Tradition & Discovery

The Polanyi Society Periodical

Vol. XIII, Number 2, Spring, 1985-86

CONTENTS

GENERAL COORDINATOR
Richard Gelwick, Th.D.
Head, Department of Religion
and Philosophy
Stephens College
Columbia, MO 65215

DISCIPLINARY COORDINATORS

ART STUDIES
Douglas Adams, Th.D.
Associate Professor
Pacific School of Religion
and Graduate Theological
Union
Berkeley, CA 94709

COMMUNICATIONS AND
RHETORICAL STUDIES
Sam Watson, Jr., Ph.D.
Assistant Professor of English
University of North Carolina
at Charlotte
Charlotte, NC 28213

EDUCATION STUDIES
Raymond Wilken, Ph.D.
Theoretical Foundations of
Education
Kent State University
Kent, OH 44242

MEDICAL AND PSYCHIATRIC STUDIES
Allen R. Dyer, M.D., Ph.D.
Assistant Professor of Psychiatry
Assistant Professor of Community
and Family Medicine
Duke University Medical Center
Durham, NC 27701

PHILOSOPHY STUDIES
Harry Prosch, Ph.D.
Professor of Philosophy
Skidmore College
Saratoga Springs, NY 12866

RELIGIOUS STUDIES
Phil Mullins, Ph.D.
Assistant Professor of
Humanities
Missouri Western State College
St. Joseph, MO 64507

CIRCULATION AND SUBSCRIPTION MANAGER
Jennifer Fisher

PREFACE

One of the great fields of application of the thought of Michael Polanyi is education. In this issue, we have the privilege of presenting two of the major addresses from the Kent State University Conference of March 8-9, 1984. The theme of the Conference was "Knowing In Action: Michael Polanyi and Education." Also included is 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 reductionism in education, each author - Broudy, Greene, and Scott- point to the need for more than criticism. There is a need for a new theoretical outlook that begins with the subsidiary awareness of the wholeness of learning itself and attends from it to particular problem solving. Without this tacit foundation in the whole, training in expertise ends in careerism, study of the humanities ends in solipsism, and sex education ends in mechanical descriptions. 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 only that which can be measured in objectivist terms.

RG

SUBMISSIONS FOR PUBLICATION

News and articles for publication are welcome. If you send news, be sure it is complete -date, author, source, etc. Articles should be within 10 pages, single spaced, 3/4 inch margins, and 1 inch top and bottom margins. The article should be camera ready so it does not have to be retyped.

NEW AND NOTES

Richard Gelwick's letter published in The New York Times and reprinted in this issue brought a number of new members into our Society whom we welcome with this publication. We hope very much that they will contribute their own distinctive views on the implications of Polanyi's thought.

Responding to Gelwick's letter were Martin and Inge Goldstein who have produced an introduction to the method and process of science that is very congenial to Polany's views. Their book is The Experience of Science: An Interdisciplinary Approach, Plenum Press, 1984.

William H. Poteat's Polanyian Meditations is now available from Duke University Press. We plan review and discussion of this work in our next issue.

Our list of libraries requesting copies of Tradition & Discovery is still growing, and Phil Mullins has prepared bound copy of all newsletters and TAD from Fall, 1972 through Winter, 1984-85. We are very grateful to Phil Mullins for this republication. Copies of this volume may be obtained for $15.00 by writing to the Coordinator's office listed on page 2. Make checks to The Polanyi Society.

The plans for another Chicago Summer Seminar and work in the Polanyi archives have been postponed until the summer of 1987 pending participant interest. Please keep Gene Reeves or Richard Gelwick informed of your interest.

Bill Scott gave a very interesting report on his Polanyi biography at the December meeting of the Polanyi Society at the American Academy of Religion. Scott described Polanyi's early years. One striking feature was the liberal arts emphasis of Polanyi"s college preparatory education and its lack of emphasis upon natural science. Polanyi had a rich background in literature, art, and languages that contributed to the fertility of his scientific imagination. Scott expects to complete this very important work within several years. We look forward to learning more about Polanyi from future reports and the publication of the biography.

M. Elizabeth Wallace, 1880 Whitcomb Court, Salem, OR 97304 is organizing a program for the December 1986 meeting of the Modern Language Association which will be in New York. The theme is "Michael Polanyi: An Epistemological Basis for the Study of Literature." Interested persons are encouraged to write to her or call after 3:30 p.m. Pacific Standard Time 503-521-1553.

Harold Kuester of Defiance College has an article "Polanyi On Religion" in Faith and Philosophy, 1(January,1984), pp.77-87. Kuester was a member of the seminar at the University of Chicago when Polanyi gave his lectures on "Meaning".

Parker Palmer has published To Know As We Are Known treating spiritual dimensions of education. He makes substantial use of Polanyi insights in his presentation. Palmer, theologian and sociologist of religion, is a director of the center at Pendle Hill, Swarthmore, Pennsylvania.

Un-chol Shin, Department of Humanities at Eastern Kentucky University reports that the tapes of Polanyi's McInerney Lectures at the University of California, Berkeley, 1962 are available from Pacifica Tape Library, 5316 Venice Blvd, Los Angeles, CA 90019.

Please notice the new dimensions for manuscripts given on page 2.

RG

The Uses of Schooling in Personal Life and Professional Practice*

H. S. Broudy

Preface

My early interest in Michael Polanyi was deepened by Raymond Wilken's dissertation (1970), which I helped direct. His concern with the nature of scientific understanding and education and mine in the diverse uses of schooling, found theoretical support in Polanyi's concept of tacit knowing. It is a pleasure as well as a great privilege to bring some results of this interest to the faculty and students of Kent University and to the members of the Polanyi society.

I have tried to acknowledge my borrowings from Polanyi, but perhaps his insight has become so much a part of my own tacit repertoire that I do not always remember the borrowing. Nor shall I discuss his theories in the detail they deserve and will receive in this Conference.

I share the feeling of some Polanyi students that we are rebuking the positivists without convincing them. This may account for my efforts to help educators convince themselves on experiential grounds that tacit knowing is not a mystical invention to circumvent systematic instruction and hard nosed achievement testing.

By doing some case studies and almost simple minded experiments, I have been convinced that we can show that much of what was studied explicitly in formal courses function in post-school life even though the content studied cannot now be replicated or applied. This runs counter to received pedagogical doctrine, and is explicable only or best by the hypothesis of tacit knowing.

The tacit dimension of knowledge has also helped explicate the distinction between truth and credibility, which I discussed in the John Dewey Society Lecture of 1980 and which Longman's published in 1981 as Truth and Credibility: The Citizen's Dilemma. That essay argued that truth as warranted assertion in the Deweyan sense of verifiability by scientific method can no longer provide even the educated citizen a rational basis for decision on the major social and political issues of the day. Policy decisions cannot be made by recourse to scientific evidence. When "science" offers studies to show that smoking is injurious to health, the tobacco industry has a team of scientists ready with studies that minimize the dangers. Nuclear energy, environmental issues, economic policy, and educational debates have little trouble mounting studies "showing" that directly incompatible decisions are equally defensible. Foreign policy is debated on guesses as to what "they" will do if "we" do.[1] All parties to all such disputes condemn simplistic solutions and leave the citizen with the strong suspicion that there are no other kinds.

In such situations--and the most important situations confronting the citizen are 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.

group problem-solving techniques have to be supplemented by a touch of fideistic existentialism. The roots of such faith are more often tacit than explicit.

Despite my animadversions on the positivistic criteria 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 fantasy and reality, between opinion and truth, between being and being interpreted. Such realism is popular with neither the positivists nor the diverse schools of hermeneutics.[2] The grounds for warranted commitment are to be found in the ultimate 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 invents such notions. 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 corpse of a martyr? Even methodological relativism of the most subjectivistic sort sustains a great deal of academic business that is very objective indeed.

Testing for the Tacit

To convey the import of tacit knowing to schoolboard members, parents, and students I have suggested The New York Times (or some similar publication) test. The test asks the readers 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 (Mushrooms). 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 Full Shell reporting the attempts of NOW to persuade the International Astronomical Union to name recently discovered features of the planet Venus after famous women rather than mythological ones. There were also articles on the economy, modern dance under Anthony Tudor, neutrinos, and some current problems in archeological research.

The selections varied in the resources needed for their construal. All were related to formal academic disciplines commonly included in general 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 lack of the formal schooling to which they were related. Neither had the participants in the study, for that matter, as they muttered that they never had a course in this or that or that the course was not satisfactory for one reason or another.

