

around our somatic being. Diligently he follows the clues that arise from the rhythm and pulse of life. This route takes us then from the tactile toward the articulate, from the preformed connections inside us to the performed expressions of culture. Language seems to be Poteat's principal method and source for answers, but it is language reconnected with its bodily origins and consequently the organic world of nature. Poteat describes the way vision from the Greeks onward rose to the modern ideal of objectification. He also explores the way hearing in music and in speech lead us to see mindbodily relations of key logical concepts such as "necessary" and "contingent." He follows the critiques of other anti-Cartesians, Chaim Perelman and Walter Ong, and shows how their own use of the language in a modern critical way thwarts their purpose. When Poteat ends, one has experienced what it is to know inwardly that knowing and being cannot be separated.

What then does such an original and idiosyncratic work have to say to the science and religion dialogue? Its implications are vast even though Poteat is not discussing specific science and religion issues. First, Poteat gives to all who will suffer with him a way of reflecting upon their own mindbody as they do their work. Second, he gives deeper meaning to the now accepted wisdom that the language of science is a special language of a special community. Third, he shows the mindbodily common ground of all knowing that issues into scientific imagination. Fourth, he awakens our sense of loss if we define and limit our reality to the belief in absolute critical lucidity. Finally, Poteat shows that there is no easy way to reform. Education and argument in the Enlightenment style will not loosen the control of the Cartesian ideal. Rather, taking time, taking our own feelings and imagination, we can discover that our bodies, our objects, our world are generated out of a reality more archaic and more lively than anything we can say.

It will take some years to appreciate and to grasp Poteat's contribution. His search for a post-critical logic gives us an alternative picture. I think Polanyi may not have been as "unwitting" in his use of language as Poteat suggests since Polanyi already had the difficulty of trying to address the scientific and philosophic establishment. Poteat has definitely added a new dimension by showing the sense of logic in a language of a mindbodily world. In effect, he has given voice to what Polanyi was addressing.

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Michael Polanyi: A Critical Exposition By HARRY PROSCH. Albany, N.Y.: SUNY Press, 1986. 354 pages. \$14.95.

In this volume Harry Prosch sets forth what he takes to be the substance, scope, and excellence of the thought of Michael Polanyi, a figure he believes has generally been misunderstood or ignored by contemporary philosophers. The author was Polanyi's collaborator late in Polanyi's life and was responsible for the publication of *Meaning*, a final Polanyi book which elicited a sharp critical debate that became the focus for an issue of *Zygon* (vol. 17, no. 1 [March 1982]).

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In his first 200 pages Prosch elaborates in detail Polanyi's ideas. This exposition unfolds in three sections organized around medical metaphors representing Polanyi's analysis of the misdirection of the modern mind and the affirmations proposed as necessary for redirection. The first three chapters, which constitute Polanyi's "diagnosis" of the plight of the modern mind, Prosch summarizes as follows: "... the modern mind is suffering from two diseases. These consist of two false ideas: that of detached objectivity or explicitness as the ideal of knowledge and that of perfectionism as the ideal in moral and social concerns. Together these two ideas—actually incompatible—have worked themselves into what he called 'moral inversion' "(p. 205). Prosch describes Polanyi's "prescription" to heal the modern mind in the next five chapters focusing upon Polanyi's basic epistemological model and his constructive philosophy of science. The final five expository chapters round out the presentation of broader dimensions of Polanyi's constructive thought by developing Polyanian perspectives on self and world which are built upon the epistemology.

