

Comprehension and the “Comprehensive Entity”:

Polanyi’s Theory of Tacit Knowing and Its Metaphysical Implications¹

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ABSTRACT Key Words: Michael Polanyi and Marjorie Grene, comprehension and the comprehensive entity, ontological aspect of tacit knowing, being-in-the-world and tacit knowing, post critical and medieval realism. *This essay discusses Polanyi’s ideas about the “comprehensive entity.” It shows how Polanyi’s philosophical perspective emphasizes comprehension. It outlines Polanyi’s careful approach to ontological questions and shows how Marjorie Grene and to some degree Polanyi linked the theory of tacit knowing to ideas in Continental philosophy about being-in-the-world. It suggests that Polanyi’s post-critical philosophical realism, like Peirce’s realism, is more akin to medieval realism than contemporary discussions.*

. . . [I]t needs a frankly epistemological approach to metaphysics to set right the epistemological errors of Descartes with which modern . . . philosophy began.²

. . . [W]hat we need, again, is to articulate an analytical pluralism, a metaphysic which will allow us to acknowledge the existence of a rich variety of realities, not all of which need exist in identifiable, spatio-temporal separateness. Minds are not separate from bodies, yet persons capable of ‘minding’ are richer and more highly endowed than persons or individuals not so capable.³

I. Introduction

The comments above come from Marjorie Grene, who, as readers of this journal likely know, was an American philosopher who spent about twenty years working closely with Michael Polanyi. Polanyi trained in medicine and chemistry and worked many years as a researcher in physical chemistry but his interests and scholarship gradually shifted to economics and philosophy in the last half of his life in the middle decades of the twentieth century. As a philosopher, Polanyi was a maverick, if one compares him to most thinkers contemporary with him in the British and American scene. Indeed, Polanyi was sometimes dismissed by professional philosophers since he did not seem to make the normal modern philosophical assumptions and did not seem interested in what were taken to be up-to-date philosophical questions. Polanyi met Grene in 1950 and she was a philosopher with a more traditional philosophical background; although she was suspicious of much contemporary philosophy, she certainly was a figure with a deep appreciation for the history of the Western philosophical tradition. From 1950 until the publication of a collection of Polanyi essays that she edited in 1968, Grene was very seriously engaged with Polanyi in philosophical discussions. Clearly, Grene was greatly influenced by Polanyi but she also greatly influenced Polanyi.⁴ Indeed, I think she should be recognized as a backstage collaborator with Polanyi at certain stages of his philosophizing. In fact, Polanyi readily acknowledges her contributions to *Personal Knowledge: Toward A Post-Critical Philosophy*, which was first published in 1958. About his work with Grene and his *magnum opus*, he says in his Acknowledgements,

“Our discussions have catalysed its progress at every stage and there is hardly a page that has not benefited from her criticism. She has a share in anything that I may have achieved here.”⁵

Grene’s comments in the epigrams above come from her book *The Knower and the Known*, which was published in 1966, although most of it was written in 1961-63, not very long after Grene’s several years of intense work with Polanyi to transform his 1951-52 Gifford Lectures into *Personal Knowledge* (1958). In this essay, I want to explore what Grene hints at when she calls for “a frankly epistemological approach to metaphysics,” which she indicates will “set right the epistemological errors of Descartes with which modern . . . philosophy began.” Her “epistemological approach to metaphysics” is a Polanyian approach, as she acknowledges in her subsequent discussion in this book and in later publications. Grene helps Polanyi hammer out the ideas that develop into his theory of tacit knowing and this epistemological approach implies a certain account of metaphysics. In her second quotation above, Grene hints at something of the contours of that account of a Polanyian metaphysics when she mentions “an analytical pluralism” that provides ways to “acknowledge the existence of a rich variety of realities,” and not all of those realities “exist in identifiable, spatio-temporal separateness.” She specifically identifies “minding” as a peculiar human endeavor best understood without focusing on the identifiable, spatio-temporal distinctness of existing things.

What I do in the discussion below is focus attention on Polanyi’s claims about “comprehension” and the “comprehensive entity,” presenting these as key Polanyian philosophical ideas. They are ideas that have metaphysical implications. Although it is possible to discuss earlier suggestions about these ideas, I focus my attention on discussions in Polanyi texts published from the period of *Personal Knowledge* (1958) until about a decade after this book. Polanyi seems first to have worked out his notions about “comprehension,” and then his ideas about the “comprehensive entity” develop. He moves beyond the ideas articulated in *Personal Knowledge* and in Grene’s discussion in *The Knower and the Known*, which is substantially based upon *Personal Knowledge*. I point out that “comprehensive entity” becomes a frequently used philosophical term in Polanyi’s philosophical lexicon after *Personal Knowledge* and that the term comes to have a broader meaning than in its first use. I argue that Polanyi came to view this locution as a very useful one that served to set forth clearly some implications of his theory of tacit knowing. In the final analysis, I contend that Polanyi’s comments about the “comprehensive entity” and the ontological aspect of tacit knowing need to be viewed strictly as ways to re-articulate his claims about the active shaping of knowledge. That is, Polanyi’s claims regarding the “comprehensive entity” must always be seen within the context of his claims about “comprehension.” Nevertheless, what Polanyi says about “comprehensive entities” helps to sketch out Polanyi’s metaphysics, which as Grene points out is a metaphysics approached through epistemology. Such a metaphysics is pluralistic; it acknowledges a rich variety of realities.

I acknowledge that, in this essay, I am following up on an interest that first emerged in two earlier essays that have been part of the recent discussion in the Polanyi literature of “Polanyi’s realism.” In my articles in *Polanyiana*⁶ and *Tradition and Discovery*,⁷ I argued that “comprehensive entity” is a Polanyian philosophical notion that helps to clarify the nature of Polanyi’s realism. I suggested that Polanyi is very interested in the indeterminate range of meaning of real things. Real things affect human beings and some real things (such as minds and problems, as opposed to cobblestones) have what Marjorie Grene implies might be regarded as having intensiveness⁸ and Polanyi later regarded as having depth.⁹ This is their rich potential for revealing future significance. Polanyi’s interest in the growth of meaning I dubbed the “polyvalent” focus of his realism. But Polanyi also is very concerned to clarify the tacit foundations of human knowledge of real things and this interest I called the “bodily” focus of his realism. I argued that the “comprehensive entity” is

a philosophical idea that Polanyi uses to hold together the polyvalent and bodily aspects of his discussions about realities.

The discussion that follows is not intended merely to repeat the case I put forth earlier for the polyvalent and bodily aspects of real entities and the “comprehensive entity” as a Polanyian vehicle used to weld together these two elements. I hope instead to shed some new light on the Polanyian notions about “comprehension” and the “comprehensive entity” by approaching my topic from a somewhat different direction, although connections with my earlier discussions can surely be drawn. I begin with Polanyi’s account of “comprehension” in his *magnum opus*, *Personal Knowledge*.

