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NEWS AND NOTES

In the March issue of CONVIVIUM, 1985, we printed an article by Terence Kennedy, considering science and religion as aspects of a single moral and fiduciary enterprise. I am glad to be able to print another article of his in this issue. It was first published in a Festschrift in honour of Fr Domenico Capone, who was President of the Academy where Terence lectures in Rome. Because of its length, I have taken the liberty of omitting two pages, outlining Polanyi's life from the time he qualified as a doctor in Budapest until his retirement to Oxford, assuming that readers of CONVIVIUM will be familiar with these details. This issue also contains, by arrangement with the Editors of Tradition and Discovery, a review article of a recent book by William H. Poteat, Polanyian Meditations: In Search of a Post-Critical Logic (Duke University Press, 1985). It is clear from my reading of the last number of Tradition and Discovery (Vol xiv, No 2, Spring, 1986-87), that Poteat's book is receiving a great deal of attention in Polanyian circles, and, in fact, this issue of TD is largely devoted to reviews of it. Richard Gelwick, in his "Preface", writes:

Poteat's book marks a new stage (in the growth of thought on Polanyi), not just exposition and discussion of implications but the investigation and indwelling of a post-critical terrain in post-critical discourse . . . Polanyi's thought has gone from the exciting stage of the dynamic genius himself to the evoking of a following of serious students - articles, dissertations, conferences, and books. Poteat's work is demanding and challenging even for this well-informed Polanyian scholar, and we hope this issue will further its study.

I have been persuaded to include in this issue of CONVIVIUM an extract from the book I am writing on Polanyi and modern theology, which must, therefore, be regarded as strictly copyright. I am very grateful to David Bagchi for fulfilling the rôle of guest editor for the last two issues of CONVIVIUM. Unfortunately he cannot continue, so the ball is back in my court. New subscribers to CONVIVIUM may not know that, for some years, I have had the support of a small ad hoc committee, consisting of Robin Hodgkin, Dru Scott, John Puddefoot and Geoffrey Price, whom I could consult, when in doubt. We have decided to meet early in January 1988 to discuss the future of CONVIVIUM. The fact is that, despite the addition of a few new members each year, additions have been matched by a steady trickle of losses from resignation, death or default, and membership has always remained at about eighty. Our hope was to turn CONVIVIUM into a national journal of "post-critical thought", for which there is, arguably, a need in the UK. However, neither the finance nor the right personnel for launching such a journal have materialized, and the question now arises - what next?

After the death of Magda Polanyi, we received a generous gift from her estate of £500, so we do not at present have any financial worries. However, I do not feel I should carry on editing CONVIVIUM - at least while I am still
Irvine to write my book, and it therefore seems a good point at which to ask whether CONVIVIUM should be wound up. Arthur Peacocke, an experienced author and editor, is strongly of the opinion that there is no place for another journal and that those who write for CONVIVIUM should send their articles to existing journals, which are always looking for good material. I am inclined to agree, since I have noticed that most of the people who might write for us are, on the whole, already busy writing for a wider readership than CONVIVIUM can command, and it will not have escaped your attention that we tend to rely on a few faithful regulars!

I would be glad to have your views and comments on this question between now and January. Three suggestions have been put forward so far:

1. Use our bank balance to give all our subscribers a year’s subscription to Tradition and Discovery, the American Polanyi Society Journal.

2. Use it to finance a final conference in the UK.

3. Use it to publish a book of the best of CONVIVIUM’s past articles.

I would be grateful if every single CONVIVIUM subscriber would make a point of writing personally before the end of the year, saying what they feel and giving suggestions and comments. At least, it would be good to know which of the three suggestions above would be preferred.

I don’t think I have received any information from anyone since April to include in News and Notes. Dru Scott’s book Everyman Revived: The Common Sense of Michael Polanyi is definitely in print again and can be ordered from booksellers, or direct from the publisher, The Book Guild, 25, High St, Lewes, E. Sussex. In September, Dru Scott attended a conference at Downing College, Cambridge on “What is it to be human?”, initiated by David Holbrook. In one of the conference papers, Dr Wolfe Mayo gave memories of Michael Polanyi, whose ideas were often mentioned during the conference. Later this year John Puddefoot’s book Logic and Affirmation will be published by Scottish Academic. John is at present teaching mathematics at Eton.

Some items from Tradition and Discovery’s “News and Notes” are worth passing on. An American Journal, Ultimate Reality and Meaning, which first appeared in 1978 has a paper in its Winter 1986 issue, by Walter Gullick entitled “Michael Polanyi’s Theory of Meaning and Reality. Prolegomenon to Exploiting Polanyi’s Resources on Ultimate Reality and Meaning”. In this issue, the editor, in a preface to Gullick’s paper, speaks about Polanyi’s association with the periodical, and states his intention to publish more articles on Polanyi’s thought. I understand that Polanyi accepted an invitation to be a co-editor of this journal in 1975, the year before his death.

Another item gleaned by the editor of TD is that Polanyi has not only appeared in the novels of Andrew Greeley and Saul Bellow, but in the April 1986 issue of Profiles, a Magazine for Kaypro users, Polanyi gets the following reference: “The other day Jim was looking for a quote from Michael Polanyi (the famous philosopher of science). He was trying to remember what Polanyi said about scientists being ‘called to an unthinkable consummation’”. The passage then goes on to explain that Jim could locate this quotation in a paper
he had written earlier by using his "Free Filer" program. Gelwick's comment: Could this be further evidence of Polanyi's becoming a standard part of our intellectual heritage?

STOP PRESS: Literally one hour before having to hand over the CONVIVIUM material for printing, two unexpected articles have arrived by the same post; offering replies to Professor Emmet (October 1986) and Steve Palmquist (March 1987). I have not had time to read them properly, but they are clearly important, and since this may possibly be the last number of CONVIVIUM, they will help to make it a bumper issue!

Joan Crewdson

The Scientist and his Conscience:
Michael Polanyi on Freedom of Research as a Human Right

This essay addresses the question of a scientist's right to intellectual freedom in pursuing his vocation of original research. We are all too familiar with how the Sacharows and other dissidents in Eastern Europe have been persecuted for following their conscientious convictions. Perhaps we've never asked ourselves why scientists dedicated to objective impersonal truth should be the leading exponents of personal freedom and civil rights.

Polanyi provided a response that rethinks the ideal of science and furnishes a firm foundation for freedom of thought in our technological society. Until his death in 1976 he continued to research into science, art and spiritual values. Raymond Aron has praised him as a "philosopher of reconciliation" for he restored man's dignity by integrating his culture, science and art with the transcendent values of truth, love and beauty.

Polanyi's contribution to the theory of freedom is usually taken from the point of view of his social theory. Polanyi's point was more fundamental as was recognized by Professor T. F. Torrance. He saw quite clearly that freedom was an inner constitutive of Polanyi's philosophy of science: "To the open universe disclosed by the advance of pure science there ought to arise something like the free society".

Professor Torrance has already drawn the systematic conclusions about the place of freedom in science from Polanyi's vision. This essay will limit itself to an exposition of how Polanyi perceives a scientist's conscience is constituted and functions. It will take one chapter of Science, Faith and Society, namely "Authority and Conscience", as its principal focus for reflection and analysis.

There will be four parts to this analysis:
1. "Moral Inversion" as the Context for a Discussion of Conscience in Science
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Science is a social activity in which many individuals co-operate in a common effort. Polanyi described personal and social relationships through the image of a field of moral forces filled with moral energy. Man is moved towards the goals he desires by his passions. It is appropriate, therefore, to visualize his moral passions as moral energies having direction and universal intent.

Because science was able to dethrone religious and philosophical authorities that had interpreted nature up to the Enlightenment, people began to turn to it for guidance. Even in ethical matters its way of reasoning was held to be the sole path to the truth. When objectivistic science becomes a world-view or an ideology, it leads to either purely empirical enquiries of no ultimate significance, or to a pseudo-system of the world and of history. For our author, the first seems to be the predicament of the Western thought dominated by reductionism; the second is that of the Communist countries. Either outcome is absurd.

The root cause of our cultural malaise may be discovered in Descartes' refashioning of knowledge and the knowing subject. Since the *cogito* has entered philosophy as its self-justification, man's capacities to know have not been directed outward towards reality so that he does not go out of himself to embrace it in union. Rather, there has been no "indwelling" to use Polanyi's term and man's capacities were turned back on himself. It is this misdirecting of the mind that is referred to as "inversion". This is no denial of the consciousness of the knowing subject. Knowing as indwelling is a bi-polar movement for Polanyi: from subject outward towards the object as a questioning of reality, as a searching to find its real structures; from object into the subject as the gift of intelligibility yielded to the subject in the act of understanding.

Now the passions follow the direction set them by the mind as it penetrates the real. The mind itself is moved by the passions to act in the direction it is turned. If the mind is misdirected, it follows that our passions become displaced.

The deepest dimension of the crisis of contemporary culture is religious. It deals with man in his lived relationship to himself and to the person of Christ.

Christianity is a religion of moral passions... The modern critical movement destroyed the communion between the Christian conscience and the person of Christ, and in so doing it pent up a vast accumulation of unsatisfied moral desire. Barred from their opening toward eternity, the hopes and passions of Christianity overflowed
into the secular world, transforming themselves into a belief in historical progress and generating unlimited demands for political and social reform.\(^5\)

The denial of absolute obligations does not destroy our passions. It renders them homeless. They easily become transmuted into some theory of salvation by violence. And this violence is then justified by a scientific ideology. Critical rationalism has thus completed the circle of reasoning which justifies the transformation of the world by violence for scientific reasons.

In such men, the traditional form for holding moral ideals has been shattered and their moral passions diverted into the only channels which a strictly mechanistic conception of man and society left open to them. We may describe this as a process of moral inversion.\(^6\)

Polanyi goes on to view the soul of contemporary man as being eaten away by the cancer of nihilism which links false ideals to homeless fanatical passions in a culture bent on self-destruction. This is evident in the experience of two World Wars and in the super-power conflicts of today. This is the cultural content in which Polanyi sets out on his corrective analysis of science in his first major theoretical work, *Science, Faith and Society*, in which the conceptions of conscience and science are formulated in terms of each other.

2. *Discovery is an Intellectual Act Demanding Conscience*

Polanyi's first step is really a refutation of the positivist conception of science. Can we derive scientific propositions from experience by the simple application of explicit rules of procedure? The positivist says "Yes" because a rule induces a pattern, a meaning into the mass of data by induction. But, argues Polanyi, for any set of data there is an infinite number of functions that can represent it. "Never yet has a definite rule been laid down by which any particular mathematical function can be organized, among the infinite number of those offering themselves for choice, as the one, which expresses a natural law" (SFS p. 21). Even if we pick those that lead to right predictions of phenomena there is still an infinite series from which to make a selection. What is the additional factor that guides our choice, e.g., in establishing the trajectory of a star? The first fact is that the star is real. It is something we want to know and understand. Then there is the problem of how to relate all these phenomena into a pattern. It is here that the positivist would impose the enforced order of a mathematical law on to the observations. But why this mathematical pattern? Because the scientist in an act of creative understanding brings all the data together and recognizes a pattern or a shape that reveals the reality of the object of his enquiry. "Our principal clue to the reality of an object is its possession of a coherent outline." There is thus no pre-determined rule for making a discovery which is, on the contrary "an intuitive perception of the real structure of natural phenomena" (SFS p. 25). The scientist has a specially trained and cultivated power of perception whereby he recognizes those shapes in nature that are often invisible to the
non-specialist. So scientists, and the whole of modern society, are guided by a conviction of the rationality of the universe. It is true that the same experience, e.g. the fall of a rock that strikes a man on the head and kills him, may be interpreted in many ways i.e. magically or scientifically. We decide in conscience for that interpretation of the universe which we believe leads us into the truth.

The positivist believes science advances because of new facts or observations. Sir James Jeans said that "Science advances in two ways, by the discovery of new facts and by the discovery of mechanisms or systems which account for the facts already known". The outstanding landmarks in the progress of science have all been of the second kind, e.g., Copernicus, Newton, Darwin and Einstein. Thus the scientists do not so much use hypotheses but rather hunches or guesses that they trust to put them in contact with reality and its inner structures. If a scientific law cannot be deduced from experience by explicit rules "we must therefore accept also that no explicit rules can exist to decide whether to uphold or abandon any scientific proposition in face of any particular new observation" (SFS p. 29). Verification of a scientific law is more susceptible to rules than discovery which rests on our mental ability to make contact with reality, rather than on rules of procedure. An experiment is an enquiry that is stimulated and driven forward by intuition and observation acting upon each other. Thus the scientist is drawn forward by a hope, by a vision of truth which he wants to establish by his reflection on the evidence. There is doubt and there can be error. It is here that scientific conscience plays its vital rôle: the scientist must decide whether to set aside a doubt as unreasonable or not. "Our decision what to accept as finally established cannot be wholly derived from any explicit rules but must be taken in the light of our own personal judgement of the evidence" (SFS p. 30), e.g., the periodic table of the elements and the quantum theory of light are both good examples.

