

TRADITION & DISCOVERY

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Submission Guidelines

Submissions: All manuscripts should be submitted as a Microsoft Word file attached to an email message. Articles should be no more than 6000 words in length (inclusive of keywords, abstract, notes, and references) and sent to Paul Lewis at lewis_pa@mercer.edu. All submissions will be sent out for blind peer review. Book reviews should be no more than 1000 words in length and sent to Jean Bocharova at jbocharova@msjc.edu.

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):

CF *Contempt of Freedom*

KB *Knowing and Being*

LL *Logic of Liberty*

M *Meaning*

PK *Personal Knowledge*

SEP *Society, Economics, and Philosophy*

SFS *Science, Faith, and Society*

SM *Study of Man*

STSR *Scientific Thought and Social Reality*

TD *Tacit Dimension*

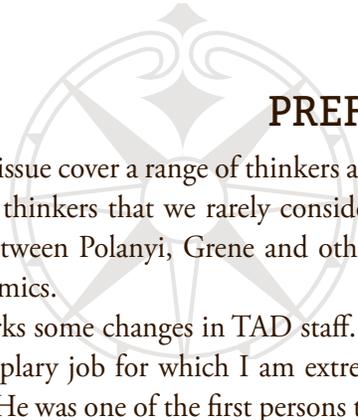
For example: Polanyi argues that (*TD*, 56). Full bibliographical information should still be supplied in the references section since many of us may work with different editions of his works.

- Endnotes should be used sparingly and be placed before the reference section.
- We do recognize that Polanyi's work connects with scholars who work in diverse disciplines that use different style guides. To the extent that our software allows, we will accept other styles (e.g., APA or MLA) so long as the author is consistent and careful in following it. The main point, of course, is to give the reader enough information to locate and engage your sources. Manuscripts that are not careful and consistent in style will be returned so that the author can make corrections, which may delay publication.

For more information see <http://polanysociety.org/Aims-and-Scope-9-12-18.htm> and <http://polanysociety.org/TAD-Submissions&Review-9-12-18.htm>

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PREFACE

As usual, essays in this issue cover a range of thinkers and topics. Matthew Elmore engages both Polanyi and Thomas Aquinas, two thinkers that we rarely consider together. Phil Mullins offers an historical account of the relationships between Polanyi, Grene and others. Book reviews address topics of phenomenology, psychology, and economics.

This issue also marks some changes in TAD staff. Jean Bocharova has resigned as Book Review Editor. She has done an exemplary job for which I am extremely grateful. In addition, Kyle Takaki has resigned from the TAD Board. He was one of the first persons to agree to serve on the Board when I became General Editor and has also done an exemplary job.

But wait, there's more! We welcome Martin Turkis, who takes on the role of Book Review Editor. He has published with us in the past and you can learn about him in this issue's News and Notes.

Do remember that the Polanyi Society (and *Tradition and Discovery*) need your support through dues and/or donations. While production costs of the journal have decreased since we went all-electronic, there are still costs to producing this quality of journal. Moreover, the Society has expanded its activities. Please consider donating to the Society.

As always, keep up with the latest in News and Notes.

Paul Lewis
Managing Editor

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THE TACIT DIMENSION OF THOMAS AQUINAS, OR *SCIENTIA* WITH MICHAEL POLANYI



Matthew Elmore

Keywords: Michael Polanyi, Thomas Aquinas, Thomas Kuhn, Alasdair MacIntyre, tacit knowledge, commitment, embodiment, know-how, habit, faith, authority, tradition

ABSTRACT

This article explores the common holdings of Thomas Aquinas and Michael Polanyi. More specifically, it suggests that Polanyi's post-critical philosophy retrieves multiple aspects of the pre-Copernican rationality of Aquinas. First of all, both believe that the faculty of reason is never impartial; it is always committed, driven by the intellect's appetite for satisfaction. Second, scientific knowledge requires habituation or know-how, which indicates that truth is not rational apart from bodily habitus. Third, reason operates only in a social body, and fourth, science can proceed only by faith in the authority of others. Along these lines, Polanyi relocates the modern scientist in something like a medieval body. Thus, some of Polanyi's most important ideas are incidental recoveries of the paradigm Aquinas represents.

Science is nothing if not a work of faith. That claim, made by Michael Polanyi, is the central focus of this article. Though Polanyi was not the first of his century to say such a thing (William James had broken the same ground), his portrait of science was quite bold for its time. To him, the whole scientific endeavor bore a likeness to religion, because even the most expert scientist had to believe in order to understand (*PK*, 375). Might his views evoke the premodern paradigm represented by Thomas Aquinas? Polanyi himself would have dismissed the idea. To hear him tell it, St. Thomas was significant to science only on the wrong side, as partisan to the geocentric universe (*PK*, 146 n1). But Polanyi never studied Aquinas deeply; if he had, he would have found an impressive network of insights upholding his own. This article traces that network, letting Polanyi's intuitions guide a fresh reading of Aquinas on the conditions necessary for scientific inquiry.

That being our aim, we cannot encompass whole topics as Aquinas first laid them out. A proper treatment of *scientia*, for example, would range well beyond the main concentrations of Polanyi's thought. One needs only to begin the *Summa* to find that Aquinas defends sacred doctrine as a science, which goes beyond anything Polanyi said. Conversely, the modern sciences range well beyond their medieval parents in subject matter and technique. So if we are to see how Aquinas remains relevant to the philosophy of science, we

must draw from various portions of his corpus, then reassemble the material in a somewhat novel way. This does not distort his ideas, nor is it unprecedented; the interconnectivity of his thought rather lends to such work. Again, the point is not to reproduce a condensed version of Aquinas's system. It is to show that Polanyi rediscovered some of its primary elements, which continue to hold promise for the sciences.

To be sure, this is an eccentric route to the study of St. Thomas, and it virtually overlooks the legacy of his commentators. But it reflects a broad sympathy with their work, following a remark Alasdair MacIntyre once made: "We inhabit a time in philosophy in which Thomism can only develop adequate responses to the rejections of its central positions in what must seem initially at least to be unThomistic ways." (MacIntyre 1990, 2) This article is one such piece of unThomistic Thomism. It bypasses convention because, in all fairness, Thomists have routinely downgraded Aquinas when faced with the ascent of modern science. For example, Armand Maurer begins his translation of Aquinas on the sciences by saying this:

The center of attraction for St. Thomas and his contemporaries was not empiriological or mathematical science, but rather ontological or philosophical knowledge... The consequence of this optimism was the extension of philosophical analysis to areas in which it fails to achieve results (Maurer 1986, xii).

Such a concession starts readers on the wrong foot, because it offers only two choices. Either Aquinas should be thrown out whole (a move Polanyi followed without hesitation) or else he should be pardoned for the sake of his other merits. Not surprisingly, Maurer takes the second path, arguing that modern science cannot answer the big questions – questions about God, ultimate things, and the value of science itself. Aquinas, he believes, can offer the sciences a kind of metaphysical top layer, an icing that leaves the cake's ingredients unchanged. The same idea was also advanced by Jacques Maritain, a Catholic intellectual of Polanyi's generation. Maritain argued that Thomism was an accurate metaphysics for the sciences – one that would "do them no violence." (Maritain 1938, 83-84) He was bold enough to insist that metaphysics should regain its status as king of the sciences, given that every discipline rested ultimately on metaphysical assumptions about nature. But his stance, while more assertive than Maurer, still relegated the scientific value of Thomism to metaphysics.

It remains to be seen how a Thomist metaphysics can 1) operate by its own methods, yet 2) defend its methods to modern sciences outside its idiom, and further 3) influence or even govern those disciplines, but 4) refrain from doing them violence. How can such a "first philosophy" exist in the present milieu? As Kant forcibly argued in the second preface of his *Critique of Pure Reason*, the medieval model is retired. Ever since Descartes, the sciences have been formally structured on the first principle of the skeptical knower. A corresponding arrangement of fields has replaced that of the medieval schools, in which all forms of knowledge were seen to derive from the truth of God's being.

That is why Polanyi's argument is nimbler and more incisive than Maritain's. Without making any strident metaphysical claims, he begins from the vantage point of the knower. For him, everything follows from a single, core idea: "*We know more than we can tell.*" (TD, 4) We would struggle, for example, to say just how we recognize a close friend's face. Though we could name a few distinguishing features, their composite might match any number of people on earth. Similarly, we could not say exactly how to balance a bicycle in motion; it is a thing learned by doing. These phenomena represent what Polanyi calls tacit knowledge, a mode of experience analogous to peripheral vision. Tacit knowledge eludes our focus while framing whatever we see, think about and explain. As this paper shows, tacit knowledge does entail a transcendent reality,

a moral goal not unlike the beatific vision of God. But for the moment, we are in a position to notice an impressive parallel on another plane.

Commitment

In an essay written for Polanyi's seventieth birthday, Marjorie Grene explains his philosophy like this:

Knowing always expresses a personal commitment, because it entails the apprehension of a whole in terms of its parts, or of an aim in terms of a means to it. It entails, in Polanyi's language, both *focal* and *subsidiary* awareness (Grene 1961, 192).

Similarly, MacIntyre identifies the virtue of prudence as the key to knowing and doing:

The central virtue of the active life is the virtue which Aristotle names '*phronesis*' and Aquinas '*prudentia*.' ... it enables its possessor to bring sets of particulars under universal concepts in such a way as to characterize those particulars in relevant relationship to the good at which the agent is aiming (MacIntyre 1990, 41-42).

Despite their different terminologies, these quotations express a common view. Knowledge is always *aimed*, driven by a personal commitment to a whole truth. We know about particular things by inferring their context in a whole body, a whole world, a whole universe. The same is also true the other way around. We know about a whole universe, a whole world, or a whole body by committing ourselves to a totalizing view of its particulars.

Consider a physician making a diagnosis. (*SM*, 45; *PK*, 101) She has taken various things into account: lab values, clinical images, vital signs, and so on. These, along with her patient's history and physical exam, are pieces of a puzzle. They are not meaningful in themselves; their meaning is derived from the whole problem they conjointly define. A diagnosis represents a *knowing through*, just as the Greek indicates. *Dia gnosis*: the doctor knows the illness through its characteristic signs. We might also call the diagnosis a *putting together*, a *rendering whole*.

However, to render something whole in the genre of *problems* (which is what a diagnosis aims to do), the physician has tacitly understood an even greater whole. *This* human is unwell against the backdrop of a normal physiology, a unitive species called human (*PK*, 88-89). Medicine is an expression of the mind's enigmatic talent for identifying the kinds or natures of things. A physician, tacitly referencing *humankind*, is trained to judge *this* human's degree of wholeness. Which is not to say that a man is somehow less human when unwell. To the contrary, he is only treatable if considered unwell *as human*. Has the physician ever seen the human species in itself? Never. She has been trained to know it attributively through its members. (*PK*, 88-89) For her, the term "human" already narrates the *is* and the *ought* of those identified as such. A sense of nature's direction – or its directionality – pervades her work, as Aquinas understood clearly: "the physician strengthens nature, and employs food and medicine, of which nature makes use for the intended end." (*ST* 1a.117.1) Hence, an ethics of intent is tacitly present in the knowledge of nature. And precisely on this point, an open discourse on metaphysics would indeed serve the sciences.

Introducing Aristotle's *Metaphysics*, Aquinas claims that all the sciences are ordained to one thing: human perfection (*hominis perfectionem*), which he also calls *beatitudo*, variously translated "happiness" or "blessing." (*CDM*, prologue) We have just seen that such a goal is apparent in medicine, but are all the

sciences driven by a such a commitment? Does the same commitment extend to theoretical physics, or to the mathematician with little interest in the application of his research? The modern reader is likely to accept one of two views on this. He can either affirm without difficulty that science is teleologically formed, or he can believe the popular history of the Enlightenment, which says the opposite. Take the story often told about Copernicus, which Polanyi cites frequently. Many writers, he says, extract the following lesson from the Copernican revolution: we ought to “see ourselves objectively in the true perspective of time and space.” (*PK*, 3) The injunction already sets a moral goal for knowledge, but let us leave that inconsistency aside. We are told to shed our biases and see the facts, to detach ourselves from all prejudicial commitment and accept evidence contrary to our beliefs. If this is the true posture of discovery, in what sense was Copernicus its harbinger?

Thomas Kuhn, very possibly under Polanyi’s influence, answers the question well.¹ The Copernican theory was “neither simpler nor more accurate than Ptolemy’s system. Available observational tests... provided no basis for a choice between them.” (Kuhn 2012, 76) So the question is not how the Copernican view was proven but rather what was involved in its public rectitude. Like Kuhn, Polanyi dismisses the idea that Copernicus and his adherents took an impartial stance, finding facts without prejudice. The real lesson here is about “the greater intellectual satisfaction he derived from the celestial panorama as seen from the sun instead of the earth.” (*PK*, 3) The same satisfaction was later felt by Kepler and Newton, who were so taken with the Copernican model that they worked to answer problems no other model suggested. The model was enjoyable, delightful, stimulating; that was its great merit. Paul Dirac, a Nobel Prize winner in physics, said the same of relativity. Einstein’s theory was accepted largely because “there is a beautiful mathematical theory underlying it, which gives it a strong emotional appeal” (Greene 1961, 193). Let us take the expert’s word for it: theories gain acceptance not because they are proven but because they are gratifying. A good proof *gratifies* the intellect; gratification is the greater power. Tacitly, it is the moral goal of science.

As Polanyi understood, science follows our desire for the Beautiful: “The affirmation of a great scientific theory is in part an expression of delight. The theory has an inarticulate component acclaiming its beauty, and this is essential to the belief that the theory is true.” (*PK*, 133). If that does not sound controversial, perhaps it is because intellectual satisfaction is a common experience. Who has not known the pleasure of a good answer found after a great deal of puzzling? But, in granting that such pleasure is real, the scientist requires a theory of knowledge that no longer sustains the popular view of objectivity. Is the intellect a satisfiable entity? If so, we had better revise “objective” to mean something other than impartial or impersonal. The intellect must be partial to what it finds satisfying. It must prejudicially incline to the most appealing object of truth, the most fitting answer. In that sense, every science is indeed concerned with human happiness.

We have thus worked out a notion familiar to Aquinas: that of the intellectual appetite, otherwise known as the will. For Aquinas, the will is not primarily assertive but desirous. To will is to want; the wanting is what controls us. As David Burrell puts it, “Ends are consented to, not chosen.... Only means are chosen, and that with a view to their appropriateness in attaining the end” (1979, 125). Humans are moved by intellectual hunger, which for Aquinas does not nullify the doctrine of free will. It rather sets the conditions for freedom in the context of *beatitudo*. Our hunger for truth is the same as our will to be satisfied (*ST* 1a.82.1, 4). Science, then, is a most poignant example of desire gone right. It is not sustained by dispassion but rather by an amorous commitment to the pleasure of truth. Polanyi thus reclaims a very old line of

thought when he says, “Science exists only to the extent to which there lives a passion for its beauty, a beauty which is believed to be universal and eternal” (*PK*, 281).

Embodiment

In highlighting the appetitive nature of knowing, we are marking an opposition between two accounts of scientific knowledge. The first is distinguished by feats of detachment or by the claim that good science is impersonal and unbiased. The second is what Polanyi calls *indwelling*. Kepler and Newton, for example, indwelled the Copernican system. Satisfied by it, they committed to a description of reality on its premises. To use another of Polanyi’s terms, they *interiorized* the model.

To rely on a theory for understanding nature is to interiorize it. For we are attending from the theory to things seen in its light, and are aware of the theory, while thus using it, in terms of the spectacle that it serves to explain. This is why mathematical theory can be learned only by practicing its application: its true knowledge lies in our ability to use it (*TD*, 17).

A theory *is* a practice. The actual form of a theory is know-how. Consider again the physician diagnosing her patient: she knows what is wrong because she knows *how to tell* what is wrong. Polanyi’s approach here coincides with Aristotle’s insight about a “second nature,” which Aquinas understood in terms of *habitus*. Modern education tends to place theory and practice in distinct domains, but Aquinas and Polanyi think of the two as inextricably combined. To make that point, Polanyi uses language that inadvertently repeats a notion Aquinas calls the *proximum principium* (*SBT* 2.2, reply to 7). A theory taken for granted, he says, is like one’s shoulder—*proximal* to one’s hand. When I reach out to grasp something, I do not need to focus on my shoulder, though I do need to articulate my shoulder to grasp the object. For Polanyi, this is more than a metaphor. It is simply how human knowledge works—a point he strengthens by considering the use of instruments. When I use a hammer, I do not focus on the hammer but on the nail I am driving (*TD*, 11–12). The hammer, being proximal to the nail, becomes an extension of my arm. I know the hammer best when I use it on something else. The same is then equally true for computational and theoretical instruments. While they are not always physical tools, they indicate that we are habituated as bodily knowers.

