

POLANYI'S PARTICIPATIVE REALISM

I. Introduction

Michael Polanyi was a physical chemist who turned to philosophy in middle age as he became interested in the relationship between political authority and the scientific community. He eventually worked out an epistemology which he put forth as an alternative to prevailing ideas at mid-century about scientific practice. His epistemology is elaborated as a comprehensive philosophical vision which includes a *Lebensphilosophie* as well as vision of the evolving cosmos.¹ While Polanyi published quite a number of books and articles that clearly fall within the domain staked out by professional philosophers, it is also true that Polanyi's work has been largely ignored by philosophers. Polanyi did not direct his writing primarily toward philosophers; he did not make it a priority to participate in philosophy's on-going professional conversation as it might be understood by an insider.² His career as a philosopher was, as he terms it, something of an afterthought.³ Certainly, Polanyi did come to have a macroscopic reading of the developing Western philosophical tradition and he saw himself as speaking to the large issues. But rather than a guild member, Polanyi was a reflective scientist with a broad liberal education, eclectic interests and unusual philosophical acumen. Many of Polanyi's philosophical conclusions probably seem less strange to philosophers today than they did forty years ago. As others have noted, thinkers located more centrally within the context of emerging discourse among philosophers have now put forth perspectives similar to Polanyi.⁴

¹ Although there were several later publications, *Personal Knowledge: Towards A Post-Critical Knowledge* (New York: Harper & Rox, 1958), the book based upon Polanyi's Gifford Lectures in the early fifties, remains his *magnum opus*. Because Polanyi's mid-century account of science focuses upon scientific practice, he should be regarded as a forerunner of figures such as Thomas Kuhn. Works by Polanyi are cited by title abbreviation and page after the first reference; works by other authors are cited by author and page after the first reference.

² Some professional philosophers, notably Marjorie Grene, did take a serious interest in Polanyi's thought during his life time. Archival correspondence indicates that, from the period in which she helped produce *Personal Knowledge*, Grene played a role in shaping Polanyi's developing ideas. At the least, she often instructed Polanyi about philosophical allies and enemies and criticized his ideas.

³ Michael Polanyi, *The Tacit Dimension* (Garden City, N.Y.: Doubleday & Co., 1966), 3. For a somewhat broader account of the way in which Polanyi understands his own development, see Polanyi's 1963 introduction to his 1946 volume *Science, Faith and Society* (Chicago: University of Chicago Press, 1964), 7-19. For a full discussion of Polanyi's career in relation to his philosophical ideas, see Richard Gelwick, *The Way of Discovery: An Introduction to the Thought of Michael Polanyi* (New York: Oxford University Press, 1977) and Harry Prosch, *Michael Polanyi: A Critical Exposition* (Albany, N.Y.: SUNY Press, 1986).

⁴ See the discussions of Polanyi and other thinkers in David Rutledge, et. al., "The Tacit Victory and the Unfinished Agenda" *Tradition and Discovery: The Polanyi Society Periodical*, XVIII: 1, 5-17.

Because Polanyi was an eclectic figure who did philosophy outside the mainstream, it is interesting to examine his thought in terms of some traditional philosophical categories. This essay attempts carefully to describe and make sense of the peculiar type of realist that Polanyi seems to be.⁵ Most readers notice the odd way in which the term “reality” is used by Polanyi. Indeed, this is a curious and intriguing aspect of his thought. Two further puzzles make a discussion of Polanyi’s realism of particular interest. First is the fact that there has been, for over a decade, a debate about how to understand Polanyi’s ontology and particularly his ideas about the status of artistic and religious knowledge.⁶ The questions at issue remain alive, as articles in *Tradition and Discovery: The Polanyi Society Periodical* by Harry Prosch, an American philosopher who co-authored Polanyi’s last book treating art and religion, and Aaron Milavec make clear.⁷ The key issues in the debate I believe turn on how to interpret Polanyi’s many references to reality. At the end of my discussion of Polanyi’s realism, I comment upon Prosch’s interpretation of Polanyi. Finally, I note that my examination of Polanyi’s realism grows in part out of an interest in the fascinating similarity between several of Polanyi’s philosophical positions and those of Charles Sanders Peirce, another philosopher-scientist a generation older than Polanyi and a thinker who declares himself to be an extreme realist.⁸ Although the links with Peirce can only be a

5 This essay is not the first consideration of this topic. The germ for my essay was a paper I delivered at a roundtable session at the 1991 American Academy of Religion. Thanks go to Andy Sanders, who alerted me, in discussing my paper, to the existence of Ester L. Meeks’ 1985 dissertation at Temple University “Contact With Reality: An Examination of Realism in the Work of Michael Polanyi” as well as his own comments on Polanyi’s realism in his book *Michael Polanyi’s Post-Critical Epistemology: A Reconstruction of Some Aspects of Tacit Knowing* (Amsterdam: Rodolphi, 1988). Also John Puddefoot’s essay “Resonance Realism” published in 1994 in *Tradition and Discovery* (XX:3, 29-39) in the period in which I was the journal editor is an important discussion of Polanyi’s realism. How to construe Polanyi’s realism is not a settled matter. While I appreciate the perspectives of Meek, Sanders and Puddefoot, I have followed my own interpretative inclinations. As will become clear below, my approach has learned much from Charles Sanders Peirce’s semiotic realism.