II. The Active Nature of Comprehension

The term “comprehension” is prominently featured in the “Index” of *Personal Knowledge*, which was prepared by Marjorie Grene and her children.¹⁰ Polanyi seems to have had a clear sense in the period in which he was writing *Personal Knowledge* that he was working out a novel account of “comprehension.” All of the later discussions of “comprehensive entities” are ultimately rooted in this active view of “comprehension” that Polanyi traces back to Gestalt. In the 1957 “Preface” (i.e., original) to *Personal Knowledge*, he references Gestalt psychology as a source for his conceptual reform:

I have used the findings of Gestalt psychology as my first clues to this conceptual reform. Scientists have run away from the philosophic implications of gestalt; I want to countenance them uncompromisingly. I regard knowing as an active comprehension of the things known, an action that requires skill. Skillful knowing and doing is performed by subordinating a set of particulars, as clues or tools, to the shaping of a skillful achievement, whether practical or theoretical.¹¹

He criticizes and adapts Gestalt claims for “spontaneous equilibration.” “Equilibration” for Polanyi is not mechanical. “Equilibration” is an integration of subsidiaries of the sort that is involved in a skillful performance by an interested, attentive knower. Thus “comprehension” is an achievement, an outcome reflecting the active shaping of the agent. In *Personal Knowledge*, this emphasis upon active shaping is found in Polanyi’s discussion of many topics such as perception, tool use, language use, problem solving, and scientific discovery. Active shaping implies a centered subject and the creation and implementation of standards of value:

Comprehension is an unformalizable process striving towards an unspecifiable achievement, and is accordingly attributed to the agency of a centre seeking satisfaction in the light of its own standards. For it cannot be defined without accrediting the intellectual satisfaction of the comprehending centre.¹²

Polanyi uses this emphasis upon active shaping to define his sense of person and of human excellence. Ultimately, in Part Four of *Personal Knowledge*, Polanyi also offers an account of morphogenesis in terms of active shaping and achievement.

Comprehension and the somatic process which accompanies comprehension, represent therefore

a kind of equilibration that can be defined only in terms of intellectual rightness. Morphogenesis, operating under the direction of a morphogenetic field, is a somatic process of the same kind but following morphological rightness as a standard of achievement. Yet it may be described as equilibration, to distinguish it from the operation of a machine-like framework, and also to illustrate the inexhaustible resourcefulness shown by the morphogenetic process. Once it is recognized that this resourcefulness is mobilized in the service of an achievement which can be appreciated only in morphological terms, we find that this implies awarding to it success or failure, by standards which we ourselves set to the process as being appropriate to itself. The morphogenetic field (or its organizer, if there is one) is then defined as the agency of this success and as that which has failed if success is not achieved.¹³

Polanyi's account of "comprehension" in *Personal Knowledge* cannot, of course, be understood apart from his fundamental distinction between focal and subsidiary awareness. The quotation above from the "Preface" of *Personal Knowledge* indirectly references this distinction by identifying skillful knowing and doing as action performed by subordinating a set of particulars to a practical or theoretical focus of attention. In terms of the development of Polanyi's philosophical ideas, he first suggests the distinction between subsidiary and focal awareness in his November, 1952 seventh Gifford lecture in the second series, which is titled "Two Kinds of Awareness."¹⁴ There is an early section of Chapter 4 in *Personal Knowledge* (1958) with the same title and here Polanyi introduces his fundamental distinction in *Personal Knowledge* and this distinction then becomes central to the discussion in the rest of his book.¹⁵ In analyzing the case of using a hammer, Polanyi says, "I have a *subsidiary awareness* of the feeling in the palm of my hand which is merged into my *focal awareness* of my driving in the nail."¹⁶ A little later, Polanyi comments on the limitation of an exclusive orientation toward explicitness, which is found in much of the Western philosophical tradition, when he says "we may describe such a performance as *logically unspecifiable*, for we can show that in a sense the specification of the particulars would logically contradict what is implied in the performance or context in question."¹⁷ Finally, at the end of this section discussing "two kinds of awareness," Polanyi reformulates his distinction in terms of its implications for the nature of meaning. Particulars which we assimilate or dwell in are matters we are subsidiarily aware of and they must be integrated if we are to grasp their focal or conjoint significance: "all particulars become meaningless if we lose sight of the pattern which they jointly constitute."¹⁸

III. The Early History of the "Comprehensive Entity" and Grene's Restrictive Account

The term "comprehensive entity" is not in the "Index" for *Personal Knowledge*. Although there is much discussion of "comprehension"—and this clearly is an important term—"comprehensive entity" was not a key term in Polanyi's early philosophical vocabulary. Polanyi does use the term in *Personal Knowledge* in discussing the "three-storied" character of perception in biology.¹⁹ He argues that we can be aware of an animal's active-perceptive responses only in relation to a focal awareness of the animal as an individual. We must see the particulars of an animal's activity subsidiarily in a focus upon the whole animal in order to know what the animal is knowing or doing. Further, Polanyi says,

. . . when the subsidiary particulars of a comprehensive entity are as highly complex and variable as in these cases, attempts to specify them can do no more than highlight some features, the meaning of which will continue to depend on an unspecifiable background that we only know within our understanding of the entity in question.²⁰

It seems likely that the limited use of “comprehensive entity” in *Personal Knowledge* and the fact that it is used in conjunction with “three-storied” knowing is what led Marjorie Grene, in *The Knower and the Known*, to suggest that “comprehensive entity” is a term reserved for objects of knowledge that are living: “But when the knower is engaged in the business of knowing living things, further, the object of knowledge itself is, in Polanyi’s language, a *comprehensive entity*.”²¹ A bit later she puts it this way: “To know life is to comprehend comprehensive entities; to know knowing is to comprehend those particular achievements of living things which consist in their acts of comprehension. Mind is once more a natural reality, and nature once more both the medium and the object of mind’s activity.”²² Grene captures an essential Polanyian insight here: knowing living forms necessarily involves recognizing their achievements. That is, living creatures deploy tacit powers as agents and to understand this agency presupposes that we recognize a centered subject capable of action in a least some minimal sense. Nevertheless, Grene’s restrictive discussion of “comprehensive entity” is somewhat misleading. “Comprehensive entity” became a term Polanyi very frequently used after *Personal Knowledge* and Grene’s account does not reflect the more general way in which Polanyi eventually came to employ the term.

Although *The Knower and the Known* is first published in 1966, Grene’s January, 1974 “Preface to the Paper-bound Edition” indicates that the book was written from 1961-1963 only three years after the publication of *Personal Knowledge*. Most of her Polanyi references are to *Personal Knowledge*, although there are also references to the Duke Lectures (unpublished, but given in February and March of 1964, and thus probably a late addition to her text²³) and to Polanyi’s 1962 essay “Tacit Knowing: Its Bearing On Some Problems of Philosophy.”²⁴ The 1962 essay uses “comprehensive entity” but in a reference, similar to the use of the term in *Personal Knowledge*, to knowing a man.²⁵ The Duke Lectures, however, use the term many times and the context is not always one that implies the term applies only to living things. The Duke Lectures include a good bit of material that appears also in the Terry Lectures (1962) and other lectures that Polanyi delivered in 1961 and 1962. In all of this writing, Polanyi seems to think of “comprehensive entity” as simply a term useful to identify any object of knowledge, living or otherwise. A “comprehensive entity” is a focal whole (i.e., an object of attention) that includes (or comprehends) subsidiaries (i.e., particulars of which the knower is subsidiarily aware).

