On Deafness in the Mind's Ear: John Dewey and Michael Polanyi

J.E. Tiles

My aim here is to propose a diagnosis and aitiology for a professional syndrome which troubles me. For several decades now analytical epistemology and analytical philosophy of science have resisted cogent arguments which conclude that until close attention is paid to the psychological and cultural contexts in which beliefs and theories are justified, efforts to clarify the bases of such justifications will be entirely sterile. My approach to understanding this syndrome is to examine the efforts made by two men, who tried unsuccessfully to influence the agenda of epistemology, John Dewey and Michael Polanyi.

Now the doctrines of these two men are in many important respects quite different. Where Dewey's philosophy grew more secular as he grew older, Polanyi's retained important religious elements. Where Dewey worked to collapse the distinction between science and technology, Polanyi kept the two sharply distinguished. Where Dewey was eager to harness science to social control, Polanyi was profoundly suspicious of anything which threatened the independence of pure scientific research. Polanyi, whose career in philosophy got underway just before Dewey's death, mentioned both Dewey and pragmatism [*PK* 234, 328][2] in dismissive terms, but terms which betrayed a superficial appreciation of both the man and movement.

But for all the differences of doctrine, of outlook and of politics, the general direction taken by the agenda of epistemology would have been much the same, had the influence of either man been properly felt. Others have since exerted pressure in this direction, notably Thomas Kuhn, but in Dewey and Polanyi it is possible to see clearly different forms of what may explain the source of the resistance to having the agenda of epistemology set in the contexts of culture and psychology.

In their treatments of knowledge, both Dewey and Polanyi combine elements of historicism and of psychologism. Historicism is the denial that claims to knowledge and the evaluation of these claims can be made by reference to standards which are timeless, universal and independent of social and cultural (i.e., "historical") context. Psychologism is the affirmation of the need to use general conceptions of mental abilities and activities in the understanding of our epistemological aspirations and achievements -- of the need, in other words, for concepts which belong, albeit at a highly general level to the study of human psychology.[3]

Historicism has in recent times been a congenial habitat for (cultural) relativists. Neither Dewey nor Polanyi subscribed to the doctrine that all scientific outlooks and practices are equally valid, although both tended to be mistaken for relativists. What psychologism, on the other hand, encourages depends on the approach to psychology which one adopts. Introspectionist psychology encourages subjectivism; behaviorist and physiological psychology both encourage a mechanistic outlook. The psychological concepts which Dewey and Polanyi both treat as fundamental do not contribute to any of these approaches, but to an approach, which for lack of a better term we might call "classical," because it is found as far back as

Aristotle. This is the approach which sees human dispositions as fundamental to the understanding of human knowledge.[4]

Polanyi stressed the importance of skills, not only the skills involved in the execution of some action, but the skills involved in observation, in being responsive to features of the environment ("connoisseurship")[*PK* 49-55]. The fundamental insight of Dewey's treatment of the reflex arc concept is preserved in his use of the term "habit."[5] This insight was that the reflex arc is in fact a cycle, which is a co-ordination of receptivities and responses, and which either stabilizes under the influence of routine or expands under the influence of inquiry.[6] In the exemplary illustration which Dewey drew from James' *Psychology*, the once burned, doubly cautious, child stabilizes an expanded reflex cycle (habit) around a new discrimination.[7]

Thus both Polanyi and Dewey call for us to recognize the importance of a vast array of inarticulate organic dispositions, which are continuous with those of other animals, and they call on us to appreciate that speech, by adding to the range of performances which humans carry out, creates pressure to make discriminations that would otherwise be left unmade and to internalize structures which can only be formed around the flexible medium of signs. Language thereby brings about much of our conscious life and lies at the roots of what both men insist is the fundamental structure of consciousness. Polanyi refers to focal and subsidiary awareness [*PK* 55-7]; Dewey accepted the phenomenon which James had referred to using the terms "focus" and "fringe" [*EN* 254][8], and insisted that this structure extended to meaning where there is a difference which he referred to as that between "sense" and "signification" [*EN* 213ff]. Elements at the focus of our awareness of a situation have significance because it is given a sense by what we are (in Polanyi's terms) subsidiarily aware of in the situation.

