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One of the great fields of application of the thought of Michael Polanyi is education. In this issue, we have the privilege of presenting one of the major addresses from the Kent State University Conference of March 26-28, 1984. The theme of the Conference was "Learning In Action: Michael Polanyi and Education." Also included in an article from Convivium applying Polanyi's thought to sex education. In all three articles, there is a strong counteraction to the ever increasing tide of objectivism in education. Despite decades of criticism of specialization, fragmentation, and reeducation in education, such authors as Byrom, Green, and Scott point to the need for more than criticism. There is a need for a new theoretical outlook that begins with the fundamental awareness of the wholeness of learning itself and attends to it in particular problem solving. Without this new foundation in the whole, training in expertise ends in caricature, study of the humanities ends in collapse, and sex education ends in mechanical description.

Persons who grasp Polanyi's alternative theory of knowledge have an important role to play in establishing a basis that will liberate education from its bondage to the way that can be measured in objective terms.

SUBSCRIPTION FOR PUBLICATION

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RELIGIOUS STUDIES

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group problem-solving techniques have been supplemented by a touch of didactic exhortation. The roots of such faith are more often tacit than explicit.

Despite my ambivalence on the positivistic criterion of schooling and my indebtedness to Polanyi's theory of tacit knowing, I have not abandoned philosophical realism altogether. I still believe there is a difference between the reality, between opinion and truth, between being and being interpreted. Such realism is popular with neither the positivists nor the diverse schools of hermeneutics. The grounds for warranted commitment are to be found in the attitudes willingness to risk much—sometimes everything—on the existence of objective values.

Perhaps this ontological faith has no basis in empirical science, albeit psychology has theories aplenty to explain how the human mind creates such narratives. Yet if such creations of the imagination influence thought and behavior, in what sense are they unreal? What, for example, is more objective than the corpus of the martyrs? Even methodological relativism of the most subjectivistic sort sustains a great deal of academic business that is very objective indeed.

Testing for the Yahoo!

To convey the import of tacit knowing to schoolboard members, parents, and students that I have suggested The New York Times (or some similar publication) test.

The test asks the reader to scan items in the major categories: current events, the arts, science, politics, economics, and to underline passages or phrases that they cannot understand.

Why and where do these blocks occur? Is the block a failure to recall some item of information, or does it touch on concepts and images that have never been encountered? How many of the blocks can be attributed to the omission of certain subjects in the schooling of the reader? This approach is negative. And deliberately so because it makes the reader aware of gaps in interpretive resources, and whether they are caused by gaps in formal schooling.

In an attempt to get at these gaps under somewhat controlled conditions we asked eight graduate students with diverse baccalaureate majors to read five short selections from The New York Times and a poem by Sylvia Plath (Muchmore). We asked each student to comment into a tape recorder and subsequently to respond to questions by a professional interviewer based on these responses.

The selections were as follows: A Look at Venus on the Pull Shell reporting the attempts of how to persuade the International Astronautical Union to name recently discovered feature of the planet Venus after famous women rather than mythological ones. There were also articles on the economy, modern dance and Anthony Tudor, neutrinos, and some current problems in archeological research.

The selections varied in the resources needed for their construction. All were related to formal academic disciplines commonly included in the education. None called for the detailed technical knowledge of any particular discipline or vocation. They were typical of the topics on which the intelligent citizen is expected to be informed.

The responses were recorded and transcribed. A group of colleagues at the University of Illinois had little difficulty in identifying the blocks and the areas of this kind—decisions depend more on the credibility of the advocates than on the truth of their assertions. The grounds for warranted commitment are not identical with grounds for warranted assertion. In such a culture

*The Distinguished Scholar Lecture, Kent University, March 8, 1984.
The Uses of Schooling

The uses of schooling can be divided into four types of outcomes:

1. Replicative, in which the instructional input is relearned pretty much as originally learned, e.g., the multiplication table, dates, names, formulas, etc.

2. The applicative in which what has been learned is used to manipulate a situation to reach a goal. For example, the principles of hydraulics are used to lower water for the pumping of liquids or Boyle's law is used to design apparatus about the design of steam or gasoline engines.

3. The associative in which experience in and out of school is elicited by a situation in an unorthodox way, but somehow relevant to the situation.

4. The interpretive in which school knowledge is used to provide a context or a frame of reference which is understood not precisely as learned but as the residue of learning in the arts and sciences. We may refer to these residues as schemas, lenses, stances, or cognitive/conceptual structures.

"Knowing how" and "knowing that" are the customary ingredients of schooling and the customary criteria for success in schooling is the ability to replicate these contents on demand.

A more sophisticated test of schooling is the ability to apply (rather than repeat) school learning. For example, one learns that oxidation may form bonds—cohesion, rusting, etc. One applies the principle of oxidation to explain spontaneous combustion, the use of lime to put out a fire, and the use of paint to protect wooden surfaces from rot, etc.

Unfortunately, as most teachers of our time discovered much of what they learned for replication they can no longer recreate, unless their work requires frequent reinforcement of those learnings. We recall the multiplication table up to 12, a few dates and names in history, a few poems that we can recite "by heart," but considering the time spent on deifying facts for replication, the amount we retrieve is disappointingly small. Yetrote learnings cannot be dispensed with. Reducing the number of items from memory is a useless task.

The amount of our schooling we can apply in everyday situations. Only the professional retains the relevant facts, the contexts, the principles and the technique of application. By an engineer, energy problems will be interpreted not only with the resources of mathematics and science, but also with understanding of machinery, the economics of production, etc.

Many of our schools are the replicative and applicative uses, most of the time spent in school must be regarded as wasteful. Yet on the other hand, how many of the blocks to understanding other fields are fields of "street talk" they need them that there must be other forms of schooling that are not replicative and not applicable, yet indispensable.

The other uses are associative and interpretive. Both operate as contexts that function tacitly or subordinately. The word "rose" elicits a wealth of feeling and emotional associations for most of us, because it also elicits a conceptual system of classification as well. The word "expect," so to speak, the reader or listener to supply these contexts, i.e., to give a total of general education rather than that of the professional. This content for which ordinary reading of ordinary materials is a good example of what is called for. However, how much of reading will enable the reader to understand the location "my work around the clock" or a tacit supply of meaning as in the song from the "out of the blizzard" can be translated by the American reader, but only because of his familiarity with motor car contexts.

Similarly, an interpretation of the difference between language as a symbolic code and language as the comprehension of a code, the computer manages any given code without ambiguity. The human reader or speaker deals with the difficulty of reading the code. When we duplicate lack of reading ability of the generalization it may well be the poverty of images, shades of meaning, and inflection or are becoming rather than lack of decoding skills. The difficulty with the computer is not inaccuracy, but the inability to tolerate ambiguity.

The interpretive use of schooling employs conceptual schema studied in the several disciplines to site a problem or a situation. Unlike the associative use, the interpretive calls for frameworks that will reveal the theoretical structure of the situation. We may compare theirs to lenses which organize the perception of the situation by their interposition. Even the single eyewitness account of nuclear technology, or computer development, or genetic research, calls on the reader to focus concepts of the general sciences which who have not studied physics, chemistry, biology, mathematical theory cannot fill those concepts in the general sciences where they are present. Professional students who have studied these conceptual disciplines may not be able to recall many of the details on which they once passed examinations, but the major concepts will function as contexts of understanding and interpretation. Similarly, those who have not studied history, philosophy, political science, and economics will, as they read, encounter blocks and gaps that those who have studied these will not experience.

Analogously, the formal study of the fine arts as part of general education contribute not only a wealth of associative resources of imagery and feeling, but also interpretive resources. The organizing principles of the moral, religious, and aesthetic values have deep and ancient roots in theology as well as in myth and ritual. These sources too have been used to the study of scholarship and their modes of inquiry as well as their findings become part of the interpretive resources of the educated mind.

The Professional Uses of Schooling

The professional uses of knowledge include all the other forms plus familiarity with a domain of practice. Skills, principles, technology, economics, and political contexts—such as soapstone demands on the professional which the layman is spared. The professions differ in the degree to which they require study, and practice are required. The professional, of course, has a personal life and therefore general education has its place in it, but the need of those lives do not in the marketplace make rules for the first that do not always apply to the second.

The distinction between these two uses of schooling is blurred by the location of departments of the humanities, including the departments of literature, language, classics and often the fine arts, in the college of liberal arts, where they are used. The needs of the liberal arts are more demanding to the farmer, they depend on the judgments of their professional colleagues. The professional careers of the graduate students, rather than the life careers of undergraduates, are likely to become their major concern.

