centrally planned economies and published many things on this topic before *Personal Knowledge*. The critical component of Polanyi's social and political philosophy I summarize by identifying it as a critique of centralized control.

Jacobs has shown that, as early as 1941, Polanyi's writings reflect that he was analyzing and comparing planned and "dynamic" orders or, as he later termed them, "corporate" and "spontaneous" orders.[15] Possibly developing his views from hints in Kohler, Polanyi works out basic ideas about social organization that focus around two schemes, centralized direction and voluntary adjustment by units with an incentive to cooperate. Polanyi applies this typology, arguing that the administration of science, the operation of a complex economic system, the operation of common law legal processes, and several types of cultural endeavor (e.g., literature) function best as dynamic orders. That is, designed order imposes an undesirable rigidity (in certain human endeavors) that impedes growth or change, whereas mutual adjustment by individual units promotes growth through orderly change as an evolving process[16].

Polanyi opposed (and sharply criticized) the practical emphasis of movements to make scientific research socially useful (and to do away with the pure and applied research distinction) as well as philosophical ideas about science that eliminate emphasis upon truth and truth seeking. Such criticisms are linked to his ideas about the importance and nature of dynamic or spontaneous orders. Polanyi emphasizes the importance of tradition in spontaneous orders. He argues science, for example, has or is a dynamic tradition; those learning to be scientists are apprentices who appropriate the current manifestations of tradition and, eventually, when they are no longer novices, reform tradition based upon their own contact with reality. Although early modern science needed to resist the traditions of the Roman Catholic Church,

[15] Struan Jacobs ("Michael Polanyi and Spontaneous Order, 1941-1951",*Tradition and Discovery: The Polanyi Society Periodical* 24:2 (1997-98): 14-28) argues that Polanyi's discussions on this topic have generally been overlooked (especially by Hayek scholars). He contends that 1941-1951 is the period in which Polanyi works out his views and thoroughly discusses this topic. As I suspect Jacobs knows, there are even earlier discussions (such as that in Polanyi's 1940 essay "Collectivist Planning"[in *The Contempt of Freedom* (New York: Arno Press reprint, 1975: 27-60)] in which planning and "supervisory authority" (33ff) are discussed in terms similar to later discussions in the decade he focuses upon. Jacobs is cited hereafter in parentheses by page number. See also C.P. Goodman's interesting recent essay "A Free Society: The Polanyian Defense" (*Tradition and Discovery: The Polanyi Society Periodical* 27:2 (2000-2001): 8-25), which on several points parallels Jacobs' discussion. Jacobs and Goodman offer outstanding scholarly discussions (using Polanyi's early writing) of what I am here, in a summary fashion, dubbing Polanyi's critique of centralized control.

[16] I am drawing upon Jacobs' discussion (14-19), which succinctly summarizes Polanyi's account of these different orders and their application.

Polanyi contended scientists in the late modern world need to overcome this animosity toward tradition, since the authority of science is essentially traditional and science is a tradition-shaped and tradition-grounded activity.[17]

Polanyi's offered sharp criticisms of modern notions of freedom or liberty and these ideas too are bound up with his ideas about dynamic or spontaneous orders. Jacobs suggests that, by 1941, Polanyi is already making a distinction between "private" and "public" liberty. Spontaneous orders require public liberty, which is the opportunity individuals must have to respond in ways "they personally judge to be appropriate to a given ideal end" (Jacobs, 19). This type of liberty is integral to the process of adjustment of a dynamic order and is distinguished from private liberties that are more directly linked with satisfying individual desires.[18] Jacobs points out that public liberties are, for Polanyi, critical in liberal society, but are denied in totalitarian states. Private liberties seem originally to have grown out of public liberties and can be quite limited or quite extensive in both democratic and totalitarian societies, in Polanyi's view (Jacobs, 19-21).

