Recovering the Ground*, xiii). As I interpret this comment and Marx, I think Poteat is right: For Marx claims that we are God, as we have alienated ourselves from our noble qualities and projected them onto an illusory supernatural God. And despite his materialistic focus on economics, Marx saw communism, by satisfying our material needs, as freeing us to realize our divine creativity and artistry.

<sup>14</sup>Paul Tillich, *Theology of Culture*, ed. Robert C. Kimball (New York: Oxford University Press, 1959), 152.

<sup>15</sup>Poteat, *Recovering the Ground*, 165-66.

<sup>16</sup>Poteat, *Polanyian Meditations*, 9.

<sup>17</sup>William H. Poteat, *A Philosophical Daybook: Post-Critical Investigations* (Columbia: University of Missouri Press), 98.

<sup>18</sup>This phrasing and the previous quotation come from Antonio R. Damasio, *Descartes' Error: Emotion, Reason, and the Human Brain* (New York: G.P. Putnam and Sons, 1994), 106.

<sup>19</sup>Michael Polanyi, *The Tacit Dimension* (Garden City, NY: Doubleday, 1966), 16; see also, x.

<sup>20</sup>Poteat, *Philosophical Daybook*, 68.

<sup>21</sup>Poteat, *Recovering the Ground*, 141.

<sup>22</sup>Poteat, *Recovering the Ground*, 141-42, 201-202.

<sup>23</sup>Potear, *Philosophical Daybook*, 47.

<sup>24</sup>Potear, *Philosophical Daybook*, 47.

<sup>25</sup>Cannon, "Being Post-Critical," 32-34, expounds upon the role in Potear's thought of how this picture holds folks captive.

<sup>26</sup>Cannon, "Being Post-Critical," 24-26.

<sup>27</sup>Prior to The Primacy of Persons Conference, I wrote an article delving into CSR, entitled, "The Dualistic, Discarnate Picture That Haunts the Cognitive Science of Religion" in *Zygon: Journal of Religion and Science* 50/3 (September, 2015).

<sup>28</sup>Deborah Kelemen, "Are Children 'Intuitive Theists'? Reasoning about Purpose in Nature," in *Religion and Cognition: A Reader*, ed. Jason Slone (London: Equinox Publications, 2006), 99-114.

<sup>29</sup>Olivera Petrovich, "Origins of Religion in Human Development: The Issue of Innateness" (paper presentation, Oriel College, Oxford, February 10, 2005).

<sup>30</sup>Orem, William. "The Magical Mind: How Do Adults Become Supernatural Thinkers?" *Science and Theology News* 6 (2006): 18-19.

<sup>31</sup>Margaret Mead, "An Investigation of the Thought of Primitive Children, with Special Reference to Animism." *Journal, Royal Anthropological Institute of Great Britain and Ireland*, 1932, 173-90; Frank C. Keil, "The Origins of an Autonomous Biology." In *Modularity and Restraints in Language and Cognition*, eds. M. R. Gunmar and K. M. Marastsos (Hillsdale, NJ: Erlbaum, 1992), 103-37.

<sup>32</sup>Mead, "Primitive Children," 186.

<sup>33</sup>Keil, "Origins," 123-24.

<sup>34</sup>Keil, "Origins," 124-25.

<sup>35</sup>Keil, "Origins," 126.

<sup>36</sup>Kelemen, "Are Children 'Intuitive Theists'?" 101-102, 111 n.1.

<sup>37</sup>Edward Slingerland, "The Study of Religion in the Age of Cognitive Science," *Journal of the American Academy of Religion* 76 (2008): 386.

<sup>38</sup>Slingerland, 395; Jesse M. Bering, "The Folk Psychology of Souls," *Behavioral and Brain Sciences* 29 (2006): 453-62; Paul Bloom, *Descartes' Baby: How the Science of Child Development Explains What Makes Us Human* (New York: Basic Books), 195, 213.

<sup>39</sup>Jesse M. Bering and David F. Bjorklund, "The Natural Emergence of Reasoning about the Afterlife as a Developmental Regularity," *Developmental Psychology* 40 (2004): 217-33.

<sup>40</sup>Bering, "Folk Psychology," 453.

<sup>41</sup>David H. Nikkel, *Radical Embodiment* (Eugene, OR: Wipf and Stock, 2010; Cambridge, UK: James Clarke, 2011), 163-68; "Dualistic, Discarnate Picture."

<sup>42</sup>Paul Bloom, e-mail message to author, July 18, 2008.

<sup>43</sup>Edward Burnett Tylor, *Primitive Culture: Researches into the Development of Mythology, Philosophy, Religion, Art, and Custom*, vol. 1 (Oxford: Oxford University Press), 410-13.

<sup>44</sup>Ronald Eyre et al. "Religion in Indonesia: The Way of the Ancestors," in *The Long Search* (New York: Ambrose Video Publishing, 2001).

<sup>45</sup>Slingerland, 376-78.

<sup>46</sup>Slingerland, 392.

<sup>47</sup>Slingerland, 400-402. Interestingly Slingerland cites the movie, *The Matrix*, where most humans live as brains in a vat but do not know their true state (400-401). Damasio contends that the absence of a body means that a brain in a vat could not duplicate embodied experience (*Descartes' Error*, 228). Though Slingerland does not specify the disembodied state of such brains, I would opine that what the heroes fighting the Matrix, and viewers identifying with them, find unacceptable is not just the deception, but also the disembodiment.

<sup>48</sup>Slingerland, 392-404.

<sup>49</sup>Slingerland, 395.

<sup>50</sup>Todd, Douglas, "Smart Atheist Heads \$3-million Grant into Religion and Morality" (*Vancouver Sun Staff Blogs*, Postmedia Network Inc., January 11, 2013).

<sup>51</sup>For example, Poteat, *Philosophical Daybook*, 71-72.

# THE POLITICAL IMPLICATIONS OF WILLIAM H. POTEAT'S PHILOSOPHY



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## ABSTRACT

*Since World War II, political theory has increasingly focused on the question of the origins and nature of the modern age. William H. Poteat's explication of the Greek and Hebraic ontologies and his argument that modernity is the result of their incoherent combination in Christian theology can provide a framework to synthesize and extend the major competing theories about the modern era.*

William H. Poteat's writings rarely focus directly on politics, but his philosophy nevertheless has very large implications for issues of political order. In this essay I will argue that Poteat's epistemological and ontological insights can be used to resolve several central issues in contemporary political theory. I will begin with a brief survey of those issues and then develop a tentative synthesis of several major recent political theorists. I will then show how Poteat's philosophy can clarify and extend that synthesis.

## Political Theory and the Modern Age

Since the Second World War, Western political theory has increasingly focused on one question, namely the genesis and nature of the modern age. The modern era, usually regarded as beginning about the year 1500, has been characterized by scientific and technological advances that have dramatically improved human material well-being and by political reform and revolutionary movements that have attempted to establish greater individual freedom, so that modernity understands itself as the story

of human progress. But modern progress has been ambiguous in a number of ways. First, many of the same political theories that demanded greater freedom for Western people simultaneously rationalized European subjugation of other cultures. Modernity is very much the story of Western racism and imperialism. Second, at least some of the modern revolutionary movements dedicated to creating freedom instead turned into tyrannies much worse than anything seen in the premodern world. The modern age has produced both freedom and totalitarianism. Third, ever since the early nineteenth century, significant questions have been raised about whether the political and technological changes of the modern age really have increased human freedom; fears that humans have become slaves to their machines and that modern impersonal bureaucracies have become a kind of “administrative despotism” are now so commonplace that they have become staples of popular culture. Fourth, over the past few decades serious doubts have arisen about whether modern technological development is environmentally sustainable. The material progress of the modern era may turn out to be very short-lived. Finally, and most radically, the philosophical presuppositions of modernity, taken to their logical conclusion, appear to result in a thoroughgoing nihilism, recognized as early as the late nineteenth century by Friedrich Nietzsche, emerging in spectacular practical terms in the insane slaughter of the twentieth century’s world wars, and now manifested more subtly in the self-destructive logic of postwar consumer culture.<sup>1</sup>

As a consequence, since World War II, there has developed a substantial consensus among political theorists that the modern worldview definitively established by the Enlightenment is at least partly incoherent and thus has become morally, socially, and ecologically destructive. These theorists argue that alternative models of the relationships among humans and between humans and their environment must be developed. But developing alternatives to modernity requires understanding what, precisely, modernity is about. Hence the focus on the origins and essence of the modern age.

Although some political theorists, such as Alexis de Tocqueville, had expressed reservations about the trajectory of modern civilization during the nineteenth century, it was primarily in the aftermath of the First World War that a widespread perception of crisis emerged. The most important attempt to understand the essence of the modern era during this period was that of Martin Heidegger. Heidegger argues that early modern philosophy made a fatal mistake in attempting to ground knowledge in the human subject. Attempting to describe the structures of the mind that allow humans to receive a clear, objective “picture” of external reality leads inevitably to the conclusion that external reality is actually a creation of the mind. Consequently, modernity ends in a rampant subjectivism that reduces the world and even human beings to objects for technological exploitation and, in a final bizarre twist, regards even scientific knowledge as nothing but a human interpretation. Heidegger eventually traces the

subjectivist tendencies of modernity back to Plato's attempt to reduce the luxuriant multiplicity of reality to a finite, static cosmic structure. He ultimately recommends a re-articulation of the pre-philosophical pagan cosmos and a consequent displacement of humans from center stage in the universe as an alternative to the Western rationalist tradition. Heidegger's most direct influence is found in postmodernism, which gives his analysis an egalitarian interpretation that leads to the project of unmasking or "deconstructing" structures of authority as mere impositions of subjective power. But more broadly his work has provided, at least implicitly, the starting point for most subsequent attempts to understand the essence of the modern age.<sup>2</sup>