Some scholars have difficulty in organizing their undergraduate instruction so that it serves the purpose of general education rather than that of prospective graduate students. Some regard undergraduate teaching as an extension of their own work, from which they seek to be freed for their research. This may explain the alternation between identification with the graduate general education and guilt at doing so. A well publicized program is mounted to repair the neglect and scholars are persuaded to take part. Within five years or so, the scholars are too busy with their research to find enthusiasm for undergraduate, and teaching assistants have to take over once more.

On the university campus and even in some traditional liberal arts colleges the mood of the faculty and students is not to let undergraduate general education requirements interfere with vocational courses. Catering to this mood, colleges advertise opportunities afforded by liberal studies. Professors with entrepreneurial talents reduce general education courses to how-to manuals that will be useful in careers in business and the professions. The reduction of associative and interpretive resources to explicit replicable, applicable skills therefore lessens the point of general education, to build up tacit associative and interpretive resources.
The Educated Mind

It may be objected by the average undergraduate that the associative and intellectual resources with which educational institutions are endowed will be furnished by the mass media and by the informal lore and customs of the social order, so that the theory of an educated mind can be postponed to later life when practical pressures are lessened. Whether it is better to have an "educated" store of associative resources than not may be debatable, but that there is a difference in what we think, feel, and perceive with is clear.

Some products of mind whether in science or in art or philosophy or religion are a connection with reality that is far below the surface of everyday living. In contrast, they distil that surface. These intuitions of the real are important, the ultimately valuable elude the positivist barricade, but which Polanyi correctly refused to banish from "personal" knowledge.

The moral episteme, one may speculate, is one of these "mysterious" products of mind. On every side walls are erected by logic and experience against "irrational." Economists, diplomats, philosophers positivists argue for the inscrutability of "good for" and "right." The "obliges" as related to duty, virtue, and character is dismissed as fiction, irrational, and superstitious. It will be well to remember that when sooner or later the "bottom" line is committed to an ideal of character that no pragmatic argument can fully justify. The conduct of life credibility is deeper of truth.

Judgments of credibility depend largely on character traits such as honesty, candor, loyalty to ideals rather than on the truth of what is being asserted. The resemblance between the real-life claim and hidden motives in affect a measure of credibility. In restricting responsibility to special technical rules, not only the business world, but also the lawyer, physician, and educator can evade social and moral responsibility. Restricting responsibility in this way may be called demoralization.

The clue to our judgments of credibility are tacit rather than explicit. Consider some criteria of credibility. One is the willingness of the person or persons to live by what they profess or putting their money where their mouth is. The blood of the martyrs is still the strongest proof of sincerity. Does will engage to test one's faith prove the correctness of its object? Sincerity, loyalty to the truth, and to the ideals being professed are also signs of credibility, do they verify these ideals? Or do the same, ideals, and values not subconsciously to evaluate the focial situation?

Each of what is commonly called moral education depends more on rules or maxims than on any concrete in youth which have become part of the emotional-idealistic store with which rightness of action is judged in adult life. lations of the fomulism of an idea or for unrealized possibilities that Polanyi, as well as the personal knowledge may also be the ground, the judgments on the credibility of persons and institutions.

Attention to arcane knowledge to the professional who will intercede for us in crises situations likewise depends on a tacit mystique. That the beneficiary of this intercession cannot repay the professional by the ordinary price mechanism. A market is a further note of the same tacit mystique. Similar tacit factors convince citizens that their political parties is dedicated to a sacred cause and should be supported.

This may explain the apparent ineffectiveness of teaching moral principles and codes of conduct. To become effective in action the principles or right, wrong, duty etc. have to operate on the situation subconsciously or even tacitly. Subtly they give the focal situation tacit intimations of right and wrong. Formally, they analyze the practical situation cognitively. To paraphrase Kant, without the conditions moral education is empty; without the principles the conditions are blind.

Epilogue

If the discussion has been tortuous, it is because the tacit dimension of schooling is not strategic for its defense. In the nature of the case construction of the tacit dimension is hard to make explicit. Yet it can be done, and the concept of the different ways of schooling may help us do so. The current state of criticism of the public schools only emphasizes the improper claims and expectations even the educated part of the public entertain for general education. So long as the tacit and explicit are confused the claim of general education will be hollow and the expectations unrealistic. The criteria for the reproductive and applicative uses when made the test of general education will render them obsolete or one of the adornments of the upper classes. Properly construed, general education is the breed of the educated mind, not Marin Antinette's cake.

Notes
1. Herman Kahn arguing that survival of a nuclear war is possible and Tom Steiner's argument that it is not are equally eloquent and technically accurate.

The Problematic of the Humanities: Close and Gone from Michael Polanyi

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To return to Michael Polanyi's work is to be reminded of what it signifies to engage fully in the life of meaning. It is to recall how we feel when we pass beyond ourselves, when we reach out from our lived landscapes and our everyday concern towards something wider, something that transcends the here and now. In this technicized moment, thin time of slippage and uncertainty, Polanyi's conceptions of personal knowledge, intellectual passion, and an articulate framework hold great appeal. They seem to hold a promise of awakening us to ourselves, of sustaining our efforts to keep alive the world we have in common—what has been called the human world.

The humanities, through a Polanyian perspective, emerge out of "the whole network of tacit interactions on which the sharing of cultural life depends." Tacit assent, he wrote, "and intellectual passion, the sharing of an idiom and of a cultural heritage, affiliation to a like-minded community such are the impulses which shape our vision of the nature of things on which we rely for our mastery of things." In other places, he linked our cultural life, not solely to a "system of acceptances," but to "all that is coherently believed to be right and excellent...

The criteria of excellence, as he saw them, were to be found in the standards set by "masters" and upheld by certain cultural leaders who would supplement each other's judgments and guide public appreciation of the culture. Polanyi thought that relatively few, at any given time, would have opportunities for encounters with the range of symbolic forms. Intellectual leaders were necessary, in consequence, to offer occasions for "second-hand" or mediated knowledge of what existed in the larger domains of the humanities. Without such leaders (critics, teachers, various other "authorities") ordinary people would have little idea of what existed beyond their predictably limited lives. Authorities were needed to beckon beyond, to indicate possibility, to initiate into the "articulate heritage."
experience an acute sense of absence and of loss. Whatever the nature of one’s restlessness and skepticism, one somehow wants to know...

In the domains of criticism and literature, nonetheless, most listeners hear a "hush of voices." Edward Said writes of a "peculiar conflation of constituencies and the usual suspects of the genre in a kind of guild with its own orthodoxy. Most of them speak to small audiences of scholar-intellectuals. Whatever authority they claim is acknowledged only by those within their own community. In that...
Developing the Heideggerian perspective further, Hans-Georg Gadamer worked out a constructive approach to interpretation, with the idea that literary encounters always take place with particular cultural and particular moments in history. It follows that the meaning of any work (such as, for example, *The Brothers Karamazov* or *The Waste Land*) is never accompanied by the intentions of its author; hence, readers in different contexts are always able to discover new meanings, even as they exceed their own dialogues with the past. But such new meanings are often dependent on the intentions they put to the work in hand and the degree to which they "listen" and subdue their expectations. It is not a matter of devising methods for bringing the book to the group of the reader; for Gadamer, this understanding is an approach connected to manipulative or technological, to what Polanyi would have called "explanation" rather than "understanding." Understanding is gained in a dialectical relation to a work; the reader questions and receives an answer; the work itself interrogates by providing a new vantage point on the reader's consciousness; the reader makes his/her question as he/she discovers more and more openings to the work. Understanding is finally gained when what Gadamer calls the reader's "horizon" of interpretative meaning "fuses" with the horizon in which the work is located: we are able to enter, say, Melville's illusional universe, leftover from his *Moby Dick* journey, and see the "whiteness" of our own whole, and come to a greater understanding of ourselves and the way we are in the world. Like Polanyi, Gadamer worries little about our biases and preconceptions. Believing, as Polanyi and other unique do, that there is a single, unitary tradition in which all valid works participate, he seems to say that our prejudices arise from the tradition and that the authority of that tradition will single out biases that are unattained and warrant the test to emerge in its validity.