6 An exchange was initiated by Harry Prosch’s review (*Ethics* 89 /January 1979/, 211-216) of Richard Gelwick’s *The Way of Discovery: An Introduction to the Thought of Michael Polanyi*. The discussion spilled over into meetings of the Polanyi Society held in conjunction with the American Academy of Religion in North America in the early eighties; a special edition of *Zygon* (17:1, 1982) on science and religion in Polanyi’s thought published important contributions to the discussions. My comments below cite particular relevant articles in the *Zygon* issue* as well as some other relevant material in *Tradition and Discovery: The Polanyi Society Periodical* and other journals.

7 Harry Prosch, “Those Missing ‘Objects’”, *Tradition and Discovery: The Polanyi Society Periodical*, XVII: 1&2, 17-20. Aaron Milavec’s “Appendix on Polanyi’s Understanding of Religion”, which is attached to his 1997 article in *Tradition and Discovery: The Polanyi Society Periodical* (XXIII:2, 35-36) also cites some of the literature in the early eighties in the *Convivium*, the former publication of the Polanyi studies group centered in Great Britain. Other publications, including my earlier article “Religious Meaning in Polanyi’s *Personal Knowledge*” in *Polanyiana* (Vol. 2., No. 4, 1992/Vol. 3, No. 1., 1993, 75-83) more indirectly touch the concerns outlined in the early debate.

8 See the excellent discussion in Michael Raposa, *Peirce’s Philosophy of Religion* (Bloomington, Indiana: Indiana University Press, 1989), 14-25.

* For the Hungarian translation of this *Zygon* issue see: *Polanyiana*, Vol. 6, No. 1. 1997. (Editors’s note)

subtext hinted at here, my treatment of Polanyi's realism may be suggestive to those mining the classic American philosophical tradition.⁹

II. Reality and Knowledge

Any attempt to ferret out the character of Polanyi's claims about the nature of scientific knowledge must quickly reckon with the fact that Polanyi is quite comfortable linking knowledge and "reality". Those things that are real are preeminently meaningful.¹⁰

Polanyi's vision of science contends that what scientists discover are aspects of reality: "*Scientific knowing consists in discerning Gestalten that are aspects of reality*".¹¹ In his 1963 introduction to the new edition of *Science, Faith and Society*, Polanyi makes several comments about how he understands "reality". He indicates that natural laws are real and true:

To hold a natural law to be true is to believe that its presence will manifest itself in an indefinite range of yet unknown and perhaps yet unthinkable consequences. It is to regard the law as a real feature of nature which, as such, exists beyond our control.¹²

⁹ John E. Smith's article "Community and Reality" (*The Relevance of Charles Peirce* ed. Eugene Freeman [LaSalle, IL: Monist Library of Philosophy, 1983], 38-58) summarizes Peirce's claims about reality around three points:

... first, the idea that reality has some sort of *independence* of being thought or represented; second, the idea that reality is related to thought and ideas in some essential way; and third, the idea that reality is the ultimate result of a process of inquiry and is in some sense to be identified with the fact that those who conduct the inquiry come to believe or accept this result (40).

Smith notes that Peirce wanted to be a realist, an idealist and a pragmatist at the same time. There are some tensions in his attempt to construct a coherent theory of reality. Certainly there are also some tensions in Polanyi's ideas about reality. As my discussion will show, there are parallels in Polanyi's perspective to all three foci which Smith identifies.

¹⁰ Edward Pols' article "The Problem of Metaphysical Knowledge" in an early *Festschrift* (*Intellect and Hope: Essays in the Thought of Michael Polanyi*, eds. Thomas Langford and William Poteat, [Durham, NC: Duke University Press, 1968], 58-90) discusses four nuances of "reality" in Polanyi's work. Pols' article is written before the publication of Polanyi's *The Tacit Dimension* and Polanyi and Prosch's *Meaning*, although he does refer to the Duke lectures on which *The Tacit Dimension* was based. Pols does identify degrees of meaningfulness as one of the concerns which Polanyi's sense of "reality" tries to include (77-78). However, Pols does not properly understand and emphasize the link between "reality" and meaning in Polanyi. As will become apparent, the reading of Polanyi developed here is a semiotic reading whereas Pols' discussion (as his title implies) focuses upon the character of metaphysical knowledge in Polanyi. Pols does offer some perspectives similar to those articulated here and I below make some references to his insights. In the final analysis, however, Pols' article offers a critique of Polanyi for not having more to say about Being.

¹¹ *SFS*, 10.

¹² *SFS*, 10.

Polanyi suggests that he has worked out “a new definition of reality”:

Real is that which is expected to reveal itself indeterminately in the future. Hence an explicit statement can bear on reality only by virtue of the tacit coefficient associated with it. This conception of reality and of the tacit knowing of reality underlies all my writings.¹³

On more than one occasion, Polanyi makes comments like this about the character of what we term “real”. He sometimes uses the phrase “aspect of reality” to refer to a “real” entity which is a part of some larger, collective (“reality”) that is diverse.¹⁴ The emphasis in Polanyi’s definition of “real” is upon the future, upon the expectation of surprising significance. Real things are what we anticipate to be implicatively rich or fecund, though not all real things are expected or found to be equally rich; the most deeply real things seem to be the most complex comprehensive entities, which Polanyi frequently describes in terms of their presently unanticipated future potential manifestations. Rather than being born out of a struggle with medieval philosophy and modern philosophical debates, it seems likely that the genesis of Polanyi’s ideas about “reality” come primarily from his experience as a research scientist.¹⁵ Because they pour themselves into problems, scientific inquirers, Polanyi contends, become committed to complex realities whose implications are largely undisclosed or concealed. Only future inquiry can show (and has shown) that earlier intimations were indeed on target, though perhaps in ways quite unexpected.