But must we say *bodily*, if we are referring to such an austere task as deduction or calculation? Yes, because the alternative is incoherent; humans cannot perform a sheerly mental act (Grene 1968, 43). We can certainly study the mind instead of the body, but the body must tacitly serve us in saying anything about the mind. After all, language itself is bodily (*KB*, 41). In becoming fluent, we did not abandon the use of our tongues, ears, eyes, or hands. Nor did language operate without instruments like pens, computers, books, and so on. Despite the famous attempt of Descartes, we cannot base truthful deduction on a dismissal of the body or sensation.

Now, it is somewhat tempting to see a proto-Cartesian duality in Aquinas. He says that the intellect is to body as form is to matter (*ST* 1a.76.1). But unlike Descartes, he uses classical language to bring out a unity. Intellect is the first principle *inherent* to the body; for anyone possessed of the human form, the body is inseparable from its first principle, the intellect. If that sounds a bit woolly, Aquinas clarifies things in his comments on Aristotle’s *De Anima*. Sensation, he says, belongs not only to the body or to the soul but to the composite (*SDA* 3.2, *lectio* 2–3). This is a far cry from Descartes, especially since Aquinas observes

with Aristotle that nonhuman animals have a souled nature. The human soul is distinct, however, in being rational. We humans are drawn to fit our experience deductively into one intelligible whole.

Polanyi never used the word “soul,” but he must have seen that “proximal” indicates proximity to something core, something integrative and essential to all coherent knowing. What he did describe in detail is how the intellect can know itself only in relation to other objects. The intellect is never self-enclosed, a self merely observing itself, as in Descartes’ *cogito ergo sum*. The intellect is invariably communal and embodied in the world of things. Science, then, is an expression of both finitude and commonality, energized by the collective effort to make sense of reality. On this point, Polanyi mirrors Aquinas, who quotes Dionysius on the difference between angelic and human knowledge.

Souls have the power of reasoning in that they approach the truth of things from various angles, and in this respect they are inferior to angels; but inasmuch as they gather a multiplicity into unity they are in a way equal to the angels (*SBT* VI.1, reply to 3).

For Aquinas, angels do not learn or deduce truth the way humans do. The angelic nature simply contemplates the real (*ST* 1a.58.1). We humans, by contrast, come to know reality by employing reason—synthesizing information, drawing conclusions, and working together in collective bodies. All such efforts display our appetite for the whole truth while displaying our un-angelic form. As stated above, Aquinas often contrasts the human species with irrational animals, but the contrast in this case highlights our animal nature. By comparing us with pure spirits, Aquinas indicates that our animal bodies manifest our rationality. The human’s physical development reflects our unique intellectual potential. Hence, any epistemological detachment from the body—whether by impersonal objectivity or by doubt of the senses—de-forms the human. The human is a physical intellect, an embodied soul committed to the satisfaction of unified knowledge.

Polanyi, making a similar case, situates humanity a little lower than the angels, honoring the body as an instrument of human knowing. For both men, science is a *habitus* of skill and mastery, an embodied practice of thinking from certain proximal givens. Scientists learn by doing, effectively confirming the famous dictum of Aristotle: “Men become builders by building and lyre players by playing the lyre” (Aristotle 1998, II.1).

Faith

Builders, musicians, scientists, and all others gain knowledge by practice. What we know is inseparable from how we know it. Clearly then, as finite knowers, we cannot master every field. The musician who wants her home remodeled must have faith in her builder. She must believe not only in his ability to do good work but also in his intention to do her good; he is a good builder only if he demonstrates both aspects. Or let us again consider the physician diagnosing her patient. Without her skill, the patient would not know what is wrong, let alone what to do about it. His knowledge comes strictly by faith in her word.

For Polanyi and Aquinas, faith may be highly attuned and critical, but there is no true knowledge without prior belief. This is where Polanyi comes closest to sensing his own medieval bearings, quoting Augustine’s famous words: *nisi credideritis, non intelligitis* (Unless you have believed, you do not understand [*PK*, 266]). For centuries, the phrase marked the entrance to Christian orthodoxy, but it now serves Polanyi’s theory of knowledge in general. Had he known to look, he would have found the statement comparably

widened in the *de Veritate*, where Aquinas defends it by citing Aristotle and Averroes, a pagan and a Muslim (QDV 14.1, response). While Aquinas elsewhere discusses faith as a particularly Christian virtue, he also thinks of it as commonplace among humans, operative prior to salvation. Grace indeed changes our object of belief, but we are always already believers by nature.² Discussing the phrase “I believe” in the Apostle’s Creed, Aquinas says this:

If one were willing to believe only those things which one knows with certitude, one could not live in this world. How could one live unless one believed others? How could one know that this man is one’s own father? Therefore, it is necessary that one believe others in matters which one cannot know perfectly for oneself (*CI*, 17).

By contrasting matters of certainty with matters of faith, Aquinas does not mean to diagram two distinct zones of knowledge. Belief is woven into the fabric of certainty; we believe what we are certain is true. Polanyi says the same: “Our basic beliefs are indubitable only in the sense that we believe them to be so” (*PK*, 267). The point, however, is that belief also extends well beyond matters of certainty. It is the larger of the two modes, fully encompassing certainty but also surpassing it. Our wellbeing depends on this. We must uncritically believe many things we could doubt, such as our own paternity. As Aquinas asks rhetorically, how could someone possibly doubt all doubtable things?

We can add a similar question to his: how could one express doubt without expressing belief?³ If one indeed doubts that this man is one’s own father, it is only because one believes otherwise. Doubt does not offer the assurance of faithless certainty (again, despite the famous attempt of Descartes); doubt is plausible only when fixed to an alternative belief (Polanyi 1950, 27–37). It is true that modern science rises from Cartesian skepticism, and there is no denying that it has furnished us countless analytical tools. But has it fundamentally changed our situation? We can now verify paternity with a DNA test, but we cannot avoid the expert reading its results. What validates evidence, if not a social interplay of trust? Like children, we must believe the expert whose knowledge goes beyond our own. The argument of Aquinas holds as firmly now as it did when he wrote it: faith is our recourse when the answer to a question exceeds our ability. The same line of reasoning permits him to claim that humans only know God by faith (since the nature of God transcends human reason), but the argument works by way of analogy. Certain forms of knowledge exist in excess of what any one person knows. Scientists gain understanding by erudite proofs or deductions (*demonstrationes*), but laypeople and novices must believe in order to understand (*CI*, 17).

However, a distinction between scientists and laity is deceptive. No scientist has finally rested his mind on faithless certainty. Nor does there exist a simple two-tiered politics of knowers and believers because, as we have seen, there is no separation between certainty and faith. Polanyi repeatedly stresses the fact that belief operates collaterally among scientists (*TD*, 63–64). The astronomer, for example, must believe the findings of other astronomers, whether because they are in different locations or because they have better instruments. More to the point, the astronomer believes in models he cannot prove, especially in those developed outside his discipline. Compared to a nuclear chemist, he is a layman. Yet he must believe in nuclear fusion to explain the energy and life cycle of stars. Aquinas thus makes a valid observation:

Sometimes the proximate starting point of a science is belief, as is clear in the subalternated sciences. The proximate source (*proximum principium*) of their conclusions is belief in truths presupposed as established by a higher science. Their primary source, however, is the

knowledge of the higher scientist, who, through his understanding, is certain about these matters of belief (*SBT* 2.2, reply to 7).

Here again is the *proximum principium*, synonymously used by Polanyi. Some sciences, in order to exist, must base their line of inquiry on the findings of more basic sciences. Aquinas thus envisions a hierarchy of disciplines, although we would be mistaken to think that authority exists solely on the basis of scientific provenance. It is grounded in *persons*: authority comes from the higher scientist (*scienti*). In the same text, Aquinas says that a physician is obliged to trust a physicist, but he does not expect that a physicist could practice medicine (*SBT* 2.2, reply to 5). The physicist is finite, trained particularly as such. If he were to become ill, he could do nothing but submit himself to the master of a lower science. Hierarchy cannot therefore indicate the absolutism of any one field, because authority does not derive merely from higher disciplines. It derives from responsible masters, each of their own discipline. Seen this way, the social psychology of truth is dynamic, even self-governing, because each expert must yield in good faith to the authority of others.

Authority

We have found another overlap with one of Polanyi's central conclusions:

Science will appear then as a vast system of beliefs, deeply rooted in our history and cultivated today by a specially organized part of our society. We shall see that science is...shared out for cultivation among many thousands of specialized scientists throughout the world, and shared receptively, at second hand, by many millions (*PK*, 171).

Philosophers of the Enlightenment tended to redraft this basic tenet, claiming that reason was free to dismiss traditional authority. Such an ideal opposes the social form Aquinas defended, and it conflicts with the hermeneutics of trust that Polanyi advocates. When the Enlightenment changed the old model of authority, truth was not supposed to derive from people; it was derived from *facts*, taken to be impartial and impersonal. We today have not officially departed from that ideal, despite its grave implications. Not quite a century ago, Bertrand Russell wrote a well-regarded book on education, the effects of which can still be felt in classrooms. He said this:

I should not urge my own views upon the pupils. What I should do is to put before them the ideal of a scientific attitude to practical questions. I should expect them to produce arguments that are arguments, and facts that are facts.... I should make it my object to teach thinking, not orthodoxy, or even heterodoxy (1923, 284).

Despite what he says, Russell is espousing an orthodoxy. The ideal teacher is to remain hands-off, respecting the student's autonomy, stepping in only when the student's reason veers off track. The same ideal can be found in Rousseau's *Emile*, written some 160 years prior (1979, 168). And before that, Rousseau's sentiment had long been crystalized in the Royal Society's motto, *Nullius in verba* ("Take no one's word for it"). The refusal of dogma is nothing if not a tradition, and it is a tradition with two faces. One side prizes autonomy, and the other demands its pupils submit to reason. Autonomy thus looks and feels very much like submission to dogma, and as such, it is difficult to envision in pure form.

In Polanyi's day, Paul Feyerabend proposed a new age of scientific anarchy. No longer should "the experts" hold sway, he said. Science ought to be pluralized, its absolute methodologies abolished (Feyerabend

1978, 127). Such a notion, while sounding radical, repeats the same traditional stance, and it is captured by its own problem. As Polanyi said, “All modern revolutionaries since the Jacobins demonstrate likewise that dissent does not seek to abolish public authority, but to claim it for itself” (*PK*, 209). Because Polanyi believed scientific freedom rested on trust, he argued that authority was simply part of the fabric of knowing. There could be no free inquiry without the establishment of mastery. Thomas Kuhn shared a similar view. Like Feyerabend, Kuhn rejected the idea that science must have an explicit method, but he adhered more closely to Polanyi when he argued that scientists learn “by doing science rather than by acquiring rules for doing it” (Kuhn 2012, 191). In saying this, Kuhn defended the convention of Aristotle: the novice scientist is initiated into a tacit knowledge by the hands-on example of an expert whose highly personal skill is likewise “embedded in shared exemplars.” Science is a tradition of apprenticeship and mastery no less than carpentry or plumbing. A scientist therefore makes discoveries, or detects anomalies and problems, by adopting the way of a master. Polanyi agreed with Kuhn:

We have seen that tacit knowledge dwells in our awareness of particulars while bearing on an entity which the particulars jointly constitute. In order to share this indwelling, the pupil must presume that a teaching which appears meaningless to start with has in fact a meaning which can be discovered by hitting on the same kind of indwelling as the teacher is practicing (*TD*, 61).

To summarize, science requires faith in the well-habituated authority of others. Yet after Descartes, scientists have generally masked that faith, suggesting a reversed relation of person and truth. Whereas the medieval scholastics derived *scientia* from the great *auctores*, modern science ostensibly derives knowledge from matters of fact. Truth must now stand on its own, apart from all trust in authority. As recently as 2010, Stephen Hawking gave an interview where he said as much: “There is a fundamental difference between religion, which is based on authority, and science, which is based on observation and reason. Science will win, because it works.” That statement and others like it are exercises in misdirection. They are precisely why Aquinas, read with Polanyi, may prove abundantly fruitful—or at least disruptive enough to clear the ground for a germinal idea.

By officially removing science from its divine syllabus, we have lost its proper context. Once, truth was a practice of caretaking. It was understood as a shared effort of trust, known in a community and guided by a tradition of belief. That is why Aquinas could classify self-evident principles as “self-evident *to us*” (*SCG* I.11; Dougherty 2006, 625–626). Self-evidences were not obvious to everyone. They existed insofar as they were common goods of a tradition, made conspicuous only by initiation and education. They were part of an exercise, a communally habituated pattern of reasoning, something like a physician’s diagnostic data. They were intelligible as part of a greater, beatific unity, learned under the authority of others who pursued the same good.

Conclusion

As with any piece of writing, this essay has left many things out. We have not explored serious disagreements that may yet exist between Aquinas and Polanyi. Nor have we harvested what would promise to be a rich account of scientific virtue from their collaboration. We have merely made the first step in either direction, tracing the following argument. Science is always an act of commitment to the whole truth, but

humans are partial in two senses of the word. First, we know in part, as the Apostle Paul said (1 Corinthians 13:8); second, we are partial to what we find satisfying. We are drawn by the hunger to know, a hunger shaped by and shaping tradition. Partiality is therefore not to be discarded for the sake of truth. It is the very condition of our knowledge.

We are thus left with four conclusions: 1) There is no way to start telling the truth except by first believing. 2) Telling the truth is a skill, a bodily practice. Just as we cannot detach our intellect from the desire for gratification, we cannot disengage our rational functions from the body. 3) Embodied habits are what grant us the ability to think and reason together. Just as we cannot disengage from the body in order to know the truth, we cannot disengage from collective bodies of knowledge. 4) Good science is therefore based not only on know-how but also on know-*who*. True knowledge depends on faith in the authority of those who know better. Along these lines, Polanyi urges a full-orbed resettlement of science, and, remarkably, the medieval environs of Aquinas are hospitable to the occupation.

ABBREVIATIONS

For the works of Polanyi:

KB = *Knowing and Being*

PK = *Personal Knowledge*

SM = *The Study of Man*

TD = *The Tacit Dimension*

For the works of Aquinas:

CDM = *Commentary on the Metaphysics (of Aristotle)*

CI = *Catechetical Instructions*

QDV = *Questiones Disputatae de Veritate*

SBT = *Super Boethium de Trinitate*

SDA = *Sententia libri De Anima*

ST = *Summa Theologiae*

SCG = *Summa contra Gentiles*

ENDNOTES

¹Martin X. Moleski has written a helpful comparison of Kuhn and Polanyi, suggesting that the former owed an unexpectedly deep debt to the latter. See Moleski 2006, 8–24.

²This is not a standard Thomist conception, but it nestles quite nicely with the position of Eleonore Stump and (though more vaguely) Rudi Te Velde, who see Aquinas employing reason in the service of Christian faith. That is, reason and faith are never separated as entirely distinct domains. Belief is already operative, already granting truths that rational discourse assists one in believing. See Stump 2003, 374, and Te Velde 2006, 26.

³Under Polanyi's influence, Charles Taylor made a similar argument in *Sources of the Self*. See Taylor 1989, 74–75.

REFERENCES

- Aquinas, Thomas. 1947. *Summa Theologica*. Translated by Fathers of the English Dominican Province. Cincinnati: Benziger Brothers.
- . 1949. *Sententia libri De Anima*. Translated as *The Soul* by John Patrick Rowan. St. Louis & London: B. Herder Book, Co.
- . 1952, 1953, 1954. *Questiones Disputatae de Veritate*. Translated by Robert W. Mulligan, James V. McGlynn, and Robert W. Schmidt. Chicago: Henry Regnery Company.
- . 1961a. *Commentary on the Metaphysics*. Translated by John P. Rowan. Chicago: Henry Regnery Company.
- . 1961b. *Summa contra Gentiles*. Turin: Press of Turin.