To understand this one needs to recognize that there are more aspects to which one responds in a situation than those that reach the level of explicit awareness. For example, events which have previously transpired inform present awareness even when they are not consciously remembered. Dewey's discussion of what is required to follow the plot of a play or novel presents an excellent paradigm of this phenomenon [*EN* 248ff]. Unless previous events inform present action and contribute to the sense of the context in which that action transpires, one will not be able to appreciate the significance of what is before one's attention. Polanyi speaks of this on a more general level when he notes that subsidiary awareness of wholes is required in order to focus on parts and that the reverse occurs when wholes are focused upon. Polanyi also links the two kinds (or degrees) of awareness to kinds of meaning. "Representative" or "denotative" meaning is where one thing calls forth a response to another; but the meanings possessed by whole contexts (which Polanyi suggests should be called "existential meanings") do not stand in this relation to something else, "they mean something only in themselves" [*PK* 58].

Now it follows from the psychological framework, which Dewey and Polanyi share, that knowledge is neither completely nor adequately represented as a body of statements held to be true (believed.) A body of statements (what is commonly taken by analytic philosophers to be sufficient to constitute a "theory") is only a salient part of a much larger phenomenon. Even to know what such statements mean one must know how they will be interpreted, how they will guide practice in general, what will be taken to be a concrete instance relevant to strengthening or undermining confidence in their guidance. These additional non-salient features are embodied in the skills and habits which constitute practices of observation, experimentation, interpretation, engineering, etc. The belief that practice is somehow external and not an essential part of knowing is a consequence of an error which Dewey stigmatized as "intellectualism." In his vocabulary the error consists of assuming that all experience is "cognitive," in other words, whatever is really in experience is "known," in the sense of being an object of full conscious awareness. In Polanyi's vocabulary the error consists in recognizing only the explicit components of

knowledge and overlooking the tacit components.[9]

For both men the crucial aspect of the environment in which we acquire the dispositions relevant to knowledge is the social. According to Polanyi, one has to associate with other people to acquire the skills which are necessary to do, e.g., scientific research. Shipping books and instruments of research to some corner of the world will not by itself enable the recipients to start a research enterprise. In addition, they require training which places them in the same relation to an experienced research worker as an apprentice to a master craftsman [*PK* 53-4]. The conclusions about science which Polanyi draws from this are in some respects (openly) "authoritarian" and "elitist." One cannot learn to be a scientist without submitting to the authority of those who possess the skills which one needs to learn [ibid.]. The standards, which one acquires, will be understood and upheld only by those who have undergone the training [*PK* 183].

The social dimension plays an equally important part in Dewey's account of how we acquire the dispositions which constitute our knowledge in general and our science in particular, although Dewey did not, as Polanyi did, stress the need to submit (at crucial stages) to authority; and he held reservations about the autonomy which (pure) scientists demand for their research objectives. Here an issue breaks the surface, which would be high on any agenda set by philosophers who had absorbed the sort of social-psychologistic orientation of Dewey and Polanyi.[10] How should the objectives of those engaged in organized -- and in most cases publicly funded -- practices of inquiry be determined? And closely following, and in many cases pre-empting, the discussion of this question is one regarding the authority of the criteria by which we judge inquiry to have a successful outcome and the authority of the standards of those practices, viz., educational, which preserve what we think of as our successes.

Polanyi's vocabulary partly obscures these issues. What apprentices learn from master craftsmen is more than what we usually associate with the word "skill." Not just "techniques" are learned but standards of precision or rigor, standards of what to be proud of or ashamed of, conceptions of what to aim for, which predispose competent practitioners to accept some innovations as improvements and some as unworthy of the profession, or "not workmanlike." What an apprentice learns from a master has elements of moral appraisal in it when applied to practitioners; and the admiration or contempt which is expressed for the work of such practitioners is not free of this element. Dewey's "habit," particularly if the resonances of the medieval term *habitus* are present, is a better term. What are learned are not only the habits that produce results, but the habits that shape the assessment of the results including the habits which govern what it is one aims for.