During and shortly after the Second World War several attempts were made to refine Heidegger's initial analysis. Perhaps the best-known of these is the argument of the Frankfurt school, as developed initially by Max Horkheimer and Theodor Adorno and later modified by Jürgen Habermas, that the essence of modernity is not so much subjectivism *per se* as the manner in which the modern age has conceptualized the subject, that is, in terms of instrumental rationality. Horkheimer and Adorno argue in effect that the rational subject could be a valid foundation for knowledge and political order if understood in a broader manner than that of the Enlightenment, which thought of the subject primarily, if not exclusively, in terms of its capacity for technical control of nature. Habermas has developed this analysis further by arguing that the modern age is characterized by a tension between what he calls communicative rationality and subject-centered reason. The former is his name for the capacity for intersubjective communication that has allowed science, parliamentary democracy, and other positive features of modernity to develop and flourish. The latter roughly corresponds to the instrumental rationalism identified by Horkheimer and Adorno. Habermas sees it as resulting from the Enlightenment's misinterpretation of the Scientific Revolution, as embodied in Cartesian and Kantian rationalism (both of which inevitably degenerate into Nietzschean nihilism), and as practically manifested in various forms of reductionism, including both *laissez-faire* and statist political theories. Habermas sees this formulation as an advance over the earlier Frankfurt school in that it isolates two different moments, one positive and one negative, of modern thought. He thinks that communicative rationality has never been adequately theorized and sets such a theorization as his fundamental task.<sup>3</sup>

Several later theories broadened the scope of inquiry beyond that of Heidegger and the Frankfurt school by regarding modern subjectivism as essentially derivative from more general ontological conceptions. Heidegger's student Leo Strauss, at least in one possible interpretation, sees subjectivism as a logical consequence of the mechanistic ontology first articulated by Thomas Hobbes and Rene Descartes in the seventeenth century. For Strauss, the human desires which form the basis for modern conceptions of natural rights, understood by Hobbes as products of mechanical causation, are

exposed by Jean Jacques Rousseau—simply working out the logical implications of Hobbes's own ontology—as human social constructions. As Rousseau's insight is later taken to *its* logical conclusion by Nietzsche, even early modernity's mechanical universe becomes nothing but a human creation. Strauss urges a recovery of the classical Greek ontology as an alternative to the inevitably nihilistic mechanistic metaphysics of the Enlightenment.<sup>4</sup>

Although Strauss sees modernity as making an explicit break with premodern ontology, most subsequent political theorists have urged that modernity's origins tend to lie in the medieval era, that is to say, in Christianity. Karl Löwith (another student of Heidegger) and Eric Voegelin have posited that the political movements of the modern age could be best understood as immanentized versions of Christian eschatological expectations. The modern era is essentially a series of ever more violent revolutions attempting to establish heaven on earth. Löwith tends to follow Strauss in seeing something like Platonism as an alternative to the secularized Christian millenarianism of modernity. Voegelin, by contrast, regards Christianity as having achieved greater spiritual truth than the Greek philosophers, but sees early Christian theology as making a fatal mistake in regarding revelation as closed with Christ, rather than admitting the possibility of further revelations beyond Christ. Preparing for further revelations would have given spiritual meaning to the Christian societies that developed during the Middle Ages, but the Church's closure of revelation meant that Western spiritual energy would be increasingly directed toward this world, ultimately resulting in modernity's perfectionist (or as Voegelin terms them, gnostic) political movements. This analysis leads him to something like a kind of process theology as an alternative to orthodox Christian doctrine.<sup>5</sup>

Finally, another position, taken recently by Michael Gillespie and others, finds the origins of modernity in late medieval nominalism. Essentially, Gillespie argues that during the Reformation and in the earliest more-or-less secular political theories the nominalist conception of God as pure, unrestricted, irresistible will was transferred both into humans, thus generating the subjectivism of modernity, and into nature, thus resulting in the mechanistic ontology of modernity. Like Strauss, Gillespie tends to see a revival of Platonism, or more precisely a kind of Platonized Christianity, as an alternative to modernity.<sup>6</sup>

Even such a cursory examination of the development of political theory in the postwar era shows clearly that the major theories increasingly point toward theological issues, and indeed several of the analyses discussed above actually finger Christianity as the culprit in the modern scenario. Voegelin sees modernity as resulting from Christianity's (mistaken) belief that revelation is closed while Gillespie sees the pure will of the nominalist God as a direct implication of the biblical worldview. As it happens, recent theologians, like political theorists, have focused considerable energy on the

issue of modernity's origins, perhaps not so much from political considerations but in an attempt to understand the collapse of Western Christian culture since the late eighteenth century. These theological analyses indicate that the political theories discussed above are correct in seeing modernity as derivative from Christianity but tend to have a somewhat simplistic understanding of the theological issues involved—although these limitations do actually point to areas where historic Christian theology has been incoherent and needs to be reconstructed.

The centrality of theological issues for any understanding of modernity becomes clear when it is realized that Heidegger's argument—that the essence of modernity is subjectivism—was actually more or less anticipated by Karl Barth in his critique of liberal Protestantism. In his shattering post-World War I work *The Epistle to the Romans* (1921), Barth takes liberal theologians such as Friedrich Schleiermacher to task for focusing on the human subject and its interior religious consciousness rather than on God's word, which originates outside the subject. Heidegger's analysis from the 1930s could even be described as a kind of neo-pagan version of Barth, applied to ancient and modern philosophy, although there does not appear to be any evidence of a direct influence.<sup>7</sup>

About a generation after Barth, Reinhold Niebuhr developed an interpretation of the modern age that broadened his argument into something similar to the theories of Voegelin and Lowith. Niebuhr sees the idea of progress and its denial of human sinfulness as the essence of modernity and sees modern notions of progress as developing from the overly benign view of human nature that resulted from the medieval synthesis of Greek and biblical anthropologies. The ancient Greek philosophers had a high estimate of the human capacity for virtue (at least for a philosophical elite) but a low estimate of overall human capabilities, seeing humans as having only a minimal ability to affect their environment. The biblical authors had a much greater sense of human agency but had a very low view of human virtue, seeing that agency as corrupted by sin. The medieval synthesis of these two views, which tended to retain the greater biblical sense of human agency but downplayed the destructive effects of sin, eventually led to the Renaissance view of humans as having tremendous abilities to change the world and the virtue to do so successfully, leading to modern progressivism and ultimately millenarianism.<sup>8</sup>

The Catholic theologian Henri de Lubac can be read as developing a partial insight achieved by Niebuhr and thereby beginning to clarify the nature of modernity in the Catholic world. An obvious criticism of Niebuhr's argument is that while it does have a certain conceptual plausibility it doesn't fit the historical facts well, as modern culture developed more completely in the Protestant countries than in the Catholic world, so that it seems strange to locate the origins of modernity in Catholicism. Niebuhr's analysis seems conceptually plausible because it is based on a once-conventional

interpretation of Thomas Aquinas's position on nature, grace, and sin. Aquinas is usually presented as having argued that God created humans with a pure, essentially Aristotelean nature, and then added a "supernatural gift" to give humans a higher nature than other beings. As Niebuhr understands Aquinas, only the supernatural gift is lost or corrupted through original sin, so that an uncorrupted pure nature still remains. Human nature can then be conceived as perfectible, leading to the semi-Pelagianism of Catholic theology and the full-blown Pelagianism of the Renaissance and modernity. Lubac argues, however, that the idea of a pure nature and supernatural addition is not found in Aquinas but rather emerged through the neo-scholastic (mis)interpretation of his writings that heavily influenced the Council of Trent. Aquinas, according to Lubac, thought that God created humans with a radically different nature than other beings, one capable of a supernatural end, with nature and grace not as readily separable as the neo-scholastic interpretation implies, and thus also with no possibility of a pure nature uncorrupted by sin (and therefore capable of this-worldly perfection). The anthropological formulation seen by Niebuhr as the precursor of modern progressivism did not actually emerge until after the Renaissance and Reformation and therefore could not have influenced early Protestant culture. As I will discuss below, however, it could explain modern tendencies in the Catholic world.<sup>9</sup>

A more recent position, held by Robert Jenson, Colin Gunton, and several theologians from the Eastern Orthodox tradition, is that the origins of modernity can be found in the failure of Christianity to develop a truly Trinitarian theology.<sup>10</sup> Here I will focus on Gunton, who presents the most straightforward version of this analysis. In his view theology after the Council of Nicaea failed to work out the implications of the doctrine of the Trinity, focusing primarily on the Father, only secondarily on the Son, and hardly at all on the Holy Spirit. Thus Christianity drifted toward a rather one-dimensional picture of God, conceiving of him primarily as creator—and as creating primarily, if not exclusively, through sheer, perhaps arbitrary, will; it tended to conceive of nature in static terms, as the product of a "one-shot" creative act, rather than as an ongoing process; and it was very slow to recognize fully the extent of human freedom implied in the Trinitarian formulation. This meant that as a greater sense of human agency developed in the early modern era, it tended to be conceptualized as pure will (the model of God's agency) and it tended to be increasingly seen as in competition with the apparently arbitrary will of God. Thus modernity is characterized by an increasingly radical assertion of human will, resulting in (as with Heidegger) the reduction of nature and even humans themselves to objects of technical manipulation.

Gunton argues that the dilemmas of modernity can be resolved by working out the critical implication of the Trinitarian model: that God exists in harmonious plurality. The Western philosophical and theological tradition, thanks to Plato, has an overpowering tendency to see plurality as conflictual and order as possible only through unity. This tendency is why post-Nicene theology, beginning with Augustine, tended

to reduce the Trinity to the person of the Father. But the harmonious plurality of the Trinity means that the Holy Spirit, in perfecting creation, brings about what Gunton calls “the realization of particularity,” from which we finally conclude that the particularity of created beings is established by the particularity at the heart of the being of the Creator. This leads to a relational understanding of the world, where beings are understood in terms of their relationship to God and others. Politically, then, a truly Trinitarian theology would imply that humans attempt to work out and put in practice a truly relational approach to each other and the natural world. This would imply a politics that, while allowing and indeed encouraging human freedom, would understand that freedom is a more subtle matter than is generally understood in present-day liberal individualist societies, and that in particular, true freedom is possible only within the context of community. Similarly, it would result in a new understanding of the human relation to nature, one that could mean a new type of technology, or rather, new forms of economic production, that would be environmentally sustainable but still allow a reasonable level of material prosperity for all.

### A Preliminary Synthesis

At this point in the analysis, I think three conclusions can be at least tentatively drawn. First, it is likely that the modern age has its origins in historic Christian culture, since all of the apparent features of modernity taken as essential by various theorists—subjectivism, mechanism, progressivism—can be traced to issues in Christianity. One could discern a line of thought from the Reformation and neo-scholasticism to the materialistic rationalism of the Enlightenment and thence to the aesthetic or neo-pagan irrationalism of late modernity. Indeed, it is probably correct to say that modern civilization is a (confused) Christian civilization: all of the early figures of the Enlightenment saw themselves as Christians, and full-blown secularism is a relatively late development.<sup>11</sup> But if modern political theories are incoherent and ultimately nihilistic, then classical Christian theology must also have been incoherent in some way, and indeed this is the conclusion theologians themselves have generally drawn.