If the purpose of general studies is to supply resources for such "citizenship reading," tests such as these are dramatically effective in justifying such studies. They demonstrate the relevance of "thinking with," "feeling with," "interpreting with," at a time when "knowing how," "knowing that," and "knowing why" are the accepted objectives of schooling.[3] More important is the realization that general studies cannot be postponed or omitted in favor of the immediate press of vocational traning.

The test provides a demonstration of tacit knowing. This comes about when the readers are asked whether they could now pass an end-of-course test in the school subjects negotiated successfully in school days. Presumably, if not, these studies once learned explicitly are now functioning tacitly or as Polanyi would have it "subsidiarly." Yet the commonly acceptable criteria for schooling is the ability to recall the content of those explicit learnings. Persuading the educational establishment and the public of the differences among the various uses of schooling will go much further to restore the indispensability of general education than the customary encomia we pour upon them.[4]

The Uses of Schooling

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

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

2. The applicative in which what has been learned is used to manipulate a situation to reach a goal. For example, the priciples of hydraulics are used to invent machinery for the pumping of liquids or Boyle's law is used to deduce hypothesis 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 no uniform way, but somehow relevant to the situation.

4. The interpretive in which schooling is reinstated not precisely as learned but as the residue of learnings in the arts and sciences. We shall refer to these residues as schemata, lenses, stencils, 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 learnings. For example, one learned that oxidation has many forms--combustion, rusting, etc. One applies the principle of oxidation to explain spontaneous combustion, the uses of foam to put out a fires, and the use of paint to protect wooden surfaces from rot, etc.

Unfortunately, as most takers of out test discovered much of what they learned for replication they can no longer replicate, 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 depositing facts for replication, the amount so retrievable is disappointingly small. Yet rote learnings cannot be dispensed with. Deducing the number facts from theories of number whenever needed is wasteful.

The amount of our schooling we can apply is even smaller. Only the professional retains the relevant facts, the contexts, the principles and the technologies 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.

If the criteria of schooling are the replicative and applicative uses, most of the time spent in school must be regarded as wasteful. Yet as the test-takers discover the blocks to understanding in reading, it dawns upon them that there must be other uses of schooling that are neither replicative not applicative, yet indispensable.

We may call these other uses associative and interpretive. Both operate as contexts that function tacitly or subsidiarly. The word "rose" elicits a wealth of imagic and emotional associations for most of us. For the botanist as botanist it elicists a conceptual system of classification as well. The word expects, so to speak, the reader or listener to supply these contexts, i.e., to give it sense.

The extent to which ordinary reading of ordinary materials requires associative context is rarely noted. The uproar about functional literacy makes it sound as if more practice in coding and decoding English prose is all that is called for. However, no amount of decoding will enable the reader to understand the locution "We worked around the clock" unless a tacit supply of meaning is supplied. To a generation accustomed only to digital watches and clocks the locution would be mystifying. Colloquial discourse relies heavily on associative contexts. Thus "The motorist opened the boot to get a scraper to remove the ice from the windscreen" can be translated by the American reader, but only because of his familiarity with motor car contexts.

The computer affords a striking example 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 ambiguity, figures of speach, allusions, and plain mistakes. When we deplore lack of reading ability of the generation it may well be the poverty

of images, shades of meaning, and inflection we are bemoaning rather than lack of decoding skills. The difficulty with the computer is not lack of accuracy, buy 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 them to lenses or stencils that organize the perception of the situation by their interposition. Even the simplest account of nuclear technology, or computer development, or genetic research, calls on the reader to summon concepts of the sciences. Those who have not studied physics, chemistry, biology, mathematical theory simply cannot fill these contextual demands and they are aware of it. Those who have studied these contextual disciplines may not now 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 them will be spared.

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 come under the scrutiny of scholarship and their modes of inquiry as well as their findings become part of the interpretive resources of the educated mind.

Professional Uses of Schooling

The professional uses of knowledge include all the other forms--plus familiarity with a domain of practice. Skills, principles, technology, economic, and political contexts--even gossip--make demands on the professional which the layperson is spared. Vocations differ in the degree to which skills, theory, and practice are required. The professional, of course, has a personal life and therefore general education has its place in it, but the needs of these lives do not coincide. The marketplace makes 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. Courses in these fields are used to meet requirements in general education. However, universities and even liberal arts colleges recruit their faculties from the pool of Ph.D's, who belong to the guilds of professional scholars. Their prestige, and often their salary status, depend on the judgments of their professional colleagues. The professional careers of their 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 unwelcome chore from which they seek to be freed for their research. This may explain the alternation between neglect of undergraduate 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 sustain their enthusiam for undergraduates, 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 the vocational opportunities afforded by liberal studies. Professors with entrepreneurial talents reduce general education outcomes 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 misses the point of general education, to build up tacit associative and interpretive resources.

The Educated Mind

It may be objected by the eager undergraduate that the associative and interpretive resources for which general education is prescribed will be furnished by the mass media and by the informal lore and customs of the social order, so that the luxury 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, perceive with is clear.

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

The moral mystique, one may speculate, is one of these "subterranean" products of mind. On every side walls are erected by logic and expedience against "moralism."

Economic, diplomatic, philosophical positivists argue for the separability of "good for" and "right." The "ought" as related to duty, virtue, and character is dismissed as fictive, irrational, and superstitious. It may well be guilty as charged, but sooner or later the "bottom" line is commitment to an ideal of character that no pragmatic argument can fully justify. In the conduct of life credibility is deeper than truth.

Judgments of credibility depend largely on characterial traits such as honesty, candor, loyalty to ideals rather than on the truth of what is being asserted. The concordance between the explicit claims and hidden motives is often a measure of credibility. By 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 clues 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 willingness to test one's faith prove the correctness of its object? Sincerity, loyalty to the truth and to the ideals being professed are also taken as signs of credibility, but do they verify these ideals? Or do the norms, ideals, and values act subsidiarly to evaluate the focal situation?

Much of what is commonly called moral education depends more on rules or maxims learned explicitly in youth which have become part of the imagic-emotional-noetic store with which rightness of action is judged in adult life. Intimations of the fecundity of an idea or theory for unrealized possibilities that Polanyi attributed to the personal knowledge may also be the grounds of judgments on the credibility of persons and institutions.

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

All of which 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 subsidiarily or focally. Subsidiarily they give the focal situation tacit intimations of right and wrong. Focally, they analyze the practical situation cognitively. To paraphrase Kant, without the conditionings moral education is empty; without the principles the conditionings are blind.

Epilogue

If the discussion has been tortuous, it is because the tacit dimension of schooling is so strategic for its defense. In the nature of the case confirmation of the tacit dimension is hard to make explicit. Yet it can be done, and the concept of the different uses of schooling may help us do so. The current spate

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 claims of general education will be hollow and the expectations unrealistic. The criteria for the replicative and applicative uses when made the test of general education will render them otiose or one of the adornments of the upper classes. Properly construed, general education is the bread of the educated mind, not Marie Antoinette's cake.

Notes

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

2. Witness the very long exhange on John R. Searle's review of Jonathan Culler's On Deconstruction in The New York Review of Books of October 27, 1983. The exchange is found in the same magazine of February 2, 1984.

3. "On Knowing With", Proceedings of the 26th Annual Meeting of the Philosophy of Education Society, 1970, 89-104.

4. Report on Case Studies on Uses of Knowledge to the Spencer Foundation, 1982. Available through ERIC.

The Problematic of the Humanities: Clues and Cues from Michael Polanyi

Maxine Greene
Teachers College
Columbia University

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 yearn beyond ourselves, when we reach out from our lived landscapes and our everyday concerns towards something wider, something that transcends the here and now. In this technicized moment, this 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."[1] "Tacit assent," he wrote, "and intellectual passions, 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."[2] 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 ...."[3] 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."

When we consider current calls for "excellence" and "common learnings" in the realm of public education, we can see that kindred views are becoming normative for many, most particularly for those who are uneasy about the quality of life today. But it is important to acknowledge the erosion of "acceptances" in today's culture, the absence of likemindedness, the disruptions of coherent heritage. Tension, discord, challenge: all these mark the domains of the humanities and account for their problematic status at this time. There are voices that cry out against the elitism of traditional views. There are those who decry their exclusivity, their neglect of the "culture of silence,"[4] of the "solitude"[5] that has marked so many literatures, so many forms of art. Taking all this seriously, I want to move through what might look like the ruins of a once majestic and convivial city in an effort to discover (building on some of Polanyi's ideas) what can be remade.

