

The notion of discovery is arguably the most important among a family of related and interconnected ideas in Polanyi's philosophy. As Jon Fennell's astute paper discloses, illumination plays a crucial role in the process of discovery, where verification is also a key moment of this process. I generally agree with the tenor of the paper, and find his discussion of Polanyi as situated between Peirce and Groarke an instructive way to understand further Polanyi's notion of discovery and its significance.

In this brief response piece, I propose to explore and speculate upon several of the fertile themes that Fennell raises. The first theme concerns Peirce's notion of abduction/retroduction, which I connect to semiosis. The second theme regards insight<sub>1</sub> (illumination) and insight<sub>2</sub> (verification) as they bear upon Polanyi's use of a widely cited four-step process regarding discovery. The last theme is the communal character and future-directed trajectory of illumination (which are bound up with the pursuit of truth).

Generally speaking, Peirce distinguishes between deduction, induction, and abduction, which is also known as valid inference, probabilistic inference, and inference to the best explanation. However, Peirce gives several developments of these three notions, not all of them quite the same. In fact, his idiosyncratic evolution of thought adds both layers of richness and technical nuance that make it difficult to characterize Peirce's final position on these notions (not surprising given the wide and deep range of his writings, and the lack of a definitive single work synthesizing his fertile and creative thought into a *magnum opus*). What I find interesting is that Peirce's later writings marginalize abduction/retroduction and focus on sign action as a more comprehensive approach to inference of any sort. Deduction is cashed out in semiotic terms, and induction as probabilistically developed (and tied metaphysically into a frequentist interpretation of the probability calculus) similarly finds a place in his semiotics. Abduction/retroduction

appears left out or marginalized, at least as narrowly construed. But what about the notion in its wider connotations? Readers of Peirce's sprawling semiotic ideas might sympathize with the following speculative suggestion: Semiotics is a generalized account of various kinds of inference to the best explanation, or abduction "metaphysically expanded" is about the innumerable ways in which we make sense of things—the ways in which we seek explanations, discover patterns, form hypotheses, create tools of understanding, etc. Abduction narrowly construed cannot capture the wide semiotic activities that such sense-making encompasses. Perhaps abduction is the impetus for semiosis and Peirce's bold claim that all inquiry is semiotic—that the totality of his thought (his pragmatism, metaphysics, logic, etc.), in all its sprawling glory, is an exercise in semiosis. If so, Groarke's narrow focus on the term "abduction" lacks hermeneutical scope, as in the larger scheme of things illumination, verification, discovery, and their ilk are all still enfolded in sign-action.

The second theme I'd like to explore is the distinction between insight<sub>1</sub> (illumination) and insight<sub>2</sub> (verification) as they bear upon Polanyi's appeal to a widely cited four-step process regarding discovery, and his philosophical appropriation of that process in *PK*. The four stages—preparation, incubation, illumination, and verification—stem from earlier work by Wallas, Hadamard, Poincare, and others. It might seem, at first glance, that Groarke's Aristotelian illumination and Peirce's abduction correspond with the stages of illumination and verification, but with crucial added metaphysical import (and thus not merely restricted to the psychological dimensions of the creative process, as the four-step model is often interpreted). From this perspective, Polanyi can be viewed as bringing on board a wider four-step psychological process accounting for the process of discovery, adding his own unique "metaphysical" twists that create a sort of middle ground between Groarke and Peirce. Most

importantly, from this middle ground there is no strong distinction between insight<sub>1</sub> and insight<sub>2</sub>, and without the contextualized-and-contextualizing backgrounds that each of these senses rely upon, there cannot be skillful discoveries of the sort that qualify as achievements worthy of recognition. For beyond mere illumination or verification are the additional labor-intensive and skill-laden dimensions of preparation and incubation, without which neither illumination nor verification would be able steal the epistemic and/or metaphysical limelight. In brief, both illumination and verification presuppose background enabling skills that make possible ossifications such as “epistemologically autonomous illumination” (“discernment” of a sort that is preeminently skillful) or a verified discovery. As the old adage goes, it’s ninety-nine percent perspiration, one percent inspiration—whether that one percent occur before or after, it is still enabled by layers upon layers of “perspiration.” I speculate that Polanyi’s tacit dimension encompasses both Groarke and Peirce, and beyond presenting merely a middle ground actually forms a proper starting point for psychological accounts of discovery (a strength, not a weakness, of Polanyi’s approach) as well as epistemological and metaphysical developments of illumination and abduction as they bear on discovery and the pursuit of truth.

This brings me to the final theme concerning more metaphysical matters, specifically the communal character and future-directed trajectory of Polanyian illumination (as bound up with the pursuit of truth). While notions like pursuing truth and the way of discovery are synonymous, things become complicated with respect to other metaphysical notions like the pursuit of wisdom and/or spirituality. The correlate of illumination in this later context seems to be contemplation, a kind of discovery writ large and perhaps the highest form of human achievement, as Polanyi seems to suggest in *PK*. The pursuit of truth, with its concomitant commitments among communities of explorers, is an open-ended project that makes it personal,

not private, as Fennell insightfully notes. But the communal, open-ended texture of this pursuit seems to be less present in spiritual, contemplative experiences. Instead we seem to have here a judgment rendered by Aquinas near the end of his life: his tremendous body of works is but straw compared to the realization of what matters most. If our communal pursuit of truth, with its moments of illumination, verification, discovery, etc., is analogously “but straw” in comparison to contemplation, is the having of authentic contemplative experience essentially a *private*, mystical affair, as well as the highest form of *personal* knowing? Soteriological considerations in a sense bring us back full circle (spiral?) to the notion of “autonomous contemplation” (not adequately characterized as merely epistemic illumination), if only because such transcendent forms of consummate experience are indwelt at the deepest and most complete level of human existence, opening us up to the nature of being itself (whatever that may be). Just as the pursuit of truth is a life’s calling, there are apparently higher spiritual goods whose calling seems to break through even tacit knowing’s framework, while strangely at the same time still personalistic and private, communal and autonomous. Contemplation is perhaps the polite term for a notion that appears, it seems, universally across religious and/or spiritual traditions: mystic experience.