Second, as already discussed, the modern age is probably best understood as ambiguous in nature. Here a fairly clear evolution can be discerned. Most of the earliest attempts by philosophers and theologians (such as Heidegger, Strauss, Voegelin, and Niebuhr) to understand the nature of modernity saw it as uniformly negative, as an inexorable slide from the naive rationalism of the Enlightenment to nihilism and technological world war. But this picture is certainly too simple. Modernity does seem to have some legitimate accomplishments, most notably in the dramatic improvement in the material conditions of life that it has brought about, and particularly in the spectacular increase in life expectancy over the past 200 years. A more nuanced interpretation of the modern age can be found in the work of more recent theorists.

Habermas, as noted above, would be the obvious example, but Gillespie, Gunton, and others have also indicated that the modern worldview appears to have at least partly captured important truths about nature and human agency that premodern philosophy and theology could not. This is also the position held by both Popes John Paul II and Benedict XVI, and indeed appears to be the position of Poteat's mentor, Michael Polanyi.<sup>12</sup>

Third, an examination of the various theories of modernity tends to indicate that not only is modernity not all evil, it is also not monolithic. That is, modern thought and modern civilization have developed differently in different areas of the Western world. The tendency toward subjectivism is probably strongest in Germany, and indeed this is probably why Heidegger saw it as the essence of modernity and why Habermas also conceptualized modernity in terms of the subject. Conversely, the mechanistic ontology of modernity is clearly most prominent in the English-speaking world, and indeed, as I shall argue below, probably derives from the powerful influence of Calvinism there. Finally, the trajectory of modernity in the Catholic world seems to be significantly different and is probably best captured by Lubac, as will be explained below.

With these observations as a starting point, I will now sketch out a rough synthesis of the theories discussed above, in preparation for a final synthesis facilitated by Poteat's analysis. Accepting that modernity is ambiguous, and assuming that the positive aspects of modernity have their origins in Christianity (a claim I will demonstrate using Poteat), I will focus on the negative dimensions of modern thought and the modern age. I think Gunton is correct in arguing that the key issue is Christianity's inability to develop a truly Trinitarian theology. From this comes the tendency, as discussed above, to understand God as pure will, a tendency that reaches its logical conclusion in nominalism. The Reformation's attempts to come to grips with the implications of nominalism appear to lead directly to both the mechanistic tendencies of modern English-speaking thought and German subjectivism.

Calvin is the key link for the English speaking world, as he pushes the logic of nominalism to its final conclusion. For him the nominalist conception of God means that the universe must ultimately be predetermined by God's will, a conclusion most obviously manifest in his doctrine of predestination. Hobbes, in effect, merely reconceptualizes Calvin's predetermined universe by making God do less work: God's will, instead of directly determining every occurrence in the world, simply creates the mathematical laws that define the mechanical forces that determine every occurrence in the world, leading to the modern English-speaking picture of nature and its political, economic, and social embodiment, liberal capitalism. Luther is the critical figure in Germany. His attempt to understand how human will submits to God's will leads directly to the obsession with the subject (individual or collective) found in Kant,

Hegel, Marx, and Nietzsche, and therefore to Heidegger's assessment that subjectivism is the essence of modernism.

The situation in the Catholic world, in which modern culture has been less clearly defined as in the Protestant countries, is somewhat more complicated, but again Gunton can provide the starting point. Recall that, according to Gunton, in addition to conceiving of God as pure will, the Western theological tradition has also tended to conceive of nature as essentially static (or, as conceptualized earlier, as God's creation as a single event rather than an ongoing process), that is, as not necessarily all that different from Aristotle's static natural cosmos. Lubac's analysis implies that, in effect, Aquinas's conception of human nature and grace was able to move at least somewhat away from this stasis, but that it was restored, or rather transformed, by the neo-scholastic misinterpretation of Aquinas which posited a pure nature, entirely independent of grace, thus setting the stage for the "autonomous nature"—autonomous in the sense of being completely independent of God—of modernity. For Lubac it is the tendency to see humans and the world as autonomous from God that is more central to modernity than the perfectability emphasized by Niebuhr. Thus within the Catholic world, modern political theories and movements have been less tied to a mechanistic conception of nature than their Anglo-American counterparts, and less concerned with the structure of the subject than in Germany, but rather tend to focus on establishing a purely secular, that is, autonomous in Lubac's sense, social order. And indeed Lubac's analysis can even explain the differing tendencies of France and southern Europe in the modern age. The neo-scholastic conception of pure nature could lead to an autonomous and possibly perfectible nature or to an essentially Aristotelian nature with a Christian veneer. The former would characterize France and the latter could describe the much less dynamic societies of Spain and Italy, at least until relatively late in the modern age. Finally, Lubac's conception could account for the fact that whereas secularization in the Protestant world took place gradually, because the dominant conceptions of nature and human agency were only slight modifications of earlier theological formulations, secularism in the Catholic world attempted a much sharper break with existing pre- and early modern institutions.

Finally, we can now consider the issue of progress or perfectionism which Voegelin, Lowith, and Niebuhr see as central to modernity. As noted above, given the successes of modernity in raising material living standards and breaking down arbitrary bloodline-based social hierarchies ultimately derived from the ancient pagan world, it could be reasonable to speak of modern societies as achieving progress—at least in a tentative way, since we can never be sure of the long term consequences of our actions. From this standpoint, the utopian political movements that have punctuated modern history could be seen, not as the essential feature of the modern age, but rather as overenthusiastic reactions to the legitimate successes of modernity—and indeed perhaps as being

provoked by the inability of earlier Christian theological formulations to admit the possibility of modest progress.

Using Gunton's analysis as a basic framework, then, we have been able to make a rough synthesis of the main interpretations of modernity. In order to complete this synthesis, however, it is necessary to examine Poteat's understanding of the modern age.

### Poteat on Modernity

Poteat does not discuss the issue of the nature and genesis of modernity in a highly systematic way; his observations on this issue tend to be embedded in broader analyses of logical, ontological, and epistemological issues, and sometimes are only implicit in those discussions. But we can say that Poteat sees modernity, most broadly, as an outcome of the incoherent medieval synthesis of Greek and Hebraic thought. This sounds like Niebuhr but, as we will quickly see, Poteat's analysis is quite different. Whereas Niebuhr sees the medieval conflation of Greek and biblical anthropologies as the source of modernity's overly benign view of human nature and progressive ideologies, Poteat's argument is considerably more complex and focuses on the ontological level. Specifically, Poteat argues that the (implicit) ontology of the ancient Hebrews more correctly describes the fundamental structure of reality than that of the Greek philosophers, and was thus distorted by the application of Greek ontological concepts in Christian theology.<sup>13</sup> What, then, is the difference between the Greek and Hebraic ontologies?

As a first approximation, Poteat can be understood to say that the Greek philosophical model of reality is drawn primarily from visual experience, while the Hebraic model of reality is drawn primarily from oral/aural experience. Somewhat more specifically, Poteat argues that the Greek philosophical conception of reality is heavily shaped by the experience of literacy. Here he draws upon the extensive literature from anthropologists, psychologists, literary critics, and others about the differences between oral and literate cultures. This literature draws a sharp distinction between premodern cultures in which only a small percentage of the population is literate and modern societies in which, thanks to the printing press, most people have at least basic reading and writing skills. It argues that modern literate cultures are much more visually oriented (since written communication primarily or exclusively engages one's eyes) while premodern oral cultures (communicating primarily through speech) are much more attuned to hearing. This has many critical phenomenological implications, as visual experience is quite different from oral/aural experience. A further critical difference between these cultures is that oral cultures typically think in highly personal terms (since communication in such cultures normally involves actually talking directly to another person) while literate cultures generally think in more impersonal terms (since literate communication generally involves reading impersonal texts). Finally, the ability to perform

abstract analysis is greatly improved by literacy. It is much easier to dissect an argument when one can look at it whole, as a written page allows, than when it is being spoken. Oral cultures have only a very limited capacity for analytical thought, at least in the sense that the Western philosophical tradition has conceived it. This difference has a further important implication: oral cultures tend to express ideas in poetic and narrative terms, while literate cultures are more likely to employ logical argumentation.<sup>14</sup>

The classical age of Greece represents a special case in this analysis. Writers on oral-literate differences point out that the invention of the Greek alphabet allowed for a significant expansion of literacy even without the printing press. The Greek alphabet is much easier to learn than such complicated systems as hieroglyphics or even the Semitic alphabet (which does not indicate vowels) so that most male members of the upper classes could achieve substantial literacy, thus allowing for a “critical mass” necessary for the formation of a literate culture, with a greater capacity for analytical thought. The Greek philosophers were products of this earliest literate culture.<sup>15</sup>

Potat argues that the Greek philosophers conceived of reality on the model of a written text: the universe is characterized by a (large but ultimately) finite set of possibilities which could, in principle, be exhaustively described as derivative from some fundamental, impersonal principle of order, and words get their meaning by corresponding to particular aspects of the ultimately atemporal, non-developmental structure that constitutes reality. The Greeks certainly did not *explicitly* use the written text as their model of reality—indeed, Plato explicitly deemed writing to be inferior to speech—but, Potat argues, the experience of living in a relatively literate environment motivated them *tacitly* to draw upon the static and impersonal characteristics of the written word when formulating their conception of the world.

The Hebrews, by contrast, conceived of reality on the model of a spoken word, as illustrated by the first chapter of Genesis or the beginning of the Gospel of John. The universe is thus dynamic, as spoken words are when they issue from the mouth of a person, and personal, since spoken words always issue from the mouth of particular persons. Words do not simply label things that already exist but actually create and transform things, meaning that there is the possibility of real novelty, and from this it follows that the Hebraic universe, unlike the Greek universe, has infinite possibilities, or stated differently, is much more radically contingent. God is the paradigmatic personal speaker, or as Potat puts it, the ever-faithful speaker, who speaks the world into existence and who keeps his promises.

Potat’s argument then, could be described (again, as we shall see shortly, only as a first approximation) as saying that Western thought since the Middle Ages has been characterized by a kind of “parallax” created by the incoherent mixture of these two very different models in Christianity. To be sure, visual experience has (due to the printing press) been predominant in the modern age, but the subordinate elements of

the Hebraic oral/aural model do bring about the result that the specifically modern visual consciousness is quite different from that of the Greek philosophers.