Polanyi also asserts (in the quotations above) that tacit coefficients are what make meaningful any explicit statements about real things. He steadfastly insists that discourse about reality cannot be cut off from what Poteat terms the foundational “mindbodiliness” of persons.¹⁶ The human way of being in the world must be acknowledged as a first presumption. Polanyi refuses to slip into an idiom which speaks about what we affirm to be

¹³ *SFS*, 10.

¹⁴ Polanyi’s comment in the opening chapter of *SFS* is a plural instance of this usage: “The vast growth of science in the last 300 years proves massively that new aspects of reality are constantly being added to those known before” (10). Pils (78-80) also comments upon Polanyi’s use of this phrase in the singular: “The expression usually seems to mean that one physical theory reveals some true things about nature, another physical theory other things, without there necessarily being a distinction in the ontological import of what is revealed” (80). I think Pils is correct but it is also important to recognize Polanyi’s interest in the relationship among the “aspects of reality”.

¹⁵ Polanyi could perhaps have profited, as did Charles Sanders Peirce, from such a struggle. Peirce is thoroughly familiar with medieval discussions. Nevertheless, Max Fisch (*Peirce, Semiotics and Pragmatism: Essays by Max H. Fisch* [Bloomington: Indiana University Press, 1986], 3) contends that, for Peirce, the basic issue between nominalism and realism concerned whether laws and general types were real. Peirce lived in an era when many scientists and philosophers were nominalists. As a philosopher and scientist interested in questions about the character of scientific law, Peirce is interested in some of the same issues with which Polanyi struggles. See also Fisch’s discussion (184-200) of Peirce’s development from an early nominalist position to a realist position.

¹⁶ William H. Poteat, *Polanyian Meditations: In Search of a Post-Critical Logic* (Durham: Duke University Press, 1985), 15-26.

real without acknowledging that human skills and values are always bound up with our speaking. For Polanyi, persons are deeply involved in the world and with fellow creatures; it is only through indwelling (by interiorizing) that we can make explicit statement about those things we believe to be real.

In “The Logic of Tacit Inference” (1964), an essay written during the same period that he produced his new introduction for *Science, Faith and Society*, Polanyi discusses the character of real things in language interestingly different than that used in the new introduction. Here he identifies what he terms “the *ontological claim* of tacit knowing”:

The act of tacit knowing thus implies the claim that its result is an aspect of reality which, as such, may yet reveal its truth in an inexhaustible range of unknown and perhaps still unthinkable ways.

My definition of reality, as that which may yet inexhaustibly manifest itself, implies the presence of an *indeterminate* range of *anticipations* in any knowledge bearing on reality. But besides this indeterminacy of its prospects, tacit knowing may contain also an *actual knowledge* that is indeterminate, in the sense that its content *cannot be explicitly stated*.¹⁷

Again in this formulation there is the suggestion that that which is real exerts power. That power presently impacts humans and convincingly leads humans to anticipate a future impact, although the character of that future impact remains open. Acts of knowing make an ontological reference. Those things which are real are thus presently accessible to human knowers, but they have indeterminate prospects. Further, our actual knowledge, our knowledge at any given time, of real things can never be fully explicit; actual knowledge remains indeterminate in that all explicit claims are grounded in tacit presuppositions, that is, in subsidiary particulars not before the mind’s eye. Polanyi’s interest in the indeterminate range of meaning of real things might be termed the polyvalent aspect or focus of his realism; his interest in the tacit foundation of knowledge of real things (i.e., the second indeterminacy) can be partially distinguished from the polyvalent aspect by terming this the bodily or incarnate aspect or focus of Polanyi’s realism.

III. The Independence of Real Things

By considering further the ways in which Polanyi speaks about real entities and their independence, it is possible to clarify aspects of both the polyvalent and bodily aspects of Polanyi’s realism.

In “The Logic of Tacit Inference” (in the quotation above) as well as in other discussions, Polanyi often adopts an idiom to discuss real things which to some degree animates them (e.g., “inexhaustibly manifest itself”). Polanyi does not follow the ancient

¹⁷ Michael Polanyi, *Knowing and Being: Essays by Michael Polanyi*, ed. Marjorie Grene (Chicago: University of Chicago Press, 1969), 141.

Greeks in positing soul (that which is self-moving, according to Plato in *Phaedrus* 245), but he does seem to believe, like Plato, that the mark of the real is power. Power is represented by personifying. Those things that are real thus often are portrayed as agent-like things possessing their own initiative. One of the earliest and most interesting passages with this motif is in *Science Faith and Society*: Polanyi argues that all creative guess work (which includes not only scientific and mathematical work but also “the prayerful search for God”¹⁸) “have in common that they are guided by the urge to make contact with a reality, which is felt to be there already to start with, waiting to be apprehended”.¹⁹ This leads Polanyi to speculate that discovery in science is “guided not so much by the potentiality of a scientific proposition as by an aspect of nature seeking realization in our minds”.²⁰ Polanyi probably would not have put matters quite this way later in his philosophical career after he worked out the details of his theory of tacit knowing. Nevertheless, a sense of the power of that which is real is an important idea in all of Polanyi’s writing. The root metaphor which seems to attract Polanyi is an image of reality as a continuous series of independent entities or discrete aspects; this is an appealing image because it strongly emphasizes both the power and the relational aspect of that which is real.²¹

As noted above, according to Polanyi, there are important significative differences among real things and the matter of potency is related to such differences. Polanyi is quite comfortable in affirming that some things are more deeply real than others:

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

¹⁸ *SFS*, 34.

¹⁹ *SFS*, 35.

²⁰ *SFS*, 35.