In fact, “comprehensive entity” is a term that also appears several times in *The Study of Man*,²⁶ which was published in 1959, just a year after *Personal Knowledge*. This short book Polanyi identified as an “extension” of the inquiry found in *Personal Knowledge*, which recapitulated “relevant parts of its argument;” Polanyi suggested that this book “might be read as an introduction” to *Personal Knowledge*.²⁷ Sometimes the context in which “comprehensive entity” is used in *The Study of Man* is one in which the term refers to knowing living things or their achievements but in other contexts the term is used more broadly.²⁸

Although there is a broader use of “comprehensive entity” in *The Study of Man*, clearly Polanyi continued to emphasize that an active sense of “comprehension” is the key to his views. He stresses the importance of “personal participation” in “tacit and explicit knowledge” and indicates that he is developing a “theory of knowledge.” Speaking again about Gestalt psychologists, he says

They were probably unwilling to recognize that knowledge was shaped by the knower’s personal action. But this does not hold for us. Having realized that personal participation predominates both in the area of tacit and explicit knowledge, we are ready to transpose the findings of Gestalt-

psychology into a theory of knowledge: a theory based primarily on the analysis of comprehension.²⁹

This theory of knowledge (usually called the theory of tacit knowing) insists that “the structure of tacit knowing is manifested most clearly in the act of understanding. It is a process of comprehending: a grasping of disjointed parts into a comprehensive whole.”³⁰

IV. The Amplification of Polanyi’s Philosophical Project

Greene suggests that it is sensible to see the development of Polanyi’s philosophical ideas in terms of two successive moments, the articulation of “the fiduciary programme” which occurs primarily in *Personal Knowledge* and the articulation thereafter of the theory of tacit knowing.³¹ She argues that *Personal Knowledge* employs a method (certain to antagonize professional philosophers) that “consisted essentially in broadening and stabilizing the interpretive circle through a series of analogies, by showing that human activities of many kinds are structures in the same hopeful yet hazardous fashion as those of science.”³² Greene says Polanyi articulates an “analogical foundation” for his ideas about the role of commitment in science. This shows us “science as one instance of the way in which responsible beings do their best to make sense of what is given to them and yet what they, by their active powers, have also partly already enacted.”³³ Greene contends, however, that Polanyi already in *Personal Knowledge* is moving toward something firmer than his “analogical foundation” insofar as he was exploring unspecifiability and was aware (immediately after publication) that his distinction between focal and subsidiary awareness was the most original element in *Personal Knowledge*. After *Personal Knowledge*, Greene suggests that Polanyi amplifies his insight about “two kinds of awareness” in a way that provides a “strengthening and extension of his conception of the tacit foundation of knowledge.”³⁴

Greene’s account of Polanyi’s development parallels Polanyi’s own description in the “Introduction” to *The Tacit Dimension* where he points out that his “reliance on the necessity of commitment has been reduced by working out the structure of tacit knowing.”³⁵ The articulation of this structure, Polanyi claims, “shows that all thought contains components of which we are subsidiarily aware in the focal content of our thinking, and that all thought dwells in its subsidiaries, as if they were parts of our body.”³⁶ Polanyi says much the same thing in the “Preface to the Torchbook Edition” of *Personal Knowledge* that was written in June of 1964 when *The Tacit Dimension* was in press. Here he acknowledges that there is, in *Personal Knowledge*, “a parallel line of argument” to the “fiduciary programme.” This line “goes deeper” since it reckons with the fact that “this fiduciary element is intrinsic to the tacit component of knowledge.”³⁷ Commenting on his new book in press (*The Tacit Dimension*) and his later writing, Polanyi says that he is “less occupied with the justification of our ultimate commitments and concentrates instead on working out precisely the operations of tacit knowing.”³⁸ My suggestion in the preceding section is that Polanyi’s term “comprehensive entity” comes to be frequently used almost immediately after *Personal Knowledge* and is a term whose original meaning gets enlarged. This enlarged meaning of “comprehensive entity” needs always to be understood in conjunction with Polanyi’s emphasis upon “comprehension,” the active shaping of achievements by a person. However this enlargement of the term’s meaning is part of the movement from “the fiduciary programme” to Polanyi’s fuller articulation of the theory of tacit knowing.

V. Aspects of “Comprehensive Entities” and the Link Between Knowing and Being

There are important ideas about “comprehensive entities” that Polanyi develops after *Personal*

Knowledge that are worth review. These seem to be a bridge to a clear statement of the metaphysical implications of Polanyi's perspective. The 1961 essay "Knowing and Being"³⁹ outlines several important things about "comprehensive entities" and is an early Polanyi effort to comment on ontological questions. Some of the ideas here are also in other publications of the period (and even *Personal Knowledge*, although they are not explicitly identified as matters concerning the "comprehensive entity"), but Polanyi's ideas are nicely collected in this essay. First, Polanyi points out that "comprehensive entities" have unspecifiable particulars.⁴⁰ He compares and contrasts two examples, prehistoric sites visible only from the air and the diagnosis of a hystero-epileptic fit. It is possible, Polanyi affirms, with many "comprehensive entities," to identify some particulars but specifiability remains doubly limited: "Specifiability remains incomplete in two ways. First, there is always a residue of particulars left unspecified; and second, even when particulars can be identified, isolation changes their appearance to some extent."⁴¹ A second point that Polanyi emphasizes is that it is extraordinarily difficult—perhaps he thinks impossible—to specify relations of particulars to each other within a "comprehensive entity." Here he gives several cases; the clearest is the case of topographic anatomy. Polanyi contends that it is easy to identify organs of the body but their "mutual relation inside the body can be grasped only by a sustained effort of the imagination, based on the partial aspects revealed by successive stages of dissection."⁴² Later in the article, Polanyi says that particulars can be elements we are aware of "uncomprehendingly, i.e., in themselves, or understandingly, in their participation in a comprehensive entity."⁴³ In sum, Polanyi argues, in this 1961 article, not only that a knower cannot exhaustively identify the particulars that constitute a "comprehensive entity," but also that a knower cannot very easily set forth the relationship of particulars to each other within a "comprehensive entity."

In "Knowing and Being," Polanyi is also interested in the process through which occurs the "elucidation of a comprehensive entity."⁴⁴ He identifies two complementary efforts that "contribute jointly to the same final achievement, yet it is also true that each counteracts the other to some extent at every consecutive step."⁴⁵ One effort concentrates attention on the particulars of the entity and this weakens for the moment a knower's sense of the coherence of the entity. The contrary effort is a "move in the opposite direction towards a fuller awareness of the whole" and this is a move in which "the particulars tend to become submerged in the whole."⁴⁶ Polanyi contends that "an alternation of analysis and integration leads progressively to an ever deeper understanding of a comprehensive entity."⁴⁷ Later in the essay, he contends that "all manner of discovery proceeds by a see-saw of analysis and integration similar to that by which our understanding of a comprehensive entity is progressively deepened."⁴⁸

Polanyi points out in this essay that "there is a close analogy between the *elucidation of a comprehensive object* and the mastering of a skill."⁴⁹ For Polanyi, the arts of knowing and doing are structurally akin and always are blended. This leads Polanyi to say, "it is apposite therefore to include skilful feats among comprehensive entities."⁵⁰ He acknowledges that most frequently we speak of "*understanding* a comprehensive object or situation and of *mastering* a skill," but he points out that we also are comfortable speaking of "*grasping* a subject or an art."⁵¹ The way in which comprehension is always a skillful integration of elements Polanyi often treats by discussing knowing in connection with indwelling. He claims that "the structure of knowing, revealed by the limits of specifiability, thus fuses our subsidiary awareness of the particulars belonging to our subject matter with the cultural background of our knowing."⁵² The knower's physical and mental habits or skills must coalesce in an achievement or performance and this performance makes possible—and indeed is (to use the language above)—what a "comprehensive entity" is: "our subsidiary awareness of the particulars of a comprehensive entity is fused, in our knowing of the entity, with our subsidiary awareness of our own bodily and cultural being."⁵³ Polanyi thus describes knowing as an indwelling—an activity of

distributing our intentionality across a range of different particulars which must then be coordinated. He acknowledges that when the indwelt structure changes, the knower's being changes:

To this extent knowing is an indwelling: That is, a utilization of a framework for unfolding our understanding in accordance of a framework with the indications and standards imposed by the framework. But any particular indwelling is a particular form of mental existence. If an act of knowing affects our choice between alternative frameworks, or modifies the framework in which we dwell, it involves a change in our way of being.⁵⁴

In the "Preface to the Torchbook Edition" of *Personal Knowledge* (written in 1964 while *The Tacit Dimension* was in press)⁵⁵ Polanyi makes much the same claim by pointing to "participation" and Heidegger's being-in-the-world: "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*."⁵⁶ In his final paragraph, Polanyi comes back to this note that draws tightly together indwelling, being-in-the-world, and participation, understood as the active shaping of comprehension: "Indwelling is being-in-the-world. Every act of tacit knowing shifts our existence, re-directing, contracting our participation in the world."⁵⁷

To summarize, Polanyi's account describes the "comprehensive entity" as accessible through indwelling and skillful integration. Any "comprehensive entity" is an achievement or performance. Polanyi's account is a perspective that does not make a sharp distinction between the process of understanding and the product understood. In "Knowing and Being," Polanyi forthrightly claims that "knowledge is an activity which would be better described as a process of knowing."⁵⁸ Polanyi's account is a perspective that marks how impossible it is ontologically to separate the knower and the known. The human mode of being is bound up inextricably with the process of knowing and that includes those objects we attend to. Since we indwell, we are beings-in-the-world. The modification of the knower's "framework"⁵⁹ is a modification of his/her human being.

VI. The Active Nature of Comprehension in *The Tacit Dimension*

Before exploring further some of the connections between Polanyi's indwelling and being-in-the-world, it is helpful to examine the ways in which Polanyi extends his account of the active nature of comprehension in *The Tacit Dimension* (1966) and some other late essays. Polanyi offers here additional comments on his adaptation of Gestalt ideas and he expands some of the ideas about the "comprehensive entity" found in the 1961 essay "Knowing and Being."⁶⁰ In *The Tacit Dimension*, Polanyi describes his own philosophical perspective as one in which "the structure of Gestalt is . . . recast into a logic of tacit thought. . . ."⁶¹ He contends that

Gestalt psychology has assumed that perception of a physiognomy takes place through spontaneous equilibration of its particulars impressed on the retina or on the brain. However, I am looking at Gestalt, on the contrary, as the outcome of an active shaping of experience performed in the pursuit of knowledge.⁶²

Polanyi emphasizes that he wants to extend the interest of Gestalt, moving from perception to other, higher forms of knowing: "Perception, on which Gestalt psychology centered its attention, now appears as the most

impoverished form of tacit knowing.”⁶³ Polanyi thus argues that the recasting of Gestalt into a “logic of tacit thought” effectively “changes the range and perspective of the whole subject. The highest forms of integration loom largest now. These are manifested in the tacit power of scientific and artistic genius.”⁶⁴

What Polanyi here calls the “logic of tacit thought” is what he referred to in his 1957 “Preface” to *Personal Knowledge* as the “active comprehension of the things known, an action that requires skill.”⁶⁵ He sets forth this logic in *The Tacit Dimension* in terms of two structural descriptions of tacit knowing, the functional and phenomenal structures, as well as two additional aspects of tacit knowing, the semantic and ontological aspects. From the functional structure (concerned with the from-to movement of knowing),⁶⁶ the phenomenal structure (concerned with the appearance at the focus)⁶⁷ and the semantic aspect (concerned with the meaning or significance of the two terms of tacit knowing)⁶⁸ of tacit knowing, Polanyi says, “we can deduce a fourth aspect, which tells us what tacit knowing is a knowledge of. This will represent its *ontological* aspect.”⁶⁹ It is of significance that Polanyi portrays ontological conclusions as a deduced aspect, an inference that follows when the functional and phenomenal structure of tacit knowing and its semantics are taken as premises. Later in *The Tacit Dimension*, Polanyi comes back to the “ontological aspect” by pointing out that tacit knowing produces an understanding of a comprehensive entity and what is known in a particular comprehensive entity “makes an “*ontological* reference to it.”⁷⁰ But not all “comprehensive entities” are identical and Polanyi spells out the important metaphysical implications of this:

The structural kinship between knowing a person and discovering a problem, and the alignment of both with our knowing of a cobblestone, call attention to the greater depth of a person and a problem, as compared with the lesser profundity of a cobblestone. Persons and problems are felt to be more profound, because we expect them yet to reveal themselves in unexpected ways in the future, while cobblestones evoke no such expectation. This capacity of a thing to reveal itself in unexpected ways in the future I attribute to the fact that the thing observed is an aspect of a reality, possessing a significance that is not exhausted by our conception of any single aspect of it. To trust that a thing we know is real is, in this sense, to feel that it has the independence and power for manifesting itself in yet unthought-of ways in the future. I shall say, accordingly, that minds and problems possess a deeper reality than cobblestones, although cobblestones are admittedly more real in the sense of being tangible.⁷¹

To summarize, according to Polanyi’s account in *The Tacit Dimension*, understanding a “comprehensive entity” makes an ontological reference but some “comprehensive entities” are more real than others insofar as they have a potential depth of significance that overshadows the significance of mere tangibility.

In his discussion here, Polanyi also emphasizes that “comprehensive entities” are acts of comprehension, skillful performances that are real.⁷² This means that it is “plausible,” Polanyi contends, “to assume the correspondence between the structures of comprehension and the structure of the *comprehensive entity which is its object.*”⁷³ Polanyi’s use of the language of correspondence here might be taken to suggest that it is possible fully to separate the knower from the known as different presences located in different realms. However, I believe it is a mistake to take Polanyi’s correspondence metaphor in a way that presupposes this dualism. Polanyi’s interest is in the parallelism between the structure of comprehending and the structure of the comprehensive entity. Looked at from the point of view of the knower, knowing is an indwelling and an integration of particulars, an active performance. Looked at from the point of view of the known, the

comprehensive entity is a sustained union or conjoining of particulars. That union reflects the way in which subsidiaries inform or under gird the union without absolutely determining it. Those particulars are what the knowing subject dwells in or assimilates to his or her body.

Polanyi develops several ideas concerned with the levels or stratification and dual control in comprehensive entities. Again such discussions are framed from the point of view of the known (the comprehensive entity) and are basically antireductionist claims. In *The Tacit Dimension*, he speaks of “the ontological counterpart” of some elements of tacit knowing.⁷⁴ He uses the same phrase in “The Body-Mind Relation,” a 1968 publication;⁷⁵ here his conclusion points again to the parallelism between tacit knowing and comprehensive entities: “The logical structure of tacit knowing is seen to cover the ontological structure of a combined pair of levels.”⁷⁶ In the same way that a subsidiary awareness of particulars in their bearing on a focus cannot be reduced to focal awareness of particulars, Polanyi contends that the higher level of control in a comprehensive entity cannot be reduced: the “ontological counterpart” claims

(1) that the principles controlling a comprehensive entity would be found to rely for their operation on laws governing the particulars of the entity in themselves; and (2) that at the same time the laws governing the particulars in themselves would never account for the organizing principles of a higher entity which they form.⁷⁷