Polanyi criticizes modern society for its emphasis upon individual or private liberties and its failure to recognize that public liberties are the foundation of progress in endeavors such as science. The right to speak the truth as a scientific researcher sees it, based upon her contact with reality, is the foundation upon which the growth of scientific knowledge rests. Science can be governed by scientific opinion only because there are civil liberties that assure intelligent discourse. More generally, Polanyi holds that the ideal of self-improvement in modern society is grounded in the right of opposition in the name of truth.[19] Modernity, however, has

[17] The most succinct late treatment of these themes concerned with tradition (although they certainly appear elsewhere) is Polanyi's 1962 essay "The Republic of Science: Its Political and Economic Theory" originally published in the inaugural issue of *Minerva*, edited by Polanyi's friend Edward Shils. The article is included in *Knowing and Being, Essays by Michael Polanyi* (ed. Marjorie Grene, [Chicago: University of Chicago Press, 1969]: 49-72—citations below are to page numbers in this publication of the essay) and is on the Polanyi Society web site (http://www.mwsc.edu/~polanyi/mp-repsc.htm).

[18] Interestingly, in the "Preface" to his 1951 book *The Logic of Liberty* (London: Routledge and Kegan Paul Ltd, 1951 - hereafter cited as *LL* in parenthesis), which contains essays from the forties, Polanyi says the following:

> There is a link between my insistence on acknowledging the fiduciary foundations of science and thought in general, and my rejection of the individualistic formula of liberty. This formula could be upheld only in the innocence of eighteenth-century rationalism, with its ingenuous self-evidences and unshakable scientific truths (*LL*, viii).

[19] "The Republic of Science," 70.

lost its confidence in transcendent ideals such as truth.[20] At best, modernity explains away such ideals. Modern ideals supporting unlimited improvement of society, ideals that came to be accepted after the French Revolution, Polanyi argues, have been undercut and transformed by the impossible ideal of a fully impersonal knowledge, by the adulation of doubt, by disrespect for tradition, and by utopian impatience. Polanyi regards the modern mind as prone to nihilism and violence since it brings together excessive moral passion and pervasive skepticism.

2.15 The Critique of Metaphysical Dualism

Polanyi's "post-critical" perspective offers an at least implicit critical response to some of the basic metaphysical suppositions of modernity. Polanyi's thought is often classified as philosophy of science and epistemology. But for several reasons, Polanyi's work does not comfortably fit under these rubrics. It is important to emphasize that the way in which Polanyi accounts for knowledge undermines some of the metaphysical distinctions basic to modern thought. Polanyi does not presuppose as a foundational assumption that reality falls into two kinds, thinking subjects and non-thinking matter. Marjorie Grene emphatically rejects this dichotomy and where it leads philosophically in a way that is quite consistent with Polanyi:

> There is no fundamental contrast between me-in-here and everything-else–out-there. And that is not because 'I' am everything or nothing and 'it' (or 'they') nothing or everything, but because the radical split between in-here and out-there makes nonsense of a world that is living, complicated, messy as you like, but real. I am myself an instantiation of that world's character, one expression of it, able also in an infinitesimal way, to shape and alter it (*PT*, 114).

[20] Polanyi's view is succinctly articulated in a 1947 essay "Foundations of Academic Freedom" which was included in *The Logic of Liberty*:

> The general foundations of coherence and freedom in society may be regarded as secure to the extent to which men uphold their belief in the reality of truth, justice, charity and tolerance, and accept dedication to the service of these realities; while society may be expected to disintegrate and fall into servitude when men deny, explain away, or simply disregard these realities and transcendent obligations (*LL*, 47).

Polanyi's theory of tacit knowing as a from-to conception of knowing cannot be reconciled with a metaphysically dualistic approach to reality.[21] To parse all of reality into things material and mental (or to choose between these options) is to slip into a philosophical venue that ultimately undervalues the embodied way in which humans and other animals make their way in the environment. Again as Grene puts the Polanyian point, "it is precisely the alternative between materialism and mind-body dualism which we are trying to overcome, and which the nature of the phenomena demands that we overcome."[22] Grene suggests that what post-critical philosophy calls for metaphysically is "an analytical pluralism" which she describes aptly:

> … 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. And achievements of responsible persons, such as laws, works of art, or forms of worship, may again be richer in reality than those persons themselves. That does not mean that such performances, such products of human skill, somehow exist 'in themselves', separately from the existence of those who contrive, support, and also depend upon them. The alternative 'separate mind' or 'no mind', two reals or one real only, has been too long dominant over western thought. We need to recognize once more the richness of thought in comprehending what cannot be wholly reduced to so explicit a pair of formulae. And equally, we need to recognize the richness of reality, including the achievements of human persons and human traditions. For this transcends even the profoundest acts of comprehension harbouring for future knowers consequences not yet imagined: … (*KK*, 242-243).