²¹ As the following comment shows, Peirce too seems to have put a dominant emphasis upon the power of those things that are real:

If all things are continuous, the universe must be undergoing a continuous growth from non-existence to existence. There is no difficulty in conceiving existence as a matter of degree. The reality of things consists in their persistent forcing themselves upon our recognition. If a thing has no such persistence, it is a mere dream (I.175).

John E. Smith summarizes this emphasis in Peircean realism with a comparison with Hegel:

Unlike Hegel, who emphasized the utter transparency of all reality to reason, Peirce was insistent on the *forcefulness* or otherness of things as a mark of reality. In Peirce’s terminology, reality belongs with Secondness, or the domain of fact (41).

Further discussion of the relational aspect of Polanyi’s ideas about reality follows in my discussion of comprehensive entities. Quotations from Peirce are by volume and paragraph (right of the decimal) from *The Collected Papers*, eds. Charles Hartshorne and Paul Weiss (Cambridge, Massachusetts: Harvard University Press, 1965.)

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*. And since I regard the significance of a thing as more important than its tangibility, I shall say that minds and problems are more real than cobblestones. This is to class our knowledge of reality with the kind of foreknowledge which guides scientists to discovery.²²

Here Polanyi suggests that reality has different manifestations which include at least tangibility and significance. Tangibility, however, is actually a kind of significance. The distinction Polanyi seems to be reaching for is one that recognizes levels of profundity. Polanyi's analysis in *The Study of Man* sketches, in a parallel fashion, a range of disciplinary inquiry, each with its own excellence; but he contends that the study of dramatic history is engaging for human beings in a way that no other kind of study can be. Similarly, in comments throughout *Personal Knowledge* about knowing progressively more complex forms of life, Polanyi suggests there is a gradient of reality. Thus Polanyi often seems to envision a graduated scale of types of meaning which he correlates with different aspects of reality. Minds and complex problems, though lacking tangibility, are regarded as deeply real because they are strongly indeterminate entities. In his 1962 essay "Tacit Knowing: Its Bearing on Some Problems in Philosophy", Polanyi characterises the nature of knowing another mind in just this way:

... as we move to a deeper, more comprehensive, understanding of a human being, we tend to pass from more tangible particulars to increasingly intangible entities: to entities which are (partly for this reason) more real: more real, that is in terms of my definition of reality, as likely to show up in a wider range of indefinite future manifestations.²³

Cobblestones and other merely tangible things are certainly recognized by Polanyi as independently existing physical entities, but such entities, as merely physical presences, are real only in a simple way; they have limited interest for and power to affect human beings. Minds and complex problems, because they have a broader potential to affect persons, are complex, dynamic realities.

Polanyi contends that the lack of tangibility of more deeply real entities is prominent in science. He also frequently stresses that complex, dynamically real entities, although largely intangible or hidden, are confidently regarded as present by those who seek and discover them.

But it is still the course of scientific inquiry in which the metaphysical conception of a reality beyond our tangible experiences is written out most clearly, for all to see. From its start, the inquiry assumes, and must assume,

²² *TD*, 32-33.

²³ *KB*, 168.

that there is something there to be discovered. The fascination, by which alone the inquiry can make progress, is fixed on discerning what it is that is there, and when discovery is achieved, it comes to us accredited by our conviction that its object was there all along, unrecognized.²⁴

The intangibility of complex real things is not a liability or impediment to inquiry but serious inquiry requires that such intangible real entities are recognized at least in the sense that such entities are respected and entertained as significant.²⁵

Finally, it is worth noting that Polanyian notions about the gradient of reality distinguishable in terms of depth of implication are sometimes articulated in terms of respect for the inherent vagueness of certain comprehensive entities:

But tacit knowing is indispensable and must predominate in the study of living beings as organized to sustain life. The vagueness of something like the human mind is due to the vastness of its resources. Man can take in at a glance any one of 10⁴⁰ different sentences. By my definition, this indeterminacy makes mind the more real, the more substantial.²⁶

Polanyi's ideas about the hierarchy of significance among real entities can be succinctly summarized by saying that those things that are real are preeminently signifiers.²⁷ Some

²⁴ KB, 172.

²⁵ This is a variation on the problem of the *Meno* or debater's paradox, which Polanyi commented on in *TD* and in other late essays.

²⁶ KB, 151. Although he recognizes the vagueness of complex real things, Polanyi clearly indicates that such vagueness is not merely a matter of language understood as a set of convenient symbols. In fact, Polanyi was quite critical of what he regarded as the nominalistic underpinnings of most philosophical views of language at mid century. He criticized views emphasizing the "open texture" of terms, claiming it is necessary to accredit a "speaker's sense of fitness for judging that his words express the reality he seeks to express" (*PK*, 113). He contended human beings must "acknowledge our own faculties for recognizing real entities, the designation of which form a rational vocabulary" (*PK*, 114). Interestingly, Peirce, like Polanyi, took vagueness with a certain seriousness. In his semiotics, Peirce works out a careful understanding of the nature of that which is vague. See the discussion in Mihai Nadin's "The Logic of Vagueness and the Category of Synechism" (*The Relevance of Charles Peirce*, ed. Eugene Freeman [La Salle, IL: Monist Library of Philosophy, 1983], 154-166) and Michael L. Raposa's "The Fuzzy Logic of Religious Discourse" (forthcoming in *American Journal of Semiotics*).

²⁷ Peirce, like Polanyi, argues that real things are primarily to be considered as significative in nature:

But, in fact, a realist is simply one who knows no more recondite reality than that which is represented in a true representation. Since therefore the word "man" is true of something, that which "man" means is real (5.312)

Now the problem of what the "meaning" of an intellectual concept is can only be solved by the study of the interpretants, or proper significant effect, of signs (5.475).