Put another way, Marjorie Grene, quoting the Duke lectures, says Polanyi is affirming that “for all cases of tacit knowing, ‘the structure of comprehension reappears in the structure of that which it comprehends’” and this means “we can . . . ‘expect to find the structure of tacit knowing duplicated in the principles which account for the stability and effectiveness of all real comprehensive entities.’”⁷⁸

From the careful way in which Polanyi couches all his discussions of “ontology,” it seems clear that any claims about the being of entities are inferences intimately tied to epistemological claims. Polanyi provides a “frankly epistemological approach to metaphysics,” to return again to the challenge from Grene quoted as an epigram at the beginning of this essay.⁷⁹ Polanyi does, in *The Tacit Dimension* and some other writing after *Personal Knowledge*, discuss the active nature of comprehension in terms that focus upon the object comprehended, the “comprehensive entity” and its dynamics. Polanyi does carefully use ontological language (“ontological” aspect, reference, counterpart) in some of these discussions. But it is important not to miss Polanyi’s fundamental emphasis upon the active nature of comprehending by construing such discussions about “comprehensive entities” as a leap to ontological conclusions (i.e., to a noumenal realm of things in themselves) made as an addition to or move beyond his epistemology. Polanyi does not begin with a Cartesian framework that presupposes an external world from which the knowing subject is fundamentally set apart. Knowing for Polanyi is an ongoing activity in the world and the nature of the knower is fundamentally that of a living, historical being immersed in and intimately bound up with the world.

VII. Comprehension, “Comprehensive Entities” and the Nature of the Real

Polanyi claims the human mode of being is bound up inextricably with the ongoing process of indwelling the environment in which humans are located. Part of that environment is natural but certainly much is social. The world is not fundamentally other than or separated from a person, but a person’s being is a worldly participating kind of being which thinkers like Heidegger and Merleau-Ponty have dubbed “being-in-the-world.” Grene has followed out this connection between Polanyi’s ideas about indwelling and twentieth

century continental philosophical thinkers more than Polanyi himself.⁸⁰ Heidegger first develops being-in-the-world as an alternative to Cartesian metaphysics emphasizing mind and extended nature. Grene notes that “what Heidegger is doing in his depiction of human being as being-in-the-world is to renounce radically and once for all the attempt to get at our natures through the concept of consciousness. It is a radical move against the *cogito* as the starting point for philosophy.”⁸¹ But Grene points out that Heidegger’s anti-Cartesian turn is not radical enough; what is needed is an account of being-in-the-world that is much more realistic, more biologically grounded, more attuned to embodied human notions that figures like Polanyi have developed:

... the fundamental counter-Cartesian turn we need in philosophy is to recognize that there is a living world of which we are part. Being-in-a-(human)-world is our way of being-in-an-environment, as all living things are, and in particular as one variant of the way all animals are. And that means that human beings, like any other animate being must be embodied.⁸²

In some of Merleau-Ponty’s writing, Grene contends that she finds “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.”⁸³ Grene seamlessly links Polanyi and Merleau-Ponty, suggesting that Merleau-Ponty’s *The Phenomenology of Perception* and Polanyi’s *Personal Knowledge* “convey the same message, but in the opposite order.”⁸⁴ Whereas Polanyi tends to focus on human knowing and its ontological implications, Merleau-Ponty tends to focus on human being-in-the-world and its epistemological implications. Merleau-Ponty restores perception “to its proper, primary place in our lives. For vision is not only in fact the primary sense of most of us; it is paradigmatic for the way we are in the world. Vision puts us out there with things and events and at the same time brings them here to us.”⁸⁵ Clearly, Polanyi’s ideas about active human comprehension and “comprehensive entities” make very similar points in his 1961 essay “Knowing and Being” (discussed at length above) when he says “a peculiar combination of skillful doing and knowing is present in the working of our sense organs” and this means “our perception is effectively co-determined also by messages from the internal ear, from the muscles which keep our body and head in its position, as well as by an ample range of memories.”⁸⁶ Polanyi makes the same claims for the active nature of comprehension in *The Tacit Dimension* when he describes the “logic of tacit inference” and that includes his attention to the “ontological aspect” deduced from the functional and phenomenal structures and the semantic aspect of tacit knowing.

With Merleau-Ponty and Polanyi, Grene proclaims “there is no fundamental contrast between me-in-here and everything-else-out-there;” such an ontological dichotomy “makes nonsense of a world that is living, complicated, messy as you like, but real. I am myself one instantiation of that world’s character, one expression of it, able also in an infinitesimal way, to shape and alter it.”⁸⁷ This perspective might be called a lived or participating realism or, following hints in Grene’s recent writing, an ecological realism.⁸⁸

The variety of realism that Polanyi and Grene espouse at first seems odd when seen in the context of contemporary philosophical discussions of realism and anti-realism.⁸⁹ However, Polanyi’s account focusing on human beings as real beings-in-the-world able to attend to “comprehensive entities” in the environment suggests that perhaps this post-critical variety of realism reaches over contemporary discussions and fits more aptly into discussion in the medieval tradition in the West. That is, Polanyi’s “post-critical philosophy” circumvents the modern turn in Western philosophy by returning to the roots of this modern turn.

The great medieval controversy was between what were then called realists and nominalists and, in terms of the historical development of Western thought, the nominalists won the day. Contemporary philosophers normally regard the debate between the medieval realists and nominalists as a controversy centered on the status of universals. Are universals a part of reality or are they human constructs? But this may not be the most interesting way to construe this debate. I believe that Cornelis de Waal is correct in pointing out that the American philosopher Charles S. Peirce insightfully recognized that the nominalist “no” regarding whether universals are part of reality and the realist “yes” to this question are in fact responses grounded in fundamentally different philosophical assumptions about what counts as being real.⁹⁰ Both realists and nominalists aim to distinguish what is real from what is a figment. The nominalists think of reality as what is “confined to what is external to the mind,”⁹¹ that which is outside and forces itself upon us. The nominalist emphasis is thus upon outward constraints upon the human mind and this is addressed in terms of matters of location (a spatial metaphor). But the realists think of reality in terms of true judgments, as that which “is the object of a conclusion one cannot avoid drawing.”⁹² That is, real things are not dependent upon what any particular person thinks, although they are not incognizable. Real things are not figments; they are matters about which there will be eventually be agreement. Agreement is based upon reasoning that eventually yields common conclusions. Realists don’t necessarily deny that a given real thing may be a resistant, external thing, but they point out that this is in fact an inference drawn that is itself compelling. Peirce rather nicely summarized these fundamentally different notions of the real by contrasting the nominalist interest in “the fountain of the current of human thought” and the realist interest in the destination toward which that current of thought is flowing, “the unmoving form to which it is flowing.”⁹³

The difference here is between a metaphysical orientation focused first and foremost on what is external to human minds and an orientation in which attention is focused ahead on a projected limit at which minds will all ultimately arrive as creatures engaged in inquiry. With the nominalist metaphysical orientation, the ontological status of any purported real entity that is not altogether external to a person’s mind is problematic. Ultimately, mind itself is problematic. Such realities seem to lack basic tangibility and therefore come to be regarded as complex phenomena that must be somehow tied to some more tangible elements or, alternatively, they are understood in terms of the oddities of language reference. There is a certain pressure within this metaphysical orientation to establish a primary “existence” that trumps all qualities of that which shows itself. The history of modern philosophy in the West has, of course, often been concerned to spell out these matters. The second metaphysical approach that focuses upon a projected limit at which agreement is reached is clearly an approach in which knowing and the ontological status of entities are regarded quite differently. Knowing and being are woven inextricably together within this ontological orientation. The ontological status of entities is not tied largely to “existence” and tangibility, but to an entity’s intelligibility and its prospect for greater intelligibility.