Polanyi then asks what mental process leads to discovery as the acceptance of these guesses as valid and truthful interpretations of the structure of the universe? It really starts with an awareness of inclination, of untapped ability and gifts in the researcher that attract him to this matter as the stuff for exploration. So as it were he travels through the dark guessing every step along the way. But he must at the same time be guessing all the future steps that will yield the final solution. He has a sense of nearing his goal without which the whole effort is futile. In all this scientific discovery is like a work of art. To achieve the final vision one must make the right decision at every stage guided by as yet undiscovered particulars in the picture. There are two points to note here. 1. Science shares Plato's enigma: how can I have a problem about something which I do not yet know? Conscience plays a vital function in bridging the distance between known premiss and the obscure mass of data and observations. It yields a conclusion only by way of an intellectual decision to trust the emergent shape as the arrival of truth. 2. Science differs from art and imposes a burden on
conscience in so far as "the final whole lies not within the powers of our shaping, but must give a true picture of a hidden pattern of the outer world" (SFS p. 32). Polanyi invoked Gestalt psychology to explain the hidden coefficient in our knowledge of physical nature. It was precisely the unitive aspect of the knowledge of real objects perceived by us that led Polanyi to a creative act, a conscience decision that the mass of physical observations all bore on and pointed to one physical object or pattern in nature itself. Conscience, while it is a creative act and decision of man, is intentionally directed to the real and is measured by the structures of the real.

The skill involved in this type of decision goes beyond any operational skill or planned process in the techniques of research. "There are specifications for testing materials and rules for drawing up statistics. There are also manuals for triangulation and the drawing of exact maps. But there are no manuals prescribing the conduct of research; clearly because its method cannot be definitely set out... The rules of research cannot usefully be codified at all. Like the rules of all other higher arts, they are embodied in practice alone" (SFS p. 33). Bacon's prescriptions for discovery are a travesty of what is meant by heuristics. The spontaneous process of mental reorganization of data in view of their objectivity in the real world is not done by conscious effort and yet a four-phase sequence has been recognized in establishing originality in art, science and mathematics, namely, preparation, incubation, illumination and verification. It is here that Polanyi projects his paradigm example of St Augustine whose search for God in prayer culminated in religious conversion. Polanyi sees a personal dimension in knowledge which he calls conscience. It acts through faith to achieve discovery which is "the knowledge of a real thing never seen before" (SFS p. 39). While discovery cannot be precipitated by following a definite set of rules, it is not outside the laws of human behaviour but it is very limited by its dependence on the circumstances in which an investigator works. This may be seen by the fact that different scientists make the same discovery almost at the same moment, e.g., the splitting of the atom. Science is valid precisely in so far as it does make contact with reality in discovery.

The impression could be given that the investigator might be replaced by a "truth-finding machine steered by intuitive sensitivity". This possibility is more pressing today than when Polanyi wrote since the challenge of artificial intelligence has become so real. However if we follow Polanyi's logic we will discern an important moral element in all personal statements that affect scientific judgments. To put the matter pithily the above model takes no account of the fact that the scientist "is in fact the ultimate judge of what he accepts as true. His brain labours to satisfy its own demands according to criteria applied by its own judgments" (SFS p. 38). The scientist is no neutral referee but is passionately committed to the success of his search. He is deeply involved in his work since without motivation he would never find a problem that begs solution or initiate the toil of patiently working through
every stage of research, nor would he overcome the temptation to depression and to disregard discomforting evidence or exceptions.

Polanyi has summarized the place of intuition and emotion in scientific decision in these words: "Problems of this kind can be solved by no established rule and (as I have said) the decision to be taken is a matter of the scientist's own personal judgement: we now see that this judgement has a moral aspect to it. We see higher interests conflicting with lower interests. That must involve questions of conviction and of faithfulness to an ideal: it makes the scientist's judgement a matter of conscience" (SFS p. 39).

Polanyi has more in mind here than what we call conscientiousness in fulfilling procedures, cataloguing results, checking references etc. These are all matters of rule. But the rules themselves must be interpreted in view of the aims of science, i.e., truth through discovery. It is here that conscience enters to settle the conflict between inspiration and intuition on one side, and rule and tradition on the other. Without this dialectic of conscience science would not be a dynamic discipline in the mind of the researcher, nor would it enhance and enrich the cultural heritage of society.

3. Conscience Confronts Authority in Science

According to Polanyi we acquire the premisses and the viewpoint of science not by proving its principles like theorems of geometry but by a process of assimilative learning much as a child learns from its mother the language which will interpret the world around it. The premisses of science are therefore learnt implicitly with our acquisition of culture from our earliest experiences. We gain these premisses when experience mediates reality to us through certain structures or patterns that we usually do not avert to consciously. For example, a child before it ever goes to school has already assumed the rudiments of a naturalistic view of the world and not a magical one as might have happened in another age (SFS p. 42/43). So it is through skill and practice that the presumptions of what the world is about are passed on. This presumes a community with a living tradition. In it conscience is alive forever choosing its direction of development in continuity with its past.

There is a three stage process of education to communicate the premisses of science. 1. The schools communicate the concepts and vision of science. 2. The university maps out the extent and methods of science. 3. Research is fostered by a system of apprenticeship. The new researcher is supervised by a master who initiates him into the skills and practice of research. It is at this stage that the scientific conscience is properly formed.11 Not only has the researcher learned the methods of scientific work but he has rationally accepted the standards that guide science.

The unknowing novice in the discipline is urged on by the certainty that realities beyond his knowledge are true and valuable. He therefore recognizes an authority in what he is going to learn which is incarnated in his masters. He never accepts his teacher's views except in so far as they are the embodiment of the valid premisses of science. To become a scientist a person
must presume that scientific methods and teachings are sound and that they are to be undoubtingly accepted as foundations for progress in understanding. Polanyi thus refers to the Patristic and specifically Augustinian axiom, that knowledge is achieved through faith, *fides quaerens intellectum*.

This process of education means that rationality grows while the naïve form of faith diminishes. "His own intuition and conscience will take over responsibility in the measure in which authority is eclipsed" (SFS p. 45). This does not mean that he will no longer rely on the judgment of others or trust his instruments or the intellectual premisses of science. But it does mean that "such reliance will be entirely subject to his own judgement". From henceforth he is fully responsible before his own conscience for his decisions in research and in organizing the community of science in its common effort. Of course there are conflicts among scientists. These are usually settled by appeal to the common premisses they all share together. "Their consciences on which they have ultimately to rely for guidance harmonize sufficiently to keep them in concord" (SFS p. 46).

Mutual reliance and common standards are established among scientists in a number of institutions. This is the matter of administration of the scientific effort. Periodicals set a minimum standard that is communicated throughout the profession. Text-books make these contributions normative for the education of novices in the field. The awarding of a scientific post involves putting money and facilities at a scientist's disposal for the advancement of the frontiers of science. The lines of research, the methods and publication of discoveries is left to his competence and judgment, i.e., to his conscience. The authority of science is embodied in great scientists not so much because of their position but because of their competence. The scientific community as a profession enjoys autonomy in setting its own standards: no civil government is competent to intervene here except in case of incompetent administration of facilities or monies etc. But the standards of science are a matter for the responsible scientists themselves. Polanyi argues this is necessary on the basis of the nature of the act of discovery itself. It is guided by the internalized standards of science in the skill and practice of the scientist. No exterior rule or authority can coerce the actual performance of research. If it does become forced the originality of science will die. This is the mistake of central planning as advocated above by the Soviets.

It follows that authority in science is general and not specific so that a consensus is maintained that allows new conclusions to be reached. Thus the spontaneous unanimity that prevails among scientists is a form of spontaneous order whereby each is a centre of initiative and all together form a polycentric system.

When each scientist largely relies for his views and information on the work of many others, and is prepared to vouch for their reliability before his own conscience, then the conscience of each is born out by that of many others. There exists then a community of consciences jointly rooted in the same ideals recognized by all. And
the community becomes an embodiment of these ideals and a living demonstration of their reality (SFS p. 55/56).

The individual scientist within this community experiences intuitive impulses that intimate new discoveries. He therefore wants to transform the tradition. It is precisely here that the community relies on the consciences of individual scientists to control these impulses so that they can reach a re-interpretation of the tradition that they will then present to the judgment of their fellows. When this new judgment is accepted the premisses of science have then been transformed and renewed. There is thus a dialectic of tradition and renewal in the conscience of the individual researcher and also in the community of scientists itself. So the submission to scientific premisses leads to the practice of intellectual freedom.

4. Acceptance of Science by the Community at Large

The world of science is an organized social body. It also forms part of the larger organism, the social body of a whole nation. It is therefore a concern of the whole people and of the government as its political voice. How is it that they accept science as valid?

Every community has its predominant interpretation of nature to which it subscribes from among a number of rivals. Now the people and the government accept the consensus of opinion among scientists as the valid premisses for an understanding of nature. This establishes the freedom of the scientist, his opportunity to use his gifts and capacities in the pursuit of truth. But this depends on a context of freedom in the whole community. The acceptance of science thus relies on the premisses of freedom and truth that guide the whole society. Over the last few centuries Western societies have become convinced of the validity of science as a sound way to explore the structure of the universe. And in order to achieve this truth by new discoveries freedom of research was a necessary precondition. There is a deliberate decision taken by the society to support science. This is the type of society that will "give shelter to free discussion in a free society" (SFS p. 69). This is embodied in the democratic principles for a free discussion, namely fairness (objectivity and honesty about the facts) and tolerance (the capacity to listen to an opponent in a controversy in order to discover his sound points). In such a society freedom of conscience is a human right protected by the civil laws.

Polanyi presents this decision as a taking of a position in conscience on the part of the society itself. The switch to the modern naturalistic model of the universe from previous more organic and animistic models was an intellectual conversion, an act of faith that put the community in contact with the reality of a new universe (SFS p. 67).

When this ideal of conscience is lost, a sceptical spirit sours and embitters the whole culture so that the impulses that were to lead to discovery turn back on man himself. The scepticism, the methodology of systematic doubt and denial of all faith following Descartes can only generate
a "complete metaphysical nihilism and thus denies the basis for any significant manifestation of the human mind". The consequence of reason without faith turning hostilely on the person himself is that the premisses of science and all social institutions are denied and conscience as a great humanitarian truth dies. "Justice, morality, custom and law now appear as mere sets of conventions, charged with emotional approval, which are the proper study of sociology. Conscience is identified with the fear of breaking socially approved conventions and its investigation is assigned to psychology." Here is the ground of the lamentable breakdown of shared ideals for the guidance of a common effort in society, the loss of faith in the twin pillars of morality, love and truth.

How does Polanyi conceive of conscience then? It has functions of judgment at three levels:
1. In the mind of the scientist it is the series of judgments, not dictated by rules, that guides the course of research till it culminates in the illumination of discovery. Illumination as the point where reality is touched, where the formulation of laws is re-interpreted through their comparison with the structures of the real given in that moment, this is the paradigm experience for Polanyi's scientist following his conscience.
2. In the community of scientists it is the judgment of scientific standards and worth which act as premisses that build up a fiduciary consensus that found the community.
3. In the community at large it is the judgment of acceptance of science as a value that embodies freedom and truth as human rights.

Polanyi's model of conscience centres on conflict and its resolution. At first appearance it seems to be a continuation of the tranquility of conscience ideas so familiar to Catholics from the history of casuistry. The doubtful conscience arose from a struggle between law and freedom for control of the person's moral decision. The case was unravelled and peace restored by invoking a second order of rules, the so-called reflex principles which were very much like the legal principles for the interpretation of evidence etc., in a court of law. Polanyi however has not become lost in this type of abstraction. It is not really a conflict in that sense. It is rather a tension between the established laws of science and the reality to which they are directed. The person in his freedom stands above the conflict and passes creative judgment in his own right. This founds case solutions in the reality that we face and not in more complicated laws that only serve to distance us from the real situation. The intuitive grasp of reality that Polanyi calls "intellectual conscience" might well serve as a model for all research aimed at discovery as well as for the human right to freedom of thought in a scientific age.

Two different personal elements ... enter into every scientific judgement and make it possible for the scientist to be judge in his own case. Intuitive impulses keep arising in him stimulated by some of the evidence but conflicting with other parts of it. One half of
his mind keeps putting forward new claims, the other half keeps opposing them. Both these parties are blind, as either left to itself would lead astray. Unfettered intuitive speculation would lead to extravagant wishful conclusions; while rigorous fulfilment of critical rules would paralyse discovery. The conflict can be resolved only through a judicial decision by a third party standing above the contestants. The third party in the scientist's mind which transcends both his creative impulses and his critical caution, is his scientific conscience. We recognize the note struck by conscience in the tone of personal responsibility in which the scientist declares his ultimate aims. This indicates the presence of a moral element in the foundations of science (SFS p. 40/41).

Conscience means that we so indwell the principles of our knowing that we can touch the real in such a way that we discover its intrinsic natural structures. In this experience the researcher breaks out of his old rules and mental framework and assumes the newly known structures and patterns (forms) of reality as the rule and standard of his knowing. Conscience is thus bi-polar: it is passion and the desire to know on the part of the knowing subject, it is also objective truth and the unfathomable mystery of the real. It is no wonder that Polanyi described discovery which is the climax of conscience's activity in rather mystical terms.\textsuperscript{17}

Conscience is necessarily "judge in its own case" because it has the capacity for self-correction when it errs. At the highest level, freedom of thought and research becomes one with the quest for meaning in life and for religious truth. The crisis of contemporary culture is thus one of religious conscience because "the modern critical movement has destroyed the communion between the Christian conscience and the person of Christ" as Polanyi said so powerfully above. It is only by a return to the Augustinian principle of faith as the foundation of critical knowledge that a true notion of conscience can be restored.