If Polanyi's vocabulary does not help clarify the matter, he at least is candid in confronting the central issue. The standards which are set in any seriously undertaken human enterprise are "self-set," and there is an apparent paradox in holding any kind of objective validity for those standards. What could possibly provide a grounding for our "subjective self-confidence in claiming to recognize an objective reality" [*PK* 104]? Dewey's philosophy brings him face to face with this issue, but his response appears to be that of someone trying silently to stare down a hostile animal. Indeterminate[11] situations which call forth inquiry, which are transformed into problems and which are eventually given a satisfactory unity, raise the question, "Satisfactory to whom?"

Now this question should not trouble Dewey any more than it does Polanyi because behind it is an assumption about our cognitive aspirations which both men repudiate. The assumption is that it is only from the perspective of an individual mind that something can be satisfactory. In a move that is thoroughly Kantian (but not recognized or at least not acknowledged to be Kantian), Polanyi rejects the idea that humans can or should aspire to the perspective of the universe. "Any attempt rigorously to eliminate our human perspective from our picture of the world must lead to absurdity" [*PK* 3]. Our knowledge, however refined

and rendered more comprehensive, will always be represented (realized or actualized) in a medium shaped by human limitations and human interests.

But does it not follow, from this repudiation of the ideal of seeing things from the perspective of the standpoint of the universe itself, that what counts as a solution and hence as a contribution to knowledge (to the "continuum of inquiry") for one inquirer (or community of inquirers) is wholly dependent on the situation which generated the inquiry? To explain how he was not sliding hopelessly toward relativism or subjectivism, Dewey appealed to his naturalism and insisted that, as human problems are human phenomena and therefore part of nature, the question of what counts as the resolution of a problem or what counts as the unification of an indeterminate situation, is as objective as any other question about nature. This is certainly a branch to hold onto if one is hoping to stop a slide into relativism, but there remains this doubt about the strength of the branch: It may well be objective that X is satisfactory for A in a situation and a quite different thing Y is satisfactory for B in a closely similar situation. How does one build a common science out of such "objective facts"?[12]

Dewey, in his eagerness to acknowledge the full particularity of the situations which call forth inquiry and to maintain a pluralism about the specific goals which occasion inquiry, finds his tongue tied at this point. To say what his position might very well allow him to say -- viz., that common science is possible because we share common problems and common objectives by virtue of all being human beings -- may have sounded to him like a public relations disaster for his particularism and pluralism. Polanyi, on the other hand, is under less pressure from such allegiances and is able to assert forthrightly that humans are capable of seeking solutions to problems which will not only be satisfactory for them as individuals but which will be compelling for everybody else [*PK* 301].

Moreover, the commitment to advance claims which have universal validity is what for Polanyi distinguishes the "personal" from the "subjective" [p. vii]. Ultimately this commitment to what can be referred to as "a *greater* objectivity" is what for Polanyi distinguishes scientific from non-scientific inquiry. A scientist is committed to advancing solutions which are not tied to the peculiar circumstances of the inquiry and to the expectation "of an indefinite range of possible future confirmations of the theory" [*PK* 4]. The middle way, between the absurd pretense that science can deliver the truth from the perspective of the universe and the anarchical delusion that every perspective is as valid as every other, is found in a *commitment* to rise above the limitations of our perspective, even if we can never transcend those limitations altogether.

To untie Dewey's tongue a little and see to what extent he would agree with this, consider someone who does not see why the resolution he seeks when he inquires should satisfy or be satisfactory to anyone other than himself. Polanyi would say, "Well, that is why you are not a scientist." Dewey would diagnose this person as suffering from an overly narrow conception of "self." That he should not be concerned with satisfying anyone other than himself means that what he takes personal satisfaction in does not include the recognition on the part of other people of his achievement and the satisfaction they might take as users or competent and appreciative critics of the genuineness of his achievement. This is a serious moral failing on his part, a failing which in human interaction generally lies at the root of much that is morally blameworthy in people and in the societies which they form.

We have observed in the sketch of the psychological framework, in which Dewey and Polanyi place knowledge, that the education of a scientist has elements of moral training in it. And we have just observed that to swim between an absolute objectivism and a thorough-going relativism without being dragged by the currents toward either, one has to take one's bearings from an ethical doctrine. Polanyi appeals to what is in effect a categorical imperative, "advance only that which you can reasonably expect all rational creatures

to find fruitful and compelling," and rests the distinction between a scientist and a non-scientist on the former possessing a species of good will. Dewey under the right sort of pressure can be drawn out to the point where he might well rest the same distinction on his idiosyncratic and highly revisionary version of ethics based on "self-fulfillment."