This approach has contributed to the rise of what is sometimes called "hermeneutics," or a mode of criticism (as in the charge of "hermeneutic slavishness") focusing on "reader response." According to this view, a work is made to "justify itself" to the reader who is capable of interpreting it by asking the author what he/she actually meant. In the context of a literary novel, *The Color Purple* by Alice Walker (who is affectionately referred to as a "novel fortuitously accomplished by the mainstream tradition"); the first sentence is "You better not tell nobody but God. It'll kill your name and mouth." Our "Dear God, I am fourteen years old." To achieve this goal, Walker shows through the perspective of a half-child, an unfulfilled southern girl who has been made big by a man she knows as Pa. In order to write the novel as a whole meaningful, the reader must not only make sense of a world seen through the perspective of a young girl living in the South, but through the perspectives of the people around her: the victorious blues singer who is the voice of her stepmother, the missionary sister writing letters from Africa; the white people on the plantation; the town's background parasites and the small town realities; and the perspective of the individual who is reading, now transformed into the reader being addressed by Alice Walker.

Connections have to be made; gaps have to be filled, sometimes by imaginative leaps; puzzles have to be resolved. Hoping against hope for a novel's success, a final resolution, the reader cannot be expected; it is likely to challenge the reader's preconceptions, violate his/her normal ways of seeing, communicate new codes for understanding. I cannot be reminded of a quotation Polanyi took from Israel助攻, having to do with the resemblance between a creative writer and an eye specialist, whose treatment is not always pleasant. When the treatment is over, the specialist says "you can look now. And then the world which has not been created only once, but is recreated every time something emerges, appears to us to be perfectly comprehensible—no very different from the old."

This said, I want to emphasize the point that the viewing of literature I have just described still takes place within an enclosing, which (may or may not be opening, to some other cultural and personal realms. As Gadamer, there are many "pre-theoretical" understandings due to our membership in a common cultural reality (which we all share by being human); but this, like Martin Heidegger's view of historicity, does not suggest the potential existence of an objective reality. As I read Polanyi, I find an external truth continuing to become, like some remote and glimmering pole, whose nature itself as "explorers" are asked, I think, to continuously looking outward, growing and developing new ways of understanding each other's worlds. For all that, there are interesting overlaps and connections in the treatment of the humanities.

Like the hermeneutic critic, Polanyi believed that "what we see or feel depends very much on the way we make sense..." and, in this respect, our readings are always contingent. Our making sense of Alice Walker's novel, our knowing and appreciating it, according to his view, take place within a largely unspecified framework. Certain pre-conceptions are bound to be brought to the work. They are grounded in past experiences (with novels, probably, or with accounts of unfamiliar lives, or with descriptions of the American South); and a variety of culturally known linguistic practices bring those pre-conceptions to bear on the work when we read it. The framework chosen or imposed "indications and standards" that govern the unfolding of our understandings. Regarding the novel as a mental dwelling place, the reader might go on to adopt Polanyi's notion that, through our personal participation in the work, we experience a gradually growing appreciation of what we read. Briefly, unlike the reader who reads a technical manual, the reader who reads a novel or a biography perhaps will suggest the existence of an external artistic reality. Coming gradually to understand what is revealed in the novel, we would reach a closer and truer "truth in meaning..." which future centuries may yet achieve..." To our, the end of reading in the way proposed would be the increased self-knowledge, understanding, and the text might be eternally changed. The reader in turn will then be changed, since the novel will begin facing kind of questions. What would change, since the reader would be enacting it, by not only encountering the world of the novel's interpretation? The view of his/her identity and participation in the world. I am interested, as I shall try to say, in critical re-interpretations of shared understandings, both how the reader's identity as they are made possible by encounters with the humanities. I am aware, however, that Polanyi might well have called this a basic subjective approach, in the best in an authentic reading rather than a validation.

Similar problems arise with respect to philosophy today, especially as it is practiced like Richard Rorty who can no longer see philosophy as the discipline capable of holding an enclosed "mirror" up to nature.30 Discarding the "dogma of epistemology" due largely to the expanding domain of cognitive science, Rorty proposes to move from hermeneutics, seen as a way of reaching the idea that "all contributions to a given discourse are comparable..." This means the notion that they can all be examined under rules telling us how rational agreement can be reached,
agreement of the sort capable of settling every issue on which statements conflict. Horyt objects to the epistemological assumption that there exists some pre-existent common ground uniting people in a common rationality. There would appear to be no argument against this, nor is Horyt's distinctive challenge to objectivism. But then he goes on to propose, as an alternative to a philosophy founded in epistemology, what he calls an "elifying philosophy," the point of which is to strip the "conversation of mankind" of all the "lifeless symbols," Wittgenstein, and Reiderer as the exemplary elifying philosophers, receptive about systematic philosophy, insisting that "words take their meaning only from other words rather than by virtue of their own inherent character and...that vocabularies acquire their privileges from the men who use them rather than from their transparency in the text." Telling language in that fashion, people participate in a conversation rather than contribute to an inquiry. It may be (although this is not entirely clear) that the conversation itself might enhance what Polanyi named "understanding," for all the rejection of representation and the idea of a hidden reality. The difficulty, however, is that Horyt seems to believe that all objective truth is settled, that an aspect of the world or of human beings can "escape becoming objects of scientific inquiry." There seems to be no acknowledgment of the need for a critique of objectification or for a recognition of levels of knowing. What is left is a conversation in which people may be doing little more than expressing their subjectivist attitudes, if not engaging in semantic and aesthetic "play." Another example of ostensibly non-objectivist philosophy is Robert Moritz's; but Moritz, unlike Horyt, is explicitly concerned about explanation and truth. Believing that philosophical explanation itself contains meaning, he talks about a conception of philosophy as art form, using different materials to anticipate those that exist, "true enough to the world" and previously unobtainable truths. Moritz writes of the "transcendent philosophy," a self-consciously artistic one, amending ideas, value, and meaning with new constellations, reversible and with many meanings and meanings as its content and its creation, leading us to understand and to respond to value and meaning—experience and attain them themselves.

I am an analytical, linguistic, and various kinds of techni- cal philosophies from the category of philosophy as one of the humani- ties is strangely undefined in these times. But there is another surmise, a persis- tence, non-positivist, if not necessarily "elififying" philosophers appearing among us today. Where most of the others Polanyi is a mistake of this conception for the "mediation" of the world. The awareness of particulars which jolts conscious the meaningful entities," and the importance of the "choosers choice" when the world is a search for significant solutions. I make an exception, as I believe Polanyi has been, for the phenomenologists, particularly Heidegger and Husserl. Heidegger put great stress upon the pre-understanding of the meaning of and upon a pre-technological, and of relating to nature. For Heidegger, human beings share a variety of situations that are specific to their being and to the world; and scientific theories and explanations must be under- stood to be abstractions from these concrete concerns. Much like Polanyi, Heidegger's thought of ways to reduce the role of living beings to the world and the metaphysical implications. As has been suggested, he also developed a no- tion of "hidden," in the idea of "inward," drawing the human being to what is not yet. He connected this with the shapes sifting through the world to which we "lay out" and the idea of "the hidden." He wrote about the "thought-provoking," but also related to what "hidden" and, in the idea, the human being to what is not yet. Heidegger, too, used the term "apprentice," but, in his case, to speak of teaching was to speak of learn- ing "the" apprenticeship learn. "The teacher is far less a teacher of
That is my particular "critique of doubt," but it does not prevent me from nourishing hopes instilled by Polanyi and following, along my own path, certain of his clues. "We are condemned to meaning," said Nietzsche lugubriously, and, in my own search for meaning, I think of ways in which --through engagement with the humanities and the arts—we might be able to avoid the connections made in our current, to nourish a tacit knowledge of particulars to an increasingly significant network among one another, to an increasingly coherent whole. Yes, that whole would be established by personal judgments and by acceptance of responsibility. But it would not signify the disclosure of or discovery of an encompassing reality. It would be forever incomplete. It is within this vision of incompleteness--as a tribunal taken as I choose to end. In the chapter called "Cetology" in Melville's Moby Dick, there is an account of a Sub-Sub-Librarian's lifelong quest to collect all the allusions to whales ever made, all the "shigegy-pig-ley whale statements" ever uttered, in order to come to a conceptualization or definition of "levitation." After identifying and illustrating all the folios and octavos and chapters, after noting names he suspects as being "mere sounds, full of Levitiations," but signifying nothing," the narrator writes:

Finally: It was stated at the outset, that this system would not be here, and at once perfected. You cannot but plainly see that I have kept my word. But I now leave my cetological System standing there unfinished, even as the great Cathedral of Palermo was left, with the crane: still standing upon the top of the incomplete tower. For small erections may be finished by their first architects; grand ones, true ones, ever leave the carpenter to posterity. God keep me from ever completing anything. This whole book is but a draught--may, the draught of a draught. Oh, Time, Strength, Cash, and Patience! (40)

This is a discovery made by the Individual, Ishmael, a discovery prepared for not merely by a consideration of the "abolition of the whole in its broad genera." It was prepared for, also, by all sorts of specific encounters and events: the image of city people "of week days peace" who offered a warranty for apples, "malleable to be encompassed" to be encompassed to be encompassed to be encompassed to be encompassed to "doubt" and on Sundays "fixed in ocean waves"; the coffin warehouses into which Ishmael found himself glancing; recollections of going to sea as a sailor; curiosity about the great whale, and looking back later, he tries to see in the "springs and motives" presented to him under "various disguises, but they were actually things unspecified at the time, it is well, that they're known to him, his splintered, things intuited and imagined that led him to go to sea on a whaling ship for the first time in his life. The sea, the ocean, upon the whale, the whale in the whale in the whale in the whale, and to a feeling that there was something to be discovered; and Ishmael took the responsibility for going in search of the whale, which may be considered the "unfinished system." It pointed towards a local awareness of Captain Ahab's single-minded, absolutist, finally, mad pursuit; of the doomed "Island" men aboard the Pequod; of the partial nature of all perceptions of the "Whiteness" and the impenetrable mystery of the whale. For all Ahab's king-like confidence that he would break through appearances, what lay behind, there was no articulation of that behind, no cosmic reality waiting to be unveiled. There was only Ishmael's lived life along with others, a life interpreted, made meaningful, saved. "I escaped to tell," and there was the possibility of "telling," of dialogue with others--man and men--who had sailed on different voyages and had watched the ships from the shore. Something might emerge, something new and yet old, something held in common, something always in process--always to be clarified and revised.

Given the fragmentation of our time, the broken idols, the distancing, the preoccupation with technique, Polanyi's vision of dedication to transcendent ideals and what he called "the authority of conscience"
challenges us as educators to try, in our own fashion, in earnest, realism, and to try to recreate communities. At the end of Science, Faith and Society, Polanyi wrote:

Of course, believing as I do in the reality of truth, justice, and charity, I am opposed to a theory which denies it and its adherents: that society which carries this denial into practice. But I do not assume that I can force my view on my opponents by argument. Though I accept truth as existing independently of my knowledge of it and as accessible to all men, I admit my inability to compel anyone to see it. Though I believe that others love the truth as I do, I can see no way to force their assent to this view. I have described how our love of truth is usually affirmed by adherence to a traditional practice within a community dedicated to it. But we can give no reason why that a community, or its practice, should last—any more than why I should live myself. My adherence to the community, if given, is an act of ultimate conviction... (49)

We are calling us to create our own ultimate convictions, challenging us to create and adhere to dedicated communities. We could not compel; nor could we require us to submit. Acting in our own freedom, with a care for others and for significant standards, we are challenged to bring new orders into being, to reconstitute a common world.

I would go back, then, to the idea of sharing an idiom, of a consciousness toward a framework I should like to see always in the making. I believe persons come to such an awareness through initiation into communities of meaning, into the narrative communities that might be identified with the arts and the humanities, with the natural and social sciences, with the religious, each one governed by particular and often changing norms, each one characterized by a distinctive cognitive style. Polanyi spoke often of "natural" or "cultural" requirements, which he linked to a "mood," with respect to the "reality" each knower strives to know. In my view, there are ways of attending associated with being mindful; there are discipline, require it for example, as in to be able to break with the natural attitude and to free to take that voyage with some, free to interpret a woman's history or a face to decode symbolic systems, from to ponder what a "holy" words might mean. There are interpretive, perspectival ways of attending; and consciousness may have to open to the mindfulness and craft and care that accompanies it.

Only as we are teachable, open to new voices to attend in this fashion, may we open the way to conviviality, to what Polanyi called a "civic home." I see the future, as I view it, on the horizon: and the more diversified the perspectives, the richer and the more many-faceted that "civic home" may be. Edward Said talks of his hope for an interpretive knowledge of a secular realm requiring a more open sense of community as something to be won and of audiences as human beings to be addressed.90 Frank James writes of the modern "a new vision of who has to be our generation, who wants to join us, as people who speak with the past and know something of reading as an art to be mastered. We are carrying something on, but we are the responsibility of making the generation that will agree to carry on in its turn is worth the effort."91 He is calling for a system of acceptances too, for responsible vision. But Polanyi was disturbed by the thought of a community "where coherence in spontaneous established by self-coordination, authority is exercised by equals over each other, all crushed...yet to each to himself," We need, if possible, to create a public space in Hannah Arendt's sense. "Being seen and being heard by others," she wrote, "derive their appeal from the fact that everybody sees and hears from a different position."92 Every distinctive person, she meant, attending from his/her own perspective, pays heed to the same object; and if they can come to
gather in "agent-revealing" speech and action, that object, that focus of their attention, can be transformed into something actually in-between, something they hold in common among themselves. Their talk of new alliances, of the power resident in people coming together: all this relates us to Polanyi's idea of living individually overweening meaningless and of the "precarious foothold" gained by human beings in the realm of ideas. Here, there is precariousness; there is slipperiness; there is a lack of coherence. There is a problem of two persons. We need to move living beings to choose their callings once again, to provision those years beyond themselves. It is a matter of keeping the human world, the world we cherish, alive.

References
2. Polanyi, op. cit., p. 266.
6. See Polanyi, op. cit., p. 86.
10. Polanyi, op. cit., p. 266.
17. Polanyi, op. cit., p. 257.
29. Polanyi, Personal Knowledge, p. 92.
acceptance of such a false notion gradually spread for modern men, the conviction that science was the only sort of knowledge he could handle for the rest. Such views gradually reorganized our entire vocational structure, such as art, poetry, morality, and religion to the status of merely subjective offerings, not in any way objectively real or trustworthy. She then also shown that none of the ethical consequences of this have been, such as totalitarianism, amoralism, and agnosticism about the reality of minds and persons, resulting in our loss of respect for human beings and so also for ourselves. In connection with cite her exposition of Polanyi's dictum of 'knowing more,' and of its origin, it is a marvel of clarity.

From her clarifying description of the two levels of awareness contained in Polanyi's paper, to this new theory of knowledge, subsidiary awareness (in which we dwell) and focal (toward which we move), there is engendered, she shows, a conception of being as multi-level: the higher, richer levels providing boundary conditions for the lower ones, in which the higher ones dwell, and no upon which they depend for their existence. She shows us that Polanyi found these two levels in machines, organisms, and minds. The lower levels of these—physical-functional parts of machines, body, and of brains—leave open possibilities for the operation of higher level principles which set limits and boundaries to their own lower levels and thus enable them to serve functions and purposes to which their lower levels are quite blind. Yet their lower levels, of course, limit the operations of these higher levels; but they do not determine them for the upper levels operate on principles unique to themselves. Dick is found to be no reducible to physics and chemistry, nor the mind to the brain; although both organisms and minds depend upon these lower levels for their existence. In this way she show Polanyi's 'dualism' does not entail two separately existing entities, i.e., minds and bodies; yet the mind and the brain are not identical. Our minds use our brains, indeed our entire bodies, to think. We, as minds, dwell in our bodily clumps to form the 'objects' of our focal attention.