As creatures who dwell in that which we would know, our human being is being-in-the-world. Polanyi's notion of bodiliness is primarily a functional distinction and this means that what is bodily (i.e., what functions as the physical body or extends the physical body) changes. Humans (and other animals, according

[21] Grene points out that a from-to conception of knowledge prevents " a return to the notion of a 'separate' consciousness thinking thing." ("TKG," 170). However she thinks Polanyi's aggressive refutation of the denial of consciousness by behaviorists led him to fail to realize or to forget "the subtlety of his own anti-reductivist position . . ."("TKG,"170) and thus Polanyi, in some late essays, defends the mind-body split in order to affirm the importance of mind.

[22] Marjorie Grene, *The Knower and the Known* (Berkeley: University of California Press, 1966), 242. This work is cited hereafter in parenthesis as *KK*.

to Polanyi) are creatures with tacit powers; we can extend ourselves by dwelling in that which is of interest. To change what we dwell in is to change our being, however incrementally. This Polanyian perspective is one that simply denies the validity of what Grene calls (above) the "separate mind" or " no mind" bifurcation.

As my extensive references to Grene's discussion of this metaphysical criticism and reconstruction of modern thought suggests, I believe Polanyi was not always clearly aware of some of the metaphysical implications of his own views. Thankfully, Polanyi had a long and fruitful friendship with such an insightful, sympathetic philosopher as Marjorie Grene; she sometimes is better able to interpret the philosophical implications of Polanyi's perspective than Polanyi is. The metaphysical implications of Polanyi's mature theory of tacit knowing were perhaps hidden from him, as Grene has suggested, because of momentary concerns such as confronting reductionistic behaviorism ("TKG", 169-171). Polanyi's interest, in the last decade of his life, shifted more and more to concern with problems of meaning. He did not carefully explore metaphysical issues of post-critical philosophy as he sought to apply the theory of tacit knowing to art, myth and religion. This late work does seem to have been a part of Polanyi's lifelong interest in restoring confidence in overt belief, although some scholars have questioned whether it is a genuine expansion of the post-critical perspective articulated in *Personal Knowledge* and the decade afterward.[23]

2.2 Conclusion

Polanyi's post-critical philosophy is a perspective that, as he announced in his Gifford Lectures, restores confidence in overt belief. This in no way, however, means that post-critical thought is antirational. In fact, Polanyi affirmed the human capacity for a profound rationality that is grounded not in objectivism or a skepticism reliant upon doubt. The post-critical vision of rationality accepts the person's role as an active shaper of thought. Human beings are capable of responsibly serving self-set standards. Such standards both define and transcend the individual, understood as a member of a community of inquiry with a dynamic tradition. Polanyi's post-critical perspective is a view that weaves inseparably together epistemology, *Lebensphilosophie* and an account of the evolving universe.

[23] See the essays by Ronald Hall ("Michael Polanyi on Art and Religion: Some Critical Reflections on *Meaning*," *Zygon* 17:1 (March 1982): 9-18) and Bruce Haddox ("Questioning Polanyi's *Meaning*: A Response to Ronald Hall," *Zygon* 17:1 (March 1982) in the 1982 issue of *Zygon* devoted to "Science and Religion in the Thought of Michael Polanyi." Certainly, also Grene's correspondence with Polanyi suggests that she is dubious about some of his efforts to stretch the theory of tacit knowing to account for art, myth and religion. See, for example, her comments in letters of August 26 and October 8, 1968 (16-3).

Polanyi regards human beings as creatures capable of accepting a calling to develop our skills in order to explore the unknown. For post-critical philosophy, thought is a special human vocation that fits into the universe as a fascinating, beautiful and changing domain.