One objection that might be raised at this point is that although the differences between oral and literate mentalities might explain the differences between the literate culture of classical Greece and the oral culture of ancient Israel, they do not really explain the differences between Israel and its pagan neighbors, which were also, of course, oral cultures. And indeed a closer reading of Poterat indicates that ultimately he goes beyond the initial analysis deriving from the literature on oral and literate cultures: his final conclusion is that orality and literacy are ultimately not decisive but only contributing factors in the differences between Greek and Hebraic worldviews. The Greeks, he argues, ultimately took the growth and decay of natural fertility and the revolutions of the heavenly bodies as their model of order in the world, as indeed all pagan cultures did; the Greek philosophers merely reconceptualized this model in the abstract, impersonal manner characteristic of literate thought. The Hebrews, by contrast, took as their model of order the actions of a paradigmatic personal speaker, one always faithful to his word. The decisive difference between Greek and Hebraic metaphysics lies in their primordial models of reality.

Poterat's analysis of the genesis of modernity can now be restated roughly as follows: the full development of the implications of the Hebraic worldview was thwarted by the over reliance upon Greek philosophical concepts, perhaps not so much during the development of basic Christian doctrines in late antiquity as during the Middle Ages, specifically in that the static, impersonal concepts of Greek metaphysics could not allow Western philosophy and theology to make sense of the dynamic, personal picture of reality actually at the core of Christianity.

More specifically, Poterat argues that one can talk about both "visual" and "oral/aural" logics. The visual logic developed by the Greek philosophers essentially considers the eternal relations between static entities (that is, entities conceived on the model of a written word existing statically on a page); in this logic a necessary relation cannot coexist with contingency. On this model, then, reality can have only finite possibilities, as noted above. But the oral/aural logic which he claims is implicit in the Hebraic picture of reality can, because of its basis in the dynamism of the speech act, allow for the coexistence of necessity and contingency.<sup>16</sup> Thus the world can be radically contingent upon God but still subject to necessity—the necessity of his faithfulness. Another way to state this is that, for Poterat, or rather for the oral-aural logic Poterat attempts to explicate, limits can still exist even in a situation of infinite possibilities.

It should be noted here that Poterat is not arguing that there is something "wrong" with the Greek visual logic; he is simply saying that it has significant limitations. It is the appropriate tool for certain types of problems, such as those found in mathematics, dealing with the eternal relations of static entities. But it is inappropriate and perhaps

even dangerous when applied to other types of issues, such as ontological structure of the world. A more conventional way to state this could be that the Greek philosophers' major mistake was in conflating logical and ontological categories. They (mis)took the visually derived logic appropriate to certain types of static relations as a general description of reality.

In any case, modernity, then, for Poteat, is the end result of a process in which Western culture becomes more aware of the contingency implied by the biblical understanding of God's action but is unable to conceptualize any limits on that contingency because the concept of necessity inherited from the Greeks cannot be reconciled with contingency—eventually leading to the limitless contingency, that is the nihilism, of late modernity. To put it another way, medieval thought lacked the tools necessary to conceptualize order amidst contingency, eventually leaving only the absolute contingency of a world subject to arbitrary will. The development of a fully literate (that is visual) culture following the invention of the printing press simply accelerated this process, as the conceptual resources of the Hebraic oral-culture capable of addressing this problem (heretofore not fully comprehended) became largely inaccessible to the Western mind.

Although Poteat does not address this issue explicitly, his analysis can also explain the ambiguous nature of modernity. Modernity “works” to the extent that the Hebraic model is dominant, as, for example, in actual scientific practice as explicated by Polanyi; it fails to the extent that the Greek model informs attempts to understand phenomena such as science, wealth creation, and democracy. On Poteat's analysis, then, what is needed to escape the nihilism of late modernity is a more complete explication of the dynamic oral/aural logic implicit in the Hebraic worldview and its application to philosophical, theological, ethical, and political issues. This would serve to separate more clearly the positive and negative aspects of modernity.

### **Poteat's Analysis as the Linchpin for a Final Synthesis**

With this description of Poteat's (implicit) analysis of the origins and nature of modernity, we can now complete the synthesis of the major theories of modernity begun earlier. First, Poteat's explication of the Hebraic worldview is the key to my claim that the positive features of modernity derive from Christianity. The picture of nature as a contingent creation of a paradigmatic speaker and ordered by that speaker's faithfulness is the conceptual basis for modern abductive, experimental science, as opposed to the deductive (and thus much less powerful) science of the Greek philosophers. The contingency of the world means that there can be no eternally-existing natural essences of the kind that define Greek deductive science, only worldly appearances, while God's faithfulness guarantees that the apparent order of those worldly appearances can be trusted to a much greater extent than Plato or even Aristotle could have imagined, and

those appearances can be used to find general principles which could be thought of as articulations of specific elements of order in the Hebraic oral/aural logic.<sup>17</sup> Similarly, since each human being is a unique, contingent creature of God, created by the unconditional love that is a manifestation of oral/aural order, modern notions of freedom and equality can gradually break down the bloodline-based hierarchies (that is the hierarchies based on natural fertility, taken to be unchangeable) of the ancient world.<sup>18</sup>

Certain of the negative features of the modern world can now also be understood more clearly. Modernity's mechanistic ontology essentially pictures reality as radically contingent without the covenant order of God's faithfulness but rather only the necessity of a kind of reductive static natural order, that is the necessity provided by eternally-existing mathematical laws. The Hebraic ontology, or rather a more fully worked-out version of it, would have recognized that Newtonian physics is an interpretation of only one aspect of reality, not a literal description of the entire cosmos, which would have a multifaceted structure ultimately ordered by God's faithfulness. Similarly, modernity's subjectivism sees humans as embodying the creative capacity of the paradigmatic speaker without the limitations derived from that speaker's faithfulness.

Further, moderate notions of social progress, which would appear to be tentatively warranted by the real successes of modernity, could be understood as a consequence of the oral/aural logic posited by Poteat, as humans gain a greater understanding of God's creation and use that understanding to better their condition. And, as already noted, the overenthusiastic attempts to accelerate this legitimate progress into projects to achieve heaven on earth could be understood as reactions to the refusal on the part of orthodox Christian establishments to recognize the possibility of real progress, itself caused by Christian theology's failure to articulate the logic of the Hebraic worldview.

More generally, it would appear that what Poteat calls the oral/aural logic of God's covenant order corresponds to what Gunton calls the action of the Son and particularly the Spirit. Poteat's ever faithful speaker is clearly the Father, or Creator, and from a Trinitarian standpoint one might think that Poteat has fallen into the historic Western theological trap of conceiving of God in one-dimensional terms, thus eventually making the world a radically contingent, and therefore potentially chaotic, product of his unrestrained will. But the oral/aural logic developed by Poteat prevents this from happening. The clear implication of Gunton's theology is that we must articulate how the Spirit realizes harmonious particularity, and Poteat's oral/aural logic indicates how this could be done, that is, by working out more fully the logic inherent in the speech-act within community in accordance with that logic.

### **Toward a Truly Postmodern Politics**

A concrete example of the theoretical situation described above would in fact be the most successful of modern societies, that is, the English-speaking societies. At one

level, the political theory informing those societies is the liberalism of Thomas Hobbes. Hobbes sees society as a collection of essentially independent, and potentially antagonistic, individuals, who pursue their own goals subject to legal limitations, designed to maintain peace and order, established by government—a picture of social order that takes the economic market as its model and is clearly derived from the mechanistic ontology of modernity that in turn represents a distorted version of the biblical ontology. The inevitable result of that liberalism is the utter dominance of monopolized capitalist markets and the centralized state. But in actual practice, the mechanistic secularized Protestant liberalism that informs the English-speaking societies has been greatly ameliorated by their parliamentary and republican traditions of self-government, the more limited (or embedded, in Karl Polanyi's terms) markets of local commerce, and the vigorous associational life noted by Tocqueville in his American travels—all of which would seem to be examples of the harmonious particularity that Gunton sees as the work of the Spirit. Thus the English-speaking societies represent the fundamental tension of modernity—the gradual working out of the logic of God's covenant, in Poteat's terms, or the gradual reception of the action of the Holy Spirit, in Gunton's terms, distorted by the effects of the residues of Greek ontology, reinforced experientially by the heavily visual orientation resulting from print literacy.

As discussed earlier, it seems to me that the most powerful of the approaches discussed in the first section of this essay is the argument that Western theology failed to develop an adequate understanding of the Trinity, as it provides the basic framework for the preliminary synthesis worked out in the second section, but that synthesis cannot be made truly complete or convincing without either the critical explication of the experiential basis of the Greek, Hebraic, and modern worldviews or the more concrete articulation of the action of the Spirit provided by Poteat. Thus, as indicated in the section heading, Poteat's analysis provides the linchpin for a successful synthesis of the numerous attempts to understand the nature of modernity that have been undertaken in the postwar world.

Finally, the argument provided here is of course only a sketch and would require a book-length treatment to be fully convincing. But I believe it has shown, in broad outline, why Poteat's philosophy, even though it rarely addresses political issues explicitly, provides the key to understanding, and thus eventually resolving, the political crisis of the late modern world.

## ENDNOTES

<sup>1</sup>Entirely aside from environmental issues, current consumer capitalist society is digging its own grave with unsustainably low birth rates and unsustainably high debt levels. Fertility rates in virtually all Western countries are currently far below the replacement level, that is the level necessary to maintain a stable population, so that, absent immigration, Western societies will suffer declining populations and eventually disappear. As a matter of logic, immigration cannot solve this problem because if immigrants assimilate to current Western cultural norms they will quit having children, and if they don't, they will eventually become the dominant population and thus the dominant culture. The latter scenario is the great fear of various contemporary nationalist movements, particularly in Europe, but available evidence indicates that the former scenario is far more likely, and indeed, as Western consumer culture has spread elsewhere, birthrates in the global south have dropped precipitously over the past generation, so that immigration to Western countries has largely dried up. The real danger of a declining population is not so much literal disappearance of a society but rather that, at least under modern conditions, a declining population is also an aging population, so that eventually societies with very low birth rates will suffer disastrous economic conditions caused by an unsustainable ratio of retired people to working-age people. (Most pension plans in the Western world are already effectively bankrupt.) This situation is exacerbated by the absurd levels of consumer debt accumulated in Western societies over the past generation. These issues have been discussed in considerable detail by demographers and economists but, astonishingly, have received little attention in the mainstream media. See Peter G. Peterson, *Gray Dawn: How the Coming Age Wave Will Transform America—And the World* (New York: Random House, 1999); Phillip Longman, *The Empty Cradle: How Falling Birthrates Threaten World Prosperity and What To Do About It* (New York: Basic Books, 2004); Ben J. Wattenberg, *Fewer: How the New Demography of Depopulation Will Shape Our Future* (Np: Ivan R. Dee, Publisher, 2004); and Laurence J. Kotlikoff and Scott Burns, *The Coming Generational Storm: What You Need to Know about America's Economic Future* (Cambridge, MA: MIT Press, 2004).