She notes that Polanyi in this way restores to us a respect for the "things of the mind," among which are not only science, but also poetry, art, morality, and religion. Since these are understood to be higher levels rooted in lower levels, but with meanings and principles uniquely their own, they are not merely subjective phenomena, but rather realities which we expect to exhibit to the rest of us further manifestations of themselves, Polanyi's root meaning for the reality of 'reality' just as we expect that these realities will remain pure entertainment. In fact, intangible works of the mind are even more real than, say, cobblestones, since we see them to be richer in meanings and we expect them to manifest more to us as true power than cobblestones which manifest more to us. At this point concerning the reality of these works of the mind she notes some ambiguity in Polanyi's later work, which, she says, is in line with controversy among his followers. She thinks that in his last work, Menlogia, he seemed to water down the nature of science and religion, especially that of God. She thinks that none of his language could be interpreted as denying ontological status to them, but rather to be treating them as only symbols. She claims that there hardly was a clear line between all levels to God; so that God became the ultimate upper level (field or power) of the whole hierarchy of levels of being, and we were thought to exist as clearly as independent of our thought, as did any of the other higher levels. She argues well for her interpretation, and part of her argument hinges upon the fact that some conceit of God was used, but by anyone who sincerely uses them, to be symptoms of something existing. However there are some difficulties in what she writes. The description of the friend Polanyi made in Menlogia between the sort of realities Polanyi's sciences investigate and the sort involved in art and religion was also made, and we do not even very explicitly, in his former papers. It is clear only that some parts of a new light of day. Contrary to what she claims, I think held that the realities we deal with in the sciences exist independently of our actions...
and thought (see pp. 189, 281, 283-4, 396, and 311) and so required empirical
"verification." He said the realities in art and religion—and in mathematics
(Scott does not speak of mathematics)—exist in the articulate frameworks
we ourselves developed in our "nowhere." These realities are for him part
of our own "self-made standards" to which we are obligated under our "framework
of values." We discover these realities at work there, in these articulate
frameworks, as we dwell in them further and further. For them to have an
existence independently of and prior to us they would have to be something
like Platonic Ideas—a notion which he (perhaps unwisely) rejected. However
their location in the frameworks in which we were dwelling did not mean, he
held, that we freely or capriciously "make up," subjectively, whatever we do
in art or religion—any more than we do so in mathematics. Yet we do not and
cannot "verify" such discoveries, as we do in the sciences. We find them
"valid" or "not valid," rather than "verified," when they "carry on away," as they
do in art and religion—or when we are transfixed by our beauty and depth of
meaning, as in mathematics. God, he said in Personal knowledge (not
steeply in meaning) "exists in the sense that He is to be worshiped and obeyed,
but not otherwise: not as a fact—any more than truth, beauty or justice
exist as facts." (p. 259)

Her position seems to imply that if one were to hold that God's reality
is not of the same sort as that of cobblesstones, i.e., that of reality
existing independently of us, then he does not hold that God is real: Would
we want to hold this in the case of the Pythagorean Stoics?

I share with Dussila Scott a principle that I myself tried to argue
Michael Polanyi states, namely, that it is reasonable to accept that belief in
a supernatural Divine revelation of one's religion is essential to anyone's
having a religion. I am not sure whether or not this is essential. But
once I am sure of. Polanyi himself, in person, left me without any
doubt that he did see a necessity for such a supernatural origin in
Religion.

To the extent that Dussila Scott leave us with the impression that
Polanyi agreed—or did once agree—with her conviction that these things of
the mind, including God, exist independently of our thought, just as the
desires investigated by our sciences, I believe she is wrong.

But regardless of this error (one committed indeed by many religious
followers of Polanyi) I find Dussila Scott's book to be a captivating little
gem.

Harry Frosch
Shroeder College

Letters
THE NEW YORK TIMES, SATURDAY, NOVEMBER 16, 1985

We Are What We Know, but We Can Change

To the Editor:
"Naked Orthodoxy" (editorial, Oct. 17) points to a great truth about
scientific discovery that is still barely noticed. "Even in science, supposedly
the most objective of professions, new ideas are often resisted with
passionate obscurantism," you write, and
"What's rare, as rare as a Nobel
Prize, is the astonished voice of the
child who sees the naked truth." This
concern was the focus of the physical
chemist and philosopher Michael
Polanyi, who tried in his books —
"Personal Knowledge," "The Tacit
Dimension," "Knowing," — to show
that our most objective knowledge of
reality is based upon the very per-
sonal participation of the knower.

Most readers are likely to utter the
truth to which you point, namely, that
scientific discovery teaches us that
"knowing is a skill prepared and im-
proved by the tradition, rules and
specialization of science, but that is ad-
vanced only by the creativity of those
with enough self-trust to look through
and beyond current orthodoxies to
realities hitherto hidden.

This capacity to see more clearly,
exemplified by those persons of gen-
ius to whom we pay our highest trib-
utes, depends on their belief in their
own powers of mind. Now the cre-
tive person breaks out and sees afresh
what we have failed to see is
one of the greatest lessons scientific
discovery has to teach us, yet science
exact rules do contribute significantly
to the growth of knowledge, but we
have not pursued this to the combina-
tion of logic and psychology to which it
points. Indeed, in our dominant philos-
ophy of science, the naked emperor
still wears the clothes of "just look objectively at the facts and
you will see new truths." We have yet to understand and to
revise accordingly our theory of
knowledge so that it recognizes the
central role of a person's tacit powers
in all knowing. For although from
failure is a pervasive intellectual out-
look that continues to work and de-
stroy the basis of moral responsibility
since such responsibility cannot be
reduced to observing facts or follow-
ing rules.

Moral ideals, to be followed effec-
tively, need to be believed to be true,
but they cannot be simplified to the
level of sheer facts. Moral ideals call
for new ways of seeing ourselves and
others to bring about transformations
toward peace, justice and love. Until
we see the common ground between
the way scientists discover new aspects of reality and the way we
pursue the truths of our moral tradition,
these truths will remain in the realm of
subjectivity.

Richard Felwick
Columbus, Mo. Oct. 25, 1985

The writer, general coordinator of the
North American Polanyi Society, is
head of the religion and philosophy
department at Stephens College.
PERSONAL KNOWLEDGE AND SEX EDUCATION

"A society which wishes to preserve a fund of personal knowledge must submit to tradition."

Anyone who is familiar with Polanyi's ideas about the place of tradition and authority in learning, knows that he does not speak of tradition as the opposite of progress or as the preservation of the status quo. On the contrary, he shows how the tradition and authority of the scientific community makes possible genuine originality and progress in science. Without this tradition and authority, so much bogus science would flourish that the scientific journals would be clogged with it, and genuine originality would get no hearing, as happens in countries where there is no established community of science.

The judgments of authority can be mistaken on occasions, and a valuable new insight may be suppressed for a time, but its general righteousness is enough, and without it there could be no progress. "Science is constantly revolutionised and perfected by its pioneers, while remaining rooted in its traditions."

With this understanding of the necessity of tradition goes Polanyi's emphasis on apprenticeship as the only way of learning arts and skills which cannot be fully specified in a textbook. This, Polanyi says, is as true in science as in the sphere of crafts and personal skills.

It is by indwelling a tradition, imitating a skilled person in whose the learner has confidence, that these skills are learned. Polanyi gives the example of a child learning to speak--"All arts are learned by intelligently imitating the way they are practiced by other persons in whom the learner places his confidence." Just as children learn to speak by assuming that the child's sound in their presence mean something, so throughout the whole range of cultural apprenticeship the intellectual junior's craving to understand the doings and sayings of his intellectual superiors assumes that what they are doing and saying has a hidden meaning, which when discovered will be found satisfying.

I believe that the arts of mothering, parenting, bringing up a child, are most surely among those arts to which Polanyi's insight applies. He says that the principles of an art can be better understood from its practice than from its maxims; and this is true of the art of mothering. More can be learned about good mothering from watching and working with a good mother--as more can be learned about golf from playing with a good golfer--than from the instruction manuals on mothering or golf.

Polanyi makes another interesting point about this kind of learning: that the pupil can learn from the skilled person things which even the skilled person is unaware of knowing, having never tried to analyse or express the principles of the skill.

In applying this to sex education. I am defining sex education in the broadest sense, as the learning by the child of the whole human meaning of sex: learning what it is to be a sexual being in the human mode. This would include learning how a family is created and sustained, what is the human value and meaning of a family, what part each sex plays in it, and what constraints on unhumoured behaviour are necessary for the meaning of the family to be realized. Polanyi's idea of logical levels indicates how the discovery of higher level meaning in a spread of lower level particular demands that we cut out the irrelevancies on the lower level. Thus in transmitting a message it is necessary to cut out the noise, so that the message can be read; and if you want to join an orchestra and play classical music, you have to understand the value of silence, and resist the temptation to make any sound you feel like making on your instrument; in the interests of the more meaningful sounds that the orchestra is to make.

I am using these Polanyi ideas because I want to show how a widespread modern view of sex education goes entirely counter to them. Among those who are concerned with the subject, there has been much argument about what sort of sex education, if any, should be given to children in school.