The same approach is reflected in a recent Catholic statement on freedom and liberation. "Freedom of thought, as a necessary condition for seeking the truth in all fields of human knowledge, does not mean that human reason must cease to function in the light of the Revelation that Christ entrusted to his church. By opening itself to divine truth, created reason experiences a blossoming and a perfection which are an eminent form of freedom."\textsuperscript{18}

Notes


2. Conscience seemed to fade as a theme in Polanyi's later works. In his early works the space devoted to it is small but important. M. Polanyi, Science, Faith and Society, Chicago 1964 (Hereafter SFS) 42-62, and then
in a broader context Personal Knowledge, London 1958 (Hereafter PK) 160-179, 299-316 where it is seen from an almost mystical angle.

3. This paragraph of the essay is dependent on PK, on doubt 269-294 and the structure of commitment 308-316.

4. PK 231-35.

5. M. Polanyi, "Jewish Problems", in Philosophical Quarterly, XIV (1943) 43.


8. SFS 31. Polanyi gives many more examples in PK, London 1958. They are too numerous to cite being scattered throughout the whole volume.


10. SFS 35. See SFS 55, "Before claiming discovery he must listen to his scientific conscience".

11. SFS 44. "The scientific intuition of reality henceforth shapes his perception".

12. SFS 59. After a long discussion of general and specific rules Polanyi distinguishes general authority as in science and specific authority which is typified by a central system of planning in which the ultimate judge in the system is the central authority.


14. SFS 59. Contact of the scientist's mind informed by tradition with the structure of reality is the basis of this dialectic.


16. See the development of this theme in PK 121, 123, 130, 172.

17. PK 198-201 shows how scientific discovery is part of the fabric of man's mystical experience in art, literature, religion and worship, all of which are characterized by the fact that man experiences his own surrender to a greater, all-embracing truth.


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Intuitions of the Inexpressible - William Poteat's *Polanyian Meditations*¹
(From *Tradition and Discovery*)

This paper has two purposes: to help the uninitiated reader make his or her way into the difficult text of William Poteat's *Polanyian Meditations*,² and to thereby further the discussion with Poteat of what a post-critical logic is, and what its importance might be for our intellectual life. I will begin with and concentrate on the first of these aims, but there can be no rigid separation between to two, for to learn how to read such a book takes one quite far in understanding what it is trying to say.

What we need most, I suspect, is simply to read the book - read it again, or for the first time, with care and enough skepticism to argue with Poteat through its pages. *Polanyian Meditations* is written to work on its readers, to engage them in the author's search as fellow travellers, interlocutors in what he calls "this long colloquy" (ix). To talk about such a book runs the risk of missing its chief reward, which is undergoing an "Orphic dismemberment" of our hypercritical, objectifying, worn-out modern brains. This is not an entirely pleasant experience, as you might imagine, but it is necessary. To use a metaphor: one understands what "health" is not by reading an anatomy textbook, but by experiencing an illness or injury, and then recovering. To think profitably about "logic" in our Cartesian setting is to undertake therapy with one's own mind. My account of the *Meditations* should be clear, but to the extent that it relieves you of mental cramping and uncramping, it distorts what I take to be Poteat's intent. That intent is nothing less than "reimagining what it means to be a human being," beyond the despairing bewilderment of "the old modern age." So "Read the book."

I am not, however, entirely unsympathetic or unacquainted with the difficulties of a reader of this particular text, so I will offer such help as I can, while asking you not to forget that the book is designedly intractable in important ways, and its message demands that the reading of it not be painless.

I.

In the Prologue (1-10) Poteat traces the thirty-odd year history of his struggle to understand and extend the insights of Michael Polanyi, particularly those expressed in *Personal Knowledge* (1958). The motive behind this commitment was quite simply that in Polanyi's work Poteat saw the possibility of a way out of the madness, the "desiccation of spirit," the radical de-humanizing of our modern intellectuality with which he had already been struggling. In order to begin, we can compress a long and complex story into a sketch of the "critical ideal," which can be seen in the way our culture courts insanity through a blind allegiance to that view of knowledge and reality that was refined in the period from Descartes to Kant, and which is described elsewhere by Poteat as follows:
... it is the perennial temptation of critical thought to demand total explicitness in all things, to bring all background into foreground, to dissolve the tension between the focal and the subsidiary by making everything focal, to dilute the temporal and intentional thickness of perception, to de-historicize thought ..., to lighten every shadowy place, to dig up and aerate the roots of our being, to make all interiors exterior, to unsituate all reflection from time and space, to disincarnate mind, to define knowledge as that which can be grasped by thought, in an absolutely lucid "moment" without temporal extension, to flatten out all epistemic hierarchy, to homogenize all logical heterogeneity; in short, the temptation of enlightenment is to doubt all our previous certainties and to ground our knowledge strictly upon clarity and distinctness in the present . . . .

While Poteat assigns Descartes and the Cartesians the responsibility for giving primary impetus to this vision (esp 252-254), and offers a brief historical sketch of how the linear perspectivism of the Renaissance shaped our western picture of sight (58), he is not interested here in an exhaustive account of how the critical temper developed and spread over the last four hundred years. What he evokes in the *Meditations* is the spirit of critical thought that is residually active in our culture, unbeknownst to most of us. He notes, however, his long apprenticeship to the work of Pascal and Descartes, Kierkegaard, Merleau-Ponty, Wittgenstein, and Hannah Arendt (2), which gives some sense of the intellectual tradition from which he launches his critique. Further, Poteat candidly acknowledges that his approach will irritate segments of the professoriat:

I am fully aware of the presumption I exhibit and of the risks I run in proposing to develop this line of argument [contrasting "the conception of reality of classical antiquity with that propagated in biblical modes of thought"]. The dilemma seems to be that those possessed of the linguistic skills and the historical perspectives that might enable them to do this are likely to be overwhelmed by a sense of the complexity of things with which their learning burdens them and are therefore intimidated into silence on such large issues.

Poteat overcomes this hesitation both because his concern is not historical ("my 'text' will be the models that I find in my own imagination ..." (103); "The object of my polemic is the picture of deracinate reflection that holds us captive." (150)) and because the presuppositions of Western academia regarding "knowledge" have been so shaped by the critical ideal that a challenge to its inner coherence will be cut off at once, arrested by the charge to "prove" its case among verifiable historical "facts". Without surrendering intellectual rigour in the least, Poteat carefully avoids entering a debate over "The Enlightenment" in which all terms have been defined exclusively by his adversary. We might think of Kierkegaard's critique of Hegel, or Polanyi's
revision of philosophy of science, as analogous examples of this extraterritorial posture.

Though it was this same critical spirit which Polanyi addressed in *Personal Knowledge*, particularly as it had distorted our vision of science and its achievements, Poteat makes it clear that the *Meditations* are "not a contribution to Polanyian scholarship and interpretation," but "an attempt to think out of myself, under the influence of now deeply interiorized Polanyian motifs, about matters nowhere dealt with as such in *Personal Knowledge*" (8). The model Poteat gives of using the work of a major figure as "a point of departure" is Husserl’s *Cartesian Meditations*, to which his meditations are a conscious counterpoint (8). Aside from the Husserlian allusion, Poteat adopts the title "meditation" because it seems apposite to his "reflexive and involute" style, as his thinking "has circled, doubled back" in a dialectical and agonistic way (9). I would add that the term seems appropriate as well for the frequent personal examples Poteat uses, and for the attentiveness and tenacity with which he pursues his subject. If in meditation "purity of heart is to will one thing," then this is pure meditation.

So from Michael Polanyi’s "massive literature . . . begging to be deciphered," Poteat begins a search for a new view of logic, and does so with careful attention to the manner in which such a search must be conducted, and in which it must be expressed. A note is now in order regarding the various literary strategies which the reader will encounter in the *Meditations*.

Straightforwardly described, *Polanyan Meditations* is a sustained reflection on "logic" and related concepts, divided rather arbitrarily into a Prologue and seventeen sections. The book has a minimalist form: there is no "Contents" page, and the sections are not titled or divided, with the exception of one four-page passage at the end of section 3 labelled "Divertissment" (45-49).

When we turn from its form as a book to its linguistic style, the opposite holds: Poteat’s writing is what might be called "baroque", by virtue of its density and embellishment, its involuted and complex pattern. He himself speaks of the "extraordinarily mixed bag" of rhetoric in the book, and this is accurate. It employs historical analysis (58-59, 206-208, 252-254), detailed etymologies (81-82, 120, 147-148, 246), phenomenological analyses of his own behavior (18, 45, 53, 63), dialogues with his imagined reader (84-88, 118), "doubling back" and recapitulations (42, 100, 124, 147, 198), word coinage, and an otherwise rich vocabulary ("mindbody," "explicable," "tonic," "oppugnantly," "embrangled"), mixed images ("the timbre of our bodies," "the color of our voices," "the phrasing of our gaits," "the hue of our glance," 14-15), and, not least, numerous passages of clear exposition and deft philosophical dialectic (9, 50, 99-103, 124-125, 133-136, 174-175, 229-130, etc.). These are only the most obvious of the book’s stylistic techniques.

And these devices, or motifs, are not simply used serially, or as elements in a tightly structured whole, but are all employed together throughout the
work, as Poteat goes back and forth, crisscrossing his subject from different directions. The overall effect is overwhelming, certainly at first."

Though one does become more acclimated to this text, particularly in its last half, what is most needed is to realize that learning to read this book is a first and major step in appreciating Poteat's argument. In his own introduction to *Intellect and Hope*, Poteat issued a penetrating caution to the rapid readers of our restless age, and in the *Meditations* he tells the reader often what she must keep in mind if her reading is to be fruitful (the Prologue, 45-49, 154-157, and especially in the Notes: 293 n. 2; 294 n. 5, 7; 295 n. 10, 12, 14; 297 n. 1, 3; 298 n. 7). He also has demonstrated an able ear for the subtleties of other writers, their ironies and unvoiced assumptions.® We are therefore dealing with a man who is convinced that understanding is dependent, at a deep level, on learning how not to read, and then how to read again. I am not interested in or able to extract a "theory of reading" from Poteat's work, though it seems to me that "the reader" is a constant, if unspoken, partner in his thinking ("... it is forgotten that reading is itself, after all, a complex, intentional, exegetical feat, absolutely every time it is performed" 164). What I will do is baldly claim that there are two lessons here for the reader of *Polanyian Meditations*.

The first is that Poteat's endeavor is to free readers from a picture of rationality that estranges them from the deepest levels of their being in this world, and to carry out this task he must use tools of language and intellectual discourse that are already thoroughly infected by the picture he is attacking. It is like talking to a person with plugs in his ears; no matter how interested he is in what you are saying, he simply cannot hear you. Our impediments are not technological or physiological, but intellectual; our minds keep getting in the way of our understanding. Poteat wants us to learn English, and we only speak Cartesian French - that is why he sounds so strange, that is why our head sometimes aches after a session in the *Meditations*. He deliberately lays aside the simple, clear, well organized prose on which we have been nursed, to wean us from the neat picture of knowledge in which that prose is embedded. Accepting this disarmament, this dismemberment, learning to obey the new voices we hear in this text, is where we must begin again.

The second lesson is less easily put. It is that in reading we enter a world not mentally, but through our body and mind together, unified, as psyche/soma. The world of meaning that reading opens to us rises within our mindbody as we mindbodily engage with others in endorsing and upholding the meaning and sense of our writing and speaking to one another. The act of reading, when fully understood as part of an intentional net of meaning-making and creative speakers, ceases to be passive or static, ceases to allow you as reader to isolate yourself from the person whose text you are reading, maintaining complete control over the modalities of sense that arise from that text. To the degree that the author addresses you through the text as a living, sentient being with full power of response to his address, and you then
hear that address, you have become part of a convivial setting in which learning and knowing can occur, indeed are practically unavoidable. In Poteat’s more compelling language:

... I claim that language - our first formal system - has the sinews of our bodies, which had them first; that the grammar, the syntax, the ingenious choreography of our rhetorical engagement with the world, the meaning, the semantic and metaphorical intentionality of our language are preformed in that of our prelingual mindbodily being in the world, which is their condition of possibility. (9)

... it is we, you and I, moving out of our mindbodily integrity, who interpersonally and convivially shape and form out of the inherited materials at hand and, in speaking and hearing, endorse and uphold the meaning, sense, and "grammar" of our utterances. And this is always so, even when what you say to me, you have said in writing, what I hear from you is what I read, and neither of us is personally known to the other. In the actual speech-act in which I own my words before you and in which you covenant yourself with them, an absolute is constituted. As we jointly institute the assertorial force and logic of our mutual language in the setting of the lively oral-aural reciprocity - mutually upholding the world that in our speaking we have made - a ground is established upon which, while this continues so, no relativizing skepticism can get a foothold. (162)

The skeptical reader of the Enlightenment tradition picks up this text seeking understanding, but holds it at arm’s length, distancing herself from its author, refusing to yield his trust, rending the web of meaning with the analytic knife. Poteat’s strategies of expression attempt to disarm such a reader by inviting him into a convivial picture of mindbodily integrity, where logical certainty is not achieved, but acknowledged. As we move back and forth in the text, tracking through an argument, hearing the changes rung on familiar words, seeing various pictures of how things hang together, we begin to feel, to mindbodily sense, a build-up of meaning within us, between the text, its author, and us. The literary strategies of the Meditations are the sinews and ligatures by which the reader is bound into the larger mindbody of this textured conversation. They are the animating gestures without which Poteat could not "speak" to us at all.

II.