The humanities may be conceived as comprising the arts of criticism, literature, philosophy, and history. This is the traditional approach: and, for Polanyi as well as the traditional theorist of the humanities, painting, music, and theatre belong to a different realm. Nevertheless, given the rootedness of articulated systems in the tacit, given the effects of certain art experiences on the ways in which knowledge is held, it is difficult to exclude the range of created forms from a treatment of the humanities. It is, in any event, the case that the several arts, along with the humanities, are given relatively short shrift today. This may, in large measure, be a consequence of an obsession with objectivist frameworks that leave little room for intellectual passion or personal participation in accord with standards set by "connoisseurs."[6] Instead, standards are likely to be set (admittedly or not) according to use values, conceptions of efficiency or effectiveness, cost-benefit considerations, saleability.

The several arts do, obviously, play prominent roles in society at large; but, in addition to the sometimes anarchic proliferation of styles and techniques, there is what Theodor Adorno once named a "culture industry."[7] Involving administrators, businessmen of the arts, advertisers, media magnates, daily reviewers, and certain critics, this industry makes commodities of many art forms (and forms in the traditional humanities) and renders it difficult for "connoisseurs" to have a legitimate say. On the one hand, there are deep separations between the "fine arts" and the popular arts so widely cherished by the public; and it is hard to imagine an authority of any sort convincing devotees to abandon rock music, video, or television drama and apprentice themselves to the community cultivating what Polanyi called "the great systems of articulate lore."[8] On the other hand, there is a kind of impassivity where quality is concerned; few people are shocked or aroused by breaks with the conventional or the traditional; in some sense, they simply do not care. Reactions like those evoked by the initial Impressionist exhibitions in Paris or by the playing of Stravinsky's Rites of Spring are unheard of in our country today, for all the fact that certain daily critics have the power to close a performance or empty a gallery overnight. The blandness, the unperturbed acceptance of or indifference to that which either disrupts the taken-for-granted or rigidifies it may testify to a disinterest in entering new frameworks or a dislike of entering outmoded frameworks to find out where they fail. The "ultimate self-reliance"[9] of which Polanyi spoke is or ought to be a function of freedom and informed judgment. Both may be presently endangered in our administered society where little "fiduciary framework"[10] is left, and where what Polanyi thought of as excellence seems to warrant only lip service as a means to pragmatic ends. If freedom is mentioned at all, it is usually in its negative sense as freedom from constraint and control. If informed judgment entails a degree of participatory and disciplined learning, it is --given the domination by measurement and notions of discrete competencies--relatively rare. Paradoxically, to consider all this in the light of Polanyi's work is to

experience an acute sense of absence and of loss. Whatever the nature of one's restlessness and scepticism, one somehow wants to restore.

In the domains of criticism and literature, nonetheless, most listeners hear a "babel of voices." Edward Said writes of a "peculiar configuration of constitutencies and interpretive communities,"[11] each one 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. There is little evidence, in fact, that there exists a secular space large enough to provide a framework for more than a few. Frank Kermode has said that, if what used to be called the "Common Reader" still survives, he/she is entirely different from the so-called general reader, who is largely ignored by academic critics or serious reviewers and left to his/her pleasures with television and film.[12] In any event, the general reader would almost surely find the writings of authoritative critics incomprehensible. It follows that there are no significant authorities for ordinary men and women, no "superior" persons to whom they can grant credibility. Obviously, there are the "great communicators," the talk-show hosts, the official spokespersons on policy matters, the celebrities; but these are not in any degree what Michael Polanyi had in mind.

For all the separate enclaves and constituencies, for all the incomprehensibility of much of the language in use, academic critics still dominate discourse in and about the humanities. Indeed, many of them are likely to appropriate the texts about which they write. What Polanyi called "the communications of the dead, transmitted cumulatively from one generation to the next"[13] are now mediated by such critics. Many of them, it should be noted, deny the objectivity of literary texts or the existence of privileged literary knowledge. The idea of mimesis is rejected, along with notions of a hidden reality. Meanings, if they are to be found in literature at all, are thought to be fortuitous.[14] Emphasis may be laid on the "traces" of other texts, on "absences,[15] but not on coherent frameworks. Attention may be directed primarily to the semantic play within a piece of prose or poetry. For Jacques Derrida, for instance, there is no limit to the play of signifiers; certainly, no transcendental meaning is to be found. He argues passionately against what he calls "logocentrism," a belief in some original "Word" or essence or truth presumed to be the ground of all thought or language or reality[16]. He calls "metaphysical" any first principle on which hierarchies of meaning can be built. In writing, there is always a "surplus" of meaning, it is suggested; it spills over and escapes the words that are its containers, thereby shattering whatever structure is said to exist.

Deconstructionist and related modern views, then, enhance the problematic of the humanities by rejecting any revelatory or illuminating function for literature, by questioning the very possibility of coherent meaning, and by separating authors from their texts in such a way as to render the texts self-existent. To do this may be to eradicate what Polanyi called the "personal stamp," to objectivize literary texts in such a fashion that they are removed from "personal acts of comprehension."[17] It is true that Derrida is highly critical of what he calls "organicist language," which he associates with an illicit search for some "organic union,"[18] identified with "techno-industrial language." And there remains the insistence that, whatever meaning is separable from a text is embedded in an intertextual sphere; and we are left in the indeterminancy of endless commentary.

There is, however, an approach to literature that does attend to personal engagement to a far greater degree. It stems in part from the phenomenological insistence that meaning in some sense precedes language and that to criticize literature is to make visible its inner meanings. And in part it derives from the movement described as "hermeneutic," focusing upon the interpretations of meanings conceived as historical, because human existence is constituted in time.[19] For Martin Heidegger, especially in his later work, the essence of language is to disclose. To interpret a work is to move back from mere explanation and to achieve a

thinking dialogue with a text, the place (Heidegger at length believed) where "being shows itself."[20]

Developing the Heideggerian perspective further, Hans-Georg Gadamer worked out a situational approach to interpretation, with the idea that literary encounters always take place within particular cultures and at particular moments in history.[21] It follows that the meaning of any work (Moby Dick, for example, or The Brothers Karamasov or The Wasteland) is never encompassed by the intentions of its author; since new readers in different contexts are always able to discover new meanings, even as they expand their own dialogues with the past. But much depends on the questions they put to the work in hand and the degree to which they "listen" and submit. It is not a matter of devising methods for bringing the book within the grasp of the reader; since, for Gadamer, the methodical approach is connected to manipulative or technological thinking, to what Polanyi would have called "explanation" rather than "understanding." Here, 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 remakes his/her question as he/she discovers more and more openings in the work. Understanding is finally gained when what Gadamer calls the reader's "horizon" of historical meaning "fuses" with the horizon in which the work is located;[22] we are able to enter, say, Melville's illusioned universe, lend our own lives to Ishmael's journey, confront the "whiteness" of our own whale, 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 appeared to do, that there is a single, unitary tradition in which all valid works participate, he seems to say that our very prejudices arise from the tradition and that the authority of that tradition will single out biases that are unwarranted and permit the text to emerge in its validity.

This approach has contributed to the rise of what is sometimes called "reception theory," or a mode of criticism (as in the case of Wolfgang Iser[23]) focusing anew on "reader response." According to this view, a work (in order to "signify" at all) has consciously to be realized by a reader, aware that there is no way of verifying or validating his/her interpretation by asking the author what he/she actually meant. In the contemporary novel, The Color Purple by Alice Walker (a black woman's novel not easily accommodated by the mainstream tradition), the first sentence is "You better not never tell nobody but God. It'd kill your mammy." And then: "Dear God, I am fourteen years old. I am (crossed out) I have always been a good girl. Maybe you can give me a sign letting me know what is happening to me."[24] The reader, almost without realizing it, is involved in trying to discover the meaning of what is at first shown through the perspective of a half-illiterate, uninformed southern child who has been made "big" by a man she knows as Pa. In order to create the novel as a whole as meaningful, the reader must not only make sense of a world seen through the perspective of a growing girl writing letters to God, but through the perspectives of the people around her: the visiting blues singer; the boy she thinks of as her stepson; the missionary sister writing letters from Africa; the white people on the fringes of these lives; the novelist's background perspective and social reality; 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 total coherence, a final resolution, the reader cannot but come up against obstacles and indeterminancies, in part because so much depends upon interpretation. If the novel is worth reading, as The Color Purple clearly is, it is likely to challenge the reader's preconceptions, violate his/her normal ways of seeing, communicate new codes for understanding. I cannot but be reminded of a quotation Polanyi took from Marcel Proust 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 thus the world which hasn't been created only once, but is recreated every time a new artist emerges, appears to us to be perfectly comprehensible--so very different from the old."[25]