Peirce, of course, adopts the second, or medieval realist, metaphysical orientation and he is very critical of the “nominalist” cast of all modern philosophy after Descartes.⁹⁴ With the Platonic tradition, Peirce emphasizes human inquiry, although he transforms inquiry into a pragmatic context. Inquiry is the human vocation in a changing world and human beings as members of a community of inquiry are collectively engaged in adjusting our dispositions to respond in ever more nuanced ways to that changing world. The real is that about which there will be agreement “in the long run.”⁹⁵

Polanyi was not a thinker like Peirce who was intimately aware of the discussions in philosophy in the Western tradition. He was aware of certain themes and turning points in the history of Western philosophy and he fortunately had Marjorie Grene to assist him in negotiating the history of philosophy.⁹⁶ Polanyi did

sense that his philosophical orientation was a new key so he dubbed his work “post-critical.” Much of his effort to work out what “post-critical” philosophy is concerned with focuses on discussions of the nature and structure of “comprehension” and “comprehensive entities.” Grene helped Polanyi connect his perspective with Continental thought that rejected the modern turn of Western philosophy by exploring human being-in-the-world. As the epigrams opening this essay suggest, Grene perhaps has a clearer sense of the metaphysical implications of Polanyi’s theory of tacit knowing than he did himself.

Those metaphysical implications of “post-critical” philosophy fit into the metaphysical orientation of medieval realists. Polanyi, like Peirce, follows Plato in emphasizing the special human vocation as focused on inquiry or understanding. Understanding for Polanyi is “comprehension,” an active shaping of knowledge by a human being who has the capacity to dwell in and tacitly integrate an extraordinary range of particulars. Humans integrate tacitly held particulars to attend to “comprehensive entities” and such entities can be viewed as skillful human performances or achievements that serve or realize self-set standards. But “comprehensive entities” are realities and some realities are more richly significant than others, according to Polanyi. Such richly real “comprehensive entities” have the capacity to be understood more deeply as human inquiry proceeds. For Polanyi and Grene, human beings are bio-social creatures that dwell in and adjust to our changing environment. Our “indwelling is a participation of ours in the existence of that which we comprehend; it is . . . *being-in-the-world*.”⁹⁷ Human beings are members of communities of inquiry and the on-going project of persons in such communities is to explore the intricacies of that encompassing, inexhaustible reality called the cosmos. Put another way—that again is strangely akin to Peirce’s views—it is the growth of meaning⁹⁸ as humans take up their vocation of inquiry that Polanyi calls for and celebrates.

Endnotes

¹An early version of this essay was delivered as a paper titled “The Comprehensive Entity as a Key Idea in Polanyi’s Thought” at the 2001 Loyola Conference of the Polanyi Society. This expanded version of the essay is a slightly revised version of the essay that was recently published in Chinese in *New Philosophy* (v: 7, n. 2).

²Marjorie Grene, *The Knower and the Known* (London: University of California Press Ltd, 1966, 1974), 244. Hereafter references simply use the title and page number.

³*The Knower and the Known*, 242.

⁴On this point, see my discussion and Grene’s brief “Reply to Phil Mullins” (following my essay) in the Library of Living Philosophers volume (XXIX) honoring Grene. Phil Mullins, “On Persons and Knowledge: Marjorie Grene and Michael Polanyi,” *The Philosophy of Marjorie Grene*, eds. Randall Auxier and Lewis Hahn (Chicago and LaSalle, IL: Open Court: 2002), 31-62.

⁵Michael Polanyi, *Personal Knowledge; Towards A Post-Critical Philosophy* (Chicago: University of Chicago Press, 1958; Harper Torchbook edition, 1964), xv. Hereafter all references are to the Torchbook edition and are identified simply by *Personal Knowledge* and the page number.

⁶Phil Mullins, “Polanyi’s Participative Realism,” *Polanyiana* 6:2 (1997), 5-21; see especially 16-21.

⁷Phil Mullins, “The Real As Meaningful,” *Tradition and Discovery* 26:3 (1999-2000), 42-50; see especially 46-47.

⁸*The Knower and the Known*, 223.

⁹Michael Polanyi, *The Tacit Dimension* (New York: Doubleday & Company, 1966; Anchor Books Edition, 1967), 32. All references hereafter are to the Anchor Books Edition and include only the title and page number.

¹⁰*Personal Knowledge*, 411. Grene acknowledges that she and her children prepared the “Index” in Marjorie Grene, “Tacit Knowing: Grounds for a Revolution in Philosophy,” *Journal of the British Society for Phenomenology*, Vol. 8, No. 3 (October, 1977), 167. This article by Grene (164-171) is an important essay evaluating Polanyi’s philosophical contributions; it is cited hereafter by page number as Grene, “Tacit Knowing: Grounds for a Revolution.”

¹¹*Personal Knowledge*, xiii.

¹²*Personal Knowledge*, 398.

¹³*Personal Knowledge*, 398.

¹⁴In the new Polanyi biography, Scott and Moleski suggest that there is a hint of such a distinction in the seventh lecture of the first series of Gifford Lectures and that the full-fledged articulation in the second series Gifford lecture titled “Two Kinds of Awareness” grows out of this. See William T. Scott and Martin X. Moleski, *Michael Polanyi, Scientist and Philosopher* (New York: Oxford University Press, 2005), 221. Hereafter citations to the biography use the title and page numbers. As early as 1953, Polanyi’s friend Joseph Oldham comments in a letter to Polanyi that a letter to Oldham from Marjorie Grene has reported that the ideas in this lecture Polanyi thought the most fruitful in his lectures (see Oldham letter to Polanyi, August 3, 1953, Box 15, Folder 5 in The Papers of Michael Polanyi held by the Department of Special Collections of the University of Chicago Library. Quotations from The Papers of Michael Polanyi are used with permission of the University of Chicago Library. Citations of this material will hereafter be shortened to the letter and date, box number and folder number). Richard Allen suggests that Polanyi’s first publication using the distinction is in 1954 with “On the Introduction of Science into Moral Subjects,” *Cambridge Journal*, VII, Jan. 1954, 195-207. See Michael Polanyi, *Society, Economics and Philosophy, Selected Papers*, ed. R. T. Allen (New Brunswick, USA: Transaction Publishers, 1997), 382. The Allen collection is cited hereafter in shortened form as *Society, Economics and Philosophy*.

¹⁵ Grene offers some interesting comments on Polanyi’s development of his central idea between the Gifford Lectures and the publication of *Personal Knowledge*. She notes that Polanyi was preoccupied with understanding unspecifiability, and she did not at the time understand Polanyi’s preoccupation.. She also notes that Polanyi thought his discussion of two kinds of awareness was the most original element in *Personal Knowledge*. Grene outlines how the idea was the key element to the argument of *Personal Knowledge* and is the germ from which the theory of tacit knowing later develops. See Grene, “Tacit Knowing: Grounds for a Revolution,” 165 and 168. See my discussion below.

¹⁶*Personal Knowledge*, 55.

¹⁷*Personal Knowledge*, 56.

¹⁸*Personal Knowledge*, 57

¹⁹*Personal Knowledge*, 364.

²⁰*Personal Knowledge*, 364.

²¹*The Knower and the Known*, 223.

²²*The Knower and the Known*, 224.