Accepting now, at least generally, the necessity of the unusual form and style of Polanyian Meditations, we may focus on its content.9

The book is a search for a satisfactory logic, and here Poteat’s polemical instincts seem absolutely sound. What element of the excessively rationalistic tradition bequeathed us by critical philosophy has a greater mystique than "logic" and the "logical"? For many readers, it will be easy to remember our
entrance into our first Logic class as budding philosophy majors, as we walked into the sacred shrine, where at last the secret core of all our longing would be revealed. It seemed an arcane realm, ascetic, pure as a crystal, holding the promise of being the magic key that would unlock all conceptual doors, the final calculus by which all propositions could be judged. ("... Plato ... seems to believe that nous - at least 'eschatologically' - will have untrammeled access to the very forms of things." 264). Logic class itself was usually enough to dissipate this misty vision, but is has not been eradicated (as a survey of the Encyclopedia of Philosophy shows). Poteat is not suggesting, of course, that there is no legitimate place within human understanding for this traditional sense of logic as a study of the formal principles of reasoning, in order to establish the validity of arguments (246). The Meditations steadily oppose, however, the elevation of this philosophical sub-field to the status of the dominant model of knowing. The crucial flaws of our traditional view of "logic" are to see it as non-temporal, as necessarily constrained within a visual model of experience, and as disincarnate:

The static, visual model dominates the epistemological exposition of the (atemporally) logical structure of the conditions of knowledge, conceived as an established fact. With no significant deviation from the model of the paradigm knower as the mature, rational, lucid; "objective" ahistorical man ... produced by Descartes ... , the epistemological subject under investigation in both Hume and Kant has, in their accounts, no living body with a place in the world, has arrived at the present moment of inquiry bearing with him no historical past, and therefore his contemporary mindbodily reality makes no appearance. (175)

By engaging a two-pronged methodology of phenomenology and of etymology (21-24), Poteat uncovers the rootedness of all of his knowings (the "hanging together" of things, the making sense of things) in the living reality of a minded-body (or embodied mind) engaged with the world. Logic is rooted in the pre-formal realities of the human person. When he then asks why this manifest fact of his experience should seem so odd, he discovers that the dependence of our culture on a visual picture of logic has excluded such mindbodily experience from accounts of knowing. This leads him to uncover an alternative picture rooted in auditory faculties which seems more apposite, more fitting to the phenomenologically educed experience of sense-making than is the visual picture. Tracing these pictures, Poteat then clarifies their Greek (visual) and Hebraic (auditory) roots.

To the static, disembodied, timeless visual picture of Platonic/Aristotelian provenance, he contrasts the dynamic, temporal, oral/aural model of reality arising from the Hebraic encounter with Yahweh:

The dabhar of God then does not replicate the particular logoi of an eternal and finite test, and by so doing, conform to ... what is eternally true. His dabhar, even as do yours and mine, "makes a world appear." (119)
I have taken the time to do this unravelling in order to show decisively what is missing in the Greek imagination: a paradigmatic speaker whose speech makes world appear, and who is personal in a sense absolutely unassimilable to any other. Since dabhar is always paradigmatically the speaking word of God - even when it is in a text - it remains alive, lively in an oral-aural context. (122-123)

Returning to Polanyi, Poteat shows how Polanyi's thinking was implicitly informed by this biblical model, and this resource, this dynamic picture of spoken meaning, was what enabled him to escape the distortions of Cartesianism and talk so naturally of personal knowledge.

After a penetrating analysis of religious belief in Personal Knowledge (concluding "that this is very bad Yahwist 'theology," 136), Poteat neatly summarized Polanyi's central claims:

I want therefore to suggest that the decisive motifs of his thought . . . are embodied in images of the personal, of knowing as obedience and responsibility, of the fiduciary mode of our being mindbodily in the world, of our calling, and of the inexhaustibility of what is real. (136)

Much of the remainder of the book pursues these various themes, though out of Poteat's reflection, rather than Polanyi's. Here we should note that the entire work of Merleau-Ponty (his phenomenological study of the body and language) and of the later Wittgenstein (the centrality of language as speech acts) lies beneath Poteat's book as a sub-text, as a conversational partner in his own highly individual efforts (see, for example, 200). The alert reader will hear echoes, particularly of Wittgenstein, throughout the Meditations, and Poteat himself frequently alludes to this. But these are Polanyian meditations, and if I hear correctly, it is to Polanyi's steady focus on the human person, on the creative agent of language and action, that Poteat most readily responds. In bringing together phenomenology's revolutionary revisioning of the body in terms of its intentionality, and Wittgenstein's radical break with traditional ways of philosophizing "in the mind," Poteat acquires philosophical resources (techniques and forms of reflection) that were unavailable to Michael Polanyi. Careful attention to his own experience, and familiarity with the theoretical and philosophical tradition which is glaringly absent in these other thinkers, yields a strikingly new species of reflection. While the "metaphorical intentionalities" of all these people (and others as well) are present in his language, Poteat speaks in a distinctive voice, and enables us to see far beyond the giants on whose shoulders he sits.11

Let us look at some of the ways in which Poteat revisions this discarnate knower. Note well that he is not building a new epistemological theory in the received sense of that term, for "theory" has traditionally been used in service of the belief in "exhaustive formalization" of reason, the tyrannical insistence that a simple essence of every act of knowing be found and explicitly articulated before we grant it the status of "knowledge." Such a program must logically fail for Poteat, in that it artificially detaches the theoretical realms
of reason from the practical, our considerings from our doings (246-250). He asserts in the Prologue that:

... it is my view that rationality ... and logic ... is more deeply and ubiquitously, though inexplicitly, embedded in our ordinary thinking and doing than we are likely to notice. We fail to notice this because when called upon to reflect upon these facts we are likely to do so in the light of models ... formed by critical philosophy ... (9)

Thus logic is embedded in ordinary thinking and doing which we ignore under the pressure of the critical picture. He continues:

I argue therefore that ... formalized rationality - mathematics and formal logic - derives from and remains parasitical upon the "hanging togetherness" and "sense-making" of our integral mindbodily rootedness in the as yet unreflected world and in our unreflected "thinkings" and doings in that world. (9, 101)

Here he claims that the "highest" (most abstract) types of reflection "derive from" pre-reflective levels of the person, and that this pre-reflective level involves the body and activity, as well as other things. And finally:

... I claim that language - our first formal system - has the sinews of our bodies, which had them first. ... I contend therefore that when we speak of our world as an object or of our bodies as mere objects in the world, we use and can only use language generated out of a "reality" more archaic ... than ... "mere objects in the world," namely our lived and lively being in the world prior to speech ... (9-10)

Speech as a human activity is here included in Poteat's revisioning. If we grant that activities involve duration, then we have "logic" described in terms of "the ordinary unconscious (pre-reflective) activities of people who have bodies and talk." Now my reduction of Poteat's rich prose is destructive of much of his meaning, of course, but it does spotlight one crucial feature of what he is doing: he is returning us to the obvious, the evident, the given world. Over and over he expresses his exasperation at having to work so hard to say what should be obvious, were our understanding not bewitched by the Cartesian picture of logic (43, 174, 180, 246, 248, 250-251, 292, etc.). Reflection is capable of rendering a more faithful account of our experiences of sense-giving and sense-reading, when the "kink" or discarnate thinking in us is released. This results not in a new theory, but in a mental homecoming, in which we "know the place for the first time":

In a sense nothing has changed; everything remains essentially the same. We may go on talking as we pretty much always have ... The world remains pretty much what we have always commonsensically thought ... What an effortful way to declare that we are incarnate beings, irreducibly carnal spirits, actually existent mindbodily persons! (166)
Let us focus briefly on three features of Poteat's post-critical logic, beginning with its temporality. The hallmark of the visual picture that underlies the critical tradition is that the perceptual moment is, ideally depicted, instantaneous. It is this timelessness which makes possible the analytic power of the visual model of knowledge, for it excludes the possibility of the objects of cognitive experience changing while we investigate them. Experience, however, phenomenologically educed, shows that in audition we cannot exclude temporality; it is part of the very form of hearing. This unavoidable fact of our sensorium is demonstrated by Poteat in an analysis of the first notes of J. S. Bach's First Prelude in C (74, 82, 99, 199, 265).

Clearly the notes "come to pass" in time rather than merely existing as simultaneously co-present in a dead slice of (visual) space. To such an extent they are dynamic as opposed to static . . . (82)

It is then not too much to suggest that the model that governs Polanyi's use . . . is a musical one: as in the Bach Prelude the temporal sequence of heard notes, C, E, G, C/E, G, C is one in which the logic of melody demands that the second C pretends for me the E, G, C that follow it and retrotends for me the C, E, G that precede it. If we did not hear this dynamic pretension and retrotension quite simply, there could be no such thing as music. (99)

Though Poteat probes various details of this musical analogy (as to the necessity of contingency of relationship between the heard notes, etc.), the point is the obvious one that a melody "hangs together," it has a "sense," its parts have a "connectedness" with one another; that is, a melody has a logic, and that logic is inherently temporal. This provides us, then, with another picture of rationality besides the visual picture, and it is one which is quite capable of sustaining the use of all the traditional philosophical terms in logic, such as "form," "order," "whole," "integrity," etc. (90). There is no compulsion then, on the basis of this analysis of experience, to restrict our reflections on logic to a visual model; that we have done so is a matter of history, not of eternal necessity. This treatment, coupled with Poteat's more historically oriented examination of Greek and Hebrew models of "word," opens up an avenue by which the Cartesian view of reason can be abandoned, not as "wrong," but as confused in its pretensions to exclusively represent "the way we know things."

A further feature of this post-critical logic that bears comment is its insistence that our formalizations (from mathematics to ordinary speech) are rooted in our bodies, pure and simple. In a long and beautifully evocative passage (22-23), Poteat traces the "biography" of his mindbodily unity to the archaic forms of measured time that were present in his foetal body even before it "moved for the first time in my mother's womb," forms of measured time that arose from the rhythmic pumping of blood through his small body, by his mother's beating heart. These were the forms that eventually gave rise to
his entering the world of "the beating rhythm of patterned and hence meaningful sound." "These forms," he concludes, "are for me, even still for conscious, reflective, critical me, archetypally the forms of measured time: tempo, beat, strophe, pulse" (23). If in our search for "logic" we are seeking the origins in us of notions of order, and measure, and "connectedness," then we should begin at this prelingual level:

There is then an archaic prejudice far older than I in my prereflective and unreflecting mindbody to indwell all form, meaning, and order in the world as the kindred of the first order I have known, the order of my mother's beating heart. And this prejudice that is older than I is nevertheless always present, even at this very moment as the measured beat of my own heart, the pulsing of my own blood at my throat. (23)

And in a restatement further on:

... it is clear that if the tonic mindbody is the omnipresent and inalienable matrix within which all our acts of meaning-discrimination are conceived and brought to term, if, that is to say, the new picture of ourselves as beings in the world actively engaged in asking, seeking, finding, and affirming clearly situates us in the moil and ruck of the world's temporal thickness, marinating there in our own carnal juices, then our rationality can only appear here, inextricably consanguine with our most primitive sentience, motility, and orientation. (246-247)

Poteat's treatment of the "mindbody" clearly depends upon phenomenology's elucidation of the body in terms not of spatiality but of intentionality, but Poteat carries the analysis further in relating it to language (108, 179), in speaking, hearing, and gesturing (172-174). And he is particularly helpful in emphasizing the Polanyian point that the rhythms and muscular movements of our bodies are the logical grounds for the discriminations of sense or meaning in our environments that we constantly make, every day (section 6). And finally, Poteat shows the inadequacy of a notion of spatiality based purely on the visual perspective, and offers in its stead the place from whence all our acts of placing proceed. "Place is a provenience; that in virtue of which I am oriented from within my mindbody - this lively and tonic mindbody with which I have the most intimate relation conceivable . . ." (271). The hanging togetherness of things is temporal, and it is rooted in a mindbody.

A third revision of traditional understandings of logic is to relate it intrinsically to speech, for language is "our first formal system." Abstract thought is not simply "dressed up" in language in order to go out into the public world: language is not simply a costume, an external decoration for the pure body of thought. Language is ultimately originating: "A sentence uttered makes a world appear" (Auden, 116). Here Poteat's employment of Merleau-Ponty and Wittgenstein allows a major advance beyond Personal Knowledge, for he can begin with an assumption of linguistic reality, of the constitutive power
of language, that does not seem to me to be native to Polanyi. Again, the foil against which Poteat works is the critical view (which he calls "language realism", 160) which would make language a formal system, a grammatical calculus of parts that are in principle specifiable (as in the views of Chomsky and Skinner, 175-203). Such a view, of course, ignores the temporal, incarnate nature of speech, but more importantly, it does without the participation of a speaker, in favor of language generated by "mind." The irreducible person, temporally enmeshed in a mindbody sensing of a convivial order, is the only possible source of the "orderings" of experience that we term "logic."

We can best summarize these central elements of Poteat's picture in the way that he does, by repeating the "formula" again ("even to the point of incantation," 7):

The picture of the knower's situation is therefore shot through with time, history, place, and intention. He bears within him a past and therefore both the history and contemporary temporal density of his own tonic mindbody; his culture, his "merely" animal preverbal but convivial infancy and childhood are co-present with his contemporary feats of rational judgement . . . providing real traction in a real world. (175)

III.

This paper has intended to interest you in the scope and novelty of the Meditations, while also easing a bit your entrance into it. It is by no means a comprehensive survey of the many themes Poteat takes up, nor is it a thorough analysis of his central motifs. In order to further the discussion, however, I do want to point to a few of the things that struck me as I read.