<sup>2</sup>Heidegger's definitive analysis of modernity can be found in *Nietzsche, Volume IV: Nihilism*, trans. David Ferrell Krell (San Francisco: HarperOne, 1991), derived from various lectures and writings in the 1930s and 1940s.

<sup>3</sup>See Max Horkheimer and Theodor Adorno, *Dialectic of Enlightenment*, trans. Edmund Jephcott (Stanford: Stanford University Press, 2007), originally published in 1944. Habermas's original formulation of his thesis is in *Knowledge and Human Interests*, trans. Jeremy Shapiro (Boston: Beacon Press, 1971); for later versions see *The Theory of Communicative Action*, 2 vols., trans. Thomas McCarthy (Boston: Beacon Press, 1985); and *The Philosophical Discourse of Modernity: Twelve Lectures*, trans. Frederick G. Lawrence (Boston: MIT Press, 1990).

<sup>4</sup>See Leo Strauss, *Natural Right and History* (Chicago: University of Chicago Press, 1949).

<sup>5</sup>See Karl Löwith, *Reason in History* (Chicago: University of Chicago Press, 1949) and Eric Voegelin, *The New Science of Politics* (Chicago: University of Chicago Press, 1952).

<sup>6</sup>See Michael Gillespie, *The Theological Origins of Modernity* (Chicago: University of Chicago Press, 2009).

<sup>7</sup>See Karl Barth, *The Epistle to the Romans*, trans. Edwyn C. Hoskins (London Oxford University Press, 1933), originally published in 1921.

<sup>8</sup>See Reinhold Niebuhr, *The Nature and Destiny of Man* (Louisville: John Knox Press, 1996), originally published in 1941.

<sup>9</sup>See Henri de Lubac, *The Mystery of the Supernatural* (New York: Crossroad, 1998). This book, originally published in 1965, is actually a revised version of *Surnaturel*, originally published in 1944 and yet to be translated into English.

<sup>10</sup>See Robert Jenson, *Systematic Theology*, 2 vols (Oxford: Oxford University Press, 2001). Gunton's most important work is *The One, the Three, and the Many: God, Creation, and the Culture of Modernity* (Cambridge: Cambridge University Press, 1993).

<sup>11</sup>Leszek Kolakowski has argued that Christianity and Enlightenment rationalism declined more-or-less simultaneously, precisely because they are very closely related. See "God in a Godless Time," *First Things* (<https://www.firstthings.com/issue/2003/06/junejuly>) and *Modernity on Endless Trial* (Chicago: University of Chicago Press, 1990).

<sup>12</sup>See Carson Holloway, *The Way of Life: John Paul II and the Challenge of Liberal Modernity* (Waco, TX: Baylor University Press, 2008) and Thomas R. Rourke, *The Social and Political Thought of Benedict XVI* (Lanham, MD: Lexington Books, 2011). Polanyi discusses these issues in both *The Logic of Liberty* (London: University of Chicago Press, 1951) and *Personal Knowledge: Toward a Post-Critical Philosophy* (Chicago: University of Chicago Press, 1958).

<sup>13</sup>The following discussion is derived from William H. Poteat, *Polanyian Meditations: In Search of a Post-Critical Logic* (Durham, NC: Duke University Press, 1985).

<sup>14</sup>The basic textbook in the field is Walter J. Ong, S.J., *Orality and Literacy: The Technologizing of the Word* (London: Methuen, 1982), which includes a complete bibliography of the literature in this field.

<sup>15</sup>See Eric Havelock, *Preface to Plato* (Cambridge, MA: The Belknap Press of Harvard University Press, 1963).

<sup>16</sup>This is a rather complicated argument that space does not allow me even to summarize here; see *Polanyian Meditations*, chapters IV-VII.

<sup>17</sup>See M. B. Foster, "The Christian Doctrine of Creation and the Rise of Modern Natural Science," *Mind* 43 (1934): 447-468 for a more detailed discussion.

<sup>18</sup>Poteat discusses this issue in a variety of contexts; see especially *Polanyian Meditations*, chapter VII-VIII.

# Six Poems



**Elon G. (Jerry) Eidenier**

**Keywords:** William H. Poteat, Polanyi, Augustine, Wittgenstein, Merleau-Ponty, Auden, Agee

## **Guest Editor's Note:**

Jerry writes, "I am pleased to be a (marginal) person within the swirl of the convivial cross currents concerned with the mindful connection the self as agent (a body) has in unraveling the 'mind over body' dichotomy."

The last poem, "Not Unlike Baseball," was a favorite of Poteat's. Poteat included a line from it, "no word is neutral upon utterance," among the epigraphs at the beginning of *A Philosophical Daybook: Post-Critical Investigations* (University of Missouri Press, 1990).

Two of the poems have been published previously in places indicated below and are reprinted here printed by permission of the copyright holder, Mr. Eidenier.

## KNOWER AND THE KNOWN

*for Bill Poteat*

Words appropriate granules of thought.  
    language-shaped  
        meaning shifts...  
            still

there remains the persistence of the real  
in the fabric of vowels—uttered from the personal;

    the I  
        of each self stands  
            within,  
            behind,  
                before

words we choose having been chosen to speak.

## PEGASUS AND PORTRAITS

Did you leave the golden bridle  
In deep love, unfolding his animal wings?  
And carry the innocent eye to saddle,  
Through dangerous game to sing?

Between thumb and finger  
A clairvoyant love of care,  
Soaring through sea and sky to configure  
The dying ripeness of their lyre.

Words hang upon the smallest star  
And shine through the human world  
To rise full song in their art.  
In the cradle between shadow and light

A deep love unfolds in word,  
The muses of their day and night.

Published in *Sonnets to Eurydice* (Windy Row Press, 1976).

## ELEGY FOR BILL POTEAT

“to say I love you is to say I want you to be...”

—St. Augustine

It is not possible  
to impersonally think  
for thinking blooms  
within the incantations  
of another’s voice.

Reason remains  
more than the sound  
of all its parts.

Let us take  
the upper case  
from the noun of our names  
and be lowered  
to the care of this earth.

The shadows of ambiguity  
always surround the self;  
even after long years  
the surprise that our bodies still belong.

All which makes a person  
is too much magic  
for the sum of words.

Creation is in the giving  
or taking of a rib;  
the apple when offered  
glistens in the promise  
that no self which belongs  
to another’s yes, shall be undone.

## FAILURE OF LANGUAGE

She uttered what was lodged  
within her heart, that desperate

need to share another body's warmth.  
Ophelia's touch might have melted

Hamlet's cold suspicion, but care  
could not wrap round her words,

carry them home to quilt his thoughts,  
straighten the corridors of his mind.

Here is the failure of language:  
words shifting from what is meant

to what is thought, to what is surmised;  
unraveling all the sinews of care.

A stream-shroud covers her, and sorrow  
lifts her body just above the stones.

Published in *In a Fine Frenzy: Poets Respond to Shakespeare*,  
edited by David Starkey and Paul J. Willis (University of Iowa  
Press, 2005).

## ON EARNING AN HONEST LIVING

*for Bill Poteat*

“...that truth is neither mine nor his nor another’s, but belongs to us all, and we must never account it private to ourselves, lest we be deprived of it.”

—St. Augustine

Middle C excites mosquitoes to swarm. Know the body’s insistence—  
hum of the human. There is an archeology of the heart, a poetic  
delight in thought. Truth grabs you by the hair,

shakes you clean. In our time reason is easily assumed—collectible.

Our words a vaporization. The poles of earth wander. This  
world bobs, up and down. Rethink a moment, of velocity,

inertia, latent heat. How iron dissolves to electrons, protons sound  
undulations of air. How the blue jay might absorb the pterodactyl.  
It takes over 150 elephants to make a whale.

Learn the smell of unreality. The sham of intellect with no grace.

The knowledge there are ass holes who don’t know how to fart.

Acts are irreducible. Thinking is an act. A being possessed.

Names stand real as trees. Hard knocks, bark! Wittgenstein,

Merleau-Ponty, Polanyi, Auden, Agee.

The consequence of vision thickens on the tongue.

Words, heart of pine, grains around the disappearing. Truth clings

as seeds, cocklebur, Xanthium strumarium—beggar lice,

Bidens—a dancing bramble.

Wade in a mud hole where elephants bathe. Wallow.

Squat your haunches down. Let the elements cling.

Get down to know that the gratuitous is sacred.

Dew seeks a thing stable. Truth clings to the underside.

Language is a tissue. All the echoes are at the bottom.

## NOT UNLIKE BASEBALL

rotation of language    things            thoughts  
    present themselves—  
no word is neutral upon  
    utterance

effort            split finger or spit  
    ends seams spinning  
knowledge comes a blue darter  
    Dizzy Dean

intent has a body                    will one thing only  
    raw hide to wood  
    a moment cracks

# NON-HUMAN KNOWLEDGE ACCORDING TO MICHAEL POLANYI<sup>1</sup>



Mihály Héder and Daniel Paksi

**Keywords:** Michael Polanyi, Harald Grimen, Harry Collins, John McDowell, tacit knowledge, explicit knowledge, personhood, animal knowledge

## ABSTRACT

*Three recent interpreters of tacit knowledge, Harald Grimen, Harry Collins, and John McDowell, either deny it is appropriate to attribute knowledge of any sort to animals or ignore the relevance of the tacit knowledge of animals to human knowledge. In this article, we seek to show that in Michael Polanyi's understanding, tacit knowledge in animals underlies and supports human explicit knowledge. For Polanyi, tacit knowledge arises in increasingly complex forms in evolutionary history, and explicit knowledge emerges from it. Both forms of knowledge are personal achievements that can be true or false; animal behavior is not simply deterministic. Polanyi's view on non-human tacit knowledge thus explains features of human knowledge that those denying or ignoring non-human knowledge leave unexplained.*

## Introduction

There are today references to tacit knowledge in management science, knowledge engineering, and theoretical biology, among other disciplines. Yet, there are many competing views about the nature, scope and limits of tacit knowledge. In this article we examine whether animals have tacit knowledge as defined by Michael Polanyi, and if so, what the significance of this is. We attempt to show that a consistent concept of tacit knowledge should include animals. Moreover, we show, by reconstructing Polanyi's position as closely as possible, that he indeed acknowledged animals as knowers and

that this has significant implications for human knowledge. Our main findings are the following:

1. In Polanyi's view all living beings, including humans, possess tacit knowledge. The tacit knowledge of highly developed species is more sophisticated than that of simpler organisms, but it is of the same nature in all cases.
2. Polanyi emphasizes the continuity and gradual degrees of development in the evolution of tacit knowledge. He makes no distinction between humans and animals in this respect. He even goes into details about the mental representation of tacit knowledge in higher animals.
3. Polanyi attributes the superior cognitive capabilities of humans to explicit knowledge, which is nevertheless based on tacit knowledge that is common in all animals.
4. Like all knowledge, tacit knowledge can include mental representation, which is discussed briefly by Polanyi in the case of higher animals with nervous systems.
5. Tacit knowledge, like all knowledge, can be true or false in Polanyi's theory of truth. This is possible because he understands truth not to be a property of explicit propositions only, but he relates it to the adequacy of contact with reality. Thus, animal knowledge can be true or false, even though they cannot express it as propositions or in any other linguistic form.