- . 1970. *Commentary on the Posterior Analytics of Aristotle*. Translated by Fabian R. Archer, O.P. Albany, NY: Magi Books.
- . 1986. *The Division and Methods of the Sciences: Questions V and VI of His Commentary on the De Trinitate of Boethius*. Translated by Armand Maurer. Toronto: Pontifical Institute of Mediaeval Studies.
- . 1987. *Super Boethium de Trinitate*. Translated by Armand Maurer. Toronto: Pontifical Institute of Mediaeval Studies.
- . 2004. *The Catechetical Instructions of St. Thomas Aquinas* (Opuscula 65, 66, 68). Translated by Joseph B. Collins. Baltimore: The Catholic Primer.
- Aristotle. 1998. *Nicomachean Ethics*. Translated by David Ross. Oxford: Oxford University Press.
- Burrell, David. 1979. *Aquinas: God and Action*. Notre Dame: University of Notre Dame Press.
- Dougherty, M. V. 2006 (March). "Thomas Aquinas on the Manifold Sense of Self-Evidence." *The Review of Metaphysics* 59(3): 601–630.
- Feyerabend, Paul. 1978. *Science in a Free Society*. London: NLB.
- Grene, Marjorie. 1961. "The Logic of Biology." *The Logic of Personal Knowledge: Essays Presented to Michael Polanyi on His Seventieth Birthday*. Edited by Polanyi Festschrift Committee. London: Routledge and Kegan Paul Ltd.
- . 1968. "Tacit Knowing and the Pre-Reflective Cogito." *Intellect and Hope*. Edited by Thomas A. Langford and William Poteat. Durham, NC: Duke University Press.
- Hawking, Stephen. 2010. "ABC World News with Diane Sawyer: Conversation with Stephen Hawking." YouTube. <https://www.youtube.com/watch?v=MJBwKCHjXI>.
- Kant, Immanuel. 1998. *Critique of Pure Reason*. Translated by Paul Guyer. Cambridge: Cambridge University Press.
- Kuhn, Thomas. 2012. *The Structure of Scientific Revolutions*. Chicago: University of Chicago Press.
- MacIntyre, Alasdair. 1990. *First Principles, Final Causes and Contemporary Philosophical Issues*. Milwaukee: Marquette University Press.
- Maritain, Jacques. 1938. *The Degrees of Knowledge*. Translated by M. R. Adamson. New York: Charles Scribner's Sons.
- Moleski, Martin X. 2006–2007. "Polanyi vs. Kuhn: Worldviews Apart." *Tradition and Discovery: The Polanyi Society Periodical* 2(33): 8–24.
- Polanyi, Michael. 1942 (November). "The Growth of Thought in Society." *Economica* 8: 428–456.
- . 1950 (October). "Scientific Beliefs." *Ethics* 61(1): 27–37.
- . 1959/2014. *The Study of Man*. Chicago: University of Chicago Press; reprint, Mansfield Center, CT: Martino.
- . 1964a. "The Duke Lectures." Missouri Western University. <http://www.polanyisociety.org/Duke-intro.pdf>.
- . 1964b. *Science, Faith and Society*. Chicago: University of Chicago Press.
- . 1966. *The Tacit Dimension*. Chicago: University of Chicago Press.
- . 1968. "Sense-Giving and Sense-Reading." *Intellect and Hope*. Edited by Thomas A. Langford and William Poteat. Durham, NC: Duke University Press.
- . 1969. *Knowing and Being*. Chicago: University of Chicago Press.
- . 1982. *Personal Knowledge*. Chicago: University of Chicago Press.
- Rousseau, Jean-Jacques. 1979 (1792). *Emile, or On Education*. Translated by Allan Bloom. USA: Basic Books.
- Russell, Bertrand. 1923. *Education and the Good Life*. New York: Liveright.
- Stump, Eleonore. 2003. *Aquinas*. London: Routledge.
- Taylor, Charles. 1989. *Sources of the Self*. Cambridge, MA: Harvard University Press.
- Te Velde, Rudi. 2006. *Aquinas on God: The Divine Science of the Summa Theologiae*. Farnham, Surrey: Ashgate.



POLANYI AND GRENE ON MERLEAU-PONTY: HISTORICAL NOTES WITH FOOTNOTES TO CHARLES TAYLOR, FRANCIS WALSHE, F. S. ROTHSCHILD, AND GILBERT RYLE



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Keywords: Michael Polanyi, Merleau-Ponty, Marjorie Grene, Francis Walsh, F. S. Rothschild, Gilbert Ryle, Charles Taylor, the theory of tacit knowing, Polanyi's ontology

ABSTRACT

This historically oriented essay treats Michael Polanyi and Marjorie Grene's discussions of Maurice Merleau-Ponty in their correspondence in the 1960s. It traces Grene's growing enthusiasm for Merleau-Ponty and notes both Polanyi's criticism and praise for Merleau-Ponty's perspective in relation to his account of tacit knowing. The essay also comments on Polanyi's criticism of Gilbert Ryle and his effort to align his perspective with Francis Walsh's and F. S. Rothchild's neurophysiological ideas about the operation of mind. I discuss the innovative Ford Foundation-funded conference program, spearheaded by Polanyi and Grene, that brought together an interdisciplinary group of scholars interested in transforming the prevailing philosophical paradigm. This project is the context in which discussion about Merleau-Ponty, Polanyi, and other figures flourished and Grene produced a complicated but fascinating set of little-known publications.

Introduction

Michael Polanyi was a fiercely independent thinker who often insisted on working out for himself the implications of his ideas. That is, Polanyi was certainly aware that other philosophical thinkers, earlier and contemporary, were a rich potential resource, but it seems that he diligently labored to extend his own framework of ideas rather than rely on complementary connections with other thinkers. From the time he met Marjorie Grene in 1950, she often pushed Polanyi to expand his philosophical horizons (and it seems likely that Dorothy Emmet did the same in the preceding decade). Sometimes it seems that Polanyi appreciated Grene's advice, but other times it seems he was hesitant to accept her suggestions because he wanted to work out things himself. As I have suggested before, the Grene-Polanyi relationship was a deep and enduring connection, but Grene and Polanyi also were combative intellectual companions. The following discussion attempts to knit together several seemingly disparate elements, some old and some more contemporary.

I draw from historical material and, as a general objective, seek to illumine Michael Polanyi's efforts to distinguish and yet link his own developing ideas to important contemporary philosophical figures and particularly Merleau-Ponty.

Charles Taylor on Michael Polanyi: Early Contact and More Recent Comments

In a 2014 paper, Charles Lowney insightfully comments on Charles Taylor's and Michael Polanyi's different appraisals of Merleau-Ponty. Here is the essence of what Lowney says about Polanyi and Merleau-Ponty:

After summing up the picture that Merleau-Ponty presented in the *Phenomenology of Perception* [in a series of direct quotations], Polanyi says, "These remarks foreshadow my analysis, but I find among them neither the logic of tacit knowing nor the theory of ontological stratification" (*KB*, 222). This, for Polanyi, presented a severe lack, precisely because Polanyi—coming from out of the tradition of scientific research—saw that without a structure like his own, the phenomenological approach becomes inadequate for the task of reforming the old epistemology to the point where it could stem the impetus to reduction (Lowney 2014, 15).

Lowney quotes from the Polanyi essay "The Structure of Consciousness" (1965), an important late essay. As my comments below make clear, it is an essay whose provenance and fate are strangely and interestingly woven with certain other mid-sixties Polanyi and Grene projects in which the young Charles Taylor was deeply involved.

Lowney concisely and accurately summarizes Polanyi's criticism of Merleau-Ponty articulated at the end of "The Structure of Consciousness." Polanyi's scientific imaginary emphasizes the logic of tacit knowing and a hierarchical ontology grounded in the principle of boundary control.¹ Both of these topics are treated concisely and eloquently in "The Structure of Consciousness." Lowney is generally correct about the nature of Polanyi's criticism of Merleau-Ponty. As a figure with a scientific background, Polanyi appreciated a more structural and epistemic approach that he found lacking in Merleau-Ponty's phenomenology.²

Polanyi's hierarchical ontology is his alternative to what Marjorie Grene began in the mid-sixties to call "one-leveled ontology," which drives a search for least particles or principles in most modern inquiry.³ The main idea behind the 1965 and 1966 Study Group conferences, funded by a Ford Foundation grant awarded to Bowdoin College and the Study Group on the Foundations of Cultural Unity (SGFCU hereafter), was to gather convergent voices who were beginning to articulate an alternative to the one-level ontology still dominant in mainstream science and philosophy in the sixties.⁴ The organizing committee for the SGFCU consisted of Polanyi (chair), Grene, and Bowdoin College philosopher Edward Pols. This is the organizing committee's justification for the SGFCU Bowdoin College conferences:

Convinced that there is an unsuspected convergence of ideas separately developed in various fields, we propose a meeting of a number of persons who actively oppose in their work the scientism, and the related methodological and ontological over simplifications, which in one or another form are ascendant in every field of scholarly and creative endeavor.⁵

Polanyi's ideas were touted as a kind of catalyst that might help bring about this convergence.

Charles Taylor came to both conferences at Bowdoin; thus, more than fifty years ago he was directly in contact with Polanyi and Grene in this period when Polanyi, with Grene's help, was working out details of his logic of tacit knowing and his ontology.⁶ As Grene's monograph *Towards a Unity of Knowledge* (1969c)—which included essays and discussion snippets from the 1965 conference—shows, Taylor was clearly an active participant in the Bowdoin discussions. The narrative report on the conference prepared for the Ford Foundation notes that he was a conference participant asking about the relation between Polanyi's account of tacit knowing and the thought of Merleau-Ponty.⁷

Taylor prefers Merleau-Ponty and Heidegger's existential phenomenological approach to that of Polanyi, as Lowney suggests. However, Polanyi is clearly included in the set of figures Taylor lifts up in some more recent publications as bent on fundamentally reforming the modern nominalist epistemological and ontological outlooks. In Taylor's discussion with Polanyi scholars in 2014 and a later publication (Taylor 2017, 27–49), he had many important things to say about the convergence of figures like Polanyi, Merleau-Ponty, and Wittgenstein.

Polanyi did closely study some of Merleau-Ponty's writing, and the push to do this came from Marjorie Grene. In the discussion that follows, I provide some interesting details about this push. Several letters in the Polanyi-Grene correspondence as well as another interesting letter from the period just prior to the Bowdoin conferences discuss Merleau-Ponty's ideas and reflect both Polanyi's excitement about and his criticisms of Merleau-Ponty.⁸ Polanyi's interaction with Grene thus seems to have been the venue in which he worked out his reaction to Merleau-Ponty that is reflected in the 1965 summary comments at the end of "The Structure of Consciousness."

Marjorie Grene on Merleau-Ponty and the Discussion in the Polanyi-Grene Letters

Grene's Discovery of and Growing Appreciation for Merleau-Ponty and the Link with Polanyi

Grene reports in her intellectual autobiography that she first began to read Merleau-Ponty in the academic year 1960. Merleau-Ponty was "something like a revelation" in part because he "seemed to me to be saying, in a different order, what Polanyi was saying, independently in *Personal Knowledge*" (Grene 2002, 20). However, Merleau-Ponty's "thesis of the primacy of perception, of his reflection on human perception in particular, gave me a starting point, not made explicit in Polanyi's account of from-to knowing, for a radically post-Cartesian conception of persons as part of living nature..." (2002, 20).⁹ Grene appreciated Polanyi's ideas about embodiment that are central to the theory of tacit knowing, but she eventually came to think Polanyi had not thoroughly explored embodiment at the primordial level of perception. To put it in language she used thirty-five years after she discovered Merleau-Ponty, Polanyi had shown that there is "no sharp cut between belief and knowledge," but she found Polanyi's work less effective in showing that there is "no sharp cut between perception and belief" (Grene 1995, 25).¹⁰ But in the early sixties, she began mentioning Merleau-Ponty to Polanyi as an important thinker in her correspondence, as the notes below on a few letters and other documents show.

The Polanyi-Grene Correspondence Concerning Merleau-Ponty

(1) Grene's letter of January 19, 1963 (B16, F1, MPP). This letter mentions Merleau-Ponty apparently in response to an earlier Polanyi inquiry about "existentialism": "Don't bother about existentialism, unless with your psychologists and (see below) Merleau-Ponty." Later in her letter, she gives bibliographic data on

Merleau-Ponty and other figures identified as “a group of [European] biologists and psychologists around Portmann” who are generating a literature that is “closest to your approach.” She names Merleau-Ponty, Goldstein, Buytendijk, and Portmann.¹¹ These are figures whose writing is generating “new theoretical biology-cum-animal-psychology” literature

which is consistent with and supports your epistemology, but...no one has made your distinctions between P. and O. awareness and therefore no one else has 1) incorporated epistemology into the new biology or 2) founded the new biology on an epistemology adequate to it, let alone; 3) generalized both the former to a comprehensive ontology. I don't think you have yet finished doing either. So please get on with it!!!¹²

In her lengthy letter, it appears that Grene primarily was responding to pointed questions posed in Polanyi's January 14, 1963 letter (B16, F1, MPP), which included a now lost attachment with some points treated in *PK*. Polanyi insisted that these points were true, important, and new ideas and bluntly asked if Grene agreed with him. He contended that he had read other writers (apparently referring to theoretical biologists and other philosophical scientists interested in the nature of life) who “had something of the kind in mind,” but he says these other writers did not “have any conception of achievement, of success, or failure, of causes and reasons, of generational principles, or of logical unspecifiability.” At the end of this letter, Polanyi acknowledges shortcomings in his own writing about living forms, but then he explains why he proceeded the way he did in *PK*:

I think the time has come when every statement on theoretical biology, or the logical structure of biology, should be made against a clear background of previous work that the author accepts or rejects. I have certainly been remiss in this respect, myself, in writing P.K. but I always felt that my own interpretation was so different from that of earlier writers that it would be excessively laborious to make their mutual relation clear. However, I regret the omission and hope you will be prepared to help me in remedying it.

While in the later phase of her long life Grene was more engaged with philosophical questions in biology, it is clear that she did *not* take on the task of shoring up the theoretical foundations of biology sketched in Part IV of *PK* and later Polanyi publications. To the contrary, the late Grene is often quite critical of some of Polanyi's responses to questions about the nature of life and evolution and even his stratified ontology (Grene 1978, 168; Mullins 2010–2011, 26–29). At times, it seems that she no longer understood ideas that she likely helped Polanyi articulate or, at the least, ideas for which she was sometimes early on an articulate spokesperson.

Grene's appreciation of Merleau-Ponty seems more resilient, although eventually she complains about his rhetoric (Grene 1995, 80) and suggests that an ecological account of perception such as that of the Gibsons “can contribute to a more adequate conception of the way we cope with the world around us” (131). She argues that Merleau-Ponty was a figure who was “developing a new, or renewed ontology” and thus providing “a metaphysical, as distinct from a purely epistemological, refutation of phenomenism” (Grene 1976, 606). She identifies his ontology as profoundly realistic and aimed against prevailing psychological views of “the causal theory of perception...which would exile significance from any ontological status” (606). She argues that Merleau-Ponty rejects the reigning “nominalistic thesis that only particulars are real” (606). His “refutation of phenomenism and of nominalism” affirms an “ontological pluralism”;

that is, Merleau-Ponty saw that “a one-level ontology is inadequate and incoherent” and recognized “that there are hierarchically organized systems, entities, or processes, that can be studied on more than one level because that is how they *are*” (607). However, any reader of Grene’s insightful discussion of Merleau-Ponty’s ontology who is thoroughly familiar with Polanyi’s thought will recognize similar themes in Polanyi and realize that Grene, in her earlier writing, articulated similar ideas and referenced Polanyi’s writing.¹³

(2) Polanyi letter of January 27, 1963 to Grene (B16, F1, MPP). This odd letter is likely a response to Grene’s January 19, 1963 letter or perhaps a letter a bit later that included some comments about Merleau-Ponty and other figures that Polanyi apparently regarded as “existentialists.” Polanyi is sharply critical but gives no indication that he has yet carefully read Merleau-Ponty:

Got your SOS about Merleau-Ponty. I have a theory about what went awry with these people. They discovered an epistemology, or at least sighted it on a distant horizon, which represented knowledge as shaped by the knower, and instead of worrying about the jeopardy of truth, turned a blind eye on this, while fascinated by the jeopardy of man as shaper of his own knowledge. Our business is to restrain this extravagance by a theory of knowledge which implies a limited responsibility of the knower and thereby restricts the range of his self-determination. This will enrich the conception of P. K. by feeding it with the more violent existential passions discovered by our age. You know that I always felt my ideas are lacking in vital concern. I think they can be given a deeper foundation by grafting them on outcroppings of existentialism.