This said, I want to reemphasize the point that the viewing of literature I have just described still takes place within an enclave, which may or may not be opening to some wider secular space and affecting how persons read. Also, neither the hermeneutic nor the "reader reception" theories of criticism are oriented to what Polanyi called a form of "superior knowledge" that includes "besides the systems of science and other factual truths, all that is coherently believed to be right and excellent by men within their culture."[26] For Gadamer, there are many "pre-theoretical" understandings due to our membership in a common culture reaching back over time;[27] 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 beckon, like some remote and glistening pole. Those who see themselves as "explorers" are asked, I think, to continue looking outward, groping towards that pole. 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 corrigible. Our making sense of Alice Walker's novel, our knowing and appreciating it, according to his view, take place within a largely unspecifiable 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 subsidiarily known linguistic pointers bring these pre-conceptions to bear on the interpretation of the book. Knowing, as "indwelling,"[28] fuses our subsidiary awareness of the particulars of the novel (the written words, the figures) with the cultural background of our knowing. The framework chosen or created imposes "indications and standards" that govern the unfolding of our understanding. Regarding the novel as a mental dwelling place, we might go on to adapt Polanyi's notion that, through our personal participation, we experience a gradually growing appreciation of what we read.

For Polanyi, unlike the reader reception theorist, this appreciation might well suggest the existence of an external artistic reality. Coming gradually to understand what is revealed in the novel, we would come closer to the truth and "the presence of an inexhaustible fund of meaning ...which future centuries may yet elicit."[29] For Iser, the end of reading in the way proposed would be the increased self-knowledge that comes with a critical consciousness of the codes and conventions used in interpreting the work at hand. If fundamental beliefs are transformed, the reader may learn new codes for understanding; and the text may be accordingly changed. The reader in turn will then be changed, since the novel will begin posing new kinds of questions. What would follow, since the reader would be continually encountering the unfamiliar, would be a more critical view of his/her identity and participation in the world. I am interested, as I shall try to say, in critical reinterpretations of shared intersubjective reality as they are made possible by encounters with the humanities. I am aware, however, that Polanyi might well have called this a basically subjective approach, resulting at best in an authentic reading rather than a validation.

Similar problems arise with respect to philosophy today, especially among those like Richard Rorty who can no longer see philosophy as the discipline capable of holding an unclouded "mirror" up to nature.[30] Discussing the "demise of epistemology" due largely to the expanding domains of cognitive science, Rorty proposes a move to hermeneutics, seen as a way of resisting the idea that "all contributions to a given discourse are commensurable."[31] This means the notion that they can all be subsumed under rules telling us how rational agreement can be reached,

agreement of the sort capable of settling every issue on which statements conflict. Rorty objects to the epistemological assumption that there exists some pre-existent common ground uniting people in a common rationality. There would appear to be, in his argument against "universal commensuration through the hypostatization of some privileged set of descriptions,"[32] a connection with Polanyi's distinctive challenge to objectivism. But then he goes on to propose, as an alternative to a philosophy based in epistemology, what he calls an "edifying philosophy," the point of which is to keep the "conversation of mankind" going. He views Dewey, Wittgenstein, and Heidegger as the exemplary edifying philosophers, sceptical about systematic philosophy, insisting that "words take their meanings from other words rather than by virtue of their representative character and...that vocabularies acquire their privileges from the men who use them rather than from their transparency to the real."[33] Using 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 Rorty seems to believe that all objective truth is settled, that no 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 subjective attitudes, if not engaging in semantic and semiotic "play."

Another example of ostensibly non-objectivist philosophy is Robert Nozick's; but Nozick, unlike Rorty, is explicitly concerned about explanation and truth. Believing that philosophical explanation itself confers meaning, he talks about a conception of philosophy as art form, using different materials than artists use, "true enough to the world" and presenting possible truths. "We can,"Nozick writes, "envision a humanistic philosophy, a self-consciously artistic one, sculpting ideas, value, and meaning into new constellations, reverberative with mythic power, lifting and ennobling us by its content and its creation, leading us to understand and to respond to value and meaning--to experience and attain them anew."[34]

I am excluding analytical, linguistic, and various kinds of technicist philosophies from the category of philosophy as one of the humanities in this strangely confused time. But there are numerous non-Cartesian, non-positivist, if not necessarily "edifying" philosophers appearing among us today. What distinguishes most of them from Polanyi is a lack of consideration for the "tacit dimension," for the "subsidiary awareness of particulars which jointly constitute the meaningful entity," and for the importance of the "chooser's choice" when it comes to the search for significant solutions. I make an exception, as I believe Polanyi has done, for the phenomenologists, particularly Heidegger and Maurice Merleau-Ponty. Heidegger put great stress upon a nonobjectifying pre-understanding of the meaning of Being and upon a pre-technological way of relating to nature. For Heidegger, human beings share a range of tacit assumptions that are aspects of their being practically bound up with the world; and scientific theories and explanations must be understood to be abstractions from these concrete concerns. Much like Polanyi, Heidegger thought of them on the analogy of maps with relation to lived and traveled landscapes. As has been suggested, he also developed a notion of the "hidden." He wrote about the "thought-provoking," related to what "withdraws" and, in withdrawing, draws the human being to what is not yet.[35] He connected this with the shapes slumbering within wood" to which the cabinet-maker responds in achieving an appropriate relatedness to wood "as wood enters into man's dwelling."[36] Heidegger, too, used the term "apprentice"; but, in his case, to speak of teaching was to speak of learning to "let" the apprentices learn. "The teacher is far less assured of

his ground," he wrote, "than those who learn are of theirs. If the relation between the teacher and the taught is genuine, therefore, there is never a place in it for the authority of the know-it-all or the authoritative sway of the official."[37] Questions of standard, questions of excellence, even questions having to do with the common remain unresolved.

In the case of Merleau-Ponty, Polanyi himself drew attention to the significant idea of "embodiment" and the descriptions of the ways people experience their own bodies. He saw this as foreshadowing his own analysis; but he did not believe that Merleau-Ponty did justice to the "logic of tacit knowing." In order to discover a logic by which tacit powers could achieve "true" conclusions, however, Polanyi turned to the example of perception in much the way Merleau-Ponty had done not many years before. We structure the world by means of our perceiving, Merleau-Ponty said; but the objects given in perception are given "as the infinite sum of an indefinite series of perspectival views in each of which the object is given but in none of which it is given exhaustively."[38] For Polanyi, there were multiple changing clues, some in the field of vision, some in the eyes, some in the body; but these varied clues could be seen jointly as a single unchanging object due to the perceiver's capacity to perceive coherence.[39] For Polanyi, of course, we do not attend directly to such clues, whether they are subliminal or marginal; but our awareness of them is subsidiary to our focal awareness of the object. Tacit knowing refers to the act of integration as found in visual perception and in the discovery of scientific theories. For Merleau-Ponty, the integration or the synthesis that gives meaning to the data of perception is not intellectual. The perceiver, taking a point of view in a field of perception and action identified with his/her body, grasps the whole through certain of its aspects. But the whole or the perceived thing is not an ideal unity in the possession of the intellect: "It is rather a totality open to a horizon of an indefinite number of perspectival views which blend with one another according to a given style which defines the object in question."[40] The world, then, becomes something other than that theorized by the scientist. It must be grasped as the totality of perceptible things.

The perspectival, phenomenological view, admitting the relation between perception and intellection, excludes the possibility of going to the "essence of things," even as it excludes any sort of absolute knowledge. Ideas, Merleau-Ponty wrote, are always limited and changing; they have to be kept open to the field of nature and culture that they must express. Experience continues to proceed, clarifying itself, rectifying itself through dialogue; but standpoint can never be escaped, nor can the limitations of the bodily field be overcome. Scientific thinking, he said, "looks on from above" and must return to the "'there is' which underlies it; to the site, the soil of the sensible and opened world as it is in our life and for our body...."[41] How do what Merleau-Ponty calls the "actual body" and the "primordial historicity" of human consciousness relate to the tacit awarenesses Polanyi saw as infusing the articulated system? How do we move from the soil, not simply to the horizons of our perceiving, but to higher and higher levels of knowing? Indeed, ought that to be, can that be the project of every human being? How do we name or pursue alrernative possibilities, multiplicities of realities?

