

Multiple Paths to Ontology: Recasting Margitay's Critique of Polanyi

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In a recent article "From Epistemology to Ontology," Tihamer Margitay argues that Polanyi fails to establish the necessary correlation he claims between the two levels involved in tacit knowing and corresponding ontological levels. I argue that Margitay correctly shows that such a correspondence does not hold in all cases, but I also point out problems in Margitay's interpretation of Polanyi and suggest additional bases for ontological claims that go beyond Margitay's analysis.

In "From Epistemology to Ontology: Polanyi's Arguments for the Layered Ontology," Tihamér Margitay argues that Polanyi overgeneralizes when he claims that all ontology is grounded in epistemological experience.¹ The basic thrust of Margitay's paper is to deny the claim made by Polanyi that in skillful human performances and "*all other instance of tacit knowing*" there is "*correspondence between the structure of comprehension and the structure of the comprehensive entity which is its object*" (TD 33-34, Polanyi's italics). Margitay claims that Polanyi only demonstrates the correspondence for first person accounts involving knowledge-like entities. In my view, Margitay's article makes some telling points that reveal the complex sort of ontology needed if one is to adopt Polanyi's view of the nature of reality in the light of his overall philosophical vision.

Before proceeding further, however, it should be emphasized that Margitay's claims, even if entirely convincing, would not by themselves discredit Polanyi's vision of a layered ontology. Polanyi's claim that there are different levels of reality, some of which are emergent on others, is an interpretation of publicly available, empirical evidence to answer such questions as, "What is the relation of conscious experience to the activity of neurons?" His interest in the relation of epistemology to ontology is triggered by his desire to account for the Meno paradox: how is it we have foreknowledge that can serve as the basis for scientific discovery? One of his answers is that we can gain explicit knowledge of empirical reality because in evolutionary perspective we, like other animals, tacitly indwell some features of empirical reality that are conducive to survival (PK, Part IV). Discovery involves a fallible process of articulation that requires crossing a gap separating tacitly sensed features from explicit description or formula.²

However, I will suggest that in addition to the valid points Margitay makes, he misrepresents Polanyi's thought and the evidence in several significant ways. I will offer the following numbered points to further probe what both Polanyi and Margitay are claiming. My aim is to lay the groundwork for an adequate Polanyi-based ontology that sustains the significant insights of Margitay without these insights being undermined by his problematic claims.

1. Polanyi: "all knowledge is ultimately personal" (PK xi). The distinction between the first person and the third person perspective, made use of by Margitay (139), is often relied upon by philosophers in

the analytical tradition to distinguish subjective from objective statements. This distinction is at odds with Polanyi's view that statements with an objective or third person form are, if they represent the views of the person making the claim, *personal* assertions made with universal intent (PK 28, 304-308). He states that all acts of knowing, even in the exact and descriptive sciences, "include an appraisal; and this personal coefficient, which shapes all factual knowledge, bridges in doing so the disjunction between subjectivity and objectivity" (PK 17). Margitay's distinction (139) between the validity of ontological claims made from a first person in contrast to third person perspective seems to restrict the personal dimension of knowing to the former perspective only. He thus departs from a basic point in Polanyi's epistemology.

2. Polanyi's fundamental claim that all knowing is personal does not imply that the objects that are known are all of the same ontological order. There is a fundamental difference in Polanyi's ontological vision between a) the world discovered by the physical sciences, b) the type of ordering that that is properly relied upon by the biological sciences in comprehending how life functions, and c) the realms of meaning dependent on discursive symbolism within human culture.³ What I have referred to as the dynamo-physical world,⁴ the world comprehended by the physical sciences, is a world beyond (as well as including) the self. I see no compelling evidence that Polanyi ever gave up his scientific realism insofar as he refers to the world understood through the laws of physics and chemistry. He claims, for instance, that, while both art and science involve forms of personal knowing, in natural science (unlike the creation of a work of art) "the final whole lies not within the powers of our shaping, but must give a true picture of a hidden pattern of the *outer* world" (SFS 32, my emphasis). Knowing in the physical sciences involves a submission to a discovered, independent spatial or temporal order (see KB 119-120). The scientific comprehension of the external world is rooted in perception, in sign learning (PK 76, TD 29). Perceiving the world in scientific terms involves an application of learned cognitive order in cases of description and recognition (reversible understanding, PK 105) and irreversible heuristic insight in cases of discovery or novel interpretation.