Polanyi’s notion is that a “theory of knowledge” will “restrain the extravagance” of what some philosophers, perhaps including Merleau-Ponty, discovered, namely that knowledge is fundamentally shaped by the knower. Polanyi portrays this restraint as an appropriate prudential concern for the “jeopardy of truth” that limits the responsibility of the knower for the known. Nevertheless, Polanyi goes on to note what he apparently saw as an aridity in his “conception of P. K.” (personal knowledge), which should be enriched and deepened by grafting his conception of personal knowledge “on outcroppings of existentialism.”

(3) Polanyi’s July 22, 1963 letter to Grene (Box 16, Folder 1, MPP). It looks as if Polanyi was trying to articulate a similar criticism in this letter written while vacationing in Sils Maria, Austria. He explains that he has been reading *Panorama des idées contemporaines*, edited by Gaetan Picon, a well-organized, large collection of excerpts from writings of contemporary thinkers pulled together by this editor whom Polanyi describes as a Husserl-Heidegger follower:

I am at last convinced and clear that Husserl’s vision and its existentialist extension by Heidegger, Merleau-Ponty and Sartre become comprehensible in terms of tacit knowing. Most of what they say is an account of my own panorama as it would appear to a mind coming across its paradoxes without having recognized its mechanism. In certain respects this experience of a scene, familiar to me by light, in terms of how it feels in the dark, is revealing. It certainly stimulates me toward trying to explore some ultimate implications of its structure, which an understanding of this structure tends to cover up, or at least to distract from. What pleased me most, was to find that so much of Husserl’s struggle, as well as that of his successors, was conducted in trying to break the monopoly of “conceptual”

thought. They meant, of course, explicit thought. This explains, at long last, the famous “reduction”, so obscurely demanded by Husserl.

The July 23, 1963, letter goes on to link what he has said about Husserl and his successors to a point he made in his 1961 Virginia (also called Jefferson) Lectures and to Ryle, whose logical behaviorism Polanyi thinks is fundamentally misguided. About Ryle, Polanyi says he recognizes “up to a point only” a similarity in “Ryle’s writings with my own views.” This is

due to the fact that he demonstrates the absurdity of explicit descriptions in places where I conclude that only tacit knowing is possible—while he, of course, goes off at a tangent and comes down with some lame behaviourism or artificial and false trivialization of the problem (as in his critique of phenomenism).

What is most interesting here is Polanyi’s sense that Husserl, Merleau-Ponty, Heidegger, and Sartre all provide “an account of my own panorama” as it would appear to minds coming across certain paradoxes embedded in tacit knowing. Those paradoxes are perplexing to these figures because the “mechanism” of tacit knowing is not understood. That is, the fundamental distinction and connection between subsidiary elements and focal elements have not been understood. Polanyi seems energized to explore further the structure of tacit knowing based on what he has learned from these thinkers who have not made his basic distinction. Polanyi claims that he now has an insight into Husserl’s account of “reduction” as an effort on the road to Polanyi’s idea that not all thought is “explicit thought.” The extension of his comments here to the case of Ryle is also of interest. Ryle, like Heidegger, Merleau-Ponty, and Sartre, lacks the basic framework of tacit knowing that distinguishes and links tacit and explicit. Polanyi sees his own similarity with Ryle but notes that without an understanding of the framework of tacit knowing, Ryle slips into a logical behaviorist view that trivializes problems Ryle considers because he assumes that if there is no explicit knowledge then there is no knowledge at all. In the last section of “The Structure of Consciousness,” Polanyi’s criticism of Merleau-Ponty is also extended to Ryle (see discussion below), whom Polanyi portrays as sharing some ground with phenomenologists like Merleau-Ponty, but he thinks Ryle takes disastrous steps beyond Merleau-Ponty.

(4) Undated Letter to Polanyi from Grene (B16, F8, MPP) and Polanyi’s Duke Lecture 3. This undated letter on Queen’s University stationery was probably written early in 1963 (or perhaps 1964) when Grene was teaching in Belfast (she complains about winter weather). Grene comments on her growing interest in several European scientist-philosopher figures including Portmann. She directly asks Polanyi if he knows Merleau-Ponty’s *La Structure du Comportement*.

Clearly, by early 1964 Polanyi was attempting to sort out the relation of his own ideas to ideas of other thinkers, and his ongoing correspondence with Grene contributed to this process. In his third (February 24, 1964) Duke Lecture (online only at <http://www.polanyisociety.org/essays.htm>), Polanyi’s comments are akin to ideas in several letters. Particularly interesting are some of the things Polanyi says about Husserl: Husserl was trying to rescue the reality of a hierarchical universe from the flattened, one-level account of figures like Laplace, just as Polanyi himself does. Until near the end of his life, Husserl understood the lived structures of life as transcendental. But Polanyi says his own theory of knowledge, unlike Husserl’s, tries to show how “to discipline intentionality by its bearing on reality” (Duke 3, 10). Also especially interesting are comments about “existentialists” that echo some comments noted above. Polanyi claims that “once

interiorisation is accepted as intrinsic to knowing, an analysis of knowledge will keep bringing up various aspects of existence, and such observations will confirm the results of existentialist philosophy” (11). Nevertheless, he contends that his analysis goes “beyond existentialism by revealing the logical structure of the observed existential commitments” (11). He points out that “existential elements of human knowledge have a different quality from the existential elements of human destiny” (11). The “existentialists,” Polanyi suggests, treat matters of destiny, and this is more intense and interesting than his own work that focuses on the existential elements of human knowledge. Polanyi argues, however, that responsible inquiry in a society of explorers understood as a part of cosmic evolution makes human inquiry and human knowledge something that transcends death in ways “existentialists” did not envision.

(5) Polanyi’s June 6, 1964 letter to Grene (B16, F8, MPP) and his comment on Heidegger. Polanyi responded to a Grene letter or letters (probably from early 1964) in a June 6, 1964 letter (the year is not given, but Polanyi references his recent February 1964 Duke Lectures). He confirms that he has just purchased and begun to study Merleau-Ponty’s *The Phenomenology of Perception*. But he offers criticisms of Merleau-Ponty, whose approach he is at pains to distinguish from his own approach. He thinks Grene too readily links the rather different approaches: “I am grateful to you for exciting me into buying a copy of M. Ponty’s *Phen. de la Perception*, but I find very little to support your view that he anticipated the two kinds of awareness and their relation to each other.” He documents his claim by citing topics he has discussed and pages in Merleau-Ponty’s book where he thinks they apply:

I find that at every point where my analysis would most obviously apply (absurdification of language, blind man using stick, Stratton’s experiment) ‘positing’ and ‘non-positing’ thought (e.g., p. 241, p. 242 and 274) is used in the sense of ‘epicritical’ and ‘protopathic’ which may occasionally vaguely coincide with specified and not-specified. That is all.

Polanyi acknowledges that Merleau-Ponty is at times talking about tacit knowing, but he points out that Gestalt psychology has also done this. Then he shifts from somewhat defensive comments to praise Merleau-Ponty for what he believes is a magnificent achievement:

What is new and beautiful is his attempt to identify the power (but not the structure!) of tacit knowing. I have read all that with great enthusiasm. But his structure of knowledge, or knowing, is based on the distinction between phenomenological and intellectual knowledge on the one hand, for the body, and for *pour-soi* and *en-soi* for the difference between a person and an opaque thing.¹⁴

At the end of his discussion in the June 6, 1964, letter to Grene, Polanyi suggests that he is not quite sure how Merleau-Ponty’s account of knowledge in human beings extends to other living beings, but he gives Merleau-Ponty the benefit of the doubt, assuming he has taken this up in other writing:

The existence of living beings other than men is not apparent in the text I have seen, except with references to some animal experiments. I suppose there is more about that in the *Structure du Comportement*. I think the handling of the old question of perception as a source of true knowledge is very beautiful, though far too long for its content. There is genius here but no masterpiece.

Polanyi's implication seems to be that it is important to link what can be said about tacit knowing in human beings to other animals and all living things. Polanyi does extend his discussion of tacit powers in addressing the question "What is life?" His writing about tacit knowing sheds light on the kinship of all living things.¹⁵ These concerns were treated both before and after this 1964 letter in Part IV of *PK* and in later Polanyi publications.

Finally, an interesting postscript to this June 6, 1964, letter suggests how Grene mistakenly came to link Merleau-Ponty's account too closely to Polanyi's account of the structure of tacit knowing. Polanyi wrote,

I should add that the often very fine distinction of M. Ponty between cogito and existential movement towards meaning (my tacit knowing) may have reminded you of the two terms of tacit knowing. But this is not right. Cogito is contrasted to the existential, as I would contrast explicit inference to tacit inference. You find this difference clearly hinted at in Lorentz's paper (quoted in the new introduction to *Sc. F. and Soc.*) on Gestalt as a basis for epistemology and it is given a full exemplification in the interiorisation of a driving manual in the Duke Lectures. A good deal more is to be found on the subject in my notes of last year, yet unpublished. If you look at the opening of the third Duke lecture, you will find the distinction between three kinds of unspecifiability: 1. unspecifiability of clues, 2. indefinability of integrative principles, 3. inexhaustibility of heuristic co-efficient. The contrast between existential movement of meaning and a corresponding cogito belongs of course to the second of these limitations of specifiability.

It is also worth noting that in the Preface to the Torchbook Edition of *Personal Knowledge*, dated June 22, 1964, Polanyi links understanding with its tacit roots and Heidegger's discussion of being-in-the-world:

Things which we can tell, we know by observing them; those that we cannot tell, we know by dwelling in them. All understanding is based on our dwelling in the particulars of that which we comprehend. Such indwelling is a participation of ours in the existence of that which we comprehend; it is Heidegger's being-in-the-world. (*PK*, Torchbook Edition, x)

The Ford Foundation Connection

On June 14, 1964, eight days after his earlier letter to Grene, Polanyi wrote Sigmund Koch, a philosophically minded Duke psychology professor, just after returning home from his spring semester of residency at Duke (General Correspondence, Ford Grant 06500113). Polanyi apparently had gotten to know Koch quite well while at Duke, and Koch was deeply interested in Polanyi's ideas. This handwritten letter indicates that Polanyi is now back home and wants to

pick up the thread and tell you that, having spoken on the phone to Marjorie Grene about the relation of my thought to that of Merleau-Ponty, which she said to be close, I decided to face this situation and, rushing to Blackwell's, picked up a copy of *The Phenomenology of Perception*. This was yesterday after lunch and I am half way through already. It is a magnificent work. I see now also why I have always failed to get through it in the past. I could not understand it, let alone accept it, until I reached similar conclusions in my own way, that I can now use as a key, revealing his in some ways deeper meaning.

In this letter (which seems at odds with at least some of his own June 6, 1964 letter to Grene), Polanyi seems to be saying the penny finally dropped for him in reading Merleau-Ponty. He now understands *The Phenomenology of Perception* in a way he did not earlier. He suggests that he “reached similar conclusions in his own way” and that this opened up a “deeper meaning.” While his system is “more simply articulated” and clearer, Merleau-Ponty’s work has “restored to life” what Polanyi calls the coherent outline of the “subjects of thought, meaning, originality, etc.” Later in the same letter, he proclaims Merleau-Ponty’s book a “work of genius” that “opens widely the avenues of truth.” Polanyi contends that he now “sees his own work too in a new light” and suggests that in “joining my work to that of Merleau-Ponty, we reach the end of the beginning.”

In October 1964, Koch took a new position as Director of Humanities and Arts at the Ford Foundation. Polanyi had apparently first learned about this upcoming move when he was at Duke. In the Ford Foundation archival materials, there is a lively correspondence between Polanyi, Grene, and Koch in the summer and fall of 1964. It is clear that these three and Edward Pols (later letters suggest) were conferring about putting together a Ford grant proposal from Bowdoin College and the SGFCU, which was received early in 1965. This was the proposal that funded the 1965 Bowdoin conference and was extended to fund the 1966 Bowdoin conference (for a full discussion, see Breytspraak and Mullins 2017).

More on “The Structure of Consciousness”

The final “Retrospect” section of Polanyi’s 1965 essay “The Structure of Consciousness” includes what seem to be Polanyi’s summary comments on the virtues and shortcomings of Merleau-Ponty’s thought and some connections to other thinkers. Polanyi’s letters and interaction with Grene, going back to early 1963 a couple of years before this essay was written, reflect that Polanyi was thinking about and arguing with Grene about Merleau-Ponty. The short concluding “Retrospect” section of Polanyi’s essay in some ways appears to be a reflective extension of and perhaps a later addition to the earlier part of the essay. The section seems to look back (on the ideas of other thinkers) in a wider reflection; Polanyi moves from his essay’s constructive argument to some brief comparisons. He seems to have regarded the “Retrospect” as important since it summarizes his response not only to Merleau-Ponty but also to other figures he found of interest who held views both similar to and also different from his own.

The “Retrospect” section is included in all three published versions of “The Structure of Consciousness.”¹⁶ This essay was first published in *Brain: A Journal of Neurology* (Polanyi 1965) in November 1965 and then was republished four years later in *The Anatomy of Knowledge* (Grene 1969a) as an interesting artifact from the 1965 and 1966 Bowdoin conferences. Finally, the essay was again republished in 1969 by Grene as a selection in *KB* (211–224; this copy cited hereafter). Grene clearly liked the essay; she refused to include Polanyi essays in *KB* that she considered unsound, despite Polanyi’s lobbying. At least the first two stages of this publication history are of interest.

Polanyi and Walshe

“The Structure of Consciousness” was an invited essay for a *Brain* issue honoring the neurologist and neurophysiologist Sir Francis Walshe, who later contributed the essay “Personal Knowledge and the Concepts in the Biological Sciences” to the 1968 Polanyi festschrift *Intellect and Hope* (Walshe 1968, 275–314). The opening paragraph of Polanyi’s essay (*KB*, 211) suggests his respect for Walshe and that his essay supports

Walshe's views. Polanyi's essay comes back to Walshe in the last paragraph before the final "Retrospect" section (*KB*, 221), thus suggesting that the "Retrospect" section is something of a postscript.

Polanyi corresponded with Walshe for many years. In the Walshe archive at the University of Manchester are more than twenty-five items Polanyi sent to Walshe, including lectures, typescripts of forthcoming articles, a grant proposal, and offprints.¹⁷ The earliest of these materials go back to the 1950s. There are more than a dozen letters, written from 1956 to 1971, in the Polanyi-Walshe correspondence in the archival MPP. They make clear that Walshe held ideas about science akin to those of Polanyi.¹⁸ Walshe says in a September 16, 1970 letter to Magda Polanyi (B8, F14, MPP), "I have the greatest admiration for your husband's writings. With the late Sir Charles Sherrington and A. N. Whitehead I have had more inspiration from your husband than from any other scientist and philosopher." Walshe was on the list of prospective attendees for the 1965 Bowdoin conference. Walshe's essay in *Intellect and Hope* (see citation above) is a *tour de force* giving an account of—and often sharply criticizing—the recent history of neurophysiological thought. It is just the sort of essay that Polanyi, Grene, and Pols might have solicited for one of the Bowdoin conferences. It clearly shows how deeply Walshe understood and appreciated Polanyi's account of living nature and the nature of biological inquiry.¹⁹

The first paragraph of "The Structure of Consciousness" describes Walshe's critical stance, noting the "inadequacy of anatomic structures to account for the full range of mental actions." Walshe "insisted on the presence of integrative mental powers not explicable in these terms" (*KB*, 211). Polanyi clearly viewed Walshe as a contemporary whose views, as a first-rate neurologist and neurophysiologist, were akin to his own account of tacit integration. The last paragraph prior to the "Retrospect" section of "The Structure of Consciousness" comes back to Walshe and explicitly makes this connection:

The way integration functions in tacit knowing, as well as the presence of irreducible organismic principles in living beings, are both consonant with the arguments presented by Sir Francis Walshe for the presence of integrative mental powers, not accounted for by the fixed anatomic structure of the central nervous system (*KB*, 221).