In this reviewer's judgment, Prosch is a careful reader of Polanyi although his interpretation of some points is incorrect and his exposition needs to be seen in its proper context. The opening three sections, Prosch claims, chiefly restate Polanyi's positions in order "to show how the various subjects and areas he had taken up belong together in terms of his fundamental objectives"; the author contends he is thus doing "for Polanyi's work something which no one has yet done, not even Polanyi himself" (p. 8). Prosch's conception of his own work indicates the perceived need he intends to meet, but his underlying judgments can be disputed. I doubt in principle that there is just one way to organize a persuasive, unified presentation of the ideas of a complex thinker such as Polanyi. Richard Gelwick's *The Way of Discovery* is an older but serviceable introductory exposition which sets forth Polanyi's basic objectives and nicely unites different elements of Polanyi's thought. Prosch has charged (*Ethics*, 89 [Jan. 1979]: 211-16) that Gelwick's book is an incomplete, overly general exposition; it misrepresents Polanyi's ideas about discovery because it fundamentally misconstrues Polanyi's conception of knowledge in art and religion. Prosch's response launched a major discussion among scholars which spilled over into the special issue of *Zygon* that focused on Polanyi's ideas about science and religion. Since several issues treated in that discussion surface again in his book, a sober appraisal of Prosch's exposition must insist that it be seen against the backdrop of ongoing discussions about Polanyi's ideas. In the final analysis Prosch's curious claim (quoted above) regarding the uniqueness of his treatment of Polanyi's thought is a claim about what he sees in Polanyi, Prosch is a moralist interested in large issues. His device for reviewing Polanyi's thought allows him to fold in the diverse bulk of Polanyi's ideas while never losing sight of Polanyi's critique of modernism and his reconstructive vision. In a sense Prosch's exposition is all of Polanyi seen from the vantage of *Meaning*, the last and most synthetic Polanyi work which in fact Prosch put together for Polanyi.

In many ways the organizational motif, healing the modern mind, used in Prosch's exposition works well, since it gathers together themes central in Polanyi. However, it does have drawbacks. First, it sacrifices a more developmental perspective on Polanyi, as Prosch acknowledges. Polanyi himself occasionally noted that his ideas changed. Prosch's exposition reflects his primary commitment to present Polanyi as a thinker whose ideas are logically coherent, comprehensive in vision, and revolutionary for the philosophical tradition. This agenda leads Prosch to represent Polanyi's ideas somewhat unhistorically,

laying side by side ideas occupying Polanyi in different periods of his life. Prosch certainly understands when and how particular Polanyian interests and ideas develop, but his readers are not provided much context with which realistically to understand Polanyi in terms of his intellectual pilgrimage.

A second consequence of Prosch's organizational motif is that it emphasizes certain kinds of Polanyian themes which more readily fall under the "sickness-to-health" metaphor. As noted above, it is these themes Prosch finds most important; some other themes get shorter shrift. Prosch does not, for example, emphasize the communal, fiduciary, and skillful nature of knowing or the convivial and aesthetic motives in knowing as much as does Polanyi in works published before *Meaning*. My preference would be to focus more on such themes even if it meant less symmetry in the exposition's architectonic which is centered around the images of diagnosis and cure.

All things considered, Prosch's exposition covers the bases of Polanyi's work. Yet the image of Polanyi's thought in Prosch's tightly woven presentation is a bit too well groomed. Compared to most of Polanyi's own writing, this is a somewhat dry and conservative account. I wonder whether Prosch's approach will in fact prove an effective way to interest philosophers in Polanyi's work.

The last third of the book, comprising seven chapters, is a critical discussion and evaluation. Here Prosch chiefly responds to three types of criticisms and interpretations of Polanyi's work offered by knowledgeable, sympathetic scholars. This section is an important contribution to scholarly discussions about Polanyian perspectives. It will be very interesting for seasoned Polanyi students and should also be an illuminating orientation to issues for the introductory reader.

The philosopher Rom Harre has argued that Polanyi's basic distinction between subsidiary and focal awareness aptly describes the elements of perceptual but not conceptual knowing. Prosch devotes a chapter to Harre's criticisms of Polanyi, which he sees as important because they revolve around basic questions about propositional knowledge and logic. Prosch argues that Polanyi affirmed a logic of tacit inference which is not explicit logic, although it operates in all forms of judgment. Knowing, whether perceptual or conceptual, is a nonexplicit integrative act accomplished by a mind. Prosch concludes that the burden of proof for those who, like Harre, insist propositions are best viewed as having an explicitly logical derivation, rests upon demonstrating that some knowledge is wholly explicit.