These findings refute the view that having explicit knowledge is necessary in order to have tacit knowledge, a view that is argued by some (see the next section). Moreover, it follows that any theory of truth consistent with tacit knowledge cannot be dependent on the use of language. Nevertheless, this does not mean that the two are independent, for we affirm the view that explicit knowledge is impossible without tacit knowledge. Although we agree with Polanyi that all living beings, including plants, possess tacit knowledge in some form, for the sake of simplicity, we will concentrate on animals as Polanyi himself usually does.

### **Accounts of Tacit Knowledge and Their Consequences for Animal Knowledge**

Many epistemologies conflict with tacit knowledge because they are based on explicit language. The idea of animal knowledge contradicts these frameworks, such as the Cartesian worldview or formalist, proposition-based theories about knowledge, because animals have no explicit language. Therefore, to focus our work, we only contrast our findings with some recent views that allow a place for both tacit and explicit knowledge.

Grimen has four interpretations of tacit knowledge. While these interpretations do not even mention animals (nor does the whole work discussed here), assuming only humans to be knowers, we attempt to analyze whether Grimen's thought could be compatible with animal tacit knowledge.

Grimen's first interpretation is that tacit knowledge arises from conscious under-articulation, meaning that people decide to say less than they know. His examples are marriage and political relationships in which it is ill-advised to articulate everything that is known to the parties involved. This philosophically uninteresting interpretation of tacit knowledge ignores the possibility of animal knowledge since it relies on the ability of using language and it is strongly connected with human cultural life (4).

The second interpretation of tacit knowledge might be called the Gestalt thesis. In this interpretation, a performance of some activity falls apart when the actor tries to articulate the background the activity relies upon during the performance (5). This is not to say that background details cannot be articulated later or by someone else during the process. This interpretation does not claim that there are fundamentally inarticulate kinds of knowledge. At first sight, this concept is also incompatible with animal tacit knowledge because it draws upon explicit articulation, something that is not done by animals. However, the main concern of this Gestalt interpretation of tacit knowledge is not articulation but focal and subsidiary awareness. That is, the comprehensive performance falls apart when the actor tries to make focal some of its subsidiary elements. Animals thus might be said to have a form of this knowledge in the following sense.

If I know how to ride a bicycle or how to swim, this does not mean that I can tell how I manage to keep my balance on a bicycle or keep afloat when I go swimming. I may not have the slightest idea of how I do this or even an entirely wrong or grossly imperfect idea of it, and yet go on cycling or swimming merrily. Nor can it be said that I know how to bicycle or swim and yet do not know how to coordinate the complex pattern of muscular acts by which I do my cycling or swimming. I both know how to carry out these performances as a whole and also know how to carry out the elementary acts which constitute them, even though I cannot tell what these acts are. This is due to the fact that I am only subsidiarily aware of [how I do] these things, and our subsidiary awareness of a thing is not sufficient to make it identifiable (*KB*, 141-142). So, if animals swim in the same way as we humans do, we end up with a concept that might be compatible with animal knowledge.

The third interpretation, "epistemic regionalism," is that any given elements of our knowledge can be verbally explicated, but not all of our knowledge can be explicated simultaneously as there is simply no perspective from which we could do that (6). This interpretation clearly involves verbal explication and assumes the knower to be human, therefore as stated is incompatible with animal knowledge.

The fourth thesis—what Grimen calls the strong thesis—says that certain types of knowledge are inarticulable as they cannot be grasped by descriptions or verbal statements. While Grimen believes Polanyi himself would not support such a strong interpretation (Grimen sees the Gestalt thesis as the most Polanyian) we believe that this view is the closest among the four to Polanyi's concept of tacit knowledge. More exactly, this is the point of saying we know more than we can tell, and the focal-subsidary dichotomy of tacit actions, as well as the reason of epistemic regionalism, are the consequences of the fact that certain types of knowledge are necessarily inarticulable. Also, this interpretation of tacit knowledge is entirely compatible with animal knowledge, as it does not define the tacit by drawing upon verbal expression, which is what Collins does in *Tacit and Explicit Knowledge*.

It can be seen that some of Grimen's interpretations of the tacit dimensions are compatible with animal knowledge, but that in not exploring this relationship. Grimen's understanding of the evolutionary sources of the tacit are undeveloped.

### *Harry Collins on Tacit and Explicit Knowledge*<sup>3</sup>

In *Tacit and Explicit Knowledge* (hereafter *TEK*), Collins misinterprets what Polanyi means in *Tacit Dimension* and characterizes tacit knowledge as knowledge that *cannot* be made explicit (4). He classifies the kinds of tacit knowledge by the kinds of reasons that inhibit their explication. In order to clarify the notion of "tacit knowledge," he first focuses on the question of what explicit knowledge means, as well as the kind of actions that are candidates for explication. His reasoning involves a reduction of most actions to so-called "string transformations"—a reductionist approach in which every physical entity in the world, or "string," is causally related to other strings and is thus a candidate for explicit explanation.

Collins clearly denies that animals possess tacit knowledge. He proposes two different kinds of arguments to support this claim. The core of one of his arguments is that the idea of tacit knowledge only makes sense as something not explicable, i.e., it cannot be made explicit. Furthermore, one cannot be said to have tacit knowledge unless one can have explicit knowledge: "Nevertheless, as argued in the introduction, the idea of tacit knowledge only makes sense when it is in tension with explicit knowledge, and since cats and dogs and sieves and trees cannot be said to 'know' any explicit knowledge, they shouldn't be said to know any tacit knowledge either" (78).

The other reason for his opinion on animals is his view on knowledge in general, in which the focus is on social capabilities and skills that are ultimately based on language. He claims that being a part of a collective requires many social skills (e.g. driving in traffic, using language) that are just not exhibited by animals in general, not counting some exceptions. He calls his position "Social Cartesianism"—it means that humans are different from anything else because of their skills with regard to collectives.

Social Cartesianism claims that humans and animals are radically different. What it does not claim, unlike Cartesian Cartesianism, is that the boundary between humans and animals is sharply marked. There may be some animals, perhaps chimpanzees, perhaps cetaceans, perhaps birds, that share some human abilities in small ways. But this is not the issue. The issue is the marked difference in abilities between a species that possesses fully developed languages and cultures and one that does not (125).

Skills like swimming or cycling represent a kind of knowledge that can ultimately be explicated or even replicated by machines, and therefore—in Collins’ framework—they cannot be tacit knowledge. Collins recognizes and discusses the fact that animals cannot express this kind of causal string transformation knowledge themselves—in his interpretation only humans might make that explicit by studying animals. In his view this inability cannot be a warrant to call those skills tacit knowledge. For Collins, according to his Social Cartesianism, animals are not knowers and they do not possess any kind of knowledge, and humans are not merely animals; they are radically different.<sup>4</sup> Tacit knowledge only arises in human social culture because it is based on the flightiness of linguistic application, which cannot be predicted by a string transformation.

*John McDowell on Mind and World*<sup>5</sup>

If we, contrary to Collins, see human knowing as an ability that is more continuous with the skills of animals, then the question concerning the relationship between the knowledge of humans and animals necessarily arises. What do we share in common; what is special in man; and how does human knowledge emerge? In *Mind and World*, McDowell explores these questions, but he does so without an explicit differentiation between explicit and tacit knowledge.

McDowell’s original goal is to determine the special relationship between mind and world. It is evident for him that the “realm of natural law” and the “logical space of reasons” are two different things. Therefore, if we regard man as part of nature and we do not want to lose meaning and the space of reason, then “we have to expand nature beyond what is countenanced in naturalism of the realm of law” (109). In this expanded naturalism man reaches the “second nature” of the space of reasons by his explicit conceptual powers. “Human beings acquire a second nature in part by being initiated into conceptual capacities, whose interrelations belong in the logical space of reasons” (109).

About animal capabilities, he states that “an animal endowed with reason would be metaphysically split, with disastrous consequences for our reflection about empirical thinking and action” (108). For him, animals—unlike humans—are entirely part

of first nature, of the realm of natural law, and this leads to a deep abyss between the knowledge of animals and humans and thus between the worlds of animals and humans, even though both are biological living beings.

According to McDowell, for animals nature is only “environment” because “the objective world is present only to a self-conscious subject” and animals “without conceptual capacities lack self-consciousness and...experience of objective reality” (114). Therefore “the animal’s behaviour at a given moment is an immediate outcome of biological forces. A mere animal does not weigh reasons and decide what to do” (115). But because man has freedom by conceptual powers and can decide what to think and do, his life is “no longer determined by immediate biological forces” (115). The question is how we are similar to and yet different from animals in order to be the kind of animal that can have knowledge.

McDowell is clear: “we share perception with mere animals” (114) because we are also living beings of (first) nature. McDowell denies that animals are subjects, therefore the reason that they experience only the “environment” is not that they have a specific subjective point of view. According to him, if animals had subjectivity and thus explicit conceptual powers, then the objective world would be open for them. It follows for him that, “for a perceiver with capacities of spontaneity, the environment is more than a succession of problems and opportunities; it is the bit of objective reality that is within her perceptual and practical reach” (116). So, man, contrary to animals, has subjectivity and a special point of view of his environment and therefore a capability to reach a “bit of objective reality.” The question is how the environment becomes an objective world for man if he has the same perceptual abilities as mere animals. McDowell attempts to show how the subjective point of view with conceptual cognitive capacities can bring this about.