Polanyi footnoted these sentences with references to Walshe's writing.

The final "Retrospect" section of "The Structure of Consciousness," which turns to similarities and dissimilarities with Merleau-Ponty, F. S. Rothschild, and Gilbert Ryle, is thus an addendum to the primary matter in this essay linking Polanyi's ideas to those of Sir Francis Walshe. But the "Retrospect," nevertheless, makes a connection that Polanyi emphasizes is important. The preceding two sections of Polanyi's essay lay out the theory of tacit knowing and his account of the ontological principles of stratified entities. He has argued that these accounts were derived independently, but these accounts together can be applied to understand how the mind relies for its operation on the body. This view, Polanyi suggests, more or less fits with Walshe's approach emphasizing the integrative nature of human mental powers that cannot be accounted for in terms of fixed structures of the central nervous system. The "Retrospect" is thus a short appendix turning from Walshe in a related but new direction: it very briefly notes that Merleau-Ponty, F. S. Rothschild, and Gilbert Ryle are other recent thinkers who have accounts of mind and body that are in part—but only in part—like Polanyi's account.

Rothschild and Ryle in the "Retrospect"

After Polanyi's comments on Merleau-Ponty in the "Retrospect" section, he goes on to comment on F. S. Rothschild, described as "another follower of Husserl" and a predecessor of Merleau-Ponty who arrived at the conclusion that "the mind is the meaning of the body" (*KB*, 222). Rothschild, a physician and neurophysiologist like Walshe, was interested in the evolution of complex brains. At the 1966 SGFCU Bowdoin conference, he gave a paper, "Biosemiotic Aspects of Human Evolution," which drew heavily on Husserl and secondarily on Peirce. Rothschild argues for what he calls a "triadic view" (1966, 2) of the operation of signs in the central nervous system to produce consciousness. He presents this view as a counter to the mainstream dyadic view of modern neurophysiology, which looks for physical (brain) events and subjective (brain) phenomena. Polanyi likely saw Rothschild's ideas as somewhat akin to Walshe's ideas.²⁰ However, Polanyi apparently found Rothschild's Bowdoin paper very dense and likely to obscure more than it illuminated: in his August 1, 1966, letter to Grene (Box 16, Folder 1, MPP), he complained that the paper is a "torrential flow of ideas," hard to follow, written in a breathless style and badly translated from German! He proposed to Grene to make more use at the conference of an earlier Rothschild paper (articulating similar views) that he thought was much clearer. This earlier 1962 Rothschild paper (plus other Rothschild writing) is cited in a footnote about Rothschild in the "Retrospect" section of "The Structure of Consciousness" (*KB*, 222–223, note 13).²¹ Polanyi suggests not only that Rothschild is a predecessor of Merleau-Ponty but (in his endnote) that Rothschild's discussion of consciousness in some respects "anticipates part of my theory of body and mind" (*KB*, 223, note 13).

After his comments on Merleau-Ponty and Rothschild in the "Retrospect" section, Polanyi goes on to attack Ryle's logical behaviorism in ways reminiscent of his comments in his letter of July 22, 1963, to Grene discussed above. He tags Ryle as a representative of "the mainstream of contemporary English and American philosophy" that "ignores the inquiries of phenomenologists" (*KB*, 222) but shares a certain ground with them. Both reject Cartesian dualism, but Ryle moves on to the false conclusion, Polanyi contends, that mind and body are not two things. He distinguishes Merleau-Ponty's position from that of Ryle, but there may be something of a hint that Merleau-Ponty's position is a slippery slope.

"The Structure of Consciousness" and the Publications of the SGFCU Conferences

Scott and Moleski (2005, 260–261) suggest that Polanyi was working on "The Structure of Consciousness" in May 1965; he likely had at least a draft in hand by the August 1965 Bowdoin conference, since the essay came out in the November issue of *Brain*. This Polanyi essay is included in *The Anatomy of Knowledge* (1969a, 315–328), which purportedly contains materials from the 1965 and 1966 SGFCU conferences. But this essay does not seem to have been used in either conference. However, there is an odd feature in *Towards a Unity of Knowledge*, the monograph (Grene 1969c) that Grene pulled together using some papers and an edited discussion of these papers from the 1965 Bowdoin conference. There is a surprisingly long (6.5 pages) comment (205–212) purportedly made by Polanyi that is presented as the major component of the twenty-page discussion of "Man in Biology," a paper by biologist M. R. A. Chance (1969, 177–193). This long comment does more or less fit into the context of the discussion, but it is introduced by Grene as editor with a short, bracketed paragraph titled "Levels of Reality," which says that a persisting problem in almost all of the conference discussions concerned "explanation in terms of hierarchies of structure as against a single principle of physico-chemical explanation" (Grene 1969c, 205). Except for the opening paragraph of Polanyi's long comment (which follows Grene's editorial injection), what Polanyi was supposed to have said in the discussion bears a striking resemblance to the second and third sections of "The Structure of

Consciousness” (i.e., “Principles of Boundary Control” [KB, 216–218] and “Applications of these Principles in Mind and Body” [KB, 218–221])! These sections seem to have simply been lifted from Polanyi’s essay without citation and inserted into the discussion of Chance’s paper as a Polanyi comment. Grene does complain to the Ford Foundation that late in the monograph’s publication process she was forced to cut the length in half; she apparently used sections of Polanyi’s essay to concisely treat the topic of levels of reality that she took to be immensely important.

Conclusion

My circuitous discussion of an important Polanyi essay, “The Structure of Consciousness,” ferrets out a number of historical details that illumine Polanyi’s interest in linking yet distinguishing the ideas he was working out in the mid-sixties and the ideas of other thinkers. The correspondence with Marjorie Grene reaching back to early 1963 suggests that Grene encouraged Polanyi to read Merleau-Ponty as well as several other European scientist-philosophers whom she thought were developing ideas akin to those Polanyi was developing, as he refined his theory of tacit knowing and his hierarchical ontology grounded in the principle of marginal control. Grene saw these figures as working on interesting ideas about what living things are. She noticed certain similarities between these ideas—in particular Merleau-Ponty’s account of embodied perception—and Polanyi’s account of knowing and being. Polanyi’s letters to Grene suggest that he resisted some of the comparisons Grene was making. He questioned, on at least some points, Grene’s effort closely to align his theory of tacit knowing with Merleau-Ponty’s phenomenological account of human embodiment that he associated with Husserl, Heidegger, and Sartre. He suggested that his fundamental distinction between tacit and explicit knowing is not a distinction he believed thinkers in the phenomenological tradition, like Merleau-Ponty, had clearly made, and this distinction is most important. But he also seems at times to have regarded Husserl’s “reduction” and perhaps Merleau-Ponty’s “embodiment” and accounts of “being-in-the world” as philosophical moves on the way toward something like his theory of tacit knowing. When Polanyi did seriously study Merleau-Ponty’s *The Phenomenology of Perception*, his letters reflect that he found some things that he deeply appreciated.

There is, unfortunately, very little that Polanyi published that clarifies his relationship with figures in the phenomenological tradition. “The Structure of Consciousness” was actually an invited 1965 essay honoring Sir Francis Walshe, Polanyi’s long-term friend. In this essay, Polanyi links his ideas about tacit knowing to Walshe’s neurophysiological ideas about how the mind works. But there is a 1.5-page “Retrospect” section added to the end of this essay in which Polanyi briefly summarizes his views on Merleau-Ponty as well as on F. S. Rothschild and Gilbert Ryle.

The 1965 and 1966 Ford Foundation conferences at Bowdoin College drew into discussion a set of intellectuals looking for a philosophical paradigm shift. Polanyi’s philosophical writing was promoted as an innovative perspective that could instigate a convergence of the innovative work of other thinkers. The SGFCU publications comprise an interesting but confusing set of material that overlaps somewhat with Grene’s collection of Polanyi essays *Knowing and Being* and the Polanyi festschrift *Intellect and Hope*, edited by Poteat and Langford. All of these volumes came together from 1965–1969. Interestingly, Grene included “The Structure of Consciousness” in one of the SGFCU publications, *The Anatomy of Knowledge* (as well as *Knowing and Being*), although the essay does not seem to have been officially part of either Bowdoin conference’s program. In *Towards a Unity of Knowledge*, the monograph with materials from the 1965 Bowdoin conference, she also included without citation two important sections of “The Structure of Consciousness”

as part of the discussion section for another paper. She, or perhaps she and Polanyi, apparently believed that Polanyi's discussion in the second and third sections of his 1965 *Brain* essay was an outstanding study of the central questions about levels of reality and levels of explanation.

Finally, a last word about Marjorie Grene: About *Personal Knowledge* in his Acknowledgements, Polanyi said of Grene that "she has a share in anything that I may have achieved here." He recognized that his discussion with Grene "catalyzed...progress at every stage" on his magnum opus, and every page "benefited from her criticism" (Polanyi 1958/1964 Torchbook, xv). The discussion here makes clear that Grene's role as a catalyst for Polanyi continued after 1958 at least through most of the mid-sixties. She pushed before him important reading; she was a sparring partner; she was a formidable force on the ground in getting together projects like the Bowdoin conferences; she saw to it that some of Polanyi's essays were published, and she was an important Polanyi interpreter in several of her own publications.

ENDNOTES

¹"Imaginary" is a Taylor term defined as "socially shared ways in which social spaces are imagined" (Taylor, 2011, 86), but see also Taylor's *Modern Social Imaginaries* (2004).

²Lowney's 2014 paper argues that Taylor's philosophical project of reforming modernity should be joined with Polanyi's similar philosophical project that is grounded less in the phenomenological/hermeneutical tradition and more in a reformed scientific tradition rooted in an account of discovery. This paper should be linked to an extraordinarily insightful but yet unpublished 2009 Polanyi Society paper, "Of One Mind? Merleau-Ponty and Polanyi on the Reduction of Mind to Body" (Lowney and Verlage 2009) that explores Polanyi's criticisms of Merleau-Ponty and lays out fundamental differences between Merleau-Ponty's and Polanyi's approaches to basic philosophical questions. I don't dispute the insightful Lowney and Verlage account, although I read Polanyi (as I sketch below) in a way that connects him more fundamentally with questions about what life is than this 2009 paper does.

My comments below on the Polanyi-Grene correspondence suggest that Polanyi seems to work out his differences with Merleau-Ponty (and others that Polanyi links to Husserl) over several years in the early sixties. Polanyi's comments on Merleau-Ponty in "The Structure of Consciousness" (quoted above by Lowney) is the 1965 culmination of Polanyi's process of rumination. Perhaps more than Lowney, I read Polanyi's philosophical ideas as developing over the course of his life, just as Lowney shows that Merleau-Ponty's ideas did also change, leading Merleau-Ponty eventually to criticize his own starting point in *Phenomenology of Perception*. Lowney and Verlage somewhat overstate matters in suggesting in their 2009 paper that deep within Polanyi's thought is a residual analytic picture that affirms a new kind of dualism and is a representational account of knowing with a complementary ontology that matches up being with knowing. Polanyi's new kind of dualism is, of course, not a substance dualism, and it is primarily concerned to identify a duality basic to the operation of living beings. I think Lowney and Verlage's picture is more balanced when they point out that whereas Merleau-Ponty finally wanted to look at the pre-personal and pre-conceptual and completely exorcise dualism, Polanyi could not imagine the pre-personal. But this limit of Polanyi's imagination is not simply the result of his emphasis on intellection. Polanyi stresses the difference and connection between mind and body or minding (a Grene term) and bodying. Polanyi certainly thinks animals other than humans are individual, autonomous, centered beings using tacit powers; the personal is not limited to human persons, although human persons can rise to responsible personhood. From the time he was working on *PK* (and particularly the final "Knowing and Being" section), Polanyi was driven by questions about what is life and what is responsible human life. Although Polanyi does not abandon an epistemic perspective after *PK*, he moves toward developing a clearer ontology of life, as late essays like Polanyi's "Life's Irreducible Structure" (1968b) show. The theory of tacit knowing is in fact a theory of living agency (Mullins 2003–2004), and Polanyi seems more and more to recognize this. Polanyi could not imagine the pre-personal because he was convinced that philosophy starts with an affirmation that living forms are niche-embedded, autonomous, centered systems with tacit powers used for self-creating achievements; living forms in the long haul of evolutionary history either fail to survive or they survive and evolve.

³Grene uses this phrase in her essay on Hobbes as an early modern source of the denial of hierarchy in nature (Grene 1969a, 4). Her essay doubles as an introduction to *The Anatomy of Knowledge* (Grene 1969a), a volume of essays from the 1965 and 1966 Bowdoin College conferences she edited that is discussed below. Her interest in a hierarchical ontology came from her early work

with Polanyi. She later argues that Merleau-Ponty is an opponent of a one-leveled ontology (1976, 606–607); see my further comments below.

⁴See discussion below and Breyspraak and Mullins 2017 for an extended discussion of the SGFCU programs. See Breyspraak and Mullins 2020 for Polanyi's and Grene's work in the larger successor project of the Study Group for the Unity of Knowledge (SGUK).

⁵This is part of the statement Grene included at the beginning of *The Anatomy of Knowledge* (Grene 1969a, ix–x). This material was Appendix A taken verbatim from the funding proposal submitted January 18, 1965, to the Ford Foundation. All material concerned with the 1965 and 1966 SGFCU Bowdoin conferences are Ford Grant 06500113. Appendix A and most other archival materials cited below that concern these Bowdoin conferences (excepting a few especially important documents) are jointly listed in References simply as Archival Materials Ford Grant 06500113.

⁶Polanyi's "The Creative Imagination" (1969a) was the featured paper for opening discussion in the "Philosophical Introduction" session of the 1965 Bowdoin conference and is included (with the discussion) in the monograph *Towards a Unity of Knowledge* (Grene 1969c, 53–91). This Polanyi essay was published several times (see Polanyi 1966 [April] for the earliest publication). Grene included what purports to be the 1965 conference version (and the discussion) in her monograph (Grene 1969c, 53–91). The Narrative Report on August 1965 Conference (p. 2, Ford Grant 06500113) says Polanyi "outlined the theory of tacit knowing" and showed how "scientism, and the consequent reduction of man to an automaton, was the product of a demand for a totally explicit knowledge."

⁷Narrative Report on August 1965 Conference, p. 2, Ford Grant 06500113.

⁸The Polanyi-Grene materials (letters plus other materials) are in the first eight folders of Box 16 of the Michael Polanyi Papers (hereafter MPP) in the Department of Special Collection at the University of Chicago Library (cited hereafter in parenthesis by box [B] and folder [F]). This large collection contains an incomplete and confusing set of letters.

⁹Grene identifies what she found special in Merleau-Ponty as revolving around Merleau-Ponty's appropriation of ideas in recent Continental philosophy. The discussion (below) in the Grene-Polanyi letters and her 1965 book, *Approaches to Philosophical Biology*, make clear that Grene read many Continental thinkers and often made reading recommendations to Polanyi. She notes in *The Knower and the Known* (Grene 1966, though, according to her 1974 Preface to the Paper-bound Edition, most of the book was written from 1961–1963) that there is a connection between Polanyi's ideas about indwelling and "the existentialist thesis that our being is *being in a world*" (Grene 1966, 56). She extends this claim to give her account of mind: "This interpenetration of 'self' and 'world' is not only a central characteristic of mind; it is what mind is" (56).

It is unclear if Polanyi read any of Grene's book before its publication, but she comments on the book in correspondence before its publication. As noted below, Polanyi connected his ideas to Heidegger's "being-in-the-world" in his June 22, 1964, Preface to the Torchbook Edition of *Personal Knowledge* (Polanyi 1958/1964, x–xi). However, Grene unequivocally contends in her later book, *A Philosophical Testament*, that Merleau-Ponty "took what was right in it [i.e., being-in-the-world] and placed it in a more appropriate context" (Grene 1995, 69). She means, of course, a more appropriate context than Heidegger, whom she argues ignores the body or bodiliness. Merleau-Ponty provides "the most effective account so far of what it is to be in a world: to be a person living his (her) life in the odd fashion vouchsafed us by the contingencies of global, biological and human history" (Grene 1995, 80). Merleau-Ponty's account distinguishes the "physical, the vital, and the human order," showing how these "spheres of reality" operate successively in boundaries left open by the next lower order of existence (80). Interestingly, Grene articulates this appreciation of "spheres of reality" using Polanyian ideas about the principle of boundary control. See Mullins 2009–2010, 59–63 for a fuller discussion of Polanyi, Merleau-Ponty, and the Gibsons as important mentors shaping Grene's philosophical outlook.