Besides Harre, challenges to Polanyi treated by Prosch all concern criticisms of broader implications of Polanyi's basic epistemology. Prosch contends such broader implications (i.e., Polanyi's ideas about psychology, biology, art, religion, etc.) "are in very complex ways related to the ontological hierarchy, and no writer has put his finger upon this fact" (p. 208). Prosch is correct in identifying Polanyi's ontological claim that the world is hierarchically structured as the analogue of his "from-to" epistemological structure and the foundational idea grounding broader Polanyian views of self and world. Chapter 17 ("Is Epistemological Antireductionism Sufficient?") focuses upon what Prosch takes to be critical views of Marjorie Grene concerning Polanyi's hierarchical ontology. Grene, an American philosopher who helped Polanyi put together *Personal Knowledge*, was for years, as a professional philosopher, Polanyi's tutor and critic. Grene has criticized Polanyi's ideas about emergence (articulated most fully in Part IV of *Personal Knowledge*) as well as Polanyi's late work on art, metaphor, and religion published (with Prosch's help) as *Meaning*. Grene seems to believe that Polanyi's two-level ontology slips into a metaphysi-

cal dualism which Polanyi's basic epistemological model (the "from-to" operation of tacit knowing) had in fact overcome. As Prosch notes, most of Grene's critical comments have concerned her uneasiness with Polanyi's response to behaviorism. In arguing against the reductionism of behaviorism, Polanyi seems to argue for the mind's separateness from the body and this seems to be a departure from the implication of the theory of tacit knowing which affirms that the mind is incarnate. Against Grene, Prosch argues that Polanyi did not "reintroduce Cartesian dualism into his system. The mind and body *are* different but there are no unincarnate minds for Polanyi" (p. 229). Prosch presses matters further to argue that Grene's criticisms mean she believes Polanyi's epistemological innovations alone are sufficient to refute reductionism (hence the chapter title). Prosch believes Polanyi saw the necessity of taking another step against reductionism: Polanyi wanted to move into a truly "post-critical" philosophy (as is indicated in the subtitle to *Personal Knowledge*). He therefore took a philosophical giant step into ontology in affirming that it is reasonable "to assume that there is a marvelous coincidence between the way we know things and the way they are, in and of themselves, in the universe" (p. 225).

While this chapter is the most philosophically interesting in Prosch's book, there are many matters included here which Polanyi scholars will likely debate. Although Grene has been critical of Polanyi's late thought, her published criticisms have been scanty. Prosch builds his chapter's rather elaborate argument around one brief Grene article in which her criticisms do not, to this reviewer, seem fully developed. However, whether Grene actually holds the position attributed to her is a smaller concern than the general manner in which Prosch frames the issues regarding the interpretation of Polanyi's thought. Prosch argues that Polanyi did not intend to reintroduce a mind-body dualism in his late thought; but clearly, as Prosch sees, the broader issues go beyond mind-body separation and concern what sense to make of Polanyi's ontology. The larger question posed in Prosch's chapter title ("Is Epistemological Antireductionism Sufficient?") however seems to be primarily an answer masquerading as a question. The question can be transformed into another question which highlights certain tacit presuppositions held by Prosch as he interprets Polanyi: Why assume that Polanyi presupposed a foundational separation of subject and world (knower and known) which must then be breached (as Prosch argues Polanyi did) with an ontology? Such a question perhaps follows out the line of thought which Prosch attributes to Grene. A reading of Polanyi's thought which more strongly emphasizes the social, skillful, bodily, and fiduciary roots of knowledge avoids a starting point for reflection which presupposes the isolation of the knowing subject. In my judgment, Prosch's interpretation of Polanyi generally assumes Polanyi is a much more traditional (and Cartesian) philosopher than in fact Polanyi is. Prosch often reifies distinctions carefully drawn in Polanyi's thought and de-emphasizes continuities; the image of Polanyi's thought presented by Prosch is thus much more dichotomous than need be.

Prosch recognizes that criticisms regarding bifurcations in *Meaning* and/or his interpretation of Polanyi have already and will again be levied. Meeting such criticisms head on is the substantive agenda in the last several chapters of his book. Prosch argues Polanyi clearly recognized a fundamental methodological difference between the from-to structure of knowing that operates in perception and science and that which operates in art and religion. The self-centered integrations of perception and science project a focal object away

from a center into a reality understood by us to be existing independently; such a reality for Prosch "can never be incorporated completely into our own being" but "remains a separate being in itself" (p. 235). The self-giving integrations in areas such as religion attend to entities which should not be described as factual or independent realities; such realities are "real in being valid" but it is "an illusion to think they existed before we discovered them" (p. 249). Is this divarication sound or, as Prosch believes Grene thinks, does it merely blunt the edge of Polanyi's own sword by reintroducing a cleavage between science and the humanities?