The most decisive step in separating Polanyi from philosophical discussions that are still within the Cartesian picture is to see that the meaning of what he wrote lies in the language he used, not in the "concepts" or "ideas" he introduced. Though Poteat is aware of and occasionally uses terms like "tacit," "hierarchical levels," "emergence" or "connoisseurship," he deals with these only as revelatory of the intentionalities of Polanyi's speech, as indicating a new way of picturing reality. One only has to compare the Meditations with Harry Prosch's recently published study of Polanyi to see and feel the difference, not only of depth, but of fundamental approach. Perhaps this simply means Poteat has passed through "the linguistic turn" of modern philosophy, but it portends for me that fruitfully working out the consequences of Polanyi's thought will follow the general direction in which Poteat has moved.

The mutually accrediting character of our speaking to and hearing another person, as we own our words and theirs, is explored by Poteat in such sufficient detail that the charges of "irrationalism" frequently thrown at Polanyi now seem not so much wrong as irrelevant. The only unambiguous and unchanging certainty (which is the only kind there is in traditional canons) we can conceive is an eternal stasis, beyond the temporal order. As our
fundamentally temporal mindbody context makes such a certainty humanly impossible, then our everyday sense of "sureness" must adhere in something other than "ideas". Poteat places it in the convivial order of language, where, "mutually upholding the world that in our speaking we have made - a ground is established upon which, while this continues so, no relativizing skepticism can get a foothold" (162).

He also makes this same point in discussing Polanyi's use of "fiduciary" as our "relying on" a given world of meaning which we appropriate as our own. "... our very being in the world is fiduciary in structure. Our mindbodily being is fundamentally fiduciary because to be, do, or know any given thing at one moment and on one logical level we have to rely upon some temporally antecedent moment and logically antecedent level." (139-140)

The originating model for such reliance in our culture is the hearing, covenanting response of the person to the dabhar of God (140). This is the ultimate reliance of a person who expresses meaning through speech: knowledge is acknowledgement ("denken ist danken").

Two questions arise concerning Poteat's etymological method. The first is relatively minor, because extrinsic to Poteat's thought and to his use of this method, namely, the debates among professional Hebraicists as to the legitimacy of Thorlief Boman's conclusions regarding Hebrew culture and thought, based on a particular analysis of certain words. Only because the Hebraic model is so important to Poteat's case, and is based so heavily on Boman, do I suggest that the countervailing views of Barr and others need to be examined. Note that Poteat is aware of this type of professional objection, and that to reduce his text to academically undebatable remarks would render it sterile and not worth reading (102-103). I note also, however, that he is careful to remark where legitimate questions arise, and is highly responsible in dealing with such, though his strategy is usually to look for the picture from which such objections or questions are launched. Often they will be seen to have critical presuppositions which, of course, severely weakens the strength of their case. With this in mind, then, let me move from the extrinsic, scholarly questioning of etymological method to one based on Poteat's own post-critical grounds.

Poteat relies a great deal on Eric Partridge's book, Origins: A Short Etymological Dictionary of Modern English, for the resources with which he treats the linguistic setting of logic (21, 294 n. 4). Now this struck me as peculiar, given his aims, for in depending on an etymological dictionary to show the dynamism of linguistic utterances (the "metaphorical intentionalities" of words), he is depending on an approach to language which fixes meaning in roots, in specifiable, fully explicated origins, rather than finding meaning in use, in dynamic commerce between human speakers. Granted, there is a "field" of shades of meaning in the various senses which Partridge reports (e.g., contingere to touch, to touch with, to border on, to reach; 62), but this seems to me to be different from a description of various senses in mindbodily
context, as they are actually used by living speakers. Is not an etymological dictionary a re-construction of now words were once used, based on written records, and necessarily subject to the schema of the reconstructor, the agreed-upon system by which philologists operate in such an endeavor? Dictionaries are, to a degree, models of the discarnate, which have their modern origin in Diderot and Johnson, central figures in the Enlightenment milieu. Given Poteat's attention to the invisible determinants of meaning in a person's thought (e.g., Walter Ong), this question seems legitimate. If the text of the Meditations raises this question, does it also provide possible answers?

I find two ways in which such a question could be answered from the text, though Poteat does not deal focally with the issue as I have raised it. First, it could be argued that he is using the "metaphorical intentionalities" of words, as revealed in etymological dictionaries, as a heuristic device for suggesting dimensions of meaning in our utterances of which we are unaware. He notes that his use of historically conditioned pictures of Greek and Hebraic thought is such a heuristic device, and that this is "an entirely licit mode of philosophical argument" (52). But I could find no corresponding comment regarding his etymological method. There also are places where Poteat seems to clearly deny that etymology functions in simply heuristic fashion: "Whatever the contemporary usage and 'logical' context of a word . . . , the etymology of a word is multivalently implicated in its logical context" (62). And even more boldly he states that "any given sense or use of a word is intentionally bonded to its true (which etymologically speaking is to say, its literal, original) sense, no matter how attenuated . . . that bond may in a given context be felt to be" (159). And finally, in distinguishing his approach from that of Piaget, he suggests that etymology describes the "truly archaic" logical ground and rationale for mathematical reasoning, inasmuch (I assume) as the intentionalities of words are the logical ground for any and all meaning (24). These quotations suggest that in etymologies we will be taken back to the originating ground of language, or of sense-making, when in other contexts Poteat clearly states his consistent theme that meaning originates in the speech-acts of living persons, mindbodily dwelling in a convivial order. The relation of our dynamic acts to the "frozen" archaeological data of etymology is unclear to me, which I bring up because the matter is so important to the argument of Meditations.

Now one could simply say that etymologists state the possibilities which real speakers actualize as they speak, but in order for this relation to be a logical relation, we would have to argue that the etymological richness of words is prereflectively (tacitly) present in mindbodily living, whether I have ever seen an etymological dictionary or not. That is, words "carry" with them the residue of their past usages, which are then "incarnated" or "publicized" when a speaker uses those words. This seems sensible, and helps me understand Poteat's discussion of letter and spirit, la langue and la parole, being connaturally present in every speech-act. It seems in some tension, however, with the Wittgensteinian dictum with which Poteat agrees, that "the
meaning of a word is its use in the language" (111-200). I invite my fellow readers to clarify this matter for me.

The form and language of this paper expresses my rather partial grasp of all that is being done in Polanyian Meditations. It should also clearly express my intuitive affinity for Poteat's approach and his claims. I believe this text can be tremendously revelatory for everyone interested in how human beings come to know and affirm that knowledge as "logical," and for those "who are trying to rend the veil that separates them from themselves" (2). Read the book.

Notes

1. The first part of my title is taken from Raymond Aron's essay, "Max Weber and Michael Polanyi," Intellect and Hope: Essays in the Thought of Michael Polanyi, eds. Thomas A. Langford and William H. Poteat (Durham, N.C.: Duke University Press, 1968), p. 341. I use it simply to express the theme of much of Poteat's book. I note that Poteat uses "Intuition" of the mindbodily knower in a number of places (pp. 96, 126, 127, etc.), and while he does not speak of the "Inexpressibility" of personal knowledge, he would agree, I think, that one of the aims of the critical temper is "to say everything, plainly."


5. The phrase is from Paul Holmer, "Polanyi and Being Reasonable: Some Comments in Review of Intellect and Hope," Soundings 53 (Spring, 1970) 95-109. This review illustrates how vulnerable Polanyi was to professional philosophic criticism, and how Poteat's style of thought and expression renders him much less vulnerable.

6. Though "interlude" seems the most appropriate translation of divertissement, Cassells also allows "Diversion, pastime, relaxation; recreation, amusement, entertainment; a light piece of music; or
embezzlement," the last possibility leaving us somewhat uneasy over this lone directive.

7. Tender readers might appreciate the sentiments of John Updike, who laments the "virtually 'manic' use of quotation marks" in scholarship on Henry James. Unwittingly, however, he confirms the appositeness of Poteat's style: "I have just read - or, rather, 'read' until my eyelids became abraded 'beyond endurance' by incessant typographical 'pricking' - ." Here is a revealing example of that union, that integral embraeglement, of mind and body, text and reader, that Poteat is so concerned to demonstrate. "A Mild Complaint," Hugging the Shore: Essays and Criticisms (N.Y.: Knopf, 1983) 68-69.


9. While it must be remembered that the book is a sustained argument, whose sectioning is arbitrary, Poteat's reflection seems to gather in four major areas, all of which are continually before the author, though one is prominent at each stage.

First, he discusses the oddness of Polanyi's locutions on logical themes, and how reflecting on this oddness reveals a certain picture of knowledge in the critical tradition (sections 1-3).

Second, he extracts alternative pictures of the "hanging together" of conceptual experience (logic) deriving from the experiences of seeing and of hearing, and traces their respective rootage in Greek and Hebrew thought (sections 4-8).

Third, he examines language in the critical and mindbodily perspectives (sections 9-11). These two middle areas (sections 4-11) seem to me to be especially important to the overall argument.

Fourth, he sketches the subversions of our common sense acknowledgements of meaning by positivism, particularly in the work of Noam Chomsky and Walter Ong, as we read them under the illumination of a new view of logic (sections 12-17). This does little justice to the thoroughness and subtlety of Poteat's thought, but may at least point out the relatedness of parts to the whole.

10. There we find 149 pages devoted to articles on various aspects of "logic," coming at the exact paginal (as well as spiritual?) center of the Encyclopedia. If we compare this to two of the Meditations central themes, we find just over 18 pages devoted to articles concerning "language," and no article on "body" (though there is a ten-page article on "the mind-body problems). The Encyclopedia of Philosophy, ed. Paul Edwards (N.Y.: Collier-Macmillan, 1966).

12. Interestingly enough, Poteat does use "formula" on occasion (247), but it seems to have no technical meaning, but the loose meaning "form of thought," similar to the way "picture" functions.


David W. Rutledge

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_Hagar the Horrible_

**How do you want your veal cutlet?**

_Breaded_

_Wack! Wack!_

...only a speaker or listener can mean something by a word, and a word in itself can mean nothing. (PK, 252)

Jere Hoorman, _A HUMOROUS DICTIONARY OF THE TACIT_. Crane Publications, Box 90155, San Diego, CA 92109, $2.00.
Subject and Object in Modern Theology: Reflections on Polanyi’s contributions to the problem

The subject-object relation, that is, the knower-known relation, is one of the fundamentals of epistemology, and truth involves some sort of correct relation between them. The ideal of the natural sciences is to eliminate the subjective pole and to achieve pure, objective knowledge. The modern mind, influenced by this ideal, distinguishes between subjective and objective knowing and tends to identify truth with impersonal objectivity and error with subjectivity. But, today, there is a new awareness of the relevance of the thinker to his thought. Even in physics, the Subject has relevance to the Object, while in everyday experience, the object of knowledge is normally viewed in a context provided by the knower’s particular interest or experience, and can be perceived or known in a variety of different ways. "Subject" and "Object" are, in fact, poles of a relation, and the Object is always to some extent ordered by the laws of thought, while the Subject’s power to know the truth about anything depends on it being under the control of the Object. This is not to question that objectivity, in the sense of truth, is the aim of all knowledge. But it does suggest, as Polanyi argues, that we need to be delivered from false standards of objectivity.

This is particularly true when God is the Object of knowledge. Can we even speak of God as "the Object" of knowledge? Karl Barth, for example, speaks of God as the Subject who is never Object. What does this mean? Different theologians view the subject-object relation in different ways, and to understand their use of these terms, we have to look at them in context. The original use of "subjective" and "objective" was the exact opposite of our modern usage. Duns Scotus (1308) used subjective as a technical term to mean that which concerns the concrete object of thought (that is, the subject matter) and objective as meaning what we experience as the object of thought. Kant reversed this mediaeval usage and Coleridge popularized the new usage in England. The fact that this reversal of meaning happened so easily is no doubt due to the fact that Subject and Object are a polarity.

Kant’s statements about Subject and Object are initially part of his epistemological theory, but the question of subject-object relations also has implications for being. It is characteristic of persons to be conscious of themselves, but should we think of self-consciousness as a kind of being or a kind of knowing? Polanyi speaks of knowing as a mode of being, and knowing certainly implies existence, which in turn implies a metaphysic of some sort. There is no escape from the mutual implications of thought and being, even for Kant, whose objects of knowledge are interpenetrated by thought. Unfortunately, Kant’s dualism prevents him from establishing a satisfactory relation between Subject and Object. For man to have a genuine relation to truth requires that the Object of knowledge exert some kind of control over the Subject as well as being, to some extent, "schematized" by the mind’s understanding. But in Kant’s system, the Object is subordinated to the mind’s
laws of thought, and does not, as a thing-in-itself, exercise any control over
the Subject. So the Kantian Object of knowledge may, in its inner nature, be
quite unlike its appearance to consciousness. For Kant, things in their true
nature or inner meaning belong to an eternal, "noumenal" world, beyond the
reach of the empirical Subject. Holding such a view, Kant is unable to give
an account of the true "togetherness" of thought and being.