¹⁰Eventually, Grene comes to hold that "something like what Merleau-Ponty meant by the 'primacy of perception'...is the necessary foundation of Polanyi's doctrine of tacit knowing" (Grene 1995, 25).

¹¹Grene treats Kurt Goldstein, F. J. J. Buytendijk, and Adolph Portmann (plus Helmuth Plessner and Erwin W. Straus) in *Approaches to Philosophical Biology* (1965). She mentions some of these figures from time to time in letters to Polanyi, perhaps because she is sporadically working on this book that Polanyi eventually reviewed. Grene's Preface (1965, v–vii) indicates that she might have included Merleau-Ponty in this book, but she says he was not really a practicing scientist but "purely a philosopher" (vii) and his work was already known. She contended that English speakers needed to know more about these "European scientists—or scientist-philosophers—whose reflections on the conceptual foundations of biology deserve more attention than

they have received so far” (v). Polanyi’s short 1971 review of *Approaches to Philosophical Biology* was positive, although he raised a few questions about the views of some of these scientist-philosopher figures. Polanyi seemed most interested in Plessner, who argues that life will eventually be explained in terms of physics and chemistry, but he also promoted a hierarchical account of living things. Plessner was a participant in the 1965 Bowdoin conference, and his essay “A Newton of a Blade of Grass?” (1969) is included, along with a very interesting discussion, in Grene’s monograph (1969c, 157–176). Straus also made a presentation at this conference that Grene included in her monograph (see Straus 1969). Other participants working on issues in philosophical biology in the two Bowdoin conferences included the neurophysiologist Rothschild (discussed below), M. R. A. Chance, C. F. A. Pantin, Barry Commoner, and Hans Jonas.

¹²This quotation is from a lengthy, handwritten, and often virtually illegible January 19, 1963 (B16, F1, MPP) Grene letter that is responding to three earlier Polanyi letters. Polanyi apparently thought her letter was valuable because he had it typed up (not an unprecedented practice) to save along with the original, but his typist may have had difficulty reading Grene’s handwriting in places. The typed version uses the abbreviation “P. and O.” as above, but this may be a misreading. “F. and S.” (focal and subsidiary) is a reading that would make more sense. It is unclear what “P” and “O” could be abbreviations for.

¹³In the sixties, Grene tightly links ideas of Polanyi and Merleau-Ponty. She often seems to see each thinker through the eyes of the other. But this linkage becomes looser later, and eventually she comes to believe that the Gibsons’ ecological account of perception has an empirical orientation she prefers or at least finds more useful for application to issues in philosophy of biology.

¹⁴Polanyi seems here to point to a certain inadequacy in what he calls the “structure of knowledge, or knowing” in Merleau-Ponty, and this is later echoed in his comment in “The Structure of Consciousness.” This comment also seems akin to another reference to Husserl and Merleau-Ponty, which Lowney and Verlage (2009, 4) comment on in Polanyi’s 1964 address published in January 1966, “The Logic of Tacit Inference” (see also *KB*, 138–158, copy cited hereafter), the year after “The Structure of Consciousness.” Here Polanyi speaks of his own writing about the “unspecifiable powers of thought” as a “theory of non-explicit thought” that he comments might be linked to Ryle’s ideas about an informal logic of science and Husserl and Merleau-Ponty’s ideas that help clarify “a phenomenology of science and knowledge.” What immediately follows Polanyi’s comment pointing out these links is his claim that neither analytic philosophy nor phenomenology and existentialism extend a “theory of non-explicit thought,” as does he, to show “how true knowledge bears on an essentially indeterminate reality” and provide “my theory of a stratified universe” (*KB*, 155).

¹⁵See Mullins 2003–2004 for a discussion of how the theory of tacit knowing is an account of living agency.

¹⁶The “Retrospect” section also appears at the end of Polanyi’s “The Body-Mind Relation,” an unpublished lecture given at Yale on December 10, 1965 (B37, F15, MPP). This lecture seems to be closely akin to “The Structure of Consciousness,” except that Polanyi has inserted a section following the third section of “The Structure of Consciousness.” Here he discusses creativity in nature and human affairs and then closes the lecture with the “Retrospect” section (recall that “The Creative Imagination” was the opening presentation at the 1965 Bowdoin conference in August 1965). The inserted section interestingly expands Polanyi’s account of a hierarchical ontology insofar as he tries to discuss how new levels of control emerge as new comprehensive entities in natural history and human thought (which is part of natural history). There is also a published essay, “The Body-Mind Relation” (Polanyi 1968a), that grew out of a 1966 California conference paper. This essay is akin to but not identical to the December 1965 Yale lecture with the same title. It does not include the “Retrospect” section.

¹⁷The earliest document is a typescript of Polanyi’s “The Stability of Belief” with a bibliographic entry at the top of the page indicating it was published in the *British Journal for the Philosophy of Science* in November 1952, 217ff. The grant proposal, apparently a draft written in 1964 or after (since it references the Duke Lectures) and printed on American-size paper, was to “publish a volume of essays and hold a consultation.” This may be a proposal for what became the Polanyi festschrift *Intellect and Hope* (1968), a volume in which Walshe’s essay “Personal Knowledge and the Concepts in the Biological Sciences” appears (275–314).

¹⁸Two Grene essays are in the Walshe collection, a typescript of “Hobbes and the Modern Mind,” which became Grene’s introduction to *The Anatomy of Knowledge* (Grene 1969a, 1–28), and a ditto copy of “Tacit Knowing and the Pre-Reflective Cogito,” which has a note indicating it was to be included in the 1968 Polanyi festschrift *Intellect and Hope* (Langford and Poterat 1968, 19–57). In his August 1, 1969, letter to Polanyi (B7, F 1, MPP), Walshe comments, “I have enjoyed Marjorie Grene’s two recent publications very much, and I have a feeling that the era of ‘nothing but’ physics biology is gradually on the way to decline.”

¹⁹The Walshe essay in the Polanyi 1968 festschrift was likely written soon after the 1965 Bowdoin conference and may have been originally intended for the 1966 Bowdoin conference; it makes much use of Polanyi's article in the November 1965 *Brain* issue honoring Walshe as well as a May 1965 Polanyi essay titled "On the Modern Mind." *Intellect and Hope* is likely the work primarily of William Poteat, and it was put together in the same years that the publications from the 1965 and 1966 Bowdoin conferences and *Knowing and Being* were put together. Poteat, an important friend of Polanyi and Grene, was involved in both Bowdoin conferences and was originally scheduled to work with Grene on *Knowing and Being*, but he withdrew from this commitment in early 1968 (see Mullins 2009–2010, 40–42). How much input Polanyi and Grene may have had about the selection of material in *Intellect and Hope* is unclear. A striking number of the essays included in the festschrift are by authors who were involved in the Bowdoin conferences or were people on the early lists of prospective attendees. See the Breytspraak and Mullins discussion (2015–2016, 18–33) of Poteat and Polanyi's changing relationship and Poteat's involvement in projects that centered on Polanyi.

²⁰Some but not all published versions of Polanyi's 1966 paper "Sense-Giving and Sense-Reading" (*KB*, 181–210) link the triad of tacit knowing to Peirce's semiotic triad. See the detailed discussion in Mullins 2011–2012, 7–10.

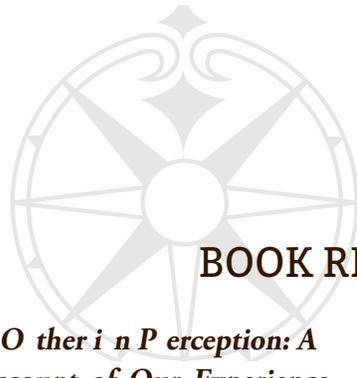
²¹This earlier 1962 Rothschild essay is today cited by theoretical biologists and biosemioticians as one of the first places the term "biosemiotics" was used. Rothschild is regarded as an early figure who promoted the centrality of sign processes in biology.

REFERENCES

- Archival Materials Ford Grant 06500113. Ford Foundation archival materials are available at the Rockefeller Archive Center, 15 Dayton Ave., Sleepy Hollow, NY 10591 (archive@rockarch.org).
- Breytspraak, Gus, and Phil Mullins. 2015–2016. "William H. Poteat and Michael Polanyi: Toward a History of Their Relationship from 1952 through 1976." *Tradition and Discovery* 42(1): 18–33. <http://polanyisociety.org/TAD%20WEB%20ARCHIVE/TAD42-1/Breytspraak&Mullins-TAD42-1-pg18-33.pdf>.
- . 2017. "Michael Polanyi and the Study Group on Foundations of Cultural Unity," *Polanyiana* 26 (1-2): 23–82. https://polanyiana.org/articles/polanyiana-2017-1-2-26_gus-breytspraak-phil-mullins-michael-polanyi-and-the-study-group-on-foundations-of-cultural-unity.pdf.
- . 2020. "Polanyi and the Study Group for the Unity of Knowledge." *Tradition and Discovery* 46(3): 4–27. <http://polanyisociety.org/TAD%20WEB%20ARCHIVE/TAD46-3/Breytspraak-Mullins-TAD46-3-pg4-27.pdf>.
- Grene, Marjorie. 1963 [January 19]. Letter to Polanyi. B16, F1, MPP.
- . 1963 [undated early months]. Letter to Polanyi [on Queen's University, Belfast stationery]. B16, F8, MPP.
- . 1965. *Approaches to a Philosophical Biology*. New York and London: Basic Books.
- . 1966. *The Knower and the Known*. Berkeley: University of CA Press. 1974 UC Press paperback includes "Preface to the Paper-bound Edition."
- . 1968. "Tacit Knowing and the Pre-Reflective Cogito." In *Intellect and Hope: Essays in the Thought of Michael Polanyi*. Thomas A. Langford and William H. Poteat, eds. Durham, NC: Duke University Press. 19–57.
- , ed. 1969a. *The Anatomy of Knowledge: Papers Presented to the Study Group on Foundations of Cultural Unity, Bowdoin College, 1965 and 1966*. Amherst: University of Massachusetts Press.
- . 1969b. "Hobbes and the Modern Mind." In *The Anatomy of Knowledge* (1969a). 1–28.
- , ed. 1969c. *Toward a Unity of Knowledge. Psychological Issues*. Vol. VI, no. 2, monograph 22.
- . 1976. "Merleau-Ponty and the Renewal of Ontology." *Review of Metaphysics* 29: 605–625.
- . 2002. "Intellectual Autobiography." In *The Philosophy of Marjorie Grene*. Randall E. Auxier and Lewis Edwin Hahn, eds. Library of Living Philosophers, vol. 29. Open Court Publishing: 3–28.
- Lowney, Charles, and Florentine Verhage. 2009 [November 7]. "Of One Mind? Merleau-Ponty and Polanyi on the Reduction of Mind to Body." Paper presented at Polanyi Society Annual Meeting, Montreal, Quebec.

- Lowney, Charles. 2014 [November 22]. "The Emergence of Authenticity: Taylor and Polanyi on Overcoming the Scientific Imaginary." Paper presented at Polanyi Society Annual Meeting, San Diego, CA.
- Mullins, Phil. 2003–2004. "Polanyian Footnotes to 'From Biology to Consciousness to Morality.'" *Tradition and Discovery* 30(3): 22–30. <http://polanyisociety.org/TAD%20WEB%20ARCHIVE/TAD30-3/TAD30-3-pg22-30-pdf.pdf>.
- . 2009–2010. "In Memoriam: Marjorie Grene." *Tradition and Discovery: The Polanyi Society Journal* 36(1): 55–69. <http://polanyisociety.org/TAD%20WEB%20ARCHIVE/TAD36-1/TAD36-1-fnl-p55-69-pdf.pdf>.
- . 2009–2010. "William H. Poteat: An Oblique Introduction." *Tradition and Discovery* 36(2): 40–42. <http://polanyisociety.org/TAD%20WEB%20ARCHIVE/TAD36-2/TAD36-2-fnl-pg40-42-pdf.pdf>.
- . 2011–2012. "Polanyi and Peirce: An Introduction and an Historiographical Note." *Tradition and Discovery* 38(3): 7–12. <http://polanyisociety.org/TAD%20WEB%20ARCHIVE/TAD38-3/TAD38-3-fnl-pg7-12-pdf.pdf>.
- Plessner, Helmut. 1969. "A Newton of a Blade of Grass?" In *Toward a Unity of Knowledge*. Marjorie Grene, ed. *Psychological Issues*. Vol. VI, no. 2, monograph 22: 135–156, discussion 157–176.
- Polanyi, Michael. 1958. *Personal Knowledge: Towards a Post-Critical Philosophy*. Chicago: UC Press; Harper Torchbook Edition with Torchbook Preface, 1964.
- . 1963 [27 January]. Letter to Marjorie Grene. B16, F1, MPP.
- . 1963 [22 July]. Letter to Marjorie Grene. B16, F1, MPP.
- . 1964 [February and March]. Duke Lectures. Online only at <http://www.polanyisociety.org/Duke-intro.pdf>.
- . 1964 [6 June]. Letter to Marjorie Grene. B16, F8, MPP.
- . 1964 [14 June]. Letter to Sigmund Koch. General Correspondence, Ford Foundation Grant 06500113. Ford Foundation archival materials are available at the Rockefeller Archive Center, 15 Dayton Ave., Sleepy Hollow, NY 10591 (archive@rockarch.org).
- . 1965 [May]. "On the Modern Mind." *Encounter* 24: 12–20.
- . 1965 [September]. Wesleyan Lectures. Online only at <http://www.polanyisociety.org/WesleyanLectures/WesleyanLecturesIntro.htm>.
- . 1965 [November]. "The Structure of Consciousness." *Brain* 88: 799–810. Also in KB, 211–224. and Grene 1969a, 315–328.
- . 1965 [10 December]. "The Body-Mind Relation." Unpublished lecture given at Yale. B37, F15, MPP.
- . 1966 [January]. "The Logic of Tacit Inference." *Philosophy* 4: 1–18. Also in KB, 138–158.
- . 1966 [April]. "The Creative Imagination." *Chemical and Engineering News*. 85–93. Also in Grene 1969c, 53–70; discussion 71–91.
- . 1966 [1 August]. Letter to Marjorie Grene. Box 16, Folder 1, MPP.
- . 1966 [September]. "The Message of the Hungarian Revolution." *The American Scholar* 35: 61–676. Also in KB, 24–39 and Grene 1969a, 149–164.
- . 1968a. "The Body-Mind Relation." In *Man and the Sciences of Man*, William R. Coulson and Carl R. Rogers, eds. Columbus, OH: Charles E. Merrill Publishing Company. 85–102.
- . 1968b. "Life's Irreducible Structure." *Science* 160: 1309–1312. Also in KB, 225–239.
- . 1969a. "The Creative Imagination?" In *Toward a Unity of Knowledge*. Marjorie Grene, ed. *Psychological Issues*. Vol. VI, no. 2, monograph 22: 53–91.
- . 1969b. *Knowing and Being: Essays by Michael Polanyi*. Marjorie Grene, ed. Chicago: University of Chicago Press.
- . 1971. Review of Marjorie Grene, *Approaches to a Philosophical Biology*. *British Journal for the Philosophy of Science* 22: 307–308.