Prosch thus frames the issue but he addresses his query in a strange way. He introduces at length the thought of the Christian theologian Thomas Torrance (Polanyi's friend and the literary executor of Polanyi's estate) who made ample use of Polanyi's ideas in his revisionist neo-orthodox theology. Torrance argues that theology is a science. Prosch sees Torrance as typical of those interested in using Polanyi in religious studies and theology; most religionists fail to grasp the import of the distinction Polanyi drew between the nature of realities known in art and religion and those known in perception and science. Prosch spends an entire chapter detailing the several ways in which he believes Torrance misconstrued Polanyi's ideas about religion, including this basic distinction. Since the publication of Prosch's book, Torrance has published a letter (*Tradition and Discovery: The Polanyi Society Journal* 14 [Fall 1986-87], p. 31) claiming he was asked to become Polanyi's literary executor because Polanyi was concerned with the prospects for his ideas and was unhappy with the slant put forth in *Meaning*; Torrance implies Polanyi subscribed to many of the religious ideas formulated in his own writing. Prosch's response to Torrance's letter (*Tradition and Discovery: The Polanyi Society Journal* 15 [Winter 1987-88], pp. 24-35) denies bowdlerizing Polanyi's work and outlines historical events leading to the publication of *Meaning*. To this reviewer, many of the points Prosch draws distinguishing Polanyi and Torrance's views are solid, although I think Prosch is fundamentally in error in trying to distinguish too sharply the realities known in perception and science from realities known in art and religion.

In a complementary chapter following the treatment of Torrance, Prosch examines criticisms put forth by Sheldon Richmond and Ron Hall, philosophers who, unlike Torrance, do not ignore Polanyi's distinction between scientific and religious knowledge but attack the distinction though from different directions. Prosch thinks Richmond and Hall also fail to grasp Polanyi's distinction between the kind of realities with which science is concerned and those with which art and religion are concerned. He insists that Polanyi, at least from the period of *Personal Knowledge*, held such a distinction, which he (Prosch) judges to be basically sound. However, Prosch also suggests that Polanyi's ideas about religion may be inadequate; he seems much more impressed with Torrance's supernatural, revelatory deity than he allows Polanyi would have been.

While Prosch's last chapters are interesting, they are also somewhat disappointing. They adopt a circuitous route to address fundamental issues which could be treated more directly. In the way Prosch draws Torrance into the discussion as a foil and an exemplar, the issue of the nature of realities known in art and religion gets conflated with the more general issue of how Polanyi thought about religion; Polanyi's ideas, in turn, are contrasted with ideas of Torrance as well as Richmond and Hall. Although there is more rhetorical flourish here, Prosch has not significantly changed the views he presents as

Polanyi's stance on realities of religion in his earlier *Zygon* article (vol. 17, no. 1 [March, 1982]: 41-48). What is somewhat clearer in this volume is the way in which Prosch's reading of Polanyi on religion fits with a broader—and, to this reader, peculiar—interpretation of Polanyi's ontology.

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Notice

The Institution of Electrical Engineers has agreed to fund preparatory work for an edition of the complete correspondence of Michael Faraday. The work will be conducted by Dr. Frank James, lecturer in history of science at the Royal Institution of Great Britain. While the Thomas Martin edition of Faraday's laboratory notebook, *Faraday's Diary* (7 vols. Bell, 1932-1936) is an invaluable resource, it does tend to portray Faraday as working alone. The complete correspondence will allow scholars to locate Faraday properly within the scientific community. Less than half of his letters have been published and these have appeared in multiple sources making it difficult to place Faraday in his proper context. This edition can only be made complete with the cooperation of the possessors of smaller collections of Faraday's scattered correspondence. It is hoped that librarians, collectors, scholars, antiquarian booksellers, and others in possession of letters both to and from Faraday will make these available to the project. Please contact Dr. Frank James, RICHST, Royal Institution, 21 Albemarle St., London, W1X 4BS, England.