I think this is the key to the reception which both men have received of late in anglophone philosophy. Polanyi at one point diagnoses the conception of science which stood in the way of his own conception as something "stemming from a craving rooted in the very depths of our culture" [*PK* 16]. The phenomena we have been considering here *are* indicative of something that deep, although Polanyi's diagnosis is not accompanied by a sufficiently detailed aitiology. The craving, as Polanyi saw it, was for a conception of natural science based on a sharp distinction between subjective and objective, in which passionate, personal, human appraisals were eliminated from objective science or minimized to "negligible by-play" [*PK* 16]. As Polanyi saw it, it was largely a resistance to acknowledging the role of emotion and aesthetic satisfaction in science. I suggest that the resistance is also to acknowledging the moral element in science.

Behind the resistance to all of these and behind the strong impulse to draw a sharp and deep distinction between subjective and objective, is the way our culture seeks for authority which is impersonal and amoral and insists on confining the moral along with matters of taste and the shaping of people's emotional lives to a personal realm entirely insulated from public criticism. Those who wield authority present themselves as managers who employ objective principles of scientific technology to achieve ends set for them by a public opinion which is nothing more than the sum of private inclinations. No objective principles can be applied to criticize or correct the realm where private impulses, emotions, tastes and moral sensibilities ferment to generate the public opinion which is supposed to dictate ends to those whose authority is supposed to rest on their ability to find the means to those ends.

This way of conceiving the relation between the objective and the subjective is threatened by any suggestion that private/subjective elements of passion, taste or morals contribute to the public/objective sources of technocratic authority. And it is equally threatened by the idea that if those private elements can enter and be subjected to objective standards of criticism in the science that lies behind our technocracy, such standards could well be established and applied to the private/subjective realm.

Dewey's message that our culture takes its bearings on its authority structure by means of a line which has not been drawn in an intellectually defensible place was, thus, not a message which people had the ears to hear. When in the fifties and sixties an independently minded scientist in Britain tried to draw attention to the same incoherency, the same cultural mindset responded to his message with a profound deafness. The irony is that both men accurately discerned the social-psychological mechanisms by which their messages could be soaked up in this way, leaving barely a trace. The habits which constitute our practices, above all our social practices, make us in this way sensitive to some things, deaf and blind to others. The double irony is that part of the message that does not get through is that these mechanisms have to be recognized, if we are to establish an authority[13] structure, both political and cultural, which is intellectually defensible.

ENDNOTES

1 A version of this paper was read at the March 1990 conference of the Society for the Advancement of American Philosophy in Buffalo, New York. My commentator on that occasion, Larry Hickman, observed that although my comparison of Dewey and Polanyi was sound, there are respects (for those who are interested in the American philosophic tradition) in which Polanyi is closer to Peirce and stands to Dewey as Peirce stood to Dewey. I had recognized this as a possible subject for another paper, but my point in this

paper concerns the attitudes taken toward knowledge in general and science in particular in the present and the recent past, and for this purpose the comparison of Dewey and Polanyi is more germane.

2 References to Michael Polanyi *Personal Knowledge*, London, Routledge and Kegan Paul, 1958 (reprinted 1978) will be given in the text *PK* followed by page number.

3. This use of "psychologism" bears affinities to that proposed by Adrian Cussins in "Varieties of Psychologism," *Synthese* 70 (1987), pp. 123-154. "Since I deny that `psychologism' need bear a pejorative sense, I am not happy with the definition of `psychologism' as a doctrine which confuses philosophy and psychology. Instead, I shall adopt an asymmetric definition which holds that a psychologistic doctrine is a doctrine which requires psychology in order to answer a philosophical question. The rejection of psychologism is the rejection of the philosophical relevance of psychology" (p. 126). (Cussins is interested primarily in the relevance of cognitive psychology, whereas Dewey in particular would urge the relevance of social-psychology to philosophy, and thus is an advocate of what could be characterized as social-psychologism.)