Animals, of course, do not understand the succession of problems and opportunities of their environment as problems and opportunities because they have no subjectivity and self-consciousness. Therefore, they handle these problems without understanding them as problems and opportunities. According to McDowell, only the human observer understands these processes and situations as problems and opportunities by his explicit conceptual powers (116). Like Collins, McDowell sees no cognition in the causal/behavioral responses of animals, and thus no knowledge.

McDowell asserts that “no animal’s perceptual machinery (not even ours) possesses the spontaneity of understanding” (121). He also asserts that human “infants are mere animals...and nothing occult happens to a human being in ordinary upbringing” (123). But he says *nothing* about how man emerges from the first nature of the realm of law into the second nature of the logical space of reason. We only see here a deep abyss as was the case with Collins’ Social Cartesianism. Of course, McDowell denies

Cartesianism and calls man's logical space of reason a kind of nature but nevertheless the gap between the knowledge of animals and man is just as wide.

McDowell's starting point is interesting: "An experiencing and acting subject is a living thing, with active and passive bodily powers that are genuinely her own; she is herself embodied" (111). Polanyi could say that. But as we have seen, for McDowell there is a deep abyss between animal and human understandings. Second nature and subjectivity in human experience are important parts of McDowell's account, but their origins are not profoundly accounted for, meaning that there are some explanatory gaps in his philosophy. These gaps could be mended by following Polanyi and seeing that tacit knowledge develops in animals and in humans as part of the natural world. Both rely upon tacit knowledge even as language helps generate distinctively human types of knowledge. This position of gradually emerging human knowledge is fundamentally different from the positions of Collins and McDowell, but is compatible with Grimen's strong interpretation of tacit knowledge.

### Animal Knowledge According to Polanyi

In *Personal Knowledge*, Polanyi draws a clear, continuous path from the simplest forms of life like amoebas to the more advanced forms ending with humans. For him every living being is a knower and has a kind of personhood, which is a precondition for humans having personal (tacit and explicit) knowledge. After the first virus-like speck of living matter,

The next stage on the way towards **personhood** was reached by the protozoa. The appearance of a nucleus within a bed of protoplasm indicates an increased complexity of internal organization, underlying an external behaviour of immensely augmented self-control... A floating amoeba emits exploratory pseudopodia in all directions... All these manoeuvres are coordinated: the amoeba hunts for food. Thus it grows fatter until it reaches the size at which its **personal life** ends by fission. A further great step was achieved by the aggregation of protozoan-like creatures to multicellular organisms. This enabled animals to evolve a more complex physiology based on sexual reproduction, a manner of propagation which greatly strengthened their **personhood** (*PK*, 387).<sup>6</sup>

Let us remember that the title of this book is *Personal Knowledge*. Polanyi seems to make an effort at many locations in the text to make it clear that he means to use the term "person" very broadly, including even the simplest life forms in it. Therefore, while an animal may not be self-aware, the animal is not just a mechanical machine of the "first nature" à la McDowell, but a person involved in heuristic efforts. A dog's

frustration at being unable to distinguish what signals indicated more food “shows the depth to which the animal’s person is involved even in such an elementary heuristic effort” (*PK*, 367).

This universal concept of personhood that is performing heuristic efforts to solve problems deeply resembles the notion of universal biological adaptivity, mentioned much earlier in the book: “[A]ll life is endowed with originality and originality of a higher order is but a magnified form of a universal biological adaptivity” (*PK*, 124). Universal biological adaptivity seems to indicate that animals have a degree of personhood. So, for Polanyi, earlier stages of “subjectivity” and “knowledge” set the stage for our own.

In the second part of *Personal Knowledge* Polanyi explicitly explains that the organisms that bear an “active-perceptive” level of physiology also have motives and knowledge. This distinguishes higher animals from the protozoa.

I have dealt before with the molar features that characterize the vegetative level; let me now sum up the new features that are added to these on the active-perceptive level. **They are *sentience of motive and knowledge***; an effort to *do right* and *know truly*; a belief that there exists an *independent reality* which makes these endeavours meaningful, and a sense for the consequent *hazards* (*PK*, 363).

As we can see from the quotation above, this knowledge is a belief that aims at the true—that is, it’s connected to the independent reality. As a reminder, in many philosophical discussions, especially in analytic philosophy, beliefs are represented as propositions. The question of truth becomes the question of the connection of these propositions with reality (external or otherwise). Animals cannot form propositions. In an analytical framework animals cannot have true or false knowledge. In this paper we follow Polanyi and argue that beliefs are not necessarily propositions that can be represented explicitly and that beliefs are not held only by humans. As we will see later, Polanyi’s understanding of mental representation supports this view of beliefs.

We can see that Polanyi speaks of animals as persons, possessing consciousness, feelings, personality, originality, sentience, beliefs and knowledge.

Knowledge (as distinct from a single experience) is transmitted on a primordial level from one generation of animals to the next by an imitative process which students of animal behaviour call *mimesis*...A true transmission of knowledge stemming from conviviality takes place **when an animal shares in the intelligent effort which another animal is making in its presence** (*PK*, 206).

Also, the universality of knowledge is emphasized again at the end of the book.

*[K]nowing belongs to the class of achievements that are comprised by all forms of living*, simply because every manifestation of life is a technical achievement, and is therefore—like the practice of technology—an applied knowledge of nature (*PK*, 403-404).

Polanyi speaks about animal knowledge explicitly in many passages. Every manifestation of life is “an applied knowledge of nature” since every life form has to know the difference between what is nourishing and what is dangerous; it is a question of life and death, the working of biological adaptivity. Polanyi seems to make no general distinction between the way animals and humans know.

If animals have knowledge, then the questions are what *kind* of knowledge they possess, how it is different, and what the connection is between animal and human knowledge. First of all, Polanyi states that tacit knowledge is more fundamental than explicit knowledge. “While tacit knowledge can be possessed by itself, explicit knowledge must rely on being tacitly understood and applied. Hence all knowledge is either tacit or rooted in tacit knowledge. A wholly explicit knowledge is unthinkable” (*KB*, 144). There are two possibilities regarding knowing: tacit knowledge by itself or tacit knowledge supporting explicit knowledge. A wholly explicit knowledge, that is, explicit knowledge by itself, is “unthinkable.”

The knowledge of animals is tacit only. Tacit knowledge can be possessed by itself. The simple reason that animal knowledge has to be wholly tacit is that animals cannot articulate and form explicit sentences. They did not reach the second major stage of evolutionary emergence as man did, that is, the cultural stage relying on language use that comes after the biological one (*PK*, 388-389).

The following paragraphs are very helpful in explaining how animal knowledge arises and its relation to human knowledge. Polanyi distinguished three forms of animal learning which, although inarticulate, allow for planning and choice: *trick*, *sign* and *latent* learning. Latent learning is significant, because it shows that animals have memories of experience that they can reorganize and prepare for future use. However, this reorganization is much more efficient in humans, thanks to the usage of explicit language. Therefore, human knowledge is a special, advanced form of animal knowledge that goes beyond it (as Collins and McDowell note) in being conceptual and communal:

We have seen that in the process of latent learning, described as Type C, animals reorganize their memories of experience **mentally**. It appears now that the intellectual superiority of man is due predominantly to an extension of this power by the **representation** of experience in terms of manageable **symbols** which he can reorganize, either formally or mentally, for the purpose of yielding new

information. This enormously increased power of reinterpretation is of course ultimately based on that relatively slight superiority of the tacit powers which constitute our gift of speech (*PK*, 82).

Also,

The tracing of personal knowledge on these lines, through all spoken utterances and further back to the active principles of animal life, has shown that **the tacit intellectual powers which we share with animals** and infants suffice to account in a first approximation for the immense expansion in the scope of human knowledge opened up by the acquisition of speech. This approximation has, at any rate, the advantage of representing separately those aspects of articulate thought which require no striking expansion of tacit powers beyond those common to animals. But there are other constituents of thought, and of science itself, which are guided by tacit powers far surpassing the range of animal intelligence (*PK*, 132-133).

“[A]ll knowledge is either tacit or rooted in tacit knowledge,” that is, although man reached the second major stage of evolutionary emergence and can articulate and form explicit sentences that can reorganize his memories of experience by explicit symbols, his knowledge is not wholly explicit but is based on his tacit knowledge, “on that relatively slight superiority of the tacit powers which constitute our gift of speech.”

Man and animals have common tacit powers, but there are differences, too. These “relatively slight” tacit differences unfold and evolve into intellectual tools, concepts, logic, systems of thinking, etc., that can create a huge gap between the initially very similar animal and human knowledge. Moreover, humans do not rely on this kind of explicit reorganization only. They continue to exercise non-symbolic reorganization just as animals do; this is what the well-known examples of bicycle riding and swimming make clear. Collins and McDowell witness the gap, but miss the underlying continuity that Grimen points out in his third and fourth levels of interpretation.<sup>7</sup> Grimen, like Polanyi, understands that some things tacit can be made explicit and some cannot.

So, the reason why our knowledge is not perfectly explicit and thus objective and absolute, etc., can be found in the structure of tacit knowing and our animal evolutionary roots that anchor our intellectual powers in nature. While emphasizing the universality of personhood and knowledge in life, Polanyi is also asserting that the human is a special animal—special because of the magnificent explicit intellectual powers that are nevertheless based in tacit foundations we share with animals. Therefore, if we reject the tacit knowledge of animals, as we have seen several authors do, we are disregarding our animal evolutionary roots, that is, the basis of our own tacit

knowledge, which is the cornerstone of the Polanyian theory of personal knowledge. Recognizing this basis and continuity is the reason that Part IV of *Personal Knowledge* which explains evolutionary emergence, has key importance in Polanyi's thinking.

We must face the fact that life has actually arisen from inanimate matter, and that human beings...have evolved from tiny creatures resembling the parental zygote in which each of us had his individual origin. I shall meet this situation by re-establishing within the logic of achievement, the conception of emergence first postulated by Lloyd Morgan and Samuel Alexander (*PK*, 382).

### Truth in Animal Knowledge

We have seen above that according to Polanyi animals can have non-propositional but true knowledge. In order to understand what this means we need to focus on Polanyi's theory of truth. At the core of this theory is knowledge's tendency to prove significant by contacting reality in spite of reality's unpredictability: "The implications of new knowledge can never be known at its birth. For it speaks of something real, and to attribute reality to something is to express the belief that its presence will yet show up in an indefinite number of unpredictable ways" (*PK*, 311).