Stefania R. Jha

NEO-POLANYIAN EPISTEMOLOGY AND ETHICS – RECONSIDERING MICHAEL POLANYI'S PHILOSOPHY

Abstract

Recently there has been a revival of interest in Polanyi's epistemology. In the following I will sketch a brief proposal for a Neo-Polanyian ethics based on a schematized form of his tacit knowledge epistemology. I premise the sketch on the assumption that Polanyi's theory of tacit knowing is not a full system of philosophy but is a set of interlocking analogical descriptions of functions of human ways of understanding the world and morality.

The proposed neo-Polanyian ethics has the potential to overcome the limitations of Polanyi's specialized model for an ethical community, the scientific community. We need a model which is more heterogeneous in terms of cognitive and historical factors mirroring the society at large, and which is a democracy of voluntarily association.

Part 1. The Epistemology of tacit knowing, its schematized structure and function with respect to ethics

A. Structure

Polanyi's epistemology of *tacit knowing* can be schematized as a continuum with two poles in which attention is directed from the features or clues of the situation or thing, to the whole,[1] in shorthand form '*from-to knowing*.'[2] We may be unable to specify the clues, these internal processes on which we rely, but these clues support our recognition of the whole, the situation or thing. The 'whole' is the meaning of the act of recognition — we attend to the whole the subject of which can be specified.

To better ground my proposal, I am introducing here Polanyi's 1937 notion of 'judicial attitude.' He did not analyze this notion. 'Judicial Attitude'[3] is used with

1 Michael Polanyi, *The Tacit Dimension* (Garden City, New York: Doubleday & Co., 1966), 87.

2 M. Polanyi, 'The Logic of Tacit Inference,' in M. Grene, *Knowing and Being* (Chicago: Univ. of Chicago Press, 1969), 140-141.

3 Polanyi Papers (3:8), Special Collections, Regenstein Library, University of Chicago

two meanings: epistemological and ethical. Epistemologically, it is the commitment, readiness and ability to choose, to assess and to integrate disparate clues into a judgment guided by a principle. It is a regulative idea. Freedom is a precondition for exercising the judicial attitude. – In the ethical context, judicial attitude means to strive for the actualization of universalizable principles. In its more familiar form, in the public sphere, the judicial attitude is a commitment to the principles of justice. In Polanyian terms, universalizability means not established universality, but universal intent, a claim that the statement ought to be accepted by all.[4] Universalizability is a means to introduce new standards[5] with conviction, while respecting established values.

The epistemology of Polanyi's tacit knowing was to bridge the fact/value dichotomy, since severing fact from value discounts the knower's active participation in all knowing, i.e. knowing becomes a collection of disembodied ideas. Bridging the gap, he insisted, does not mean collapsing fact into value, or denying objectivity. Collapsing fact into value and denying objectivity would be to commit the opposite error, subjectivism. However, because fact and value are connected, concepts such as truth and objectivity need to be redefined.

As Figure 1 shows, tacit knowing is a continuum between two poles of knowing, the internal (personal) pole and the external (objective) pole.[6] The poles are connected by intentionality. The personal pole supports the external pole, and without it the external pole is adrift. However, elements which belong to the personal pole, are tested in experience at the external pole. In the natural sciences, where the personal element is smaller, the process of testing in experience of statements of fact is called verification. In ethics and the humanities and to a certain extent in the social sciences, where the personal element is larger to varying degrees, the process of testing evaluative statements in experience is called validation. This testing process assures the truth and objectivity, as far as it is possible, of such statements.

4 Polanyi, *The Tacit Dimension*, 78.

5 Ibid, 69.

6 Polanyi, 'Faith and Reason' (1961), in F. Schwartz, *Scientific Thought and Social Reality* (N.Y.: International Universities Press, 1974), 125.

From >>>	vector* (of intentionality)	>>> *to*
Internal (personal) pole	'Intellectual passions'	External (objective) pole
1. Subsidiary awareness	Integrated into	Focal awareness
2. Tacit assertion	Tacit inference	Content of assertion
3. Guessing	integration	Guessing right (validated)
4. Claim of truth	Responsible judgment	Truth itself
4a. Striving to reach the goal	Judicial attitude	Reaching the goal (the principle)

* Vectors spring from the internal pole and are forms of the will.