It appears to be clear enough that such a question would not be posed by Polanyi. Yet, in deliberately selecting out points of view like Merleau-Ponty's and in stressing the multiple voices sounding at the present time, I have been emphasizing all those tendencies that resist unity, that tend to be perspectival or relativistic or even what Polanyi would have called subjectivist. I have been doing so in part because they represent what seem to be significant dimensions of contemporary thought, or that aspect of it that is non-technicist. And I have done so because they are responding, in their very indeterminacy and openness, to some of the most painful problems confronting civilization today. These problems have to do with the need to restore a coherent life of mean-

ing, authored meaning, meaning with intersubjective referents and with a "personal stamp" as well. They have to do, as well, with the need to constitute or reconstitute a common world, a space of "conviviality" and dialogue.

I cannot but read Polanyi from an existential phenomenological standpoint; and that means I read him with deep doubts and with a kind of stubborn hope. The doubts are in some degree epistemological and in some degree political. For me, reality must be understood as interpreted experience; and, although I believe there can be assent to intersubjective interpretations, I cannot accept the notion of an independently existing reality, one that is hidden or waiting to be revealed. I am aware of his concern for personal knowledge, judgment and choice; I think I can comprehend Polanyi's claim that we may transcend our subjectivity by "striving passionately" to fulfill our obligations to "universal standards."[42] Knowing, he believed, is guided by a sense of obligation towards truth: "by an effort to submit to reality."[43] Yes, I know: we choose those obligations responsibly. Perceiving ourselves as "novices," we perform an "act of affiliation" by which we accept "apprenticeship to a community which cultivates this lore, appreciates its values and strives to live by its standards."[44] I see the educational significance of this idea of a novitiate; I cannot but see the "community" spoken of as one of a multiplicity of communities. Nor can I imagine transcending intentionality as we attempt to "submit," no matter how intense our strivings for excellence and for truth. Nor can I posit an objective or universal ground. We can choose ourselves with respect to what we believe ought to be; we can choose to surpass. To submit, however, to place "an exceptional degree of confidence in another," may be to deny our freedom, to submerge our life stories.

My other doubt arises out of Polanyi's stress on a "chain of authorities." Given what we have learned about the provisional nature of all authorities, I find it intensely difficult to propose that students simply assume the dependability of "masters" (or, as Polanyi wrote, "distinguished speakers or famous writers"), or acquiesce in the words of "superior men." I understand that the European pedagogical and intellectual tradition once offered a warranty for apprenticeship to great men and for submission of the kind described. My objections to it, however, are akin to my objections to Polanyi's treatment of history and his call for apprenticeship "to the understanding and imitation of great minds of the past."[45] Even as I recognize the importance of regulative principles and ego ideals, I cannot refrain from thinking of current interest in a dialogical relation to the past as a companion and a counterpart to documented knowledge." For one thing, this allows for a consideration of the ways in which even great "men" of the past were engaged in efforts at sense-making with respect to their own lived worlds; in the second place, it questions the modern historian's claim to omniscience, even as he/she sorts out the Napoleons and the Nietzsches from the Jeffersons and the Einsteins. In addition to this, I have difficulties with the idea of unitary, mainstream traditions, for all the visions of consensus and order they carry with them. For one thing, I know how exclusive these traditions have been, how frequently defined and demarcated by an elite few. Like Michel Foucault, I have to take into account existing "discursive practices" and the sense in which such practices have served over time as forms of power.[46] What is a connoisseurship, I want to ask, that overlooks the voices of women, Blacks, Hispanics, Orientals, the "years of solitude"? If excellence is spelled out in purely academic, univocal terms, what "hidden reality" does it represent? And where is the "universal standard" in a world marked by heteroglossia,[47] by multiple voices on all levels of knowing, uttering incommensurable things? Surely, if there is to be something approaching the "universal," something that can be cherished in common, it must be emergent from the multiple perspectives, the many voices; it must arise by means of dialogue, flowing on and on, never twice the same.

That is my particular "critique of doubt," but it does not prevent me from nourishing hopes instilled by Polanyi and following, along my own pathway, certain of his clues. "We are condemned to meaning," said Merleau-Ponty; 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 extend the connections made in our experience, to move outward from tacit knowledge of particulars to an increasingly significant network among one another, to an increasingly coherent whole. Yes, that whole would be affected by personal judgment and choice, and surely by the acceptance of responsibility. But it would not signify the disclosure of or discovery of an encompassing reality. It would be forever incomplete.

It is with a vision of incompleteness--and a tribute to Polanyi--that 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 effort to collect all the allusions to whales ever made, all the "higgledy-piggledy whale statements" ever uttered, in order to come to a conceptualization or definition of "Leviathan." After identifying and illustrating all the folios and octavoes and chapters, after noting names he suspects as being "mere sounds, full of Leviathanism, 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 thus unfinished, even as the great Cathedral of Cologne was left, with the crane still standing upon the top of the uncompleted tower. For small erections may be finished by their first architects; grand ones, true ones, ever leave the copestone to posterity. God keep me from ever completing anything. This whole book is but a draught--nay, but the draught of a draught. Oh, Time, Strength, Cash, and Patience! (48)

This is a discovery made by the individual, Ishmael, a discovery prepared for not merely by a consideration of the "exhibition of the whale in his broad genera." It was prepared for, also, by all sorts of specific encounters and events: the images of city people "of week days pent up in lath and plaster--tied to counters, nailed to benches, clinched to desks" and on Sundays "fixed in ocean reveries"; the coffin warehouses into which Ishmael found himself glancing; recollections of going to sea as a sailor; curiosity about the great whale. Looking back later, he tries to see into "the springs and motives" presented to him under "various disguises." But they were actually things unspecified at the time, things he came to know through indwelling, things tacitly known, things intuited and imagined that led him to go to sea on a whaling ship for the first time in his life. The decision to go was a response to the clues in what he had experienced, and to a feeling that there was something to be discovered; and Ishmael took the responsibility for going in search. All that may be considered foreknowledge of his view of an unfinished system. It pointed towards a focal awareness of Captain Ahab's single-minded, absolutist, finally suicidal pursuit; of the doomed "island men" aboard the Pequod; of the partial nature of all perspectives; of the "whiteness" and the impenetrable mystery of the whale. For all Ahab's king-like confidence that he would break through appearances to what lay behind, there was no articulate framework to be found, no cosmic reality waiting to be unveiled. There was only Ishmael's lived life along with others, a life interpreted, made meaningful, saved. He "escaped to tell," and there was the possibility of "telling," of dialogue with others --men and women--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 renewed.

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, to surmount relativism and cynicism, 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 I condemn a 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 I can give no reason why such a community, or its practice, should live--anymore than why I should live myself. My adherence to the community, if given, is an act of ultimate conviction....(49)

He was calling us to create our own ultimate convictions, challenging us to create and adhere to dedicated communities. He could not compel; nor could he 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 conscious assent to a framework I should like to see always in the making. I believe persons come to such assent through initiation into provinces of meaning, into the normative communities that might be identified with the arts and the humanities, the natural and social sciences, the religions, each one governed by particular and often changing norms, each one characterized by a distinctive cognitive style. Polanyi spoke often of norms, of "impersonal requirements," which he linked to responsibility with respect to the "reality" each knower strives to know. In my view, there are ways of attending associated with being mindful; there are disciplines, yes, requirements if, for example, one is to be able to break with the natural attitude and be free to take that voyage with Ishmael, free to interpret women's history in America, free to decode symbol systems, free to ponder what a "nuclear winter" might mean. There are interpretive, perspectival ways of attending; and connoisseurship may have to do with the mindfulness and craft and care that must accompany them.

Only as we who are teachers empower persons to attend in this fashion, may we open the way to conviviality, to what Polanyi called a "civic home." Consciousness, as I view it, opens out to the common; 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 community, a secular realm requiring" a more open sense of community as something to be won and of audiences as human beings to be addressed."[50] Frank Kermode writes of a new Common Reader "who has to be our creation, who will want 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 have the responsibility of making the generation that will agree that carrying on in its turn is worth the effort."[51] He is calling for a system of acceptances too, for responsible assent. But Polanyi was disturbed by the thought of a community "where coherence is spontaneously established by self-coordination, authority is exercised by equals over each other, all tasks...set by each to himself." We need, if we are to overcome fragmentation, the creation of a public space in Hannah Arendt's sense. "Being seen and being heard by others," she wrote, "derive their significance from the fact that everybody sees and hears from a different position."[52] Every distinctive person, she meant, attending from his/her own perspective, pays heed to the same object; and, if they can come together 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. Her talk of new beginnings, of the power resident in people coming together: all this relates for me to Polanyi's idea of living individuals overcoming meaninglessness and of the "precarious foothold" gained by human beings in the realm of ideas.