Over the last twenty years there have been great changes, as a powerful network of organisations influenced by the International Planned Parenthood Federation has largely taken control and imposed its aims and methods on the subject. The teaching practised and promoted by this network is essentially 'factual' and 'value free', and based on a philosophy which its critics find deeply disturbing. The critics trace this philosophy, with its elements of population control and eugenics, back to such thinkers as Malthus, Darwin and Galton; they also cite the views of Dr Brock Chisholm, first President of the World Health Organisation, who seems to have no basis for his drastic determinism, to eradicate all notions of right and wrong, and to liberate children from national, cultural and parental influences. Accepting that these ideas have affected the movement, I find it interesting to look back beyond the theories of the particular thinkers who are quoted, to the essentially Cartesian thinking which produced them, and which in sex education and birth control policies is still exerting its sinister influence on the young.

In this brand of sex education the emphasis is on facts: the facts of the reproductive system and of contraceptive practice. The philosophy behind it is that if children are given enough facts they will be able to make wise decisions. There is hardly any mention of family, children (except as disasters to be avoided), parents (except as hindrances to freedom, full of outdated notions), laws (except for the need to get rid of obscene or archaic sex laws). There are traces in its literature of what Polanyi calls 'moral inversion', which put very simply means that if you believe only in what is clear, explicit and provable, then morality, love, loyalty and all such intangibles are not real, and anyone who professes to be acting from such motives is a hypocrite. For instance, in a Brook Clinics' booklet, it
is suggested that parents who object to their daughter being on the Pill without their knowledge should examine their own motives. Are they not unconsciously jealous of their child’s enjoyment of her sexuality? Facts are supposed to be ‘value free’ and these sex educators are insistent there must be no moralising or ‘preaching’ and that there are no moral implications in teenage sexual relations except that pleasure should be shared and children should not be born. But again, one can trace how Polani described as moral scepticism fired by moral passion; for while maintaining their moral factual approach these sex education enthusiasts can fulminate in moral denunciation of their opponents.

As one would expect, the explicit and factual approach goes with a belief in experts and a suspicion of parents, and of the family, traditional or ‘indwelling’ approach. I had once some correspondence with a teacher of sex education in a large school. When I suggested to him that surely, in this subject of all others, parents should be involved, he replied that he agreed in principle but in practice he found parents far too ignorant to be of any use and he even knew some parents who did not know the difference between ovule and vagina. I replied that in my opinion, it did not matter whether they knew these words or not.

Of course I am not saying that facts do not need to be given, but how they are given is all important. In a family, a child’s questions can be answered when they are asked, unemphatically and in a language he understands, by a parent who is likely to know what sort of answer he is seeking (the desired answer to “Where did I come from” might be “Birmingham”) and how much he really wants to know. One mother was asked one morning “Why are we born, why do we die, why was the world made, what was there before there was a world?” While she was drawing a deep breath and musing her thoughts, the child said “What’s for dinner?” This was the only answer he really wanted at that moment. What is objectionable about the factual sex education given in school is that it is given to large classes and sometimes with brutal frankness. It cannot be suited to the mental and emotional development of all the children, and it has no context, either in the child’s mind or in a subject. In a fairly advanced biology lesson, the correct name for the ovule is ‘ovum’ but the girl’s teacher would say it was an egg. When a child appears to be confused the teacher would say, “Don’t worry, you’ll learn this later”, but the teacher would not be told what to teach, or how to teach it. The problem is that the sex education is not part of the general education but is taught in a subject-oriented way.

When thinking of these two different approaches to sex education—the indwelling approach and the explicit, individual, anti-traditional approach—I was interested to read what the anthropologist Margaret Mead says about family and tradition in her book “Male and Female”. She writes about the very human and normal practice of the nurturing role of men. With a few limited exceptions, she says, “every known human society rests firmly on the learned nurturing behaviour of men.” This can be destroyed, but women’s nurturing behaviour is more deeply physically inbuilt and can with difficulty be eradicated. The primary unit in mother and child, the biologically given. Mead continues: “...at the base of those traditional forms through which we have preserved our learned humanity is the family—some form of the family, within which men permanently nurture and care for women and children. When the family breaks down, as it does under slavery... in periods of extreme social unrest or abrupt transition... the delicate line of transmission is broken... and the special conditions under which men have held his social traditions in trust are violated and distorted... So far, no breach in the family tradition has been prolonged enough to eradicate man’s memories of how valuable it was... The abortive attempts in history to build societies in which homo sapiens would function, not as the human beings we have known but as a creature who could more profitably be compared to an ant or a bee... stand on new types of warning that we hold our present forms of humanity on trust; that it is possible to lose it.” Margaret Mead gives as one example of the “delicate line of transmission” being broken, the time in Nazi Germany when illegitimacy was rewarded with special sunny nurseries for mother and child—the State taking over completely the main nurturing role. This may not be so far off what we are now doing, with sex education...
making no difference between normal families and what are called "one parent families," and the authorities endorsing this by special provision of flats for the single teenager and her child.

Michael Polanyi and Margaret Mend, both believers in tradition and indwelling as the way of handing on the learning of personal skill. both saw tradition as the true way of progress. Only by indwelling our traditions, Polanyi believed, can we discover their deep meaning. We can give new form to the expression of that meaning in new circumstances. And Margaret Mend saw the long tradition of the human family leading forward towards what we have never yet fully achieved—a family structure and way of living that should usefully the best gifts of each sex, working in harmony together.

It is clear that many families are not at present capable of giving the kind of nurture and support that can enable children to grow in the tradition and pioneer from it. Rather than abandon the education of indwelling, which alone can give what the children need, we should employ more social inventiveness to support and revitalize families so that they can give this nurture. Some hopeful experiments have been made in this enterprise. Gerald Heard has written about this, that the parents, and specifically the mother should clearly be the ones to fulfill this nurturing role. But it is also clear that such educators cannot be so raised and so kept in the right teaching state, unless the community can give them the backing they need by its common knowledge, faith, and high social practice to their full capacity. For, it must be said again, what the parents have to supply to the child is not information or instruction, but a climate of dynamic security, faith in the deepest sense of the word, a triumphant banishment of fear through the conviction that all experience is simply an opportunity for creative response.

Such nurturing is indispensable. The tradition in which the child is nurtured will never be perfect: no tradition is, but what we need to work for is a society in which all children have a nurture from which they can grow while remaining rooted. The factual, value-free instruction which seems having a baby as the worst thing that can happen to a girl, and directs all its thought against that, is blind to the more terrible but less tangible results of early promiscuity. A baby of course is a fact, a visible tangible and very audible fact, while misery, heartache, despair and family breakdown, however real, are not so concrete and countable. It is not surprising that the factual approach does not even succeed in reducing the numbers of illegitimate children, which rise inexorably, while more and more means of preventing them are handed out to the teenagers, and the responsibilities of the family more and more taken away.

Gnusilla Scott

From Continuation

FROM THE SCOPE OF NON-JUSTIFICATORY PHILOSOPHY—II
(A Discussion based on Philosophy and the Mirror of Nature, Princeton U.P. 1979)

In Part II of this article I turn to Rorty's positive positions, which an edifying philosophy is supposed not to have. He terms his own positions 'epistemological behaviourism' (Chap. IV:2). This holds that knowledge is not the having of an essence but of a right, by current standards, to believe (382) that epistemic authority is in what society lets us say and that through is what is 'good for us to believe' rather than 'contact with reality' (175); that 'acquaintance with meanings/emergency appearances' should not be put between the impact of the environment of people and their reports of it, and that such notions should not be used to explain the reliability of those reports (176). It is not another version of epistemology but that the thesis that epistemology is to be replaced by the history and sociology of science (266) i.e. an account of what scientists have done and now do, not of what they should in future do) and by the study of disciplinary matrices as empirical facts by 'cultural anthropology' (385).

I shall now consider his uses of epistemological behaviourism in relation to mind, or 'the mental'. Rightly or wrongly, Rorty nears debates about the nature of mind (which he claims were invented by Descartes) as narrowing down to the question of the reality of 'raw feels' or pain and to claims about incorrigible knowledge of them in one's own case (97). He holds that behaviourism, such as Ryle's, cannot cope with them (98). Instead of saying that a certain type of behaviour is a necessary and sufficient condition for ascribing 'raw feels' and that this is a fact about our language, Ryle should have said that incorrigible knowledge is a practice of justification adopted by our peers. Ryle tried to show that there are no incorrigible reports, for our language does license inferences to incorrigibly reported 'raw feels' (99-101). What is really at error is the widely made assumption that 'whenever we make an incorrigible report on a state of ourselves, there must be a property which we are presented with which induces us to make such reports' (97). 'Raw feels' are as real as anything else and we do have a superior way of knowing about our own. But
they are not a special sort of entity or processes in a private and non-material realm (107). Our 'privileged access' is really the fact that there is no better way of finding out if someone is in pain than by asking him and that nothing can overrule his sincere report. Pre-linguistic knowledge of pain is like that of a rock knowing the temperature of water. It is a matter of manifested behavioural discrimination (cf. 182). Linguistic knowledge of pain is not the putting of a linguistic label over the non-linguistic, for that would make us forever sceptical about what incomunicable qualities others feel (109-110). Scepticism about other minds arises from the assumption that knowledge is accurate representation (mind as mirror, knowing as mirroring) and that we can be certain only about our own representations — the well of ideas. Epistemology is the philosophical genre whose aim is to reunite subject and object thereby rendered (113).