Figure1.
Structure of two poles of knowing with respect to ethics

Thinking of tacit knowing as *from-to knowing*, 'from' is the internal pole, 'to' is the external pole. In tacit knowing, the following pairs of poles (Figure 1) and their connecting vectors should be considered; all pairs are aspects of knowing and each pair highlights an important characteristic of tacit knowing.

(1) The first pair is to explain the structure of understanding by a brief sketch: Subsidiary awareness of clues or elements are 'linked' to focal awareness of the whole by the act of integration. For example, we have a background awareness of features (the elements) of a face but we are focusing on the face (the whole)– our tacit knowing integrated the features into a coherent whole. If we focus of the mouth of a speaker, for example, we lose sight of the face – it will recede into the background, into subsidiary awareness. [Or, another example: When we read a sentence, we are focusing on the meaning of it, to understand it as an instance of communication. However, if the sentence is written either in a foreign language in which we have slight proficiency, or if it is written in a jargon unfamiliar to us, we will be focusing on the words. Only after we think we understand most of the words (elements) can we try to make sense of the string of words as a sentence. If our mind has made the proper integrations by the use of grammar, we understand the meaning of the sentence. If not, then not only the elements, but the linkages also need to be clarified by focusing on them individually and in relation to the whole. Examples of this can be found in the incomprehensibility of jargon to the uninitiated and their gradual proficiency at its use in the process of learning.] The point is that the mind tacitly integrates elements into a whole, unless the elements are mostly unfamiliar.

(2) Another pair of poles highlights the structure of the 'logic of tacit knowing.' Tacit assertion at the internal pole and the content of what is asserted at the external pole. When I make a statement such as 'Paul is a liar,' the statement consists of the

assertion, rather tacit assertion, meaning 'I believe it is true that Paul is a liar' and the content of the statement 'Paul is a liar.' The tacit assertion is linked to the content of the statement by intentionality. If I check the content of the statement and in experience it does not turn out to be the case that Paul is a liar, the content is false and I cannot reassert the sentence because my intention was to make a true statement.

(3) The third pair of poles highlights understanding. When we size up a new situation at a glance, initially we are making an intelligent guess as to its meaning – e.g. 'Jones killed the robber.' This initial guess can be said to be at the internal pole of knowing. We make a tacit inference *from* the elements of the situation, Jones with a weapon, the dead robber, *to* the whole which is its meaning 'Jones killed the robber.' We must subject this guess to the test of experience, analyze the elements of the situation and make an inference to the objective situation. If Jones actually killed the robber, we may speak of 'guessing right.' Guessing right is at the external pole, as the guess had to pass the test of agreeing with objective reality.

(4) The fourth pair of poles highlights values embedded in tacit knowing. If I make a statement as a claim of truth, ' Paul has done me wrong,' I must make this statement with responsible judgment. Responsible judgment is rooted in the internal pole of knowing. Truth itself is at the external pole.

Responsible judgment springs from the tacit – it can also be thought of as having its root in the judicial attitude which, as I said above, is a commitment and ability to choose and to integrate disparate elements into a judgment guided by a principle. If the claim of truth is made without responsible judgment, without relying on the judicial attitude, the link to truth is severed, and in the public realm the principle of justice is lost. The claim to truth without a connection to the principle of universalizability is invalid. Note that claims to truth unconnected to external reality are subjective. Both in the case of relativism and of subjectivism, principles are lost. The claim to truth without responsible judgment is to be distinguished from error, which was illustrated in the example 'Paul is a liar.' In the case of error, the principle is not lost. Another attempt can be made at a statement and checked by experience. The intention to reach truth has not been compromised.

Note that the link between the two poles of knowing carry various names depending on the aspects of knowing they connect: inference, intentionality, responsible judgment, integration, judicial attitude. The general term for all these versions of the link or vector is 'intellectual passion.' The term 'intellectual passion,' now enriched by the term 'judicial attitude,' indicates the joining of cognitive and conative forces in knowing, and is the technical term for the vector between the poles.