²³The Duke Lectures are a series of five public lectures entitled “Man in Thought.” The separate lectures are “The Metaphysical Reach of Science,” The Structure of Tacit Knowing,” “Commitment to Science,” “The Emergence of Man,” and “Thought in Society.” The last four lectures repeat the 1962 Terry Lectures at Yale which are the basis for Polanyi’s *The Tacit Dimension* (1966). In the new Polanyi biography, see Scott and Moleski’s comments on the Duke Lectures (*Michael Polanyi, Scientist and Philosopher*, 254).

²⁴Michael Polanyi, “Tacit Knowing: Its Bearing On Some Problems of Philosophy,” *Review of Modern Physics*, 34 (1962), 601-616. This essay is included in Michael Polanyi, *Knowing and Beings: Essays by Michael Polanyi*, ed. Marjorie Grene (Chicago: University of Chicago Press, 1969), 159-180. Hereafter

references to Grene's collection are simply identified as *Knowing and Being, Essays By Michael Polanyi*. References to this essay ("Tacit Knowing: Its Bearing On Some Problems of Philosophy") are to the reprinted copy in Grene's collection.

²⁵*Knowing and Being, Essays By Michael Polanyi*, 168.

²⁶Michael Polanyi, *The Study of Man* (Chicago: University of Chicago Press, 1959). Hereafter cited in abbreviated form as *The Study of Man*

²⁷*The Study of Man*, 9.

²⁸See *The Study of Man*, 44, 45, 46, 55, 65-66 for instances in which Polanyi uses "comprehensive entity."

²⁹*The Study of Man*, 28-29.

³⁰*The Study of Man*, 28.

³¹"Tacit Knowing: Grounds for a Revolution," 169.

³²"Tacit Knowing: Grounds for a Revolution," 167.

³³"Tacit Knowing: Grounds for a Revolution," 167.

³⁴"Tacit Knowing: Grounds for a Revolution," 168.

³⁵*The Tacit Dimension*, x.

³⁶*The Tacit Dimension*, x.

³⁷*Personal Knowledge*, x.

³⁸*Personal Knowledge*, xi.

³⁹Michael Polanyi, "Knowing and Being," *Mind*, 70 N. S. (1961), 458-470. This essay is also included in Grene's collection *Knowing and Being, Essays By Michael Polanyi*, 123-137. References are to page numbers in Grene's reprinted edition of the essay. Since the title of this important essay is the same as that of Grene's collection in which it appears, in future citations, I use the essay title ("Knowing and Being"), Grene's collection's title (*Knowing and Being, Essays By Michael Polanyi*) and the page number in Grene's collection in which the reprinted essay appears.

⁴⁰See the discussion in "Knowing and Being," *Knowing and Being, Essays By Michael Polanyi*, 123ff.

⁴¹"Knowing and Being," *Knowing and Being, Essays By Michael Polanyi*, 124.

⁴²"Knowing and Being," *Knowing and Being, Essays By Michael Polanyi*, 124.

⁴³"Knowing and Being," *Knowing and Being, Essays By Michael Polanyi*, 128.

⁴⁴"Knowing and Being," *Knowing and Being, Essays By Michael Polanyi*, 125.

⁴⁵"Knowing and Being," *Knowing and Being, Essays By Michael Polanyi*, 125.

⁴⁶"Knowing and Being," *Knowing and Being, Essays By Michael Polanyi*, 125.

⁴⁷"Knowing and Being," *Knowing and Being, Essays By Michael Polanyi*, 125.

⁴⁸"Knowing and Being," *Knowing and Being, Essays By Michael Polanyi*, 129-130.

⁴⁹"Knowing and Being," *Knowing and Being, Essays By Michael Polanyi*, 125.

⁵⁰"Knowing and Being," *Knowing and Being, Essays By Michael Polanyi*, 126.

⁵¹"Knowing and Being," *Knowing and Being, Essays By Michael Polanyi*, 126.

⁵²"Knowing and Being," *Knowing and Being, Essays By Michael Polanyi*, 134.

⁵³"Knowing and Being," *Knowing and Being, Essays By Michael Polanyi*, 134.

⁵⁴"Knowing and Being," *Knowing and Being, Essays By Michael Polanyi*, 134.

⁵⁵*Personal Knowledge*, xi.

⁵⁶*Personal Knowledge*, x.

⁵⁷*Personal Knowledge*, xi.

⁵⁸"Knowing and Being," *Knowing and Being, Essays By Michael Polanyi*, 132

⁵⁹"Knowing and Being," *Knowing and Being, Essays By Michael Polanyi*, 134.

⁶⁰ *TD* is based upon the 1962 Terry Lectures, which are themselves closely akin to other lectures given in 1961 and 1962, as well as the Duke Lectures in 1964. The period immediately following publication of *PK* (1958) through about 1964 seems to be a time in which implications of the reshaping of Gestalt ideas are becoming very clear to Polanyi. This is also the time in which “comprehensive entity” comes to be a popular term. See also Polanyi’s 1963 introduction, “Background and Prospect” (11-12) to the Chicago republication of *Science, Faith and Society* (Chicago: University of Chicago Press, 1964) for some additional comments on the transformation of Gestalt ideas.

⁶¹ *The Tacit Dimension*, 6.

⁶² *The Tacit Dimension*, 6.

⁶³ *The Tacit Dimension*, 7.

⁶⁴ *The Tacit Dimension*, 6.

⁶⁵ *Personal Knowledge*, xiii.

⁶⁶ *The Tacit Dimension*, 10.

⁶⁷ *The Tacit Dimension*, 11.

⁶⁸ *The Tacit Dimension*, 111-12.

⁶⁹ *The Tacit Dimension*, 13.

⁷⁰ *The Tacit Dimension*, 33.

⁷¹ *The Tacit Dimension*, 32-33.

⁷² *The Tacit Dimension*, 33.

⁷³ *The Tacit Dimension*, 33-34.

⁷⁴ *The Tacit Dimension*, 34.

⁷⁵ Michael Polanyi, “The Body-Mind Relation,” *Man and the Science of Man*, eds. W. R. Coulson and C. R. Rogers (Charles Merrill Publishing Company, 1968), 85-102. Reprinted in *Society, Economics and Philosophy*, 313-328. Page references are to the reprinted edition.

⁷⁶ *Society, Economics and Philosophy*, 323.

⁷⁷ *The Tacit Dimension*, 34.

⁷⁸ *The Knower and the Known*, 241.

⁷⁹ “. . . [I]t needs a frankly epistemological approach to metaphysics to set right the epistemological errors of Descartes with which modern . . . philosophy began.” (*The Knower and the Known*, 244).

⁸⁰ As the quotation above to the Torchbook Edition “Preface” of *Personal Knowledge* makes clear, Polanyi does make occasional references to Heidegger, but I suspect that he never carefully studied Heidegger. Polanyi apparently did read Merleau-Ponty, probably at Grene’s insistence, in the early sixties. References to Merleau-Ponty’s work begin to appear in Polanyi’s writings in the early sixties. The new introduction (dated December, 1963), “Background and Prospect,” to the 1964 University of Chicago reprint of *Science, Faith and Society* identifies *The Phenomenology of Perception* as a book that analyzes “perceived knowledge on the lines of Husserl” and “arrives at views akin to these I have expressed here” (12). The most extensive comment about Merleau-Ponty appears in Polanyi’s “The Structure of Consciousness” (first published in 1965, but also in Grene’s *Knowing and Being*), 211-224. See the two-page discussion of Merleau-Ponty, 221-223. But Merleau-Ponty is also mentioned approvingly in “The Logic of Tacit Inference” (first published in 1966, but also included in *Knowing and Being*, 138-158). See the discussion in *Knowing and Being*, 155-156. Marjorie Grene’s most recent and perhaps most important discussions of Polanyi’s connections with Merleau-Ponty and Heidegger as well as other contemporary thinkers she believes are akin is in *A Philosophical Testament* (Chicago and La Salle, IL: Open Court, 1995). References to this book below are by title and page number only.