- Rothschild, F. S. 1962. "Laws of Symbolic Mediation in the Dynamics of Self and Personality." *Annals of the New York Academy of Sciences* 96: 774–784.
- . 1966 [August]. "Biosemiotic Aspects of Human Evolution." Paper presented at Bowdoin College meeting of the Study Group on the Foundations of Cultural Unity. Included in archival materials of Ford Foundation Grant 06500113. Ford Foundation archival materials are available at the Rockefeller Archive Center, 15 Dayton Ave., Sleepy Hollow, NY 10591 (archive@rockarch.org).
- Scott, William Tausig, and Martin X. Moleski, S.J. 2005. *Michael Polanyi Scientist and Philosopher*. Oxford: Oxford University Press.
- Straus, Erwin W. 1969. "Embodiment and Excarnation." In *Toward a Unity of Knowledge*, Marjorie Grene, ed. *Psychological Issues*. Vol. VI, no. 2, monograph 22: 217–236.
- Taylor, Charles. 2004. *Modern Social Imaginaries*. Durham and London: Duke University Press.
- . 2011. "Nationalism and Modernity." In *Dilemmas and Connections, Selected Essays*. Cambridge, MA, and London: Belknap Press of Harvard University Press. 81–104.
- . 2017. "Dialog, Discovery and Open Future." In *Charles Taylor, Michael Polanyi and the Critique of Modernity, Pluralist and Emergentist Directions*. Charles W. Lowney II, ed. London: Palgrave Macmillan: 27–49.
- Walshe, Francis. 1968. "Personal Knowledge and the Concepts in the Biological Sciences." In *Intellect and Hope*, Thomas A. Langford and William H. Poteat, eds. Durham, NC: Duke University Press. 275–314.
- . 1969 [1 August]. Letter to Polanyi. B7, F 1, MPP.
- . 1970 [16 September]. Letter to Magda Polanyi. B8, F 14, MPP.



BOOK REVIEWS

Susan Bredlau. *The Other in Perception: A Phenomenological Account of Our Experience of Other Persons.* Albany, NY: SUNY Press, 2018. ISBN 9781438471716. ISBN 9781438471723 (pbk.). Hardcover \$95. Paperback \$31.95.

This concise and interesting book makes the case that human perception is “an interpersonally significant activity” (1)—that is, perception is infused with relationships with others. One way to construe Bredlau’s discussion is to see it as a further exploration of the nature of a person and the “problem of meaning” that Polanyi’s middle and late writing treats.

In her clearly written but dense philosophical book, Bredlau starts with an introductory discussion of the peculiar character of human awareness of others, which provides a helpful overview (a roadmap).

Her first chapter reviews Husserl’s and Merleau-Ponty’s treatments of perception, intentionality, and embodied being-in-the-world. Husserl focused attention on describing things human beings perceive. He saw that some elements of human perception are always more prominent, but what is prominent and what is not changes, so perceiving is shifting and temporal. When we see one thing, we see other surrounding things with some things more determinate than others—but, as Polanyi puts it, our focal attention may rapidly change. There is dynamic variability in perception, and this degree of determinateness means the structure of perception has figure and background. Bredlau does an admirable job of unpacking some of Husserl’s more difficult descriptions of these matters. Husserl emphasized the “outer horizon” of perceiving with

its “determinable indeterminateness” and thus declared that seeing is through an “aspect” (7).

Experience presents us with real objects, but we recognize them as exceeding our experience. Our consciousness of things is such that we recognize them as “offering more to consciousness than we are conscious of” (8). The “horizons” that are “constitutive of the object of our perception are thus not further *objects that we perceive*” but “the *immanent meaning of all of the things that we perceive*” (8). Husserl’s notion that objects are “transcendent” is his clarification of “the way in which these things exist *within* our experience” (9). When Husserl contends consciousness is “intentional”—i.e., about some transcendent object—he is pointing out that the object “is given with the meaning that it exceeds our experience of it” (9). He shows that “our experience is a *presentation* of the world, not a *representation*,” and thus the intentionality of consciousness is “objective” in that it is “always already occupied with a reality that is given as transcending it” (10).

Merleau-Ponty uses Husserl’s framework for understanding perception to show how perception is embodied and, as such, is expressive. Perception has a profoundly bodily character, which is constitutive for meaning and experience: it is not because I perceive the stairs that I am able to walk up and down them, but it is because I am able to walk up and down the stairs that I perceive them. “Stairs” are a possible meaningful reality for a moving being, and this meaning is a practical rather than theoretical insight rooted in action in a particular world. This view is Merleau-Ponty’s bodily take on Heidegger’s *In-der-Welt-sein* with its distinctions between *zuhanden* and *vorhanden*, and Bredlau

succinctly and clearly lays out this account. She might have covered some of the same ground using Polanyi's ideas about action and its tacit roots, or she could have linked her account to that of von Uexkull's discussion of the *Umwelt*, which Heidegger and Merleau-Ponty apparently knew in addition to Husserl. These additions would have enriched her work.

Bredlau focuses on the importance of the "inexplicit, lived sense of one's acting body," which Merleau-Ponty calls a "body schema" (12). This emphasis leads Merleau-Ponty to consider consciousness (which for Husserl was always about something) as beyond thinking but concerned with possible doing, with "I can," which focuses on the "projects sustained by our bodies" (12). Both Merleau-Ponty and Heidegger thus affirm that persons "first exist in relation to the world: we are always already meaningfully engaged with the world" (13). Merleau-Ponty makes clear that perception as practical and bodily engaged is the human way "of having a world" (13) and a life. The continuity and stability of our worlds and lives are grounded in the body's habits, but living beings do develop new habits; learning is a transformation of our engagement with the world. Our bodies as habitual live in a past world, but that past world is transformed as the body answers to the present and the future.

What the contemporary philosopher John Russon adds to the kind of discussions of being-in-the-world in Heidegger and Merleau-Ponty is an illuminating description of the temporal structure of experiential meaning in terms of the analog of the temporal structure of musical meaning. Russon thus provides in his analysis of the dimensions of musical experience a "basic 'logic' for understanding the larger structure of the world that contextualizes our everyday experience" (17). Music has a "propulsive character" since notes are in relation, and we allow music, through the body's openness, to take us down a path. Russon argues that in fact

all experience has this kind of "felt momentum" or "rhythm" that is concerned with "temporal relations of expectation and resolution" (18). Russon thus analyzes music in terms of three layers. In music there is melody (concerned with sequence), rhythm (concerned with repetition), and harmony (concerned with simultaneous sound). But this is not only the case in musical experience: all experience has "interrelated temporalities" that interact, and thus there is a "polytemporality" in experience (19).

Bredlau's second chapter moves to a deeper discussion of the phenomenological approach to the experience of others. Much of the modern philosophical tradition has focused on the "problem of other minds" since it assumes "'my point of view'...can never be the object of the direct experience of another person" (23). Modern psychological theory more or less concurs with these dominant philosophical views, although psychologists often contend that there is an indirect experience of the consciousness of others since we can be conscious of other human bodies from which we make inferences. Phenomenologists, and particularly Husserl, have not found this standard account acceptable. Husserl argues that we can be "aware of others as making perceptual sense of their physical situation," and he dubs this the relation of "pairing" (29). Pairing does not claim that we perceive "other people as such, but, instead, we perceive the surrounding world as perceived by those others" (29). To use Polanyi's terminology, perception of living beings is molar rather than simply molecular. To be a person is to spend most of our time perceiving the natural and cultural world we inhabit, and Husserl took this to be a key to the human experience of other people.

Perception is thus creative, practical, and embodied "rather than duplicative and disembodied" (30), and Husserl argues that perceiving is rooted in the body's position and that perceiving others recognizes the body as here and another body as there. But another body is not simply

present there rather than here because we experience another body as perceiving things. Insofar as this is the case, we “can experience *the world as it is oriented* around this other human body rather than as it is oriented around our own body” (32). This is the theme of “orientation” in Husserl, who contends that a rich understanding of orientation recognizes human experience of the world as a setting or workshop for our projects rather than a mere collection of objects with spatial position. We are at home in the world, and this reflects our ability to “carry out the projects that are meaningful for us” (32). These insights of Husserl, of course, are also part of Heidegger’s account, where they are discussed in terms of “the primordial spatiality of being-in” (32), and of Merleau-Ponty’s account of “our practical relations to things as ‘lived space’” (33).

Since seeing others involves seeing things as oriented around another human body, we thus see someone as quickly darting across the street ahead of the traffic, according to Husserl. Human bodies are engaged in projects, and this “pairing” means that in perception “we find ourselves in a world as perceived by the other rather than simply by us” (33). This pairing relation in perceptual experience undercuts the premise of the “problem of other minds.” Merleau-Ponty develops ideas akin to Husserl’s “pairing” in terms of the practical self-experience of the body as involved with the body of another: “...the very way we inhabit our bodies—our ‘body schema’—is intersubjective, and our behavior ongoingly attests to this sharedness of experience that underlies our sense of reflective individuality” (43). Bredlau thus emphasizes a “shared body schema” (34) that is concerned with what Polanyi would call our elements of tacit awareness of both our own body and perceived bodies that hold possibilities of engagement: I see the glasses on the table as within my reach and the reach of the bodies of my dinner guests and thus as offering possibilities of a certain kind (such as the possibility of a toast). My guests also likely see such possibilities. While

perceptual experiences do not appear to be identical, they are never completely cut off from one another” (36), and thus they offer the possibility of perceptual learning or skill development. If one is not a soccer player who sees the changing field and positions of players, it is possible, with a suitable apprenticeship and practice, that one might eventually become something closer to a connoisseur of the game. Thus Merleau-Ponty’s account of our perceiving the world in terms of the shared body schema is an account that shows “the world begins as a co-inhabitation” and that persons are always already engaged as participants in “a collaborative experience” (37).

Russon extends these ideas in Husserl and Merleau-Ponty by arguing that “significant people with whom we are involved . . . function more as aspects of the form of our perception than as its contents or objects” (39). Our relations with significant others structure and become a context in which action unfolds, and this action has rhythmic, harmonic, and melodic dimensions. Habits are formed and persist in new contexts, thus a troubled “pairing” with a parent becomes “the continuing ‘harmony’ of his interpersonal affairs, even if explicitly—‘melodically’—he takes himself to have distanced himself from her” (40). Bredlau thus contends, using Russon’s framework expanding earlier phenomenological accounts, that “we carry ‘our’ others with us as the meaningful context of all our experience, even when we are no longer ‘actually’ engaged with those others” (43).

In her third chapter, Bredlau turns to pairing in the early experience of the child and further explores implications of Husserl’s and Merleau-Ponty’s views. The imitative action of a small child should be seen as “perceptual structures rather than perceptual contents” (47). That is, they are ways of experiencing rather than simply objects of experience. Behavior thus expresses an orientation. When an adult plays with an infant, the infant picks up the playfulness of the game. The infant perceives

through certain actions the intentionality presented. For the child, interaction becomes “the discovery of a world as a landscape of shared possibilities of play” (49). Bredlau warns that to focus too intently on the imitative character of action can lead to overlooking the collaborative character of action. Small children participate in a meaningful world enacted by the bodies of caregivers. Clearly, Bredlau wants to emphasize the bodily participative knowing even of infants: “In situations of joint attention and mutual gaze, we witness parent and child co-enacting a shared world...” (52). Discussing some of the research on infants, Bredlau argues that even young infants experience others as aware of them, and this shows in the way the actions of infants and caregivers in play periods are coordinated like figures engaged in a dance. Infants not only perceive caregivers but perceive them as perceiving, and this enables infants. The experience of perceiving thus appears first to be public and only later becomes private.

Bredlau moves from her conclusion that even small children perceive caregivers as perceiving and collaborating to the conclusion that the affective nature of pairing essentially involves trust. Her discussion of “participatory sense-making” (62) emphasizes the emotional significance of sense-making for the child. Pairing understood as perceiving the perceiving other is a matter of trust for the child: in entering into their caregivers’ perception of the world, infants ‘live’ their caregivers as reliable guides to this world” (64). Using Russon, Bredlau explores the ways in which infants enact their trust in caregivers.

The final chapter turns to sexual experience as a powerful example of pairing relations between adults. Sexual experiences, like experiences in early childhood, involve perceiving the other as perceptive: “...in sexuality, we desire the other’s desire” (72), although this is primarily a bodily intentionality. Bredlau leads the reader through the discussions of sexual experiences in Merleau-Ponty, Beauvoir,

and Russon. Children have their place in the shared world of the family where they discover already created meaning. Adult experience is, however, more oriented toward “establishing shared worlds” (74) with unfamiliar persons. In sexual experiences, this reckoning with the unfamiliar “takes place in bodily intimacy” (74), and this means, as Merleau-Ponty understood, that sexual desire is a matter of bodily intentionality: “...our bodies do this of their own accord” (75). However, the bodily intentionality of sexuality is an experience of other bodies not merely as objects but as subjects. Bredlau unpacks this subjectivity using Hegel’s account of the recognition of another subject and Beauvoir’s discussion of sexual experience (a somewhat labored review, to this reader). Bredlau thus argues that sexuality is a “fundamental way that we experience that there are other subjects in the world and we desire these other subjects to recognize us as subjects” (80). This means “our bodies seek validation of our *subjectivity*, but of our subjectivity as *embodied*” (85). She emphasizes that sexual desires must be pursued in concert with the other rather than in opposition to the other. Sexual situations are situations of great vulnerability, like childhood intimacy, and thus sexual intimacy is “ultimately a matter of trust” (87). Following Russon’s discussion, she reviews scenarios that block the openness and creativity of sexual experience.

The Other in Perception aims to clarify the role of other people within lived experience. Others affect us intimately, and this has a bearing on both healthy development and fulfillment. As Bredlau’s discussion makes clear, persons always “are already involved with others, and how we care for and are cared for by others is highly consequential” (93).

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John Kaag. *Sick Souls, Healthy Minds: How William James Can Save Your Life*. Princeton, NJ: Princeton University Press, 2020. Pp. 1–210. ISBN 978-0691192161. Hardcover \$22.95.

John Kaag is the author of one rather traditional book in philosophy, *Thinking Through the Imagination: Aesthetics in Human Cognition*, and three books in which he integrates aspects of his personal life with relatively focused philosophical reflections. These reflections typically are evoked by the thought of a single philosopher. In his *American Philosophy: A Love Story*, Kaag directs his narrative to the philosophical experience of William Ernest Hocking with particular focus on what Hocking's library revealed. But he peppers his exposition liberally with the thoughts of William James, Hocking's esteemed mentor; C. S. Peirce, the subject of Kaag's doctoral dissertation; Josiah Royce; and many others who make cameo appearances. *Hiking with Nietzsche: On Becoming Who You Are* centers on responding to the challenging ideas Nietzsche thrusts upon his readers. In *Sick Souls, Healthy Minds*, Kaag attends to how William James used his philosophical writing to save his own soul. This is a project Kaag quite evidently mimics. The book's problematic might best be summarized as a quest to answer this question: How can one authentically acknowledge both the despair life thrusts upon one and respond openly to the promises life holds out?

The philosophies of John Kaag and Michael Polanyi each emphasize the person and personal responsibility in their writings. But there is a marked difference in the way each expresses personhood. Polanyi's personal dilemmas and traumas are largely hidden in his writings. Kaag's crises are front and center. He identifies himself as a sick soul even as he discusses the psychological challenges confronting James in his early life. Kaag's existential angst comes out in such passages as these: "I was, and still am, socially awkward. Today, my full-time job is to 'profess' philosophy to large groups, but for

most of my life the one thing that made me more uncomfortable than public speaking was, well, large groups" (62–63). "But even after I willed myself through a divorce, a remarriage, and a series of existential U-turns, I still found myself, with growing frequency, dazed by the monotony and pained by a sense of disconnection" (107).

Thus, *Sick Souls, Healthy Minds* offers the reader two versions of *from-via-to* structure. First, there is the structure of William James's own philosophy. He attended *from* his everyday life experiences, with its psychosomatic challenges, *via* philosophical reflections *to* a conception of a viable philosophy of life. Second, Kaag takes account of James's insights in offering his version of healthy mindedness. Kaag's own psychological issues function as the primal emotional, embodied subsidiary elements from which he thinks. They are articulated and integrated with James's intellectual legacy to form the meaning-laden focus of the book. The two American philosophers' resultant integrations of vulnerable personal self-revelation with relevant philosophical insights gift the book with a raw authenticity unusual in philosophical writing. The result may be seen as Kaag's unique brand of post-critical expression. Alternatively, the book can be interpreted as disclosive therapeutic philosophy.

In tracing James's career, Kaag offers vignettes that recall aspects of Polanyi's life experiences and their impact. Kaag approvingly cites Louis Menand's suggestion that "the Civil War set the context for James's philosophical studies: the devastation of a conflict, motivated by grand ideological visions..." (20). Such an experience of war also motivated Polanyi's long-delayed journey into philosophy, although World War I rather than the Civil War was his trigger. James and Polanyi each studied for a career as a physician, but neither found that career to fulfill their deepest desires. Each gained a reputation as a fine teacher who genuinely enjoyed close relationships with students. But each also relished opportunities to escape from nagging obligations.