The problem of theology is initially epistemological. It is the problem of
what counts as data for our knowledge of God and in which area of human
experience awareness of God is to be found. Hegel (1770-1831) and Kant
(1724-1804) both find it in Reason - the former in speculative Reason and the
latter in practical Reason. Schleiermacher (1768-1834) finds awareness of God
in feeling. All three affirm the objective reality of God, though all would
subscribe to his basic unknowability. Only Hegel would argue that we can
have knowledge of things spiritual apart from faith. Most of us would agree
that faith is necessary for a knowledge of God. Polanyi goes further and
argues that faith or commitment is a pre-requisite of knowledge of any reality.
We can, it seems, know nothing without exercising our subjectivity. Feuerbach
(1804-1872), like Schleiermacher, made feeling his starting point, but, because
of his reductionist assumptions, he could not regard man's feelings as genuine
clues pointing beyond themselves to a hidden reality on another level of being,
and he interpreted them as a projection of man's consciousness of his own
infinity. For Feuerbach, God is man's own idea of himself and all theology is
reduced to anthropology. Religion is nothing but man conversing with his own
idealized nature. Man is the being who both makes himself and his meanings.

Hegel believed he had solved Kant's problem by showing that the universe
is a unity of thought and being, a single dialectically developing process in the
life of absolute Spirit. Dialectic has always been used as a method of
achieving a unitary understanding of reality, but methods of dialectic vary.
Hegel's dialectic relies solely on reason, which resolves the tension between
thesis and antithesis by replacing them with a new synthesis, and, in the
process, they disappear. Hegel's dialectic can be thought on one level, a
development of a linear kind, and can be pictured by the use of temporal
imagery, first, second, third - a logical process, where the earlier is swallowed
up by the later. Kierkegaard (1813-1855) protested against his assumption that
being can be equated with thought and is just another way of talking about
existence. He challenged Hegel's dialectic of pure, speculative thought, which
abstracts from the particularity of being, because, for him, existence has to be
seen in terms of concrete living, becoming, believing, choosing and acting.
Hegel's "becoming" is only a victory for thought and his system depreciates
existence as a concrete reality. But Kierkegaard's Subject has a moral,
aesthetic and religious life as well as an intellectual one, which develops
dialectically, not successively, and retains, as it advances, what belongs to an
earlier stage. Such a dialectic is totally opposed to Hegel's, in which
subjectivity is swallowed up by objectivity.
In what follows, Kierkegaard is used as a foil, to help draw out the implications of Polanyi's epistemology for modern theology, and to assess his contribution to the Subject-Object debate. For Kierkegaard, subjectivity is the task of becoming a Subject - of translating possibility into actuality. Kierkegaard's Subject is a living, active, self-making energy affected by ethics, religion and knowledge. For him, the ethical is a fundamental dimension of human existence, taking precedence over scientific and philosophical knowledge - it is an infinite ethical passion for existence, a continuous self-creation, which is the supreme manifestation of subjectivity. Truth, for Kierkegaard, is subjectivity, something the Subject brings to pass by its own becoming and inner transformation. To say, subjectivity is truth, does not negate the objectivity of truth, since Subject and Object are polarities of existence. The self is involved existentially in the Object. For Kierkegaard, subjectivity finds its highest exercise in Christian faith. Christianity is a matter of inwardness, a form of being that is both concrete and spiritual. Kierkegaard's dialectic of inwardness is a dialectic of self-transcendence, in which the self makes its own existence in response to ethical demands. Becoming cannot be systematized. The Subject is engaged in free, self-transcending and self-constituting choices. This understanding lies at the root of Kierkegaard's criticism of Hegel, who neglects the ethical dimension, and does not allow for the fact that the Subject does not merely exist, but makes its own existence in ways that cannot be systematized.

Hegel and Kierkegaard represent diametrically opposed perspectives. Hegel has no interest in the concrete existence of the individual Subject. Truth, for him, is the realization of absolute Spirit, not something the individual Subject achieves. For Hegel, objectivity is truth of an abstract and philosophical kind, which finally swallows up subjectivity. For Kierkegaard, subjectivity is the truth of the concrete Subject, struggling for victory, not just in thought, but in faith's infinite ethical passion to become. For Hegel, the eternal Truth is something achieved dialectically and immanently in and through the whole historical process.

Kierkegaard opposes Hegel's dialectic of immanence with a dialectic of revelation and transcendence, in which the Object of faith is appropriated in a heroic leap. This Object of faith, says Kierkegaard, is the "Paradox" at the heart of the Christian gospel, the paradox that the eternal Truth came into being at a definite Moment in time as a historical Person, a message which reason cannot grasp. Salvation is a subjective appropriation by faith of this Paradox. Faith is not a reasoned response to its Object, nor does it rely on knowledge of historical events. Faith is the "highest passion" of which human subjectivity is capable, transcending all criteria of human thought. Rational thought can never, says Kierkegaard, yield the Christian view that Truth is the Eternal entering time. Such a paradox is inconceivable apart from the Church's proclamation that it happened.

Was Kierkegaard right to set reason aside in total capitulation to "Paradox"? His understanding of the rôle of faith, called forth by encounter
with the Paradox, is linked to his doctrine of "the Moment". When reason and Paradox come face to face, we are not expected to understand the Paradox, but to accept that this is paradox, and in the "Moment" of acceptance - a "Moment" outside of time - reason sets itself aside and Paradox "bestows itself". Union is realized, not through reason, nor in the Paradox, but in that "happy passion" - faith - which is not an act of will, but something that happens to us and in us, a "passion", a "suffering", the "pathos" of Christian life, - God working in us in that eternal "Moment".

How do Kierkegaard and Polanyi respectively structure the knowing relation? Both of them are dealing with contradictions. For Polanyi, their resolution comes when the contradictions are integrated to a new meaning that is intelligible to reason, but on a new logical level. This is not a leap of faith in the Kierkegaardian sense. It is an intuitive "leap", in which contradictory elements on one level are integrated to a new meaning on a higher level, and the whole process takes place within a framework of commitment. To talk of commitment is another way of talking about faith that the contradictory clues genuinely belong together and point beyond themselves to a more inclusive reality of which they will be seen to form a part on a different logical level, once their mutual relations are rightly understood.

Viewed like this, faith and reason are not in competition. Reason can, and does, function within the framework of faith, on both the subsidiary and focal levels, and only ceases to be a reliable guide, if the Subject becomes confused and applies the wrong rules of thought to a particular level of reality. This leads to category mistakes, such as trying to explain thought in terms of brain events, biology in terms of physics, or the eternal in terms of time, instead of realizing that their relation is one of incorporation and co-ordination. The fact is that there are as many kinds of rationality as there are levels of being. Reason's task is to discover the nature of the rational principle or principles that give identity to each kind of being or concept. The only thing that reason cannot do is to make sense of one rational level in terms of rational principles governing a different level.

In tacit inference, the Polanyian Subject engages in an integrative "leap" across levels. But this is not the Kierkegaardian leap of blind faith, unaided by reason. It is a movement of the mind taking place within a faith framework (a framework of commitment) - or, as Polanyi sometimes calls it, "a fiduciary framework". Within this framework, the Subject wrestles with the multiple data of experience, trusting that, eventually, the Object, in this case, the God-world relation, will be understood in a way that enables the many events comprising nature and history to be seen in a relation co-ordinate to their eternal and unitary Meaning. This understanding will involve rational thought, but not the application of strictly logical rules, unaided by tacit inference.

If one applies the Polanyian epistemological model to the Incarnation, which focusses Kierkegaard's problem concerning the relations of the temporal
to the eternal, there is no need to deny its historical character, since, within the Polanyian structure of knowing, Kierkegaard's logical difficulties do not arise. This is because of its cross-level dialectic, which co-ordinates contradictions, instead of ironing them out, as happens in Hegelian dialectic. Kierkegaard's analysis of the knowing relation yields a quite different structure. In the first place, it does not allow for knowing to take place within a faith framework, and there is no "higher" level of being in which contradictions can be integrated to a new meaning. The Polanyian epistemological model holds contradictory opposites together, only because it works on two levels of awareness and because the incompatible clues can be viewed as jointly contributing to a new reality that exists at the focus of attention, on another level of being. While clues remain unintegrated in subsidiary awareness, we may not be troubled by their contradictory character. But as soon as we attempt to view this contradictory data focally, we find that the particulars cannot be "thought together", since they are logically incommensurable and confront each other in a paradoxical head-on clash. But if we attend from these incommensurables to their joint meaning, leaving them in subsidiary awareness, they will then reappear at the focus of attention, not as contradictory opposites, but as parts of a new, more inclusive whole on a "higher" level of rationality, and subject to a new co-ordinating principle. Within the perspective of the whole, the "contradictory" opposites are only "seen" subsidiarily, and no longer constitute a logical contradiction.

Kierkegaard's epistemological model functions without benefit of two-level awareness and he treats reality as being all on one logical level, subject to the same rules of rational thought. This leaves him with only two choices: either to work with a Hegelian type of dialectic, which replaces thesis and antithesis by a new synthesis - an exercise that takes place on the same logical level - or to remove one of the offending contradictions. Since Kierkegaard is categorically opposed to Hegelian dialectic, which he rightly sees is applicable only if existence is equated with speculative thought, and can be systematized, he opts for the second alternative, and lifts the Incarnation out of history, treating it as a non-temporal Event.

Another way in which Kierkegaard's epistemological model differs from Polanyi's is that it does not allow for two-way interaction between Subject and Object. In place of the active-passive dialectic which characterizes the Polanyian epistemology, Kierkegaard has only the "passio" of faith, unsupported by the "actio" of reason or tacit inference. For man to have a genuine relation to Truth, not only must the Object—of knowledge exert some kind of control over the Subject, but the Subject must also be able to shape his own knowledge of the Object, and in so doing, develop his own subjectivity. This argument is central to Kierkegaard's own thesis, which makes it all the more surprising that he separates what he wants to say about the Christian faith so radically from all other forms of truth. He does this by insisting that reason sets itself aside in the moment of encounter with the Paradox. This hidden discontinuity between the religious and the ethical dimensions within
Kierkegaard's dialectic, is the Achilles heel of Kierkegaard's theological position, and it goes back to his inability to understand how the Incarnation can be both a particular truth of history and the eternal Truth of God. Kierkegaard has been called the Father of Existentialism, and his depreciation of history, by making the Incarnation an event outside of time, presents no difficulties for an existentialist thinker. But his view negates the classical Christian view of the relation of Christian faith to history, and the verdict of Christian theology upon Kierkegaard is that he has been misled by the conception of the Incarnation as an "eternal fact".

If one views eternity and time as existing on the same logical level, they become logical incommensurables - "sheer Paradox", to use Kierkegaard's words - but viewed in terms of traditional Christian belief, the "paradox" of divine Love, stooping to express that Love in concrete terms, is not a logical absurdity, but a "natural" manifestation of the power of a personal God, to reveal himself in a personal way. Men and women down the centuries have had no difficulty in understanding this message, which accords well with their experience of personal reality, but philosophers have been quick to see that, logically, there is no way in which the Infinite can participate in the finite. This is because philosophers have, without exception, accepted as fundamental, that all reality is subject to the same laws of rational thought, and have assumed that reality exists on a single level, governed by one kind of logic.

Until recent times, philosophers have worked either within the framework of an idealist metaphysics, or with materialist assumptions. Only in the 20th century have thinkers begun seriously to question the assumptions of dualism and to think in a unitary way about reality, treating it as a many-levelled affair, which can hold opposites together in some kind of polar tension. When one puts idealism (thought) and materialism (matter or being) together, one gets personal being, which is why pioneers of unitary thinking are often referred to as personalist philosophers. Michael Polanyi's philosophy holds thought and being together in this way, and quite a few theologians have developed a personalist metaphysic. One would not expect philosophers of science to approve such a label for themselves, but the philosophy of science is now moving in a direction, which will eventually make possible the closing of the gap between science and religion. This is not to doubt that there is a great and permanent gulf between God, the Creator, and man, his creature, but if personal being is the kind of reality that can bring polar opposites into a genuine relation across logical levels, as Polanyi's metaphysic implies, then this integrative, or incorporative process can bridge the gap, even between created being and uncreated Personal Being. If God is both Creator, and the ultimate form of personal Being, then in him all possible polarities will exist as "coincidence". Only for created personal beings do polar opposites exist in tension. The implication is that the gulf between Creator and creation is not the kind that can prevent the Eternal from entering time or that can separate finite personhood from sharing in the life of divine Personhood.
As I understand Polanyi, personal being is the kind of reality that can overcome logical contradictions, because, as he shows, the contradictions never meet in a head-on clash on the same logical level. A personalist metaphysic implies that God, being the ultimate form of personal being, is that ultimate Reality in whom there is a coincidence of opposites, since, beyond God, there can be no further "boundary conditions". God is the *terminus a quo* and the *terminus ad quem*, the Source and Goal of all created being, and this is what constitutes the ultimate ontological gulf between Creator and creation. But this cannot hold God and man apart. From the first, God's holy Being has been "Personal" Being, and from the first, created being has been potentially personal, emerging, level by level, with each lower level related to the next higher, as parts relate to a whole, in a series of cross-level relationships, enabling the process of creation to be understood, both as a work of the Creator and as a work of self-creation by the creature.

I have allowed myself to be slightly carried away by this excursus, but I believe it fits well with Polanyi's personalist epistemology and metaphysic, and I could, if I had time, illustrate from Polanyi's own works the idea that evolution itself is a process of developing personhood. But to return to Kierkegaard, he was the prisoner of dualistic assumptions, unable to see how the Incarnation - the entry of the eternal into time, could have a truly historical character. That the Incarnation "happened" was, for him, never in doubt, but it is far from clear what Kierkegaard understood by this "happenedness". For example, did he believe that the Object of Christian faith was a historical existent as well as an idea? Was his view of the relation of the Object of Christian faith to history adequate as an understanding of what we mean when we call Christianity a historical religion? In fact, Kierkegaard gives no positive value to the temporal in his doctrine of the eternal "Moment". His eternal Object is the featureless fact that Jesus lived on earth - a fact that is empty of all concrete historical detail concerning the kind of life he lived. Kierkegaard's dialectic of faith is sustained by the merest tangential contact between time and eternity. The content of history has no place in faith. In fact, faith itself is an event outside of time.