⁸¹ *A Philosophical Testament*, 71.

⁸²A *Philosophical Testament*, 76-77.

⁸³A *Philosophical Testament*, 80.

⁸⁴A *Philosophical Testament*, 69. See also *The Knower and the Known*, 244 for a similar view thirty years earlier. Grene noted in 1977, that although she clearly saw the convergence of these books, “Polanyi himself would never quite admit this convergence; in any event the context within which he had developed his view is so different from the milieu of Merleau-Ponty’s thought that the two works may certainly count as two major ways of philosophizing toward a similar outcome” (“Tacit Knowing: Grounds For a Revolution in Philosophy,” 164 note). Grene holds that in a particular historical situation, philosophers often wrestle with the same fundamental problems and that may produce convergent original solutions

⁸⁵A *Philosophical Testament*, 81-82.

⁸⁶“Knowing and Being,” *Knowing and Being, Essays By Michael Polanyi*, 126-127.

⁸⁷A *Philosophical Testament*, 114.

⁸⁸Grene notes in *A Philosophical Testament* (114) that she once called herself a “comprehensive realist” but that she has given up this term as ambiguous. The term may be ambiguous but its connections with Polanyi’s discussions of “comprehension” and “comprehensive entities” are clear. In *A Philosophical Testament*, Grene indicates that she presently prefers use the work of the Gibsons to fashion what she regards as a bio-socially grounded ecological approach, which I think might be dubbed “ecological realism.” See especially her discussions in “The Primacy of the Real” (113-126) and “Perception Reclaimed: The Lessons of the Ecological Approach” (129-151).

⁸⁹ Grene offers an interesting comment in the context of her discussion of realism in *A Philosophical Testament* (113-126). She suggests that much contemporary discussion in philosophy of science has formalistic suppositions about knowledge and misguided notions about perception going back to empiricism. It really an in-house debate about “scientific realism.”

⁹⁰Cornelis de Waal very briefly sets forth his case in his recent brief volume *On Peirce* (Belmont, CA: Wadsworth, 2001) in his discussion of Peirce’s scientific metaphysics (47-48). He develops a more extensive case in “The Real Issue Between Nominalism and Realism, Peirce and Berkeley Reconsidered,” *Transaction of the Charles S. Peirce Society* 32: 3 (Summer, 1996), 425-442. My reading of the development of Western thought draws heavily on suggestions in de Waal. Quotations from de Waal that follow are from *On Peirce* and are noted simply by title and page number. I acknowledge that I draw at least indirectly on the more detailed discussion in de Waal’s longer 1996 essay (see especially 425-430).

⁹¹*On Peirce*, 47.

⁹²*On Peirce*, 47.

⁹³Charles S. Peirce, *Collected Papers of Charles Sanders Peirce*, eds. Charles Hartshorne and Paul Weiss and Arthur Burks (Harvard University Press, 1965), vol. 8, paragraph 17. Reference by volume and paragraph number to this multi-volume set of Peirce writings are hereafter shortened to the following citation notion: *CP* 8:17. In the same paragraph, Peirce says the disagreement about universals is grounded in these different notions of the real and “the gist of all the nominalist’s arguments will be found to relate to a *res extra animam*, while the realist defends his position only by assuming that the immediate object of thought in a true judgment is real.”

⁹⁴“Thus in one word, all modern philosophy of every sect has been nominalistic” (*CP* 1: 19). See *CP* 1: 15-27 for the general context of this discussion.

⁹⁵*CP* 5:311. The entire paragraph (.311) is an interesting early Peirce discussion that clarifies how he thinks of the real in connection with reasoning in the human community and the positing of a limit. This paragraph also suggests how Peirce modifies Kant in a way to produce something like Polanyi’s theory of tacit knowing.

⁹⁶ Polanyi does not, like Peirce, dig deeply into medieval or any other philosophical controversies, although he makes some references to them and clearly seems to be working in the realist context of the medieval debate as his attempts to define reality and discuss the nature of entities that are “more real” show. See, for example, Polanyi’s 1962 essay “Tacit Knowing and its Bearing on Some Problems in Philosophy” (*Knowing and Being*, 159-180) where Polanyi points to the “wider range of indeterminant future manifestations” of “comprehensive entities” such as the human mind. See also my discussions of Polanyi’s accounts of reality in articles cited above in footnotes 5 and 6. Polanyi does touch upon the problem of universals in terms of his theory of tacit knowing and he links the problem of universals to the problem of understanding empirical induction in “Tacit Knowing and its Bearing on Some Problems in Philosophy” (*Knowing and Being*, 166-167). Human comprehension integrates particulars that we dwell in and achieves a focus on a “comprehensive entity” which makes an ontological reference, according to Polanyi. Because we continue to dwell in the world, assimilating new particulars and attending to matters of interest, we recognize new instances of a phenomenon, although the phenomenon may not be absolutely identical with previously recognized instances. Generals or universals are real which means not that they exist in some noumenal realm or outside the mind, but that they are “comprehensive entities,” products of integration whose meaning continues to grow.

⁹⁷*Personal Knowledge*, x

⁹⁸See particularly Polanyi’s last book done with Harry Prosch for an effort to articulate Polanyi’s “post-critical” perspective in terms of the challenge to and recovery of meaning. Michael Polanyi and Harry Prosch, *Meaning* (Chicago: University of Chicago, 1976). See Mary Keeler’s “Iconic Indeterminacy and Human Creativity in C. S. Peirce’s Manuscripts” (*The Iconic Page in Manuscript, Print, and Digital Culture*, eds. George Bornstein and Theresa Tinkle [Ann Arbor: University of Michigan Press, 1998], 157-193) for a particularly interesting discussion of Peirce’s approach to the growth of meaning. See the last section (titled “Critical Thinking and Post Critical Thought,” 279-286) of my article “Bible Study, Critical Thinking and Post-Critical Thought: Cultural Considerations” in *Critical Thinking and the Bible in the Age of the New Media*, ed. Charles N. Ess (Lanham, MD: University Press of America, 2004), 269-290 for an effort to put together Peircean semiotics and Polanyi’s “post-critical” philosophy to discuss the growth of meaning. It should be noted that Polanyi is much more attuned, as a social and political philosopher, than is Peirce to the social conditions necessary to foster the growth of meaning.

WWW Polanyi Resources

The Polanyi Society has a World Wide Web site at <http://www.missouriwestern.edu/orgs/polanyi/>. In addition to information about Polanyi Society membership and meetings, the site contains the following: (1) digital archives containing all issues of *Tradition and Discovery* since 1991; (2) a comprehensive listing of *Tradition and Discovery* authors, reviews and reviewers; (3) the history of Polanyi Society publications, and information on locating early publications not in the archive; (4) information on *Appraisal* and *Polanyiana*, two sister journals with special interest in Polanyi’s thought; (5) the “Guide to the Papers of Michael Polanyi”, which provides an orientation to archival material housed in the Department of Special Collections of the University of Chicago Library; (6) photographs of Polanyi; (7) links to a number of essays by Polanyi as well as audio files for the McEnerney Lectures (1962) and Polanyi’s conversation with Carl Rogers (1966).