In Polanyi's view, there is no absolute, perfectly explicit knowledge by which we can acquire a final, definitive understanding of reality. Actually, such definite knowledge, if it is considered fixed and unchangeable would not be so useful in the long run. That is because in Polanyi's view both reality and our knowledge of it continue to change in unpredictable ways, as we have seen in the case of the progressively intensifying personhood in Polanyi's account of life and its evolutionary development. From time to time an animal has to adapt to a harshly changing environment. Thus "truth lies in the achievement of a contact with reality—a contact destined to reveal itself further by an indefinite range of yet unforeseen consequences" (*PK*, 147).

So, although truth is a correspondence, it is not a definite, unchanging and perfectly explicit—that is, objective—correspondence with the real but a personal one based on our tacit powers. It is important to see that the process of claiming what is true is not equivalent to stating an exact proposition about an object of reality. Rather, its basis is the logic of achievement, which can function tacitly and without explicit concepts, that is, true knowledge is an achievement of a living being's heuristic action to adapt, to stay alive, to be successful. By true knowledge a living being can create a contact with reality for its benefit. A fish has true knowledge when it can successfully differentiate between a prey and bait. In life, knowledge about reality can mean life or death. The process of gaining true knowledge is the foundation of successful evolutionary emergence of a lineage.

We may say that the animal has seen a problem, if its perplexity lasts for some time and it is clearly trying to find a solution to the situation which puzzles it. In doing so, the animal is searching for a hidden aspect of the situation, the existence of which it surmises, and for the finding or achieving of which the manifest features of the situation serve it as tentative clues or instruments. **To see a problem is a definite addition to knowledge**, as much as it is to see a tree, or to see a mathematical proof—or a joke. **It is a surmise which can be true or false**, depending on whether the hidden possibilities of which it assumes the existence do actually exist or not. To recognize a problem which can be solved and is worth solving is in fact a discovery in its own right (*PK*, 120).

We have seen in the previous section that non-human animals have only tacit knowledge. This means that in their case they have no explicit sentences that they can critically reflect upon to see if their thought corresponds to reality. Even many higher animals have “only” tacit intellectual powers by which they can reorganize their experiences for future use. So, in their case we must speak of tacit mental and physical skills by which they categorize and understand nature and reality and by which they act. A cat, for example, can recognize a dog or a frog and acts according to opportunities or dangers offered by this specific recognition. The tacit intellectual knowledge of animals can be acquired or genetically encoded. (The latter comment does not imply genetic determinism. That is, during its ontogenesis, the animal has to make heuristic efforts to develop its genetic heritage into real skills.) This corresponds to the process of Darwinian natural selection.

According to Polanyi’s theory of tacit knowledge, an explicit sentence or a word in itself has no meaning. “[O]nly a speaker or listener can mean something *by* a word, and a word *in itself* can mean nothing” (*PK*, 252). A meaning is the achievement of a tacit act by which we assert something according to our tacit beliefs and commitments. “An articulate assertion is composed of two parts: a sentence conveying the content of what is asserted and a tacit act by which this sentence is asserted” (*PK*, 254).

In Polanyi’s view the source of meaning and of a belief in a truth is that tacit foundation of our knowledge which we have in common with animals. It is true that in contrast to animals man can articulate explicit sentences, but even in the case of humans the true meaning of a belief relies on a tacit act. Animals cannot make articulate claims, but as we can see, they have dispositional states and commitments towards reality that enable them to solve a problem, to differentiate between a prey and a bait, etc. (e.g. *PK*, 120 or 364-365). Therefore, if Polanyi’s theory of tacit knowledge is true and as general as he claims it to be, animals also have meaningful and true commitments and knowledge concerning reality as approached by their species.

## Conclusion: Human Knowledge as Based on Animal Knowledge

In conclusion, we must ask a fundamental question: If Polanyi's writing convincingly makes it very clear that animals have tacit knowledge, why do so many still doubt this fact?

To understand this situation better, let us consider Polanyi's example of the neurologist (1968, 39).<sup>8</sup> The neurologist is able to examine the brain of another person while that person is, for example, watching a cat. The scientist is able to make focal the subject's internal brain processes and he can make explicit assertions of them. Of course the subject herself cannot do this; focally he is not aware of his brain processes. But the fact remains that to see a cat differs sharply from the knowledge of the mechanism of seeing a cat.

Therefore, the subject and the neurologist have quite different knowledge. The subject has tacit knowledge according to his own beliefs and commitments by which he can recognize or see the cat. The brain processes are the tacit material *conditions* for this knowledge. The neurologist has explicit knowledge of the subject's brain processes which he understands on the grounds of his own scientific beliefs and commitments. The subject probably has little idea what the neurologist knows and understands.

In other words, no matter how fully the neurologist explicates the subject's brain mechanisms, the knowledge he gathers is *not the same* as the subject's own knowledge. The subject has her own *existential* knowledge by which she acts, and the neurologist has *denotative* knowledge of the brain processes of the subject. As a consequence, the scientist *cannot* use the subject's knowledge as his own. The deep meaning of this example is more evident if we consider the case of swimming, riding a bicycle or playing a piano. The neurologist might be able to give an exhaustive explicit description of how the subject rides the bicycle or plays the piano in terms of brain and body mechanisms, but of course having only this knowledge does not enable him to ride or play at all.

An animal has tacit knowledge, for example, it can distinguish food that is nutritious from food that is toxic (or dangerous). This means, according to Polanyi's theory of tacit and personal knowledge, that it acts by its own natural commitments concerning reality. Let us assume that this skill of the animal is genetically encoded and assume that a geneticist can identify the exact gene sequences which are responsible for the possession of this skill. Stating that we thus revealed the animal's knowledge is misleading, because we forgot about the animal's real tacit skill. The animal's real tacit knowledge by which it acts and the geneticist's perfect explicit knowledge of the gene sequences are not the same at all. Similarly, the subject's real tacit knowledge concerning the cat and the neurologist's knowledge of brain processes are not the same. We cannot recognize an animal's real tacit knowledge by the explicit analysis of the material parts, but only by our tacit knowledge of the whole. Our scientific methods and belief in the possibility of perfectly explicit knowledge, however, tempt us to forget about

comprehensive tacit skills, and we concentrate only on such explicitly describable parts as brain processes and genes.

Actually, we have seen this, when McDowell tries to understand the problem-solving of animals. He concludes that only the human observer understands the different environmental situations of the animal as problems and opportunities by his explicit conceptual powers. The animal knows nothing; its behavior is just the mechanical consequence of “the realm of law” (116). In contrast to this, consider Polanyi’s following words.

Our understanding of the hungry animal choosing its food, or of an animal on the alert listening, watching and reacting to what it notices, is an act of personal knowing similar in its structure to the **animal’s own personal act** which our knowing of it appraises. And accordingly, our knowledge of the active-perceptive animal would dissolve altogether if we replaced it by our focal knowledge of its several manifestations. Only by being aware of these particulars subsidiarily, in relation to a focal awareness of the animal as an individual, can we know what the animal is doing and knowing. Besides, when the subsidiary particulars of a comprehensive entity are as highly complex and variable as in these cases, attempts to specify them can do no more than highlight some features, the meaning of which will continue to depend on an unspecifiable background that we only know within our understanding of the entity in question. In other words, the meaning of an animal’s actions can be understood only by *reading* the particulars of its actions (or by reading its mind in terms of these actions) and not by observing the actions themselves as we may observe inanimate processes (*PK*, 364).

The higher a piece of knowledge is in the hierarchy of evolutionary emergence, the more personal it is. However, science education forces us to ignore our tacit and personal knowledge and commitments in an effort to be more objective, more exact. It points out causal relations in “first nature” as if they were sufficient for explicit knowledge. It implies that the “true” scientific knowledge is the most explicit knowledge of the parts, for instance, the explicit knowledge of gene sequences. This leads to questioning the existential knowledge of animals and its continuity with our own tacit and explicit knowledge. Polanyi explains how this distorted approach also fails to recognize the emergence of all sorts of beings with real and active centers:

One might expect to find this grandiose achievement celebrated wherever biology—the science of animals and plants—is taught and cherished. But no; classical taxonomy has almost ceased to count as a

science. The explanation seems to lie in a change in the valuation of knowledge. It is due to a steadily mounting distaste for certain forms of knowing and being; a growing reluctance to credit ourselves with the capacity for personal knowing, and a corresponding unwillingness to recognize the reality of the unspecifiable entities established by such knowing (*PK*, 350).

If we do not recognize human tacit knowledge and its important role in science, we will question the knowledge of animals too. And by doing this, we create an evolutionary gap—an unexplained leap between animals and humans. In Polanyi's philosophy, a universal theory of tacit and personal knowledge for all animals is indispensable. Humans arise through evolutionary emergence. Our personal viewpoint is necessarily anchored in our body. Our knowledge, even long after the emergence of our explicit intellectual powers, necessarily lies on tacit foundations. That is, because human knowledge is rooted in tacit skills, certain types of knowledge need not be articulated in language to be true.

Finally, consider this quotation and here we believe that we have to understand Polanyi literally and not just metaphorically or as a matter of mere projection:

Our existing knowledge of physics and chemistry can certainly not suffice to account for our experience of active, resourceful **living beings**, for **their activities are often accompanied by conscious efforts and feelings** of which our physics and chemistry know nothing (*PK*, 336).

## ENDNOTES

<sup>1</sup>The authors would like to thank Phil Mullins, Walter Gulick, and an anonymous reviewer for their profoundly helpful comments on the draft of this article.

<sup>2</sup>All citations to Grimen (2004) are given in the body of the paper. The paper was originally written in Norwegian, but later translated to English by Bjoern Wikner, improved by Judith Lasen and finally approved by Harald Grimen. The paper was cited by Yu Zhenhua (2004). We are grateful to him for providing this paper and can send the paper on request.

<sup>3</sup>All citations to Collins (2010) are given in the body of the paper.

<sup>4</sup>More analysis of Collins' Social Cartesianism can be found in Heder (2012).

<sup>5</sup>All citations to McDowell (2000) are given in the body of the paper.

<sup>6</sup>Bold lettering indicates emphasis not found in the original.

<sup>7</sup>For the range of missed options by Collins see Lowney (2011-12).

<sup>8</sup>We provide a critique of this interpretation of the neurosurgeon thought experiment in Héder and Paksi (2012).

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