The epistemological issue under discussion has to do with the relation of thought to being, or of Subject to Object, and the need to hold them together in such a way that the Object of knowledge (or of faith) is in part shaped by the mind's understanding, while the knowing Subject is in part transformed by its Object. Polanyi perfectly demonstrates this combination of activity and passivity, and gives to Subject and Object the power to affect each other, so that they are seen to be in a relation of a dialogical kind. In this "I-Thou" type of relation, knowing becomes both achievement and discovery and the Object, even if it lacks "personhood" in any recognizable sense, exercises some kind of self-revealing rôle. In other words, the rôle of the Object is never entirely passive. The Subject knows by the exercise of his own creative reason, but he also receives knowledge as a "gift", and is never entirely independent of the Object. Kierkegaard talks about "the Condition" for
understanding the Eternal as something given by God in the eternal Moment, when the Paradox is given and received. But the only prior condition for knowing, according to Polanyi, is commitment to the reality sought, and this is true for all forms of truth, not only for knowledge of God.

In this article, I have used Kierkegaard as a foil, to help highlight Polanyi's epistemological contribution to the Subject-Object relation in theology. One could engage in a similar exercise using a whole range of different thinkers. No two theologians interpret the Subject-Object relation in exactly the same way. Perhaps Karl Barth's model comes closest to Polanyi's, in so far as Barth views the theological enterprise as taking place always and only within a framework of commitment to God's self-revelation in Christ. God, for Barth, is always Subject, and can only become the Object of faith as Subject. In other words, his self-revelation provides the framework within which all human reasoning or the doing of "natural theology" takes place. Barth does not, as is popularly supposed, regard natural theology as an illegitimate exercise, except when it is practised in detachment from its faith framework. God is always "Thou", and any attempt to do theology outside of the framework of commitment provided by the "I-Thou" relation is as unthinkable for Barth as knowing is unthinkable for Polanyi outside of a fiduciary framework. To attempt to do away with such a framework negates the subjective pole of truth. It is equivalent to repudiating the from-to movement of tacit inference, because it denies that the Subject already "indwells" or participates in the Object, prior to achieving further understanding.

Kierkegaard rendered great service to the theology of his day by his stress on subjectivity and inwardness, and on the importance of the ethical dimension for Christian growth. But by severing the link between the Object of faith and the Subject's rational powers, he denies a truth of great importance to Polanyi, that thought and being, like meaning and reality, are inseparable. This prevents the Subject from having an adequate relation to the Object of faith. The reason, in Kierkegaard's case, derives from the same fatal disjunction between time and the eternal that prevented Kant from giving an adequate account of the "togetherness" of the phenomenal and noumenal worlds. A second inevitable criticism of Kierkegaard, in the light of Polanyi's insistence on the unity of knowledge, is that he gives a totally different account of man's relation to truth in the case of knowing God from the account he gives of man's relation to other forms of truth. Polanyi, by contrast, argues that there is a revelatory, "gift" element in all knowing, and if we apply his theory of personal knowledge to theology, we have to insist, as Polanyi would undoubtedly have done, that the revelation of God that came through Jesus Christ has its analogies in revelatory experiences that come to us in our everyday knowing and perceiving. Polanyi would also want to affirm that the element of reason that operates in normal knowing is also at work in all religious experience, except, perhaps, in certain kinds of mystical experience. From the divine perspective, "all is of God", but from the human
standpoint, man is fully responsible to strive for understanding, and to respond to the claims of the Good and the True. Morality and religion belong in polar opposition, which means that man's religious relation to God (total dependence) provides the framework within which he dwells as he pursues his moral responsibilities to the world in genuine independence. In conclusion, it seems to me that nothing less than a theory of personal knowledge, a matching personalist metaphysic, and a dialectical method that does justice to the polar character of the Subject-Object relation, all features found in Polanyi's philosophy, can hope to provide 20th century theology with the dialectical tools needed to handle the mysteries of the God-world relation and 20th century persons with the perspective that can - in Polanyi's own words - "restore to us once more the power for the deliberate holding of unproven beliefs."

Notes


2 Cf. Lessing's famous dictum, "Accidental truths of history can never yield proof of necessary truths of reason".

3 See *Personal Knowledge* Chapter 13 and *The Study of Man*.


5 For an interesting study of the way certain theologians have understood the Subject and Object relation, see James Brown's Croall Lectures, published as *Subject and Object in Modern Theology*, SCM 1955.

6 For some years, I was puzzled because Tom Torrance clearly found common ground between Karl Barth and Polanyi. Eventually, by reading *The Ground and Grammar of Theology*, Christian Journals Ltd., Belfast, 1980, I realized that Barth's understanding of the relation between natural and revealed theology has the same logic as Polanyi's understanding of the relation between meaning and reality. In other words, we have to dwell in what we know (what has been revealed to us), as in a theoretical framework, and use it as a key for interpreting new empirical data. Barth is affirming that all natural knowledge of God is achieved by working within a framework of revelation. In this way, both Barth and Polanyi demonstrate the unity of knowledge.

7 PK pp. 197/198.

8 Philosophers and theologians resort to the method of dialectic in their quest for a unitary view of reality, because contradictory elements of experience pose a challenge and demand explanation. Sometimes one element can be seen in terms of the other, and the contradiction is resolved by the application of one explanatory principle. More often, because of the polar structure of reality, two explanatory principles are needed. It is of the essence of polar structures that they exist in
permanent tension and need explaining fully in terms of both principles, not half in terms of one and half in terms of the other. For example, a person is fully an individual and fully a social being. There can be no question of ironing out the contradictions, as Hegel's dialectic does. Kierkegaard does not attempt to iron out any contradictions, because he sees the contradictory elements of experience as defying logic. This is because he sees everything existing on the same logical level. Kierkegaard's dialectic involves a series of existential leaps into the unknown. Polanyi's dialectic, like Kierkegaard's, does not iron out the contradictions of experience. The process of tacit integration leaves the contradictory clues in existence, but enables us to see them jointly forming a new reality or whole on a different logical level. Stereoscopic vision provides a simple, but effective illustration of how this kind of dialectic works. Each eye has its own image, and these two images provide contradictory data. When we integrate the two images, we achieve stereoscopic vision, but this does not replace the two separate images. We still depend on their existence for seeing stereoscopically, and the new, in-depth image is different from either, but not just a synthesis of both. By integrating the two separate images, we are able to see a new reality, with a new qualitative unity, that was not present in either of the other images.

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Truth in the Fiduciary Mode: A Reply to Professor Emmet

In her paper (CONVIVIUM, 23, Oct. 1986, 4-8) on Polanyi's attempt to redefine the notion of truth, Professor Emmet rightly points out a number of serious difficulties in its results. Though I wholly agree with her on the nature of these difficulties, I think that it is possible to reconstruct Polanyi's much too brief and unsystematic remarks on truth, such that (i) her criticisms are met and (ii) the reconstruction is in accordance with Polanyi's overall position. In this paper I will briefly argue that his views of truth had best be interpreted as being primarily concerned with what in philosophical circles is commonly called utterer's sentence meaning (H. P. Grice) or intended meaning (J. Searle) of utterances of the form "... is true". Next, I will briefly suggest that Polanyi's account of utterer's meaning of truth may be understood as a rather special version of the so-called Performative Theory of Truth. Contrary to Emmet, however, I think that this by no means entails that Polanyi rejects "the old fashioned notion of truth as accordance with reality".
Utterer's meaning of "... is true"

In assessing Polanyi's account it seems good policy to begin by asking what questions it is supposed to answer. It is evident that the main aim of Personal Knowledge (PK) in this respect is "to allow for the inherently personal character of the act by which truth is declared" (PK p. 71). Objectivist theories are inadequate because they all depersonalize the notions of knowledge and truth. In order to repair this defect Polanyi's concern in PK is to bring in the personal coefficient. His "redefinition" of truth is primarily to be understood as an answer to the question: "How can we take this coefficient into account in our conception of the truth?" Obviously, Polanyi thinks that this question boils down to a further one, namely: "What do we mean by saying that a factual statement is true?" (PK p. 254).

Referring to Grice's (1968) distinction between (i) utterer's meaning, (ii) sentence meaning and (iii) word meaning, it is obvious that Polanyi is primarily concerned with (i). Briefly, his account of utterer's meaning of sentences of the form "... is true" or "It is true that..." is interesting and nicely ties up with another part of his anti-objectivist program, namely to revalue the notion of belief. Two central theses of his account of "... is true" or "that... is true" can be formulated as follows. Apart from differences in emphasis:

1) to assert that p and to say that p is true are equivalent, and
2) to say that p is true and the say "I believe p" are equivalent. Notice that the equivalence in thesis (1) is also a logical one. In the guise of the so-called Logical Superfluity or Redundancy Theory of Truth, (1) has been upheld by logical positivists like early Wittgenstein, F. P. Ramsey and A. J. Ayer. They considered the problem of truth as something of a linguistic muddle. Thesis (1) also figures in the so-called Non-Descriptive Theory or Performative Theory which was propounded by Strawson in the late forties. According to this theory, the phrase "is true" is not descriptive. For example, to say that it is true that snow is white, is not to say something about a property or quality of the sentence "snow is white". To say that a statement is true is not to say something further about its content, it is to do something additional to just making that statement (cf. Strawson, 1949, p. 84).

Polanyi substantially agrees with this by rejecting the view that "true" designates a quality of a sentence (cf. PK p. 305). By taking up Black's suggestion to regard "is true" as a linguistic device for converting an unasserted into an asserted sentence, it is obvious that Polanyi also agrees with the idea that "is true" (like Frege's assertion sign "↑") is an assertive device (cf. M. Black, 1948, p. 61). Apart from its function as a device for indicating assertive force, however, "is true" is also a performative. What one does in uttering "it is true that p" is not only to assert that p, it is in addition confirming, agreeing, endorsing, admitting, underwriting, affirming that p. In Polanyi's words: "to say that p is true is to underwrite a commitment or to sign an acceptance" (PK p. 254).
Though even critics of the Performative Theory admit that it gives an important insight into a function of the use of "true", they normally point out that it cannot be the whole nature of truth (cf. A. R. White, 1970, p. 100). Emmet also agrees that to say that p is true is to vouch for one's belief that p. Taking "is true" as an assertive device, however, ultimately boils down to the simple insight that in using this phrase one is merely making a truth claim. "But", she asks, "is this all that is meant by its being true?"

Though Polanyi adheres to the main theses of the Performative Theory, it is evident that he does not want to leave matters at that. He emphatically wants "to accredit the use of 'truth' as part of an a-critical act of affirmation" (PK p. 255, n. 1). How should we understand this? That is, how should we conceive of these "acts of affirmation" and how can the linguistic use of "true" ever be part of such acts?

It seems to me that the Polanyian act of affirmation is a kind of internal, mental act of judgment which is completely sui generis. Likewise, the act of assertion is an act of tacit comprehension "which relies altogether on the self-satisfaction of the person who performs it" (PK p. 254). As I see it, what Polanyi wants to say is simply that persons may or may not succeed in grasping some truth in (the act of) judging within a particular situation at a certain time. The performance of such an internal act is eo ipso to come to believe or to form a belief. In other words, belief as true finds its origin in judging rightly. This, I take it, is the sense of Polanyi's dictum that "truth becomes the rightness of an action" and of his equating truth "with the rightness of mental acceptance" (PK pp. 320f.).

What about the problem of how these mental acts become public? In Polanyi's view this seems to be simply a matter of expressing their contents. For instance, for any speaker S at a time t, to utter "that p is true" expresses S's judgment that p. However, one may very well judge, affirm or assert for oneself that p and not say that p, judge that p and say that one merely thinks that p, or even say that non-p. Clearly, then, S's judgment is expressed if and only if (at least) the following requirements are met: (a) S must be sincere and (b) S's judgment should have been made "with care and competence" or responsibly.

In passing, I would like to point out that Polanyi's internalist account may be strengthened considerably by drawing on Searle's theory of intentionality. According to this theory, the performance of an assertive speech act "is necessarily an expression of the corresponding intentional state" (Searle, 1983, p. 9). In addition, "intentional states represent objects and states of affairs in exactly the same sense that speech acts represent objects and states of affairs" (ibid. pp. 17ff.). The idea is simple: just as in a speech act a propositional content is expressed with a particular illocutionary force, so in an intentional state a particular representative or intentional content is contained in a specific psychological mode. Much more could be said about this (particularly in respect to the intentional states of feelings, emotion and intention which play such an important role in the doctrine of the tacit
component). However, for reasons of space I will confine myself to merely suggesting a structural analogy between assertive speech acts and Polanyi's mental acts of judging, provided the speaker is sincere.

Obviously, a possible critic might follow Emmet in suggesting that if the use of "truth" is part of an a-critical act of affirmation there is no criterion outside the commitment situation where this act is performed. If this act depends completely on the self-satisfaction of the person who performs it, his predicating true (or false) of statements or sentences then seems to become completely arbitrary, no matter the sincerity or the responsibility with which such predications are accompanied. This impression is further strengthened by Polanyi's thesis (2), which says that to say "that p is true" is equivalent to saying "I believe p". The idea is that the (incomplete) expressions "I believe", "... is true" and the assertion sign "|-" all function as performative operators, i.e. devices for indicating assertive force.