Yes, there is precariousness; there is slippage; there is a loss of coherence. There is a problematic of the humanities. We need to move living beings to choose their callings once again, to provoke them to yearn beyond themselves. It is a matter of keeping the human world, the world we cherish, alive.

References

1. Michael Polanyi, Personal Knowledge (New York: Harper Torchbooks, 1964), p. 203.
2. Polanyi, op. cit., p. 266.
3. Polanyi, op. cit., p. 375.
4. See Paulo Freire, Pedagogy of the Oppressed (New York: Herder and Herder, 1970), p 76ff.
5. See Gabriel Garcia Marquez, One Hundred Years of Solitude (New York: Harper & Row, 1970).
6. See Polanyi, op. cit. p. 88.
7. Theodor W. Adorno, "Introduction," Philosophy of Modern Music (New York: The Seabury Press, 1980), p. 5.
8. Polanyi, op. cit., p. 207.
9. Polanyi, op. cit., p. 265.
10. Polanyi, op. cit., p. 266.
11. Edward W. Said, "Opponents, Audiences, Constituencies, and Community," Critical Inquiry, September 1962, Volume 9, No. 1, The Politics of Interpretation, p. 17.
12. Frank Kermode, "The Common Reader," Daedalus, Winter 1983, Reading Old and New, pp. 1-10.
13. Polanyi, op. cit., p. 207.
14. See Gerald Graff, Literature Against Itself (Chicago: The University of Chicago Press, 1979), pp. 191-205: Terry Eagleton, Literary Theory (Minneapolis: University of Minnesota Press, 1983), pp. 127-150.
15. Jacques Derrida, Margins of Philosophy (Chicago: University of Chicago Press, 1982), pp. 3-27.
16. Jacques Derrida, Of Grammatology (Baltimore: Johns Hopkins University Press, 1980); and see Roland Barthes, Critical Essays (Evanston: Northwestern University Press, 1972).
17. Polanyi, op. cit., p. 257.
18. Jacques Derrida, Speech and Phenomena (Evanston: Northwestern University Press, 1973).
19. Richard E. Palmer, Hermeneutics (Evanston: Northwestern University Press, 1969), pp. 38-45; pp. 213-4; pp. 250-3.
20. Martin Heidegger, "The Origin of the Work of Art," in Poetry, Language, Thought (New York: Harper & Row, Publishers, 1971), pp. 17-81.
21. Hans-Georg Gadamer, Truth and Method (New York: The Seabury Press,). 1975).
22. Gadamer, op. cit., p. 271.
23. Wolfgang Iser, The Act of Reading (Baltimore: The Johns Hopkins University Press, 1980.
24. Alice Walker, The Color Purple (New York: Washington Square Press, 1983), p. 11.
25. Polanyi, op. cit., p. 200.
26. Polanyi, op. cit., p. 375.
27. Hans-Georg Gadamer, "The Problem of Historical Consciousness," in Interpretive Social Science, ed. Paul Rabinow and William M. Sullivan (Berkeley: University of California Press, 1975), pp. 129-30.
28. Polanyi, The Tacit Dimension (New York: Anchor Books, 1967), p. 17, p. 18.
29. Polanyi, Personal Knowledge, p. 92.

30. Richard Rorty, Philosophy and the Mirror of Nature (Princeton: Princeton University Press, 1979).
31. Rorty, op. cit., p. 316.
32. Rorty, op. cit., p. 349.
33. Rorty, op. cit., p. 377.
34. Robert Nozick, Philosophical Explanations (Cambridge: Harvard University Press, 1981), p. 647.
35. Martin Heidegger, What Is Called Thinking? (New York: Harper Torchbooks, 1972), pp. 3-18.
36. Heidegger, op. cit., p. 23.
37. Heidegger, op. cit., p. 15.
38. Maurice Merleau-Ponty, The Primacy of Perception (Evanston: Northwestern University Press, 1964), p. 15.
39. Polanyi, Personal Knowledge, pp. 96-98.
40. Merleau-Ponty, op. cit., p. 16.
41. Merleau-Ponty, op. cit., pp. 160-1.
42. Polanyi, op. cit., p. 174.
43. Polanyi, op. cit., p. 396.
44. Polanyi, op. cit., p. 207.
45. Polanyi, op. cit., p. 207.
46. Michel Foucault, The Archaeology of Knowledge (New York: Harper Colophon, 1972)
47. Mikhail Bakhtin, "Discourse in the Novel," in The Dialogical Imagination (Austin: University of Texas Press, 1981), p. 371ff.
48. Herman Melville, Moby Dick (Berkeley: University of California Press, 1981), p. 148.
49. Polanyi, Science, Faith and Society (Chicago: University of Chicago Press, 1973), p. 81.
50. Said, "Opponents, Audiences, Constituencies, and Communities," Critical Inquiry, op. cit., p. 19.
51. Hannah Arendt, The Human Condition (Chicago: University of Chicago Press, 1958), p. 57.

REVIEW OF EVERYMAN REVIVED

Everyman Revived The Common Sense of Michael Polanyi, by Drusilla Scott. 215pp. The Book Guild Ltd., Lewes, Sussex, 1985.[1]

This excellent book was obviously undertaken as a labor of love for a friend whom the author had known long and well, and for whom she has the greatest respect and admiration. The gentle, unassuming, but also impish, person of Michael Polanyi illuminates these pages, and those of us who know him will, I am sure, fell his presence as we read them.

This is a gracious and elegant book and is exceptionally well written, clear, and concise--uncluttered with scholarly jargon and pretense. It is written simply for people, and is simply written. Yet Drusilla Scott does not simplify Polanyi's views. Indeed, if anything, her erudition amplifies them through reflections of her own and references to the thoughts of others: philosophers, poets, novelists, scientists, religious thinkers, and just 'plain folks,' such as maids and cooks.

The book shows us a first-rate mind at work, intelligent, sensitive, and imaginative. She builds a delightful frame for Polanyi's thoughts by retelling (in diminutive prologues to each chapter, with little line drawings) parts of the old medieval mystery play, Everyman, translated into Polanyian terms. The friends of Everyman who deserted him in the old play in his hour of need: Beauty, Strength, Five Wits, Fellowship, and Discretion, do not desert him in this new version. In fact, Knowledge and Good Deeds, which the priests in the old play told him would be his only saviors, are gradually shown to be nothing at all, without those other friends. With them, however, Scott shows how Polanyi has transformed knowledge into something real and restorative.

She does an excellent job of describing how Polanyi saw the inadequacies of supposing knowledge to be perfectly detached objectivity, and how the wide

acceptance of such a false notion gradually generated for modern man the conviction that science was the only sort of knowledge he could have worthy of the name. Such views gradually relegated our other valued enterprises, such as art, poetry, morality, and religion to the status of merely subjective fellings, not in any way objectively real or trustworthy. She then also shows what some of the dire consequences of this have been, such as totalitarianism, and scepticism about the reality of minds and persons, resulting in our loss of respect for human beings and so also for ourselves. In connection with this her exposition of Polanyi's difficult notion of "moral inversion," and of its origin, is a marvel of clarity.

From her clarifying description of the two levels of awareness entailed in Polanyi's answer to all this (his 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-leveled: the higher, richer levels providing boundary conditions for the lower ones, in which the higher ones dwell, and so upon which they depend for their existence. She shows us how Polanyi found these two levels in machines, organisms, and minds. The lower levels of these--the physical-chemical parts of machines, of bodies, 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 also, 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. Biology thus is found to be not 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 shows how 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 clues 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 phantasms, but rather realities which we expect to exhibit to us further manifestations of themselves (Polanyi's root meaning for 'reality')-- just as we expect of those realities with which our sciences deal. 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 time goes on than cobblestones will; for there is more to them.