James sought refuge in the White Mountains, whereas Polanyi left Magda behind to write in Wales or travel to Switzerland.

The thought of James and Polanyi also overlaps in many ways. In a 1901 letter to James Sully, James remarks that “I seriously believe that the general problem of the subliminal...promises to be one of the great problems, possibly even the greatest problem, of psychology” (180). This statement suggests that James is thinking of the sort of processes Polanyi identifies as tacit knowing, although James does not seem to recognize the functional status of subsidiaries that Polanyi emphasizes (see *TD*, 95). James is referring, Kaag suggests, “to mental processes just below the threshold of consciousness that can often be felt without fully emerging.... [These experiences often] qualify as something we know, at least for a moment” (180). Based on such tacit understanding, Polanyi developed his emphasis on the philosophical importance of faith and imagination as aids to discovery, with scientific discovery serving as his primary model. James connects his experience of the significance of faith and discovery to developing interpersonal relations of trust. Kaag paraphrases James’s self-referential pleas for boldness in addressing his future wife as follows: “I have to give my assent before sufficient logical justification is supplied, and when I do, the evidence, it is hoped, begins to trickle in” (61). The parallel with Polanyi’s autobiographical statement that “surely one first draws one’s conclusions and then puts their derivation right” is striking.

James was also comfortable, as was Polanyi, to tie degrees of reality to intensity and productivity of experience. James stated, “As Emerson says, there is a depth in those moments [of vision] that constrains us to ascribe more reality to them than to all other experiences” (111). James’s immediate reference was to “falling in love” and to the taking of psychedelics, experiences that seem outside Polanyi’s frame of reference. But both James and Polanyi adopt Peirce’s assertion that the truth about reality requires a

long-range view. However, James’s pragmatic theory makes it clearer than Polanyi does that he regards truth to be ultimately not about the outside world and its facts. He sees truth to be an attribute of our ideas. “Truth,” James writes, “happens to an idea. It becomes true, is made true by events” (134). That view comports with Polanyi’s understanding of meaningful truth and the communal approach to scientific truth, but not with Polanyi’s belief in the transcendent reality of what science refers to.

Concern about existential meaning is a subterranean feature of much of James’s thought. “Philosophy lives in words,” James states, “but truth and fact well up into our lives in ways that exceed verbal formulation” (129). It can be seen, again, that both men appreciate language as a kind of “via” that is a translation of tacit understanding. James does not cotton to a theory-based view of ethics but rather ties it to what provides zest for an agent. Kaag writes, “James argues that we are ultimately accountable to ourselves, to the inner sense of significance that arises (or doesn’t) in a particular activity” (152). However, James realizes that such personal passion can conceal from one the actual inner state of others, a state he terms “a certain blindness in human beings” (154). To compensate, Kaag muses that “we don’t suffer exactly the same miseries, ever, but this difference should be enough to engender a bit of compassion for those around us” (157). Nevertheless, it seems fair to state that in his individualistic emphasis on reaching healthy mindedness, James is less attuned than Polanyi to seeing humans as social beings reliant on communal traditions, empathy, and conviviality for experiencing full existential meaning.

Kaag is quite evidently reliant on James’s thought as a guide for his personal search for healthy mindedness. I applaud Kaag’s success in portraying his and James’s thought within the limits suggested by the book’s title. This work is not a comprehensive account of James’s life and accomplishments, but it is a deft and evocative exploration of the role

that searching for meaning can play in sensitive lives. I recommend it highly for those interested in such a topic.

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Zachary D. Carter. *The Price of Peace: Money, Democracy, and the Life of John Maynard Keynes*. New York: Random House, 2020. Pp. 628 + xxii. ISBN 9780525509035. \$35.00.

Zachary Carter knows how to hook a reader who is not sure whether to commit to reading a book of over 600 pages dealing with economics. In his introduction, he relates how John Maynard Keynes, “Maynard” to his friends, had at age thirty-nine fallen in love with a Russian ballerina—after preferring male lovers all his life. Keynes’s friends among the Bloomsbury set were either startled or appalled. Quickly within the first fifty pages of this broad-ranging, thought-producing book, we find Keynes entangled not only with Lloyd George, J. P. Morgan, and Woodrow Wilson, persons we might have expected to encounter given the book’s subject matter, but also with Virginia Woolf, Lytton Strachey, E. M. Forster, and art critics Roger Fry and Clive Bell of the Bloomsbury group, as well as such intellectual luminaries as George Bernard Shaw, Bertrand Russell, G. E. Moore, and Ludwig Wittgenstein. The book chronicles events throughout the twentieth century and into the twenty-first century. Keynes is at the center of attention until his death in 1946. Thereafter, Carter shifts attention to the fortunes of Keynesian theory as supported or opposed by such persons as Galbraith, Samuelson, Hayek, and Friedman.

Keynes’s 1905 undergraduate degree at Cambridge University was in mathematics, and in 1921 he finally published a book on probability that expanded his graduate study. Polanyi critiques Keynes’s probability theory in chapter 2 of *PK*. Keynes was a brilliant thinker capable of bracing

insights in many fields, an assessment emphasized by Russell, who wrote, “When I argued with him, I felt that I took my life in my hands, and I seldom emerged without feeling something of a fool” (12). Yet Keynes the intellectual also cherished the arts and was a passionate lover. Carter summarizes his complex life as embracing tendencies that were often in tension:

Keynes was a tangle of paradoxes: a bureaucrat who married a dancer; a gay man whose greatest love was a woman; a loyal servant of the British Empire who railed against imperialism; a pacifist who helped finance two world wars; an internationalist who assembled the intellectual architecture for the modern nation-state; an economist who challenged the foundations of economics. (xx)

In his first book, *Indian Currency and Finance* (1913), Keynes foreshadowed his critique of the gold standard by describing its irrelevance to daily commerce in India. His first great triumph, though, was when he was called to London to advise on how to deal with the economic catastrophe sparked by the chaotic uncertainty created with the advent of World War I. London, the center of the economic world, was under siege as banks and investors withdrew their funds from investments and the stock markets plunged. The declarations of war made it impossible for debtors to pay their obligations, trade faltered, and a flood of people demanded gold in exchange for paper money. The Bank of England lost two-thirds of its gold reserves in just three days, a dire situation when money’s value was based on the amount of gold reserves a country had. In the panic, British bankers decided to hoard gold within the country, cutting off gold payments to foreign customers. Keynes advised the Treasury to do just the opposite: cut off internal payments of gold and

dole out gold internationally to save London's reputation of reliability as the world's economic capital. "The bankers," Carter notes, "were aghast. But they had, Keynes believed, misjudged the crisis by viewing it principally as a matter of their own survival, rather than a question of what their survival was meant to accomplish: [namely,] economic power" (15). To preserve that power rather than be subject to the gold standard, Keynes urged the Treasury to print new currency that had to be backed by the people's faith in the government rather than by gold. That ploy saved the day, and the crisis abated.

Keynes's advice illustrates his view that economics is not a science based on known laws so much as it is the judgments of flawed persons attempting to navigate an uncertain future. Polanyi arrived at a similar view regarding the inexactness of chemistry, suggesting in his 1936 letter to *Philosophy of Science* that attempts to emulate the exactness of physics in other disciplines would undermine any true understanding (see *Tradition and Discovery* 18:3, 36). Money, Keynes thought, must not become fetishized as an end in itself but rather be utilized as a tool to secure what is really important: supporting a flourishing, peaceful society in which meaningful work is maximally available. Despite the passion for peace Keynes shared with his Bloomsbury friends, Keynes took on major responsibility for actively engineering the government's war economy. By the end of the war, the British economy had expanded by nearly 15 percent. Market economies, he saw, "were not a distinct realm, independent of the state, operating according to their own principles. The rhythms of trade, their logic and mechanisms, had to be defined and supported by political authority" (87). However, in his role as the Treasury's top delegate to the Versailles peace conference, Keynes was bitterly disappointed by the greedy, shortsighted wrangling among the parties, including British officials. He foresaw correctly that the massive reparation payments demanded of Germany would create chaos and resentment, leading to further war.

After his demoralizing involvement in the Versailles conference, Keynes decided he could best advance his vision by becoming an outsider critiquing government and society. Zachary Carter calls Keynes's 1919 book, *The Economic Consequences of the Peace*, "one of the most emotionally compelling works of economic literature ever written" (95). Like Polanyi, Keynes had admired the decades prior to the Great War as an unprecedented time of peace and prosperity. But now, unlike Polanyi, he criticized the Gilded Age as based on economic inequality and exploitation of the nation's colonies—an arrangement that could not endure.

Throughout his life, Keynes was an advocate of free trade. But during the 1920s, he recognized that monetary instability, some of it related to trade, was leading to unemployment and social unrest. It was the government's role, he ascertained, to counter monetary instability by adjusting interest rates and the amount of money in society. However, Winston Churchill's renewed reliance on the gold standard prevented the Bank of England from expanding available money to stimulate the economy, as the money supply had to be tied to the gold reserves on hand. The available way of boosting the economy, devaluing money, was problematic because it caused economic instability. In *A Tract on Monetary Reform*, Keynes pondered various possible solutions to these issues. He bought the Liberal opinion magazine, *The Nation*, to further develop and spread his ideas. Incidentally, Virginia Woolf suggested that Keynes hire an obscure young poet as literary editor of the weekly. But negotiations over terms collapsed, so Keynes withdrew his offer to T. S. Eliot.

Britain's Liberal party had once been the party supporting the gold standard and dedicated to keeping governmental hands off the market. Influenced by Keynes's theorizing, it had transmuted into "the party of massive government investment programs and deficit spending" (171). This view of liberalism has prevailed in America since Franklin Roosevelt,

whereas neoliberalism urges a return to nineteenth century laissez-faire capitalism. Keynes can arguably be seen as the prime agent responsible for the transformed understanding of liberalism.

The Great Depression burst forth, and its causes required interpretation. In 1930, Keynes published his two-volume work, *A Treatise on Money*. It “was an all-out assault on the intellectual foundations of laissez-faire. There was no such thing as a free market devoid of government interference” (190). The *Treatise* offered a cure for the economic weakness: public works projects. Whereas previously Keynes had an uneasy relationship with America and its politicians, when FDR came into power, he celebrated the new leadership. FDR’s many programs to right the economy are perhaps the clearest expressions of enacted Keynesian economics.

At Cambridge University, Keynes attracted a growing number of followers. Joan Robinson and Richard Kahn were especially helpful to Keynes as he lurched toward the publication in 1936 of his most influential work, *The General Theory of Employment, Interest and Money*. Carter calls the book “a love letter to the power of ideas” (256), reminding one of Polanyi’s acknowledgment of such power. Carter also calls it “very likely the worst-written book of its significance ever published in the English language” (257). In its recognition of how humans respond unpredictably to an uncertain economic future, it is far from a systematic statement of economic predictability. Robinson asserted that Keynes’s great gift “had been to restore human agency to economic theory” (456). The similarity to Polanyi’s restoration of the person to knowing is clear.

Carter writes that by 1947, “Keynesian ideas were thoroughly mainstream in academia, but professors didn’t have anything to offer students but the convoluted, plodding *General Theory*” (375). How unfortunate that Polanyi’s film and his 1945 *Full Employment and Free Trade* did not gain the general recognition that would have provided a

secondary source for understanding Keynes. One of Keynes’s students, Lorie Tarshis, did in 1947 produce a clear account of Keynesian economics, and its fate may in part illuminate why Polanyi’s work did not garner wider acceptance. Merwin Hart, a Holocaust denier and McCarthy supporter, attacked Tarshis’s book as a “pagan-religious and political tract” (376) and organized an effective letter-writing campaign to prohibit its use in schools. The organization housing Hart’s polemic was funded by many large corporations that supported free market capitalism.

The opposition to Keynes’s economic policies came from within academic circles as well as from outside forces. Two Austrians, first Ludwig von Mises and then Friedrich Hayek, spearheaded the attack. Interestingly, Hayek, Keynes, and Polanyi each looked back at the Gilded Age as a great age of high culture. But their views about how to reinstitute a free world of thriving individuals differed widely. It was really Hayek’s 1944 work, *The Road to Serfdom*, that consolidated the neoliberal alternative to Keynesianism. In this work, “Hayek assembled a ferocious, scholarly attack on Keynes and the New Deal, not as an empirical analysis or a work of economic theory but as a political treatise” (341). Keynes responded, “All of Hayek’s compromises with the social safety net, regulation, and antitrust policy put him on the same slippery slope to totalitarianism which Hayek himself admonished his political opponents for treading” (347). Carter suggests that Hayek’s brand of neoliberalism, unlike Mises’s rigid commitment to laissez-faire economics, made concessions to the need for some government regulation to combat economic problems. But Hayek opposed planning, which he said “could only be achieved by a dictator orchestrating the lives and limiting the choices of free individuals” (345).

Polanyi of course also opposed planning, but his opposition was in part based on how it interfered with the scientists’ freedom to follow leads that could result in discovery. Polanyi and Keynes

both visited Russia more than once—Keynes to visit his wife’s relatives—and each found its governmental policies and their execution to be deeply flawed. Keynes wrote that the Russian government cares “about their experiment more than about making things work” (218).

Polanyi wrote *Full Employment and Free Trade* as an exposition of Keynes’s economic theory. Polanyi stated that “the Keynesian theory is really quite simple—perhaps difficult to grasp at first, but once understood quite easy to handle and to keep in mind” (*FEFT*, ix). Carter’s exposition of Keynes’s thought suggests that Polanyi missed the deeper import of Keynes’s ideas, for Polanyi treats the administering of the proper amount of money in a country’s economy as a task to be carried out rather mechanically. He declares that “Governments must use existing channels of public expenditure for issuing new money and not undertake new public enterprises or deviate in any other way from the otherwise desirable course of economic policies, merely for the purpose of bringing money into circulation” (*FEFT*, 147). Carter suggests that “Keynes was critical of any economic model that claimed to offer reliable information about the future—even the Keynesian models.... Though his American followers would pursue fine-tuned tax-and-spending plans to lift demand during recessions, Keynes instead called for the government to manage future stages of overall economic scarcity through direct investment spending” (402). Polanyi rejected this aspect of Keynes’s economic theory. Polanyi apparently thought tying the infusion of money into the economy through funding infrastructure improvement or other public investments risked undermining the rational management of money by plunging it into the uncertainties of political bargaining. Interestingly, it is Michael Polanyi’s socialist-leaning brother Karl who agrees with Keynes on the legitimacy of public investment as a way to introduce money into the economy.

Michael’s pure view of money management has similarities to his idealistic view of pure science as expressed in “The Republic of Science.”

Both Keynes and Polanyi critique the objectivism manifest in scientism. Each understands that the logical certainty characteristic of mathematics is necessarily compromised when math is applied to unpredictable real-world issues. “Financial markets, Keynes had emphasized, seemed rational only during periods of stability” (507). Personal rationality takes into account past experience, present-day context, and future uncertainties in applying mathematical formulas; it is not to be understood in terms of unqualified logical certainty. As Carter notes, “Keynes was preoccupied all his life with the philosophical foundations of knowledge itself—the nature of science and the limitations of its methods” (396). With such common worldviews, it is surprising that the paths of Polanyi and Keynes or their associates did not cross more in the 1930s and 1940s. Not only is Polanyi never mentioned in Carter’s book, neither are his brother Karl nor such persons as Popper, Macmurray, Tawney, Jewkes, or Mannheim.

The Price of Peace goes on to describe how Keynesian thought, after Keynes’s death in 1946, was interpreted in quite different ways by his disciples. Paul Samuelson produced a mathematical version, while John Kenneth Galbraith emphasized visionary aspects of Keynes’s thought in *The Affluent Society* and other works. Carter suggests that Keynes’s attempts to establish the economic basis for a better world is his enduring legacy. “Keynesianism in this purist, simplest form is not so much a school of economic thought as a spirit of radical optimism” (533). Despite their participation in many of the century’s tragedies, both Keynes and Polanyi tend to end their forays into philosophy on a qualified note of hope.

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