4. Aristotle defines both Ýðéóôþ´ìç and ôÝ÷íç as 'Ýîåéò, and 'Ýîåéò is translated into Latin as *habitus*. For Aquinas' treatment of this Aristotelian idea see, *Summa Theologiae*, Vol 22, *Dispositions for Human Action* (Ia2ae 49-54), translated by Anthony Kenny, London, Eyre & Spottiswoode, 1964. (Kenny's introduction to this translation, p. xxx, contains an observation on Aquinas use of *habitus*, which if one bears it in mind will prevent the wrong associations from generating misunderstanding of Dewey's use of "habit." A *habitus*, unlike our usual associations with the word "habit," is not a condition which makes it hard for people not to do something -- e.g., not to smoke -- but rather makes it easy for them to do something -- e.g., hear Freudian slips or forget to watch to prevent the potatoes from boiling dry.) Pragmatists such a Peirce and James also work within this tradition of philosophical psychology.

5. This is observed by Gordon W. Allport in "Dewey's Individual and Social Psychology" in *The Philosophy of John Dewey*, edited by P.A. Schilpp, New York, Tudor Press, 1952 (1939), p. 270.

6. Dewey pays insufficient attention to cases where indeterminate situations are not resolved by inquiry but leave the inquirer with habits which are less integrated and which generally diminish the unity of situations that are encountered in the future. The only discussion of such pathology I can think of occurs in one of the articles on emotion in *The Early Works of John Dewey*, edited by Jo Ann Boydston, Carbondale, Southern Illinois University Press, Vol. 4, pp. 159ff. For the classic treatment of the reflex arc concept see Vol. 5, pp. 96-109.

7. If one keeps in mind the complex of habits which must be co-ordinated for an any reasonably complicated animal to function, one has a framework for integrating the three kinds of learning which Polanyi for his part distinguished: trick learning or invention, sign learning or the amplification of perception, and latent learning or interpretation. The third of these involves the internalization of some pattern or principle of response in such a way that it can manifest itself in indefinitely many and not easily predictable ways [*PK* 74]. This can be identified with the medium- or large-scale re-organization of habits which is on occasion the outcome of the successful completion of what Dewey refers to as "inquiry." For following Dewey's definition of "inquiry," (*Logic, the Theory of Inquiry*, New York, Henry Holt and Company, 1938, pp. 104-5.) the "transformation of the indeterminate situation" is through its constituent distinctions and relations and these are only actualized through the habits of response of the inquirer. The resulting situation is unified only if the patterns of response of the inquirer are unified.

8. References to Dewey's *Experience and Nature* are by page following the letters *EN*, and to the second edition, La Salle, Illinois, Open Court, 1971. At *EN* 244-5 Dewey contrasts the conscious with the subconscious, remarking that "The subconscious of a civilized adult reflects all the habits he has acquired..." This term is perhaps the closest equivalent Dewey has to Polanyi's "tacit dimension." It is important to distinguish sharply the prefix which Dewey uses, "sub" from that commonly used by Freudians, "un;" for this will serve to distinguish the claim which Dewey (and with him Polanyi) is making from that made by Freudians. The subconscious, unlike Freud's unconscious, does not have a structure, which reduplicates and in important respects is isomorphic to that of consciousness, a structure with its own motivations and rules. It is offered instead as a further set of distinctive organs without which trying to understand consciousness is like trying to understand, say, a kidney without reference to the rest of the body. This is the respect in which followers of Chomsky, who have taken over Polanyi's vocabulary of "tacit" knowledge, differ from both Polanyi and Dewey. Like Freudians the "tacit dimension" of the Chomskians is used to explain behavior by reduplicating at a level not directly accessible to consciousness a structure (of motivation in the case of Freud, of rules to be followed in the case of Chomsky) found at the level of consciousness.