3. I find Margitay to have shown persuasively that Polanyi's postulated correspondence fails to obtain in reversible recognition and identification (see especially 132 and 138). What is at stake is Polanyi's claim that there is a parallelism between the epistemological structure by which we know the perceived object and the ontological structure of the object itself. Margitay denies this. His example of the inadequacy of what he terms the Correspondence Thesis is the structure by which we recognize a watch. A watch is a kind of machine in which its organizing principle facilitates the movement of watch hands in a way that allows persons to tell time. The time-telling function of a watch is a feature following rules different than and emergent from the properties of springs, a case, hands, etc. all organized in a specific manner. Our knowledge that a certain object is a watch does not rely upon how its parts support its organizing principle. We perceive watches in terms of internalized notions of largely surface features that have little or nothing to do with its structure, function, or organizing principle: its shape, a position on one's wrist, etc. There is no correspondence between the surface features by which we recognize the watch and its separate levels. Margitay's denial that the Correspondence Thesis always pertains seems vindicated by this and similar examples of how we recognize objects in perception. At least Margitay's argument seems established with respect to reversible cases of recognition; he does not analyze the correlations involved in the heuristic act of scientific discovery.

4. Polanyi himself can be used as a witness against the universality of the Correspondence Thesis. He refers to Rubin's ambiguous "vase or faces" picture and, using gestalt figure-ground insights, notes that the subsidiary background switches depending upon whether the faces or vase are made focal (KB 110). A

featureless background *frames* what is focused upon. How do differing but essentially featureless backgrounds have ontological status? The notion of constantly changing backgrounds to the series of objects we perceive certainly seems irrelevant to the hierarchical notion of reality that Polanyi wants to support through his Correspondence Thesis.

5. The part-whole gestalt account of recognition seems at odds with what Polanyi sensed but did not state clearly in his Correspondence Thesis. As Margitay correctly notes (132), there are different cognitive achievements included under the broad category of knowing. Recognition, identification, use, and understanding culminate in different sorts of comprehensive entities. Margitay's analyses of recognition and identification leave unexamined the heuristic achievements Polanyi was most interested in comprehending: learning, inventing or discovering something. There is an important distinction in Polanyi between reversible applications of indwelt knowledge and irreversible insights that can change to some small degree our very being. The Correspondence Thesis is plausible only in relation to irreversible achievements: the distinction between tacit knowing and explicit insight can be correlated with understanding the rules/relationships governing parts/particulars and the different rules/relationships governing the comprehensive entity.

6. Margitay's summary of the lessons he learns from his analyses (132-133) is off base in at least two respects. Because he does not recognize the difference between reversible and irreversible achievements, he writes, "Knowledge of an entity is always emergent on the clues integrated into it, even in the case of ontologically non-emergent entities" (133). For Polanyi, is 145 emergent as a solution to 53+92? No, the knowable answer is a reversible logical achievement; 53 and 92 are on the same ontological level as 145. True, the mental answer is emergent from the embodied neural processes by which the answer is created. But this sort of emergence is true of all cases of consciousness—hallucinations as well as knowing. Mathematical and logical processes are generally linear and reversible, giving answers that are not emergent. Moreover, there is a problem with speaking of "non-emergent entities," because the frame of reference is all-important. While the path of a planet may be completely determined by the laws of physics and chemistry (132), the discovery that a certain patch of light is a planet can be seen as an emergent epistemological event for the discoverer. And there are many ontological levels in the dynamo-physical world; the planet is likely emergent from interstellar gases and debris.

7. Again and again, Polanyi returned to how we are able to learn skills. He speaks of a "two-leveled structure of intentional action." Learning how to ride a bike illustrates "how an imaginative intention can evoke covertly, inside our body, the means of its implementation" ("Creative Imagination" in SEP, 259). Subsidiary feelings in our body, connected to muscular adjustments, jointly contribute to focal achievements of balance and propulsion. There does seem to be a certain analogous correlation between the lower level structure of the bike as organized to support its higher level function of providing transportation as compared to the lower level embodied sensitivities and muscular action in relation to higher level achievement of riding.

8. As already noted, Polanyi's is highly interested in understanding the processes by which scientific discoveries are achieved. Here is another path. "This is what the existing body of scientific thought offers to the productive scientist: he sees in it an aspect of reality which as such is an inexhaustible source of new and promising problems" (KB 79-80). That is, certain details of existing knowledge can function as suggestive clues to yet deeper insights into the nature of reality. A non-rigorous version of the Correspondence Thesis is thus proposed: the suggestive particulars of current knowledge can be indwelt and function as subsidiaries to higher level discoveries. Subsidiaries and focal insight of the knower are parallel to lower and higher (more general) levels in reality.