... real things are of a cognitive and therefore significative nature, so that the real is that which signifies something real. Consequently, to predicate anything of anything real is to predicate it of that of which that subject (the real) is itself predicated, for to predicate one thing of another is to state that the former is a sign of the latter (5.320).

real things, such as challenging problems and minds, are more deeply real in that they are richer signs which hold the potential to generate a whole field of meaning or future significance not presently recognized.

In *The Tacit Dimension*, Polanyi discusses the nature of true statements in ways similar to his suggestions that deeply real entities are rich signs. Polanyi argues that we recognize true statements by appreciating the wealth of yet undiscovered consequences. We can do this because we “can have a tacit foreknowledge of yet undiscovered things”.²⁸ To know that a statement is true

is to know more than we can tell and that hence, when a discovery solves a problem, it is itself fraught with further intimations of an indeterminate range, and that furthermore, when we accept the discovery as true, we commit ourselves to a belief in all these as yet undisclosed, perhaps as yet unthinkable, consequences.²⁹

The polyvalent focus of Polanyi’s realism is thus sometimes articulated in terms of ideas about the nature of truth.³⁰

In *Personal Knowledge*, Polanyi emphasizes some of the same notions about the independence, implicative potential and truth of real things that are found in the later writing discussed above. But in his *magnum opus* the discussion of these topics is especially linked also with “universal intent”:

The implications of new knowledge can never be known at its birth. For it speaks of something real, and to attribute reality to something is to express the belief that its presence will yet show up in an indefinite number of unpredictable ways.

As the final sentences here imply, Peirce works out in some detail in his semiotics the connection between real things and thinking which depends upon signs. Polanyi does not work out a full blown theory of signs, although there are some interesting suggestions in “Sense-Giving and Sense-Reading”, a 1967 essay included in *Knowing and Being* (191-210) which includes a reference to Peirce. Peirce’s realism, like Polanyi’s, focuses upon the rational, logical, futural and social character of meaning.

²⁸ TD, 23.

²⁹ TD, 23.

³⁰ Peirce, like Polanyi, links the real and the true:

The opinion which is fated to be ultimately agreed to by all who investigate is what we mean by the true, and the object represented in this opinion is the real. That is the way I would explain reality (5.407).

Peirce’s conception of the real and true focuses attention upon agreement “in the long run”. Polanyi seems to be less preoccupied with the achievement of final agreement. Indeed, one might argue that his theory of tacit knowing downplays agreement as an issue or problem; new knowledge is appreciated primarily as a doorway to yet other new problems and future discoveries. However, as I discuss below, Polanyi does treat the implications of and necessity for commitment as a part of statement about that taken to be real; these Polanyian themes might be construed as in part concerned with agreement.

An empirical statement is true to the extent to which it reveals an aspect of reality, a reality largely hidden to us, and *existing therefore independently of our knowing it*. By trying to say something that is true about a reality believed to be existing independently of our knowing it, all assertions of fact necessarily carry *universal intent*. *Our claim to speak of reality serves thus as the external anchoring of our commitment in making a factual statement.*³¹

In this passage, as in others, Polanyi adopts the metaphor of hiddenness or concealment to articulate what I have termed the polyvalent focus of his realism. Those complex things that are real are largely hidden; truthful human claims reveal in part that which is hidden about real things but to believe something is real is to anticipate the emergence of yet unknown or presently hidden things. Independence is connected with the predominantly hidden or undisclosed character of real things: because the most real entities are largely hidden, we can and do infer that they exist independently of our knowing of them.

In this section of *Personal Knowledge* viewed more generally, Polanyi is struggling to explain the way in which personal commitment is bound up with acts of understanding: this is the key to his claims for “universal intent”. Serious efforts to understand, he argues, have embedded in them the claim that others should concur with what we hold to be the case.³² This is an integral element of personal knowledge. It should be noted that Polanyi’s emphasis (in the quotation above) is upon the intention of universality but not the achievement of a god’s eye view. Universal intent can be described as a component of the tacit presuppositional underpinning of serious acts of knowing. There is a law of generalization deeply hidden within the bodiliness of the enterprise of human knowing. Holding a claim inevitably involves a commitment on the knower’s part to the independence from the self of that about which the claim is made. Such independence Polanyi terms “existing independently of our knowing of it”.³³ This tacit commitment to

³¹ *PK*, 311.

³² In his 1966 article “The Creative Imagination” in *Chemical and Engineering News* (reprinted in *The Concept of Creativity in Science and Art*, Eds. Dennis Dutton and Michael Krausz [The Hague: Martinus Nijhoff Publishers, 1981, 91-108], Polanyi discussed “universality”, “universal intent” and “universal validity”:

I speak not of universality, but of universal intent, for the scientist cannot know whether his claims will be accepted; they may be true and yet fail to carry conviction. He may have reason to expect that this is likely to happen. Nor can he regard a possible acceptance of his claims as a guarantee of their truth. To claim universal validity for a statement indicates merely that it *ought* to be accepted by all. The affirmation of scientific truth has an obligatory character which it shares with other valuations, declared universal by our own respect for them (106).