9. Neither Dewey nor Polanyi claim that the "non-cognitive" or the `tacit' is inaccessible to "conscious reflection" or to `articulate representation.' Indeed achieving the reflection is for Dewey the "sole agency" of control over non-cognitive experience (*EN* 22) and analysis of experience is for Polanyi an important means by which genuine practices and experiences are validated (*PK* 50-2). What both claim, however is that although one can bring more of the non-cognitive/tacit into the light of reflection/articulation, there remains a need for a framework consisting of the former to bracket any achievement of the latter. Note in comparing the following how Dewey remarks on the need to expand the non-cognitive in the process of expanding the cognitive. Polanyi: "The enormous increase of mental powers derived from the acquisition of formal instruments of thought stands also in a peculiar contrast with the facts collected in the first part of this book which demonstrates the pervasive participation of the knowing person in the act of knowing by virtue of an art which is essentially inarticulate. The two conflicting aspects of formalized intelligence may be reconciled by assuming that articulation always remains incomplete; that our articulate utterances can never altogether supersede but must continue to rely on such mute acts of intelligence..." (*PK* 70) Dewey: "It is not denied that any experienced subject-matter whatever may *become* an object of reflection and cognitive inspection. But the emphasis is upon "become;" the cognitive never *is* all inclusive: that is, when the material of a prior non-cognitive experience is the object of knowledge, it and the act of knowing are themselves included within a new and wider non-cognitive experience -- and *this* situation can never be transcended" (*EN* 23n).

10. Dewey's historicism is given a fairly obvious theoretical foundation through his stress on how human dispositions are shaped by the social environment. (This is what, more than anything, distinguishes Dewey's use of the concept of disposition in philosophical psychology from the use made of that concept by Ryle.) If this is less obviously true of Polanyi, because he is less explicit in crucial places, there is nothing that would prevent motivating his historicist impulses in a similar way.

11. The key word, "indeterminate(ness)," is what for Dewey describes what drives humans to reconstruct situations irreducibly shaped by their interests and limitations and thereby to make cognitive advances. It is not determinate how interests as presently articulated can be pursued under existing resources, and the only way one can keep the indeterminate out of an inventory of the furniture of the universe is by excluding all or part of the situations which generate inquiry from the inventory. This, however, directly contradicts what for Dewey is the essence of epistemological naturalism, viz., the doctrine that human knowledge is a natural

phenomenon. And if human knowledge is part of the natural world, indeterminateness must be acknowledged to be part of the natural world.

Dewey's metaphysical doctrine about the place of indeterminateness in reality is more general than is warranted by the conclusion of this argument. For present purposes, however, it is sufficient to observe that a limited repudiation of the claim about a determinate universe follows from Dewey's naturalism when taken with his conception of inquiry. Of course neither Dewey's doctrine nor the weaker version supported by this argument needs to be made from the perspective of the universe itself. They are claims made from the best perspective we can get on our general situation vis a vis our environment at the moment.

12. It might be suggested that there is no problem here because Dewey shares with Peirce the assumption that there is a highly general "experimental method" which is pragmatically warranted and which (if shared by problem-solvers) will yield comparable solutions. It is not clear, however, that Dewey has bought into enough of the Peircean framework. There is the clear suggestion in the *Logic* (note 7 above) that the methods of science have to evolve under the pressure of inquiry and the explicit suggestion (in e.g., "The Objects of Valuation," in S. Morganbesser, ed., *Dewey and His Critics*, Journal of Philosophy Inc. 1977, pp. 600 ff) that the objectives of any enterprise will be clarified and refined as inquiries continue. The worry is that if the methods and objectives of science are fixed only at such a general level as to be empty of specific content, then winds of historical change may scatter the fleet of natural science to such an extent that questions may be raised about its unity and identity. The argument here is that something like the Dewey-inspired ethical consideration outlined in the next few paragraphs needs to be drawn into closer proximity to what Dewey says about inquiry if we are to make satisfactory use of his philosophy of knowledge. (The suggestion answered here comes from Peter Manicas, whose very perceptive criticisms of an earlier draft of this paper were gratefully received and on all other occasions, not resisted, but accepted with what I hope were adequate modifications to the paper.)

13. As it is all too easy to misinterpret "authority structure" as entailing a mechanism by which policy and attitudes are fed from the top down through some rigid hierarchy, it should be said that "authority" here is understood as any source to which people look for guidance and its structure in a society may be profoundly diffuse. This would be the case in particular in a society which practiced what Dewey understood by "democracy." Dewey's pluralism, however, did not preclude the acceptance of hierarchies of authority extending over limited areas of life and based strictly on competence in the relevant practices.