Rorty offers 'Persoons Without Minds' (Chap. II) and 'Materialism without Mind-Body Identity' (Chap. II.6), instead of dualism (and thus scepticism) or other non-dualism. The argument for dualism is:

1. Some statements about our own sensations are true.
2. Sensations are mental events.
3. Mental processes are physical events.
4. 'Mental' and 'physical' are incompatible predicates.
5. No sensation of pain is a neural event.
6. There are some non-physical events.

Ryleans and some followers of Wittgenstein, assuming that mentality means privileged access, deny (2). Dualists deny (3) 'reductive' materialists (Smart and Armstrong) challenge (4) and 'eliminative' materialists (Feyerabend and Quine) deny (1) (116-7). But Rorty, taking incorrigibility as the key issue, would substitute for (4) the statement that 'nothing can be both corrigibly and incorrigibly reported', which he would deny. For 'raw feels' can be incorrigibly reported by those who know neurology and incorrigibly reported (in their own cases) by those who don't. The 'mental' is simply one way of talking about what is physical, the practice of making sincere and thus unchallenged reports about one's 'raw feels' (121-2). Our uniqueness is the ability to say unique and obscure things, and not to speak to oneself alone. With a millscope all thoughts could be monitored but not therefore understood (123 - cf. 355; predicting noises is not predicting their meanings). We need to be aware of different meanings of 'physical' and that the failure of science to explain something physically, in one sense, does not entail a need to explain it non-physically. It is vain to expect philosophy to provide a permanent ontological framework for every possible scientific event and all cultural developments (124-5).

But, I suggest, philosophy can do articulate the ontological framework presupposed by or embodied in our current knowledge, scientific and otherwise. This is what Rorty himself does by redefining the 'mental' as one way of talking about the physical, with the implication that all reality is physical. But his epistemological behaviourism prevents him from explicitly developing an ontology, just as it renders his denial of an ontological basis in the individual for rights and duties (177), of ontological divides between noises and meanings, and norms and people (355) and of knowledge, awareness of concepts deserving on the child at the age of four when he can talk (187). In each case, he holds, there are only different ways of speaking in which we engage or new relationships we establish in which each remains internally unchanged. Likewise he regards it as certain that all speech, thought and theory will be completely predictable in purely materialistic terms, but it is only a trivial consequence of what we mean by 'decide' or 'invent' that no one will be able to predict his own before deciding or inventing them (387). His position is like that of Wittgenstein: 'this languange game is played, but that proven too much. It validates ontology as well as astrology, magic as well as mysticism. Linguistic analysis has never answered the question of whose language game, talk and concepts it is. I promise that Rorty would not regard ontology and magic as merely incomparable with natural science, that he would not want to keep the conversation open to those ways of talking and that he has some general principles of reality which he could articulate and specify in an explicit ontology.

Readers of Cervantes are likely to pay to see a glass need for an ontology of levels, not 'divided'. Rorty's contention that all in physical but that there are several senses of 'physical' evade the question of whether all in physical eliminate other categories. How else does not one by one different levels. The meaning of a sentence in not another but 'immaterial' property over and above how it looks. It determines its place in a context of events in a language-game (25), but what is language apart from the physical noises and marks? One cannot distinguish language from meaningless noises and marks by reference to language-games. One needs a definite reference to minds and intentionality which that remark was intended to eliminate. Rorty denies any preceding ontological gap between atomic micro-structure and functional macro-structure, for any functional state, graspable only in a larger context, is 'immaterial' only in the trivial sense of 'not immediately evident to all who look' (26). He is not aware of the switch of attention from looking at micro-structure to looking at it and by its function. Likewise with the already quoted examples of noises and their meanings, meanings and feelings and people, and the behaviour of a person and the workings of his mind. Without an ontology of levels, and the specific ontology of the early integration of levels, Rorty's language equivocates between a flat materialism and an inchoate conception of levels of reality. I would also mention again his equation of pre-linguistic knowledge with the movements of a record-changer.
when the spindle is empty, of planets to the sun, and amoeba to or away from warmer or cooler water (110, 102). In Whitehead, such an identification or use of the same language would be taken parapsychically, but with Rorty I think that, taken at its face value, it must be read in the converse direction. Certainly, he states that things and people are not two distinct entities (351). Let us note that, as in Polanyi, an ontology of levels can avoid that imperialism of the one method, whether the latent or not, which Rorty wrongly identifies with systematic philosophy (366).

I come now to his conception of knowledge: the right by current standards to believe (399) what society lets us say (175); primarily that, supported by justifications, a relation between persons and propositions, not knowledge of, a relation between persons and objects (141). But again, whose standards and which society? For it is not just a matter of incommensurability but of flat contradiction — science versus magic, religion versus atheism, behaviourism versus recognition of the mind. Moreover, there is no place here for honest dissent from consensus, especially as moral rights are only ways in which others speak and behave towards us and are not grounded in what we are. Again, I propose, Rorty holds some beliefs, allowed by the current standards of some groups as occultists, to be false and so has implicit principles for judging them which he could articulate and specify to at least some extent. Epistemological behaviourism treats beliefs just as facts, to be described by history and sociology or cultural anthropology (266, 385). But belief is self-transcending, not a mere fact, a reaching out to a reality which it grasps or distorts. On the one hand, against 'justificatory' philosophy, he sees the impossibility of trying to stand outside what one believes and to assess its correspondence with reality, and believes that others, real or realisable, are treated as mere facts and so outside the commitment situation. Yet Polanyi has shown that we can do this, neither in our own case nor another's. For in the former there is our own commitment to an independent reality which anchors our beliefs and in the latter there is the other's equal commitment which we have to assess and endorse or reject. A history of science is necessarily a critical study, showing how theories have been confirmed, perhaps with modifications, or disproved; and how valid scientific standards have arisen. It is not just a story of what scientists have happened to do; for one thing, it must first recognize genuine and fraudulent scientists. Finally, knowledge of the contrary, is prior to knowledge that, which articulates only a part of the former. For 'we know more than we can tell' (Truth Dimension, p 4).

Let me conclude by saying that Rorty's book contains a wealth of material, many interesting suggestions (especially about the historical origins and developments of 'justificatory' philosophy) and many close arguments. Ultimately, I think, it is not coherent with itself, particularly with regard to its own procedure and what it states about idiocy and systematic philosophy. In its own terms it is systematically anti-justificatory, but that is a possibility which it implicitly denies. I think it would be more effectively anti-justificatory if it were more systematic and systematic upon Polanyian lines.

Richard Allen

From Convivium

THE UNSPECIFICAble ELEMENT IN ACCOUNTING

Following my reading of Richard Galwick's appeal for Polanyi's philosophy to be applied to more concrete issues and problems (as reported in Convivium 20, Nov. 1995) I came across an article by Colin Lynn, 'Philosophical and Accountants', (Philosophy, Jan. 1984) which revists issues about the status of accounting as raised by publications from two contrasting approaches: R.D. Sterling's 'Towards a Science of Accounting' and E. Stemp's 'Why Can Accounting Not Become a Science like Physics?,' (Abacus 17, 1981) and Corporate Reporting: Its Future Evolution (CICA, Toronto, 1980). These publications explicitly raise philosophical issues about accounting and Stemp is quoted as saying that accountancy needs a conceptual framework which rests upon secure philosophical foundations.

Readers of Convivium will be particularly interested in certain of these issues and will see them as crying out for a Polanyian treatment, which Stemp and Lynn appear implicitly to have begun. I shall therefore confine my brief remarks to those issues, and in fact Lynn himself concentrates upon them.