At this point concerning the reality of these works of the mind she sees some ambiguity in Polanyi's later work, which, she says, has led to controversy among his followers. She thinks that in his last work, Meaning, he seemed to waiver concerning the status of the realities to be found in art and religion, especially that of God. She thinks that some of his language could be interpreted to be denying ontological status to them, but rather to be treating them as only symbols. She claims that there had been in Polanyi's earlier works a clear ascent through all these levels to God; so that God became the ultimate upper level (field or power?) of the whole hierarchy of levels of being, and so was thought to exist as clearly in Himself, independently of our thoughts, as did any of the other higher levels.

She argues well for her interpretation, and part of her argument hinges upon the not unreasonable contention that symbols of God must be understood, by anyone who sincerely uses them, to be symbols of something existing. However there are some difficulties in what she writes. The distinction she finds Polanyi made in Meaning between the sort of realities our sciences investigate and the sort involved in art and religion was also made, and made even more explicitly, in his Personal Knowledge, long before Meaning saw the light of day. Contrary to what she claims, he there held that the realities we dealt 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)--existed in the articulate frameworks we ourselves developed in our "noosphere." These realities are for him part of our own "self-set standards" to which we are obligated under our "firmament 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" he said, rather than"verified," when they "carry us away," as they do in art and religion--or when we are transfixed by their beauty and depth of meaning, as in mathematics. God, he said in Personal Knowledge (not simply 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. 279)

Her position seems to imply that if one were to hold that God's reality is not of the same sort as that of cobblestones, i.e., that of realities 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 Theorem?

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

To the extent that Drusilla 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 do the realities 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 Drusilla Scott's book to be a captivating little gem.

Harry Prosch
Skidmore College

1. This review was prepared for The Journal of the British Society for Phenomenology and will be published in this journal. Permission to republish it here has been given by the Editor.

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

We Are What We Know, but We Can Change

To the Editor:

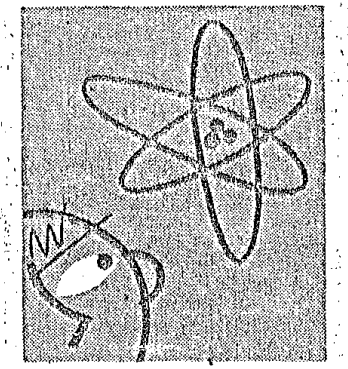
"Naked Orthodoxy" (editorial, Oct. 17) points to a great truth about scientific discovery that is still barely noticed. "Even in science, supposedly the most objective of professions, new ideas are often resisted with passionate obduracy," you write, and "What's rare, as rare as a Nobel Prize, is the 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," "Meaning" — to show that our most objective knowledge of reality is based upon the very personal participation of the knower.

Most readers are likely to miss the truth to which you point, namely, that scientific discovery teaches us that knowing is a skill prepared and improved by the tradition, rules and specialization of science, but that is advanced only by the creativity of those with enough self-trust to look through and beyond current orthodoxies to realities intimated yet hidden.

This capacity to see more clearly, exemplified by those persons of genius to whom we pay our highest tributes, depends on their belief in their own powers of mind. How the creative 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 in schools and universities persists in the myth of objective detachment as the essence of scientific method.

Philosophers and historians of science such as Stephen Toulmin and Thomas Kuhn have pointed away from scientific objectivism to the role of intellectual patterns and paradigms in scientific practice, but we have not yet accounted for how two trained persons may look at the same data, and while one of them sees the familiar orthodoxy, the other will see a new pattern.

We have come to see that personal coefficients of judgment not reducible to quantitative measurements or exact rules do contribute significantly to the growth of knowledge, but we have not pursued this to the combination of logic and psychology to which it points. Indeed, in our dominant philosophy of science, the naked emperor still thinks he wears the clothes of "Just look objectively at the facts and you will see new truths."



Anders Wennergren

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. Inseparable from this failure is a pervasive intellectual outlook that continues to weaken and destroy the basis of moral responsibility since such responsibility cannot be reduced to observing facts or following rules.

Moral ideals, to be followed effectively, 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, those truths will remain in the realm of subjectivity.

RICHARD GELWICK
Columbia, Mo., Oct. 23, 1985

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

From Convivium

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 rightness 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 text book. 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 whom 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 words used 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 fromthe 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 unhumanised behaviour are necessary for the meaning of the family to be realised. Polanyi's idea of logical levels indicates how the discovery of higher level meaning in a spread of lower level particulars 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 mustering these Polanyian 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 had a fanatical determination to eradicate all notions of right and wrong, and to liberate children from national, cultural and parental influences[4]. 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 obsolete 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 what Polanyi described as moral scepticism fired by moral passion; for while maintaining their amoral 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, '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 vulva 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 just 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 mustering 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 naming of parts of the body would be a necessary ingredient but it would cover all the parts; the sexual part would not be isolated and focussed on, as it is in sex education. In some material, it is hard to knowon what level the information given is intended; the illustrations are neither diagramatic nor realistic. A booklet for young children called "How we Grow Up" contains some illustrations which are very strange, when you think of seeing them through child's eyes. They represent a male and a female body, flesh coloured, but blank except for internal sex organs in diagram form apparently on the outside of the bodies, no faces, but red brains with an indication of the position of the pituitary gland! But these are innocuous booklets, which cannot be said of some. A book sponsored and approved originally by a well known birth control organisation (although later

repudiated when it drew a lot of criticism) is called "Make it Happy," and describes every kind of sexual activity including incest and bestiality, with no moral distinctions made, only a remark now and then to say that one or other is illegal. It does not mention families (except under Family Planning Association), nor marriage (except as an option not open to a girl under sixteen who finds herself pregnant), nor parents, nor children (except a Children's Rights Workshop). Yet it is recommended on the back cover by Dr Peter Jackson, (National Council of the Family Planning Association) as "A book that should be in every teenager's library." What a sad introduction to life! This book encourages focussing on the body, on particular parts, and gives no ghost of encouragement to any search for meaning. In contrast, Polanyi speaks about how we dwell in our bodies--"Our body is the only aggregate of things of which we are aware almost exclusively in such a subsidiary manner"--that is, simply as our means of being aware of the outside world. "To be aware of our bodies in terms of the things we know and do is to feel alive." When I think of this, I feel sorry for the teenagers who are to lose that "feeling alive" in the things they know and do, because they are made to focus on the fragmented parts of experience.

When thinking of these two opposed approaches to sex education--the indwelling approach and the explicit, individual, anti-traditional approach --I was interested to reread what the anthropologist Margaret Mead says about family and tradition in her book "Male and Female." She writes about the very early human invention 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 is 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 man has held his social traditions in trust are violated and distorted....So far, no break 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 as new types of warning that we hold our present form 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 nursing homes for mother and child--"the State taking over completely the male 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 Mead, 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, so as to discover their deep meaning, can we give new form to the expression of that meaning in new circumstances. And Margaret Mead 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 use fully 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 revitalise 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 fulfil 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 instruciton, 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 indispensible. 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 sees having a baby as the worst thing that can happen to a single 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.

Drusilla Scott

From Convivium

RORTY AND 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 (389); that epistemic authority is what society lets us say and that throuth is what is 'good for us to believe' rather than 'contact with reality' (175); that 'acquaintance with meanings/sensory 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 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 use of epistemological behaviourism in relation to mind, or 'the mental'. Rightly or wrongly, Rorty sees 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 pains 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 inference 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 record-changer 'knowing' that the spindle is empty, or of a plant knowing the direction of the sun, or amoeba 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 garb over the non-linguistic, for that would make us forever sceptical about what incommunicable 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 veil of ideas. Epistemology is the philosophical genre whose aim is to reunite subject and object thus sundered (113).

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

1. Some statements about our own sensations are true.
2. Sensations are mental event.
3. Neural 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). Pansychists deny (3). 'Reductive' materialists (Smart and Armstrong) challenge (4) and 'eliminative' materialists (Feyerbend and Quine) deny (1) (116-7). But Rorty, taking incorribility 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 corrigibly 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 cereboscope 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 what, I suggest, philosophy can do is 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 results in his denial of an ontological basis in the individual for rights and duties (177), of ontological divides between noises and meanings, and neurons and people (355) and of knowledge, awareness of concepts descending 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 naturalistic 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 language game is played'. But that proves too much. It validates astrology as well as astronomy, magic as well as medicine. Linguistic analysis has never answered the question of <u>whose</u> language game, talk and concepts it is. I presume that Rorty would not regard astrology and magic as merely incommensurable with natural science, that he would not want to keep the conversation open to <u>those</u> ways of talking and that he has some general principles of reality which he could articulate and specify in an explicit ontology.