³³ *PK*, 311. In his 1966 essay “The Creative Imagination”, Polanyi comments as follows on the way in which hidden reals are an external presence grounding both scientific inquiry and claims for the validity of the results of inquiry:

Having relied throughout his inquiry on the presence of something real hidden out there, the scientist will necessarily also rely on that external presence for claiming the validity of the result that satisfies his quest. And as he has accepted throughout the discipline which this external pole of his endeavor imposed upon him, he expects that others, similarly equipped, will likewise recognize the authority that guided him (106).

distinct or non-dependent existence is but another face of the tacit affirmation that others should hold what we take to be the case. That is, to contend that something exists as an aspect of reality independent of the perceiver is a way of affirming that it is there for others, just as it is for the current holder of knowledge. Real things are, in the lexicon of personal knowledge, affirmed as existing independently because they are regarded as having the power to affect others as they have affected the interested knower.³⁴ To affirm the independent status of the real is thus to say that others should also understand as I do.³⁵

In 1961 in the essay "Knowing and Being", Polanyi makes a similar point by connecting his ideas about calling, free thought and the pursuit of truth with the notion of universal intent:

All thought is incarnate; it lives by the body and by the favour of society. But it is not *thought* unless it strives for truth, a striving which leaves it free to act on its own responsibility, with universal intent.³⁶

Thought relies upon both the particular physical and social body or context in which it is located; it is a person's calling to accept these conditions within which responsibility is possible. Thought strives for the truth; authentic striving is free to act as guided by a personal sense of responsibility. Such striving is an advancing of personal claims taken to be universal, that is, taken to apply to all serious thinkers. In essence, what Polanyi provides here is an explanation of universal intent in terms of the bodiliness of knowing and his persistent emphasis upon responsible truth seeking.

In sum, Polanyi's emphasis upon universal intent in *Personal Knowledge* should be construed as primarily part of what I have termed the bodily focus of this realism. That is, Polanyi's comments about the independence of real things are best understood as entailments of his conception of universal intent. I emphasize this point since Polanyi's remarks about the independence of real things might be understood, in a more conventional way, as a primary metaphysical presupposition - a philosophical beginning point - rather than a corollary of his claims about knowing. To construe Polanyi's comments about the independence of real entities as a free-standing metaphysical declaration which underlies

³⁴ To affirm that real things do exist independently is itself a personal commitment; Polanyi's realism is of a sort that suggests it is impossible to escape personal commitments even if those commitments are about the status of the real.

³⁵ Polanyi's claim for the non-dependent status of real entities is also a corollary of his insistent claim that to put forward knowledge claims requires the recognition that they may conceivably be false. To ground knowledge in human belief, as Polanyi does, requires recognizing the limits of a person's or an interpretative community's competence. Polanyi suggest in "The Creative Imagination"

... scientific discoveries are made in search of reality - of a reality that is there whether we know it or not. The search is of our own making, but reality is not (104).

This nuance in Polanyi's perspective is akin to Peirce's "doctrine of fallibilism" (1.148.) Peirce seems to have arrived at his doctrine by careful study of logic and probability.

³⁶ *KB*, 134.

and grounds all of Polanyi's thought is to misconstrue the set of largely epistemological issues that occupied Polanyi as a philosopher. In Polanyi's case, his metaphysical claims follow from or grow out of his epistemology and not vice versa.

There is much in Polanyi's larger perspective that is in tension with types of realism which straightforwardly accept rigid distinctions between the external world and internal consciousness. Clearly, Polanyi does not wish to limit real entities to the class of tangible externals, although he does argue that all real entities, whether merely tangible or largely intangible, must be recognized as existing independently of the knower. To discover and appreciate real entities requires preliminary respect for their power. Nevertheless, Polanyi's philosophical perspective is not one which revolves largely around a problematic set up by accepting a subject - world dualism.³⁷ The theory of tacit knowing, with its emphasis upon the physical, social, skilful and fiduciary roots of knowledge, is a vision of persons deeply participating in their environment. Polanyi's focus is upon persons as members of interpretative communities and the ways in which, by using human powers of indwelling, meaning emerges. Polanyi's realism is what I would term a participative realism. As suggested in the discussion above, participative realism has both a polyvalent and a bodily focus.

IV. Comprehensive Entities

Polanyi's comments about "comprehensive entities" further clarify the nature of his peculiar type of realism. Especially in the fourth part of *Personal Knowledge* and in *The Tacit Dimension*, Polanyi tries to make clear that the universe can be conceived as layers of real things joined together meaningfully:

I have spoken before of the way we interiorize bits of the universe, and thus populate it with comprehensive entities. The program which I have set out

³⁷ In his *Michael Polanyi: A Critical Exposition*, Prosch interprets some of the difficult Polanyian passages on real entities and their independence in a way that makes of Polanyi an ontologist; Prosch emphasizes "the coincidence between the way we know things and the way they are, in and of themselves, in the universe" (225). Prosch sometimes seems to hold that Polanyi was a commonsense realist insofar as the real things studied by science are concerned; insofar as the real entities in art and religion are concerned, Prosch implies that Polanyi is an idealist. See my review of Prosch's book (*Zygon* 23:2 /1988/, 215-220) for some criticisms of Prosch. See also Prosch's comments bearing on questions about Polanyi's realism in the 1982 special edition of *Zygon* on Polanyi ("Polanyi's View of Religion in *Personal Knowledge*: A Response to Richard Gelwick", *Zygon* 17:1 /1982/, 41-48) as well as his 1991 article "Those Missing Articles", *Tradition and Discovery: The Polanyi Society Periodical* 17:1&2, 17-20. Prosch's interpretation of Polanyi has, of course, been of great interest to Polanyi scholars because Prosch worked with Polanyi, at the very end of his life when his health was failing, to put together his final book, *Meaning*. Since the publication of *Meaning*, there has been an on-going scholarly discussion about the relation of ideas in *Meaning* to those in earlier publications, especially *Personal Knowledge*. On this topic, see the articles by Ronald L. Hall, Richard Gelwick and Bruce Haddox in the special edition of *Zygon* (17:1) on science and religion in Polanyi's thought.