9. Now let us return to the issue of to what extent it makes sense to claim that in tacit knowing there is a correspondence between our structure of comprehension and the structure of the comprehensive entity which is its object. A crucial issue here, it seems to me, is how we are to understand what Polanyi means by a “comprehensive entity.” I find it useful to distinguish between internalist and externalist notions of comprehensive entities. On the internalist view, comprehensive entities are the products of our integrative efforts to know and understand the world. For an internalist, we live and have our being within experience, and projection beyond our experience is at best speculative. The classic mode of strict internalism is idealism in its various manifestations. Phil Mullins, in his masterful study of comprehensive entities, expresses a gentle but definitive internalist understanding of the Correspondence Thesis when he states, “Polanyi’s account is a perspective that marks how impossible it is ontologically to separate the knower and the known.”⁵

10. Margitay, in his example of how we know a watch, seems to be opting for an externalist view of comprehensive entities. However, when he acknowledges the emergent nature of “knowledge-like entities,” he seems to be accepting an internalist view with respect to how we understand others and their activities (such as their strategy in playing chess). I believe different contexts call sometimes for an internalist and sometimes for an externalist perspective. Thus I accept in general what I take to be Margitay’s acceptance of both internal and external comprehensive entities. No doubt some will see this affirmation as a return to a Cartesian duality between mind and matter that so many thinkers have rightly sought to overcome. I see the great problem with Cartesian thought to be its articulation in terms of irreconcilable substances, not in any distinction between our experience and what our *sensory-based* experience refers to.

11. Surely Polanyi, with his commitment to the external world known in science as well as his internalist analyses of meaning, would agree with the bifocal acceptance of both perspectives (see, for instance, PK 195). That he recognizes a clear distinction between epistemology and ontology, and the need for care in speaking of ontological levels, is made evident in an important passage in *Personal Knowledge*. He says that, “strictly speaking, it is not the emerged higher form of being, but our knowledge of it, that is unspecifiable in terms of its lower level particulars. We cannot speak of emergence, therefore, except in conjunction with a corresponding progression from a lower to a higher *conceptual* level. And we realize then that conceptual progression may not always be existential, but that it becomes so by degrees” (PK 393-394).

12. Although I appreciate Margitay’s demonstration that Polanyi’s Correspondence Thesis does not apply in all cases of knowing, I find his criticism of Polanyi’s notion of dual control to be flawed. “In the case of machines,” he writes, “the lower level is governed by the laws of physics and chemistry determining the material and the shape of the parts of a machine, while the boundary condition for this lower level is provided by the higher level operational principles of the machine” (135). Polanyi’s notion of operational principles has a greater reach than Margitay appears to recognize. How Polanyi, in contrast to Margitay, looks at a watch can be instructive here. A watch “is kept going by its mainspring, uncoiling under the control of the hair spring and balance wheel: this turns the hands which tell the time. Such are the operational principles of a watch, which define its construction and working. The principles cannot be defined by the laws of nature” (KB 153). So it is that operational principles deal not only with the purpose of a machine but also with the structure and working whereby that purpose is realized. Therefore, contrary to Margitay, the lower level laws do not determine the type of material used in a machine (this is a matter of ascertaining what materials have the right properties at the right cost) nor do they determine the shape of the parts of a machine. Rather the shape and organization of the parts are among the boundary conditions imposed by a designer to achieve some goal. Certain types of metal having the needed properties (tensile strength, resistance to corrosion, etc.), which are subject to the laws

of physics and chemistry, would be selected based on higher level concerns. True emergence can only take place where there are open conditions and stable properties at a certain level of being which can be utilized via the imposition of boundary conditions without there being any chemical reaction (or violation of the laws of physics) between the levels. If there was, say, a chemical reaction, then one would witness a process of chemical change at the same base level rather than the emergence of a higher level subject to different rules than those of the lower level. Because in emergence the lower level laws and properties are disengaged from the higher level, the lower level has a supportive rather than a causal influence on the higher level. The actions of neurons *support* particular thoughts, they don't cause them. Rather it is what one has just perceived or thought or remembered that directly influences new thought, not a particular set of neurons firing.