Readers of <u>Convivium</u> are likely by now to see a crying need for an ontology of levels, not 'divides'. Rorty's contention that all is physical but that there are several senses of 'physical' evades the question of whether all is physical<u>on the same level</u> or whether everything does not exist side by side but on different levels. The meaning of a sentence is 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 <u>language</u> apart from the physical noises and marks? One cannot distingtuish 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 perplexing 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 <u>at</u> micro-structure to looking <u>from</u> it and <u>to</u> its function. Likewise with the already quoted examples of noises and their meanings, neurons 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 tacit 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, 182). In Whitehead, such an identification or use of the same language would be taken panpsychically, 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 latest 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 (389) 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 presume, 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; but, on the other, he would have beliefs 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 happended to do: for one thing, it must first recognise genuine and fraudulent scientists. Finally, knowledge of, on the contrary, is prior to knowledge that, which articulates only a part of the former. For 'We know more than we can tell' (Tacit 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 edifying 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 mroe effectively anti-justificatory if it were more systematic and systematic upon Polanyian lines.

Richard Allen

From Convivium

THE UNSPECIFIABLE ELEMENT IN ACCOUNTING

Following my reading of Richard Gelwick's appeal for Polanyi's philosophy to be applied to more concrete issues and problems (as reported in Convivium 20, Mar. 1985) I came across an article by Colin Lyas, 'Philosophers and Accountants', (Philosophy, Jan. 1984) which reviews issues about the status of accounting as raised by publications from two contrasting approaches: R.R. Sterling's Towards a Science of Accounting and E. Stamp'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 Stamp 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 those issues and will see them as crying out for a Polanyian treatment, which Stamp and Lyas appear implicitly to have begun. I shall therefore confine my brief remarks to those issues, and in fact Lyas 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 he would make it a science and not an art, in a positivistic understanding of science. Stamp, in contrast, sees the element of judgment and decision as ineliminable and thus the problem as that of finding standards whereby it can be assessed. Lyaas endorses Stamp's general approach and explicitly refers to Sterling's as assuming a positivistic view of science, while himself referring to Feyerabend's Science in a Free Society and Against Method as providing an anti-positivist account. He also refers to disputes about art and aesthetic taste as 'subjective' or 'objective', and reports Sterling as requiring 'tests' and not 'tastes' and Stamp 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 accountancy; that the realisable value of a car at the end of the year is 60% of what it was the previous year. Lyas 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 Stamp is generally concerned); (iii) that the formulators 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 Lyas disappoints Sterling's hope that science settles controversies finally.

Stamp'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 Lyas, 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 back upon human life.

Finally Stamp's general approach as reported and mostly endorsed by Lyas seems to be soundly Polanyian: it accepts what common sense and the actual practice of accountancy tell us, that accounting is possible; and then it attempts to rebut arguments against that. Specifically, Stamp and Lyas appeal to an analogy with law in which there is judgment and decision but not therefore 'subjectivity'. Likewise, adds Lyas, 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 accountancy: 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

FROM SKILLS TO THOUGHT

A consideratioin of "Fodor's First Law of the Non-existence of Cognitive Science"

In his dense and jocular book The Modularity of Mind (MIT 1983) Jerry Fodor has two main messages, both of which are of interest to anyone reflecting on the mind being 'the meaning of the body' (Polanyi, Rothschild, Knowing and Being, p.222). One is that the cerebral component of a complex skill develops and functions in neural isolation from other skill systems: the second is about how these modular systems cooperate through some superordinate system and it is here that he expresses doubts about the possibility of cognitive science.

Fodor first argues that recent studies in artificial intelligence, neuropsychology etc. have rehabilitated many of the claims of the old faculty psychology propounded by Franz Joseph Gall (but not the phoney phrenology which followed, and gave it a bad name). The argument is that organisms can only evolve and use complex information-holding and information-processing systems (e.g. those for speaking or for face recognition or for swinging from trees) if such systems are largely modular and encapsulated from each other. The sensory input, the way this is processed and, to some extent, the output of any one system must be free from interference from parallel systems. (I became interested in this when studying the main types of human competence which underly all educational processes--see Playing and Exploring, 1985 and also Howard Gardners, Frames of Mind, 1984).

Crucial questions arise when one begins to consider how such modules of brain organisation, largely encapsulated from each other, might be coordinated without positting some little mental homunculus or ghost in the machine to do it. These are problems which would have intrigued Michael Polanyi, and some neuro-psychologically inquisitive readers of Convivium may wish to ponder them. When I first read Fodor, I thought he was going to take the leap and eliminate the ghost in the machine altogether. That is what his 'first law of the non-existence of cognitive science' seemed to imply. What I expected was something like a 'from the parts to the whole' argument. It would have been on the lines of my favourite chamber music analogy: of a group of musicians, small enough to do without a conductor--a quintet, for example. This would be a good model for five 'encapsulated' competence systems. When the musicians play together the signalling between them is at a minimum. What, then, coordinates them? First, much shared experience, leading to similar tacit knowledge. Second, a shared score: either on the music stands or remembered. Each player reads the score in different but harmonious ways, each having a particular line to follow. Third, though the players do not prompt each other or signal much about what is to come, they do listen attentively to each other's immediate output. And fourth, they share an intention, of making a particular musical achievement together. Somewhere between the third and fourth there runs a focus of joint attention and action. This is their shared focal awareness. This offers a Polanyi-type account of what might have been happening in a quintet or, analogously, when three or four or five modular human capacities are synergistically operating--each affecting each--without the intervention of a ghostly conductor. This is the path which Fodor didn't take and he would almost certainly claim that the evidence is against it.

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 lack of 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. Gall argued from a (vertical) faculty psychology to the macroscopic differentiation of the brain. Fluorens, his archantagonist, 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 Clapham Junction. The first works without a controller, provided that the sybsystems (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 model. 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

> criticism and analysis of subsidiaries are important? Perhaps all rehearsals and all plan-making sessions are examples of that half-hidden phase in the build-up to some achievement when connectivity between the participants is more urgent than getting there. R. Hodgkin

From Convivium

MICHAEL POLANYI'S HUMOUR

Jere Moorman 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) "As a solution for our problem it is logically 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 the Bellman's advice for spotting a Snark by its habit of dining the following day."
5. "Take hammering. 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 suitability 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 if after himself--while all the while the whole arena 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 apposite it will not be popular."

Will anyone contribute some more Personal Jokes?

Drusilla Scott

MORE MOORMAN HUMOR BASED ON POLANYI'S THOUGHT

MEANINGLESS PARTICULARS

from LUANN

Jere Moorman, author of A HUMOROUS DICTIONARY OF THE TACIT will send for two dollars a copy of this interesting book. His address is Box 90155, San Diego, CA 92109. Moorman's thesis is that tacit knowing helps to explain the creative logical leap of humor. We are also learning from him that humor also helps to explain tacit knowing.

RG

CONTRIBUTORS TO THIS ISSUE

H.S. Broudy, Emeritus Professor of Education, University of Illinois
Maxine Greene, Professor, Teachers College, Columbia University
Harry Prosch, Professor, Skidmore College
Richard Gelwick, Professor, Stephens College
Drusilla Scott, Author, Aldeburgh, Suffolk, England
Richard Allen, Lecturer, University of West Indies
R. Hodgkin, Retired Lecturer in Education, Cornwall, England
Jere Moorman, Business Consultant, San Diego, California

POLANYI SOCIETY

Membership Form

(please type or print)

Name _____ Date _____

Mailing Address _____

_____

Telephone: Work _____ Home _____

Institutional Relationship _____

Studies Area(s): Arts ____ Communications and Rhetoric ____ Literature ____ Medicine ____

Philosophy ____ Philosophy of Science ____ Religion ____ Theology ____ Education ____

Psychology ____ Psychiatry ____ Science and Technology ____ Economics ____ Sociology ____

Law ____ History ____ Political Science ____ Other _____

Primary interest in Polanyi (key words) _____

_____

_____

_____

MEMBERSHIP FEES: Regular Annual, $10.00; Student, $6.00. Pay to: Polanyi Society

This is: ____ New Membership

____ Renewal

____ Data Update, have paid 1983-84 dues

Mail to: Richard Gelwick
General Coordinator
Polanyi Society
Religion and Philosophy Dept.
Stephens College
Columbia, MO. 65215

PUBLICATIONS: Please give complete facts of publications so that it can be indexed and located. (Please type or print)

Thesis/ Dissertation, indicate school and degree as well as other data: _____

_____

_____

Others: _____

_____

_____

_____

_____

_____

_____