now would change this panorama into a picture of the universe filled with strata of realities, joined together meaningfully in pairs of higher and lower strata.³⁸

In much the same way that Plato seems to have carried in mind an overall image of the inclusive form of the good which comprehended all other forms, Polanyi seems to have fashioned an abstract image which worked out the problem of continuity or relationship among real things. Plato's root image seems to be either the origin of or result of his interest in dialectic. At any rate, Plato collects the many into one unity and breaks unity into plurality as only a dialectician interested in both the nature of the cosmos and the character of good speech-making can. But Polanyi's grasp of the problem of continuity or relationship among real things is that of a modern scientist rather than one versed in the rhetorical arts. Polanyi's image ("strata of realities, joined together meaningfully in pairs of higher and lower strata") is a response to objectivism and to issues embedded in the evolution of organic forms.

Polanyi's idea of the comprehensive entity seems to work in several ways in the larger context of his thought. He makes it quite clear that it is not acceptable to think of comprehensive entities as merely things external to the knower. Comprehending is something knowers *do*. Polanyi uses the term "comprehensive entity" in relation to his effort to specify an act of meaning-making whose parameters include more than that which is before the mind's eye. In *The Tacit Dimension*, he discusses the ontological aspect of tacit knowing in terms of the character of the knower's comprehending:

... we deduce a fourth aspect, which tells us what tacit knowing is a knowledge of. This will represent its *ontological* aspect. Since tacit knowing establishes a meaningful relation between two terms, we may identify it with the *understanding* of the comprehensive entity which these two terms jointly constitute. Thus the proximal term represents the *particulars* of this entity, and we can say, accordingly, that we comprehend the entity by relying on our awareness of its particulars for attending to their joint meaning.³⁹

Comprehensive entities are an achievement; they conjoin or bring particulars into the unity of personal understanding. It is significant that Polanyi identifies the ontological aspect of tacit knowing as a deduction. The being of real entities (whether in the noosphere or other realms) is not simply a given externality so much as it is a necessary inference embedded in or arising from the structure of knowing. Polanyi speaks of understanding a comprehensive entity as making an "ontological reference to it".⁴⁰

Polanyi's conception of the comprehensive entity includes not only his emphasis upon human doing or comprehending as understanding; there is also in his discussion an

³⁸ *TD*, 35.

³⁹ *TD*, 13.

⁴⁰ *TD*, 33.

emphasis upon a logical point concerned with the relation between levels of control. The logical structure of a comprehensive entity as a conjuncture of higher and lower “implies that a higher level can come into existence only through a process not manifest in the lower level, a process which qualifies as emergence”.⁴¹ Polanyi’s analysis of the “principle of marginal control” is the backbone of his account of evolution.⁴² The human being as a potentially responsible creature is, for Polanyi, a marvellously functioning comprehensive entity, the evolutionary product of emergence.

As living beings, persons are involved in an emerging universe full of matters of interest. Many of the entities in which we can dwell are rich indeed. Polanyi frequently suggests that the richer the comprehensive entity (i.e., the more vague and, in potential, more implicatively deep), the more important and deeper is indwelling and participation; in focusing upon the life or mind of a living creature, Polanyi commented upon the necessary increase of participation:

All tacit knowing requires the continued participation of the knower, and a measure of personal participation is intrinsic therefore to all knowledge, but the continued participation of the knower becomes altogether predominant in a knowledge acquired and upheld by such deep indwelling.⁴³

It is, of course, a mistake to take too literally the notion that participation can be quantified; it is the graduated range of kinds of participation that Polanyi seems to have been interested in. What he seems to have been struggling to articulate in this essay and in *Personal Knowledge* is perhaps more adequately conceived in his late work *Meaning* and to some degree in *The Study of Man*. Both of these works show Polanyi’s interest in further exploring the nature of highly indeterminate, richly significative comprehensive entities.⁴⁴

⁴¹ *TD*, 45.

⁴² Polanyi indicates that the principle is concerned with “the control exercised by the organizational principle of a higher level on the particulars forming its lower level. ...” (*TD*, 40). This is, however, a somewhat confusing explanation for what is basically a logical claim which Polanyi uses in his account of evolution and in his grander vision of the universe. Polanyi holds that comprehensive entities are “a logical combination of levels of reality” (*TD*, 49). A lower level imposes restrictions within which a higher level can come to operate; the lower level establishes boundaries but leaves open possibilities. The higher level cannot be exhaustively described in terms of the lower level:

... no level can gain control over its own boundary conditions and hence cannot bring into existence a higher level, the operation of which would consist in controlling these boundary conditions (*TD*, 45).

⁴³ *KB*, 152.