Given the fact, however, that our beliefs and commitments may be wrong and changeable, this seems to imply that "the truth and falsehood of p will change with them" (Emmet, p. 5). I completely agree with Emmet that if this were really Polanyi's position, it not only violates the age old philosophical insight that what is true is always and everywhere true, it would also imply an irredeemable subjectivism and relativism. For if truth is wholly dependent on one's convictions, any distinction between what is true and what I (or you) think or believe is true, no matter how responsibly and sincerely, becomes senseless.

However, there are good reasons to suppose that Emmet's reading of Polanyi is incorrect. Polanyi neither rejects the intuitive idea of truth as accordance with reality, nor defines truth in the alleged sense of "that which I personally and sincerely assert" (Emmet, p. 6).

The definition of "true"

According to Polanyi the expression "p is true" expresses an act of assertion. That is, in uttering it the speaker expresses his or her belief as true that p. Tarski's recursive definition "s is true if p" is criticized for equating a sentence with an action. Accordingly, he proposes to redefine the Tarskian T-convention as follows:

(3) I shall say "snow is white" is true if and only if I believe that snow is white (cf. PK p. 255).

This is rather puzzling, for (3) can hardly be called a definition. In fact, it is a kind of personal declaration, perhaps even a promise, on the part of Polanyi himself. It simply states under what condition Polanyi will use the phrase "... is true", that is, it cannot be taken as a revision of Tarski's definition. It has nothing to do with the meaning of "true", but everything with the meaning of telling the truth. However, I think we may transform (3) into a clause which has both sufficient generality and is at the same time in accordance with Polanyi's intentions. We quantify over speakers (S) and seriously uttered sentences in which truth is predicated (Ut) at a particular
place and time (t). In this way the speech act is linked with its asserter. Assuming that S is sincere, we might rephrase (3) into:

(4) (S, Ut) (Ut if and only if S believes that p at t).

Since there is a moral element in the background here, we might perhaps also give (3) a model (deontic) form:

(4') It is obligatory to perform Ut if you believe that p at t.

Whatever the correct reading, however, we surely are allowed to apply one of Polanyi's own principles to (3), namely that he wrote it down with universal intent. That is, though (3) seems only to apply to Polanyi's use of "true", it should also apply to all veracious enquirers who refuse to make truth redundant by constantly suspending judgment and assertion.

Now if someone were to utter "... is true", expressing his or her judgment or belief that so-and-so, it certainly makes sense to ask whether this utterance is itself true. This seems to me in accordance with Polanyi's view that truth is not a property of mere (unasserted) sentences. Taking up a suggestion of Davidson (1984, p. 134) that truth attaches (or fails to attach) to utterances, the step from telling the truth (4) to a general schema which is "closely akin" to Tarski's becomes vanishing small. For we get:

(5) (S, Ut) (Ut is true if p at t).

One might object that Polanyi in advocating the suspension of disbelief is nowhere saying anything remotely similar to (5). To support my claim that it is in accordance with Polanyi's overall position, it is not all that difficult to adduce some textual evidence from both PK and later publications. For instance, Polanyi admonishes us quite emphatically to uphold the regulative standard or ideal of truth: "though every person may believe something different to be true, there is only one truth" (PK p. 315). Elsewhere he tells us that "truth lies in the achievement of a contact with reality" (PK p. 147). A few years later we find: "the truth of a proposition lies in its bearing on reality" (KB p. 172). Finally, we have "A statement about nature is believed to be true if it is believed to disclose an aspect of something real in nature" (SR p. 191). I fail to see how this could ever amount to a rejection of "any view of truth as independent of our convictions" (Emmet, p. 5). What is more, I doubt whether Polanyi did reject the old fashioned notion of truth as accordance with reality.

Truth as accordance with reality

I agree with Emmet that his concern to attack the ubiquitous suspension of belief led Polanyi to over-emphasize the element of commitment, particularly in PK. At least from The Tacit Dimension onwards, "commitment" becomes less important (cf. TD, x). It is true that Polanyi is critical of Russell's version of the correspondence theory. It is important here to distinguish between three completely different kinds of problem: the definition of the meaning of, or the nature of, truth, accounting for utterer's meaning of truth and the criteria for truth. As Professor Emmet points out, Polanyi finds the correspondence theory (at least in Russell's version) an inadequate answer to the first kind of
problem. In his view it is impossible to say how subjective belief and actual fact could ever coincide (cf. PK p. 304). The point is well made, because it is notoriously difficult to explain the precise nature of the relation of correspondence between (the content of) a belief (statement or theory) and the "actual" facts. In Polanyi's view a confrontation between the "actual" facts and beliefs, whether our own or those of others, has ultimately to be resolved by personal judgment. Unless one wants to follow the sceptic and the instrumentalist in suspending judgment, belief or assertion for ever, in practice decisions are called for (if only in the application of relevant rules of verification or falsification). Because even the veracious explorer may be mistaken and direct access to reality is lacking, we have to rely on a vast amount of largely unspecifiable background knowledge, embedded in, and transmitted by, shared cultural practices.

If I am correct, then Polanyi more or less implicitly offers his own version of the correspondence theory in his proposal that we may assume a "correspondence between the structure of comprehension [tacit knowing] and the structure of the comprehensive entity which is its object" (TD pp 33f.). Polanyi is rather vague on the matter and some commentators (e.g. Innis [1973, pp. 88f.], Bennett [1978, p. 41] have interpreted this relation as a one-one correspondence (isomorphism). I think they are mistaken for a number of reasons, the main one being that the whole idea is unintelligible because of the unspecifiability of the subsidiaries (cf. also Meek, 1985, pp. 109ff.). Moreover, contrary to Polanyi's professed fallibilism and his emphatic admission that tacit knowing can always be wrong, the assumption of an isomorphism would imply that instances of this kind of intuition are infallible. For reasons of space I will not work this out, but I think that at most a weaker correspondence-as-correlation (homomorphy) can be defended.

It has to be admitted, however, that Polanyi's ideas do not amount to a complete "theory" of truth. Partly, no doubt, because one of his main concerns is to defend the thesis we have good reasons to believe that science (conceived as a cultural system) gives us on the whole a true picture of nature. Contrary to Emmet, I think that Polanyi neither rejects our intuitive idea of truth as accordance with reality, nor defines truth as that which I personally and sincerely assert, nor makes (objective) truth dependent on what we now happen to (come to) believe.

References
Abbreviations have been used for Polanyi's works:
- KB: Knowing and Being, M. Grene (ed.), London 1969
- TD: The Tacit Dimension, New York 1967
A Reply to Dorothy Emmet on Michael Polanyi's Idea of Truth

In a recent issue of CONVIVIUM two substantial attacks have been made on important elements of Polanyi's thought. One came from Professor Emmet in an article in CONVIVIUM of October 1986. The other was made by S. Palmquist in the CONVIVIUM of March 1987. Both deserve a reply and, although I hope this will come from others better qualified than I, I feel roused to make a contribution to the first attack, since I do not know enough about Kant to involve myself in the other one.

Professor Emmet knew Polanyi well; she was Professor of Philosophy in Manchester while he was a professor there, and she often discussed his work with him. I have therefore always been puzzled about her unwillingness to talk about him; and when she finally did explain to me the general line of her disagreement with him, I persuaded her to write the piece which appeared in CONVIVIUM. I thought it important that these objections should be known and faced, because if true they would seriously undermine Polanyi's whole philosophy.

In this article her criticism is directed chiefly at Polanyi's chapters on "The Logic of Affirmation" and "Commitment" in Personal Knowledge. In particular she looks at the section called "Varieties of Commitment" and quotes sentences from pp. 305, 315 and 320, which are all part of Polanyi's argument for acknowledging the place of personal commitment in the search for truth. They make sense when taken as part of that argument. Professor Emmet, taking them in isolation, asks what happens to truth if I change my commitment, having come to see that it was mistaken? Was the statement p
to which I committed myself, true at the moment of commitment, and did it become false when I no longer believed it?

It seems to me there is quite a simple error in this criticism. Polanyi is right in stating that to say "I believe p" is equivalent to saying "p is true"; only the first way of saying it puts more emphasis on the personal pole of the commitment, the second puts it on the external pole. But as it is clearly impossible to believe something and yet not to believe it is true, how can one deny that the two assertions are equivalent? The error comes in assuming that because I believe it, and assert it, it is true. It is this error that Professor Emmet attributes to Polanyi, but it is not his error; he never says that. He always insists that our commitments may be entirely mistaken. But when we come to see that we were mistaken we do not say "p has now ceased to be true", but "I now realize that p was not true".

The notion of commitment has its difficulties, but it is perfectly clear from the whole of Polanyi's writing that he was sure that truth relates us to a reality existing independent of us. Even in the preface to Personal Knowledge, where he is concerned to spell out his main aims as concisely as possible, he says of the personal participation of the knower in all acts of understanding - "But this does not make our understanding subjective. Comprehension is neither an arbitrary act nor a passive experience, but a responsible act claiming universal validity. Such knowledge is indeed objective in the sense of establishing contact with a hidden reality; a contact that is defined as the condition for anticipating an indeterminate range of yet unknown (and perhaps yet inconceivable) true implications".

I think that in some way Professor Emmet has not taken the idea of tacit knowing seriously. She says that she has great admiration for Polanyi's view of tacit knowledge; she agrees with his attack on the notion that "thinking and indeed its testing, can be reduced to something purely objective, formal or specifiable". She accepts that "there is always the personal involvement of the thinker, judging, probing, following clues in the penumbra of unspecified tacit awareness which surrounds anything we are concentrating on".

This brief statement of the case for Polanyi as she sees it makes one uneasy. Clues, in the theory of tacit knowing, are things to dwell on, to attend from, rather than to follow as in a treasure hunt. And the idea of tacit knowing as worked out especially in the essays collected in Knowing and Being, is much more precise and incisive than a penumbra. For instance, in discovery the particulars may be clear and distinct, the focal centre may be empty, until by an act of intuition we let the particulars lose their separate clarity and fuse into a meaning on which we focus. The particulars will then have a different appearance from what they had separately. Professor Emmet does not seem to pay attention to the ideas of attending from separate particulars to their joint meaning, nor to the idea of logical levels; very important parts of the theory of tacit knowing.

Polanyi realized as clearly as anyone that the admission of the skilled act of knowing faces us with the question how such knowing can be relied on as
objective. In Personal Knowledge he writes of an ultimate aim of his enquiry which he sets out as follows:

If, as would seem, the meaning of all our utterances is determined to an important extent by a skilful act of our own - the act of knowing - then the acceptance of any of our own utterances as true involves our approval of our own skill. To affirm anything implies, then, to this extent an appraisal of our own art of knowing, and the establishment of truth becomes decisively dependent on a set of personal criteria of our own which cannot be formally defined. If everywhere it is the inarticulate which has the last word, unspoken and yet decisive, then a corresponding abridgement of the status of spoken truth itself is inevitable. The ideal of an impersonally detached truth would have to be reinterpreted to allow for the inherently personal character of the act by which truth is declared. The hope of achieving an acceptable balance of mind in this respect will guide the subsequent enquiry. (p. 70)

So it was with a clear sense of the difficulties involved that Polanyi rejected the correspondence theory of truth, which Professor Emmet defends. I find Polanyi's arguments against the correspondence theory of truth (e.g. PK pp. 304, 305) quite satisfying. As he says, we cannot compare someone else's knowledge of the truth with the truth itself, but only with our own knowledge of it. Polanyi's view - "truth lies in the achievement of a contact with reality, a contact destined to reveal itself further by an indefinite range of unforeseen consequences" - does not incur this objection, for we know when we achieve this contact because of our sense of this richness of unforeseeable consequences which we expect to flow from our discovery of an aspect of reality. He defines reality as "that which attracts our attention by clues which harass and beguile our minds... and that, since it owes its attractive power to its independent existence, can always manifest itself in still unexpected ways... if we have grasped a true and deep-seated aspect of reality, then its future manifestations will be unexpected confirmation of our present knowledge of it".

To this kind of reality, the reality which was being gradually understood by the leading scientists Polanyi knew, a correspondence theory is quite inadequate. There is no way of, as it were, picking up a statement and laying it beside "reality" or "the facts" to see if it corresponds; there are no Facts which can then be labelled "TRUE" and pigeon-holed. There are, instead, the infinite enticing depths of reality to explore.

I am not aware of any passage in which Polanyi defines truth as "that which I personally and sincerely assert". "Commitment does not constitute truth", as Professor Emmet rightly says; and Polanyi, I am certain, never said it did. Professor Emmet wrote to me that she was sad about Personal Knowledge because of the sort of wrongheadedness of which she accuses Polanyi. I am sad that Professor Emmet should so misunderstand Polanyi, when I would have expected her to understand him well.
She accuses me of not knowing enough about other contemporary philosophers' work, and this is perfectly true. I found her setting of Polanyi's work in a wider philosophical scene very interesting and I must read some more philosophy.

Dru Scott

Polanyi and Truth

I shall take up the challenge posed by Mr S. Palmquist's "A Kantian Critique of Polanyi's 'Post-Critical Philosophy'" (CONVIVIUM No. 24, March 1987). I shall not comment upon Kant but shall try to clarify what