It is the element of judgment and decision, over and above or prior to calculation, which raises most controversy. Sterling, it would seem, thinks that this would render accountancy 'subjective' and so make it a science and not an art, in a positivistic understanding of science. Stemp, in contrast, sees the element of judgment and decision as indelible and thus the problem as that of finding standards whereby it can be assessed. Lynn endorses Stemp's general approach and explicitly refers to Sterling's as assuming a positivistic view of science, while himself referring to Feyerebrand's Science in a Free Society and Against Method as providing an anti-positivist account. He also refers to disputes about act and aesthetic taste as 'subjective' or 'objective', and reports Sterling as requiring 'tests' and not 'tastes' and Stemp as giving away too much in this respect. Sterling requires an 'objective' method for finally settling disputes, as he thinks there is in science.
Yet, apparently, he provides only one alleged law for accountability, that the realizable value of a car at the end of the year is 60% of what it was the previous year. Lysa rightly points out that (i) if the car is sold, the hypothesis is not needed, and, if it is, then the hypothesis is that very type of counter-factual conditional with which verificationist accounts of science cannot cope; (ii) that promulgation of the hypothesis could affect the decisions of buyers and sellers and so the value of the item mentioned in it (a theme of reflexivity with which Stumpt is generally concerned); (iii) that the formulists of the hypothesis had to judge that not everyone will sell and that demand will remain constant; and (iv) that it is an estimate and a judgment after all. All this good Polanyian stuff, though Polanyi is never mentioned. Likewise, Lynx disappoints Sterling’s hope that science settles controversies finally.

Stump’s remarks upon the reflexivity of accounting - that it creates the values which it reports, at least in some cases, and affects economic reality - can, according to Lynx, be given one very interesting interpretation: that here is a region in which realities are not independent of judgments about them, and thus a region with which positivist and realist accounts of science cannot cope, and, presumably, in view of the trichotomy quoted, only conventionalist accounts can. Yet a Polanyian realism, as in The Study of Man and the chapter ‘Knowing Life’ in Personal Knowledge might well be able to accommodate such phenomena, especially the impact of the study of man bill upon human life.

Finally, Stump’s general approach as reported and mostly endorsed by Lynx seems to be soundly Polanyian: it accepts what common sense and the actual practice of accountability tell us, that accounting is possible, and then it attempts to rebut arguments against that. Specifically, Stump and Lynx appeal to an analogy with law in which there is judgment and decision but not therefore ‘subjectivity’. Likewise, adds Lynx, the law ‘creates’ reality as in deciding whether a flying boat is an aeroplane or a ship and so subject to one body of law and not another. Also the law has three levels which could apply to accountability: individual judgments guided by general standards which build up into a body of case law scrutiny of such judgments by enforcers of standards for the profession (appeal courts) and then the whole practice itself which evolves along with the society in which it exists. Such an account is very close to Polanyi’s account of natural science, its standards and forms of authority. There is plenty of scope here for a detailed treatment of these issues along Polanyian lines. Is there a reader with experience of accounting and willing to undertake it?

Richard Allen
He retreats from a radical subversion of orthodox cognitive science when he slips the ghost back into the picture: partly by using the words 'central processing' and 'machine'. He writes: A lot is known about the transformations of representations which serve to get information into a form appropriate for central processing: practically nothing is known about what happens after the information gets there. The ghost has been chased further back into the machine but it has not been exorcised. (p.129)

It is not only such mechanistic assumptions which hold Fodor back. He is also, quite rightly, searching for ways to describe what kind of process goes on in the massive 'association cortex' of the human forebrain. What he describes sounds at first like total chaos and might be totally chaotic if it were not for the highly ordered modular systems which are ready to work through it. How, he wonders, are we to understand the organisation at the centre?

Then there are the rest of the higher brain systems (cf. what used to be called 'association cortex'), in which neural connectivity appears to go every which way and the form/function correspondence appears to be minimal. There is some historical irony in all this. Call it from a 'vertical' faculty psychology to the macroscopic differentiation of the brain. Fluorens, his arch antagonist, argued from the unity of the Cartesian ego to the brain's equipotentiality. The present suggestion is that both were right. (p.118)

The key word here is 'connectivity'. What Fodor is saying is that if the main associative parts of the cortex are to maximise connectivity then 'stable neural architecture'—patterns with clear form/function qualities—will not be conspicuous.

If you were a stranger from the planet Uranus, looking at a British road map and trying to understand it, you would often be right to ask, 'where's that line leading from going to; why in that direction?' There are form/function questions about road travel. But here and there you would come to patches of the map where connectivity rather than 'function' ruled—Spaghetti Junction for example. These, or railway marshalling yards, are analogs of connectivity systems but in extremely primitive form. Fodor is trying to think of large areas of the forebrain in which connectivity predominates over 'hard wired' function. These will involve many millions of nerve cells and thousands of millions of switchable lines. I find that difficult to imagine. But it is at least clear to me that Spaghetti Junction is a slightly better model than, say Cipheon Junction. The first works without a controller, provided that the subsystems (cars + drivers) obey the rules: the railway junction analogy, on the other hand, implies a little man, or his ghost, tucked away in a signal box.

A final thought about the competent musical group with no conductor: perhaps it is a useful mode. In a quintet there are only relatively short periods of peak performance when five players work in harmony with no chat and few signals. Then the great work goes forward from the individuals towards the integrated achievement. But could this happen without long periods of relaxed, less integrated effort beforehand? Are there not considerable times in the life of a quintet when chat and feedback, mutual

From: The Mind's I
MICHAEL POLANYI'S HUMOUR

Jane Huxman has had his fun with Polanyi's ideas: now I think it might be fun to let Michael Polanyi himself have a go. So here is my selection of Polanyi jokes: all to be found in the pages of Personal Knowledge.

1. (About the theory of Natural Selection) 'A piece of ice on a par with the method of catching a lion by catching two and letting one escape.'

2. (On the limitations of the inductive method) 'Our expectation of life does not increase with the number of days we have survived. On the contrary, the experience of living through the next 24 hours is much less likely to recur after it has happened 30,000 consecutive times than after only 1,000 times. Attempts to train a horse to do without food will break down precisely after the longest series of successes; and the certainty of amusing an audience by one's favourite joke does not increase indefinitely with the number of its successful repetitions.'

3. (Probability statements can never be strictly contradicted by experience) 'There is a story of a dog owner who prided himself on the perfect training of his pet. Whenever he called 'Here! Will you come or not?,' the dog invariably either came or not.'

4. (Copernicus and Newton were convinced of the truth of their theories before the fruits of the theories could be observed) 'The attempt to replace the quality of truth in which they believed, by the observation of the fruitfulness which this belief anticipated. Is like a jeweller's advice for spotting a Snark by its habits of dashing the following day.'

5. (The hammer. This performance implies the conception of a hammer, which defines a class of objects that are (actual or potential) hammers. It will include, apart from the usual tools of this kind, rifle butts, shoe heels and fat dictionaries, and establish at the same time a grading of these tools according to suitability. The suitableness of an object to serve as a hammer is an observable property, but it can be observed only within the framework defined by the purpose it is supposed to serve.)

6. (To apply the utmost ingenuity and the most rigorous care to prove the theorems of logic or mathematics, while the premises of these inferences are cheerfully accepted without any grounds...might seem altogether absurd. It reminds one of the clown who solemnly sets up in the middle of the arena two gateposts with a securely locked gate between them, pulls out a large
bunch of keys, and laboriously selects one which opens the lock, then passes through the gate and carefully locks it after himself--while all the while the whole area lies open on either side of the gatepost."
7. "The application of crystallographic theory to experience is open to the hazards of empirical refutation only in the same sense as a marching song played by the band at the head of a marching column. If it is not found opposite it will not be popular."

Will anyone contribute some more Personal Jokes?

Drusilla Scott

MORE NOREVAN JOKES, BASED ON POLANYI'S THOUGHT

MEANINGLESS PARTICULARS

I DON'T GET THIS DIVISION PROBLEM. IT'S EASY, HERE, LOOK AT MY CALCULATOR.

This button divided by this button equals this button.

WHY DIDN'T MR. STERN EXPLAIN IT THAT WAY?

He's old-fashioned.

from LUANN

Jane Moore, author of A HUMOROUS DICTIONARY OF THE LADY will send for two dollars a copy of this interesting book. His address is Box 90135, San Diego, CA 92109. Moore’s thesis is that tact knowing helps to explain the creative logical leap of humor. We are also learning from him that humor also helps to explain tact knowing.

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