⁴⁴ Polanyi does not seem to have felt compelled to choose straightforwardly between a materialist and an idealist position. Certainly, he does employ a clear distinction between living beings and non-living elements but his emphasis is also upon the continuity. Both the distinction and the continuity is expressed in his ideas about comprehensive entities as subject to dual control. Again a very general comparison with a figure like Peirce is illuminating. Peirce, of course, is not only a realist but also an idealist. He suggests that there is a continuous series of forms ranging from matter, the most non-dynamic (or heavily habituated) mind to God, the most dynamic; the cosmos, including humans operating with self-control, is evolving. Polanyi’s metaphysical

Especially in *Meaning* and the lectures on which it is based, Polanyi tried to extend his earlier epistemology in a way that makes distinctions between different kinds of participation: "... we need to extend our epistemology to those coherences that are often described as 'artificial' as opposed to 'natural'".⁴⁵ Polanyi sets forth here a basic distinction between types of meaningful coherences. He seemingly thinks the difference between "artificial" and "natural" is apparent and that such a distinction is common. At any rate, Polanyi's discussion in *Meaning* relies upon this distinction and several other dichotomies which, upon close examination, seem to serve rhetorically to set forth sharply some important differences among human meaning seeking activities; such differences are mirrored in the character of comprehensive entities. Different coherences reflect differences in the nature and flow of human interests. Polanyi isolates and analyzes the so-called class of "artificial" coherences which includes symbol, metaphor, works of art, myth and religion. He identifies the different relations of the self to the process of making meaning, showing how tacit components become embodied in the distal focus of such comprehensive entities. Polanyi contrasts the surrender of personal memory involved in self-giving integrations attending to artificial coherences with the vectorial quality of the self-centred integrations of perception and science.

Polanyi's stance as a participative realist is in fact clarified by his late writings. *Meaning* does draw too sharp a cleavage between the operation of the from-to structure of tacit knowing in perception and science and that operative in art, myth and religion. Nevertheless, Polanyi's study of "artificial" coherences and the special involvement of the knower in the known makes clear that all comprehensive entities are sustained by the imaginative participation of interested persons.

Polanyi's primary interest in his late writing on art, myth and religion was to affirm the importance of the types of meaning found in these areas:

In order to hold these meanings securely in the reverence they seem to him to demand, contemporary man therefore needs a theory of these meanings that explains how their coherence is no less real than the perceptual and scientific coherences he so readily accepts. He needs to see how his obvious personal involvement with these meanings is necessarily and legitimately part and parcel of the reality they actually have, that his personal involvement is not at all a reason to regard them as mere subjective fantasies.⁴⁶

scheme seems to have been grounded in a similar intuition of a continuous series of elements evolving. Like Peirce, Polanyi is preoccupied with the role of humans as reasoning creatures in the cosmos. Although Polanyi suggests that all the forms or comprehensive entities constituting the universe are of interest, Polanyi suggests that more complex comprehensive entities are of particular importance and should be of particular interest to human beings.

⁴⁵ Michael Polanyi and Harry Prosch, *Meaning* (Chicago: University of Chicago Press, 1975), 69.

⁴⁶ *Meaning*, 68.

Polanyi held that the meaning discovered in the comprehensive entities of art, myth and religion points to aspects of reality. In one of his early unpublished lectures on art (a source of *Meaning*), Polanyi succinctly notes that he is interested in the “power of art to show us something real”.⁴⁷ Clearly, Polanyi thinks the same power to reveal real entities is a part of myth and religion also.

Much of the scholarly discussion of Polanyi’s thought has focuses on questions about the status of real entities discovered in art, myth and religion. In his 1986 book, Harry Prosch followed up on debate published in *Zygon*,⁴⁸ arguing for a strong distinction between the independent reals grasped in perception and science and those reals of the noosphere which are “real in being valid”; for the latter reals, it is “an illusion to think they existed before we discovered them”.⁴⁹ In a more recent article Prosch has suggested that for Polanyi

to have supposed the “objects” of art, religion, ethics, and mathematics existed independently of us before we discovered them, in the same way the empirical realities did, he would have had to have supposed them all to be simply some other empirical things among empirical things, and then all of the various frameworks of thought would have had to collapse into those of the empirical sciences.⁵⁰

Surely Prosch is correct in concluding that Polanyi is not a reductionist, that Polanyi holds that there are many frameworks of thought (or articulate systems) and all realities must be appreciated from within the proper framework. Yet there seems in Prosch’s framing of the issue to remain a strange lingering dualism of subject and world. “Empirical realities” in Polanyi’s vision are not so much simple external causes of cognition as they are the comprehensive entities which are the result of indwelling and integration. All realities are the end product of tacit integrations rather than merely the external cause of such integrations. Claims about the independence and prior existence of realities are inferences

⁴⁷ “Meaning: A Project,” Chapter 1, p. 20 typescript.

⁴⁸ See Prosch and Gelwick’s articles cited above in *Zygon* 17:1 (1982).

⁴⁹ Prosch, 1986. 249.

⁵⁰ Prosch, “Those Missing Objects”, 18.

introduced to account for the compelling coherence of our integrations.⁵¹ Those entities that are real, whether or not they belong to the noosphere, are comprehensive entities whose emergence depends upon the active indwelling and integration of a person engaged with social companions in a community of inquiry.

⁵¹ John E. Smith aptly summarizes Peirce's thinking about causality as follows:

At the outset Peirce freely admits that the theory according to which external realities cause the common result and belief in one identical object can serve as an explanation. The causal theory, he says, is "convenient for certain purposes" (7.335) and is without internal logical flaw. But he has a philosophical objection to that theory; what needs to be explained, he says, is not an ordinary event among others in the world, and it cannot be put in the same class with such events. The fact that investigation leads to a fixed result concerns the theory of truth; the logic of investigation and its outcome, though related to fact, is itself a matter of principle not to be treated after the fashion of singular occurrences in the course of nature. The point is an important one, for while Peirce was vigorous in his insistence that reality has force, power, resistance (what he called Secondness) over against ideas and representations, he still refused to accept a simple, causal theory of knowledge and truth (39).

Although Polanyi has perhaps not developed his ideas about causality as fully as Peirce, he is, like Peirce, very concerned with questions about belief, the nature of investigation and truth; similarly, such concerns lead him away from a preoccupation with questions about externality and causality, issues that Prosch is preoccupied with.