13. Margitay attempts to buttress his critique of dual control by substituting the solar system for the machine (135). But these two terms are not equivalent. The solar system lacks the elements of design and purpose that the machine has. The operational principles of machines are telic; they are designed to achieve some purpose. The shape and operation of the solar system is fully determined by the laws and forces resident in the dynamo-physical world. It has no structuring purpose. "Inanimate nature is self-contained, achieving nothing, relying on nothing and, hence, unerring" (TD 44). A further assumption offered by Margitay also seems problematic: that the laws of physics are "complete" (135-136) and leave no indeterminacy so that any emergence must be controlled by these laws. The notion of such a deterministic universe is an expression of an objectivist perspective that is seriously at odds with Polanyi's emphasis on the many indeterminacies that limit what we can claim with certainty about ultimate reality.

14. Further, Margitay argues that "the class of nuts, bolts, wrenches, cogwheels, pneumatic tyres, medicines" (138) etc. are comprehensive entities that can be identified by their adherence to industrial standards that can be described in physical-chemical terms. But if identification is made just in terms of a physical-chemical topography, an important aspect of their being is left out: what they are designed to accomplish so that they exist in the first place. Margitay's reductionist agenda does not take purpose into consideration.

15. Summing up: Margitay is on target when he critiques the universality claimed by Polanyi in his Correspondence Thesis. But his rejection of the ability of the Correspondence Thesis to support a layered ontological interpretation of the external world is by itself insufficient grounds for rejecting Polanyi's concept of emergence and a hierarchical structure of being as a whole. In reverting to a kind of reductionistic objectivism that not only Polanyi, but many others have successfully questioned, he seems to have rejected a basic objective of post-critical philosophy. His reversion is puzzling, because in the first several sections of his article he presents a clear and well-articulated description of Polanyi's epistemology and theory of emergence. This is not to suggest Polanyi's layered ontology is beyond question. For reasons that go beyond the scope of this paper, I question Polanyi's language of "levels" and "hierarchy," as such concepts sound too discrete and static in describing the messy reality in which we dwell. This language seems to mislead Margitay into the view that Polanyi envisions a ladder-like notion of an inflexible, absolute ontological hierarchy (130). Let me conclude by quoting one whose vision of the real is somewhat different than either Polanyi's or especially Margitay's. William Wimsatt opts for the following metaphorical vision of reality, patterned after a rainforest: it has "converging overlapping branches, and patterns of intersecting order, residents, and connections at a variety of levels, but no *single* stable foundational bedrock that anchors everything else. . . It yields a kind of multi-perspectival realism anchored in the heterogeneity of 'piecewise' complementary approaches common in biology and the study of complex systems."⁶

Endnotes

¹Tihamér Margitay, “From Epistemology to Ontology,” *Knowing and Being: Perspectives on the Philosophy of Michael Polanyi*. Tihamér Margitay (ed.) (Newcastle upon Tyne: Cambridge Scholars Publishing, 2010), pp.128-140. Quotations from this essay are simply noted by page in parenthesis in the text.

²Polanyi’s accounts of discovery also emphasize our sensitivity to coherence and “our acknowledgment of a beauty that exhilarates and a profundity that entrances us” (PK 15). An additional suggestion about how some discoveries arise is noted in point 7 above.

³“No richly endowed new reality can be seen emerging in the inanimate domain. This happens for the first time in the emergence of a living being from inanimate constituents” (PK 394). “While the first rise of living individuals overcame the meaninglessness of the universe by establishing in it centres of subjective interests, the rise of human thought in its turn overcame these subjective interests by its universal intent” (PK 389).

⁴See Walter B. Gulick, “Polanyian Biosemiotics and the From-Via-To Dimensions of Meaning,” *Tradition and Discovery* 39:1 (2012-2013), 21.

⁵Phil Mullins, “Comprehension and the ‘Comprehensive Entity’: Polanyi’s Theory of Tacit Knowing and Its Metaphysical Implications,” *Tradition and Discovery* 33:3 (2006-2007), 33. Mullins outlines the growing range of reference for comprehensive entities in Polanyi’s writing. It was first limited to living beings but eventually used in reference to all the objects we can know (27, 31). Hence it eventually can refer to either internal or external objects.

⁶William C. Wimsatt, *Re-Engineering Philosophy for Limited Beings: Piecewise Approximations to Reality*, Cambridge, MA: Harvard University Press, 2007, p. 12.

Electronic Discussion List

The Polanyi Society supports an electronic discussion group that explores implications of the thought of Michael Polanyi. Anyone interested can join. To join yourself, go to the following address: http://groups.yahoo.com/group/polanyi_list/join. If you have difficulty, send an e-mail to James van Pelt (james.vanpelt@yale.edu) and someone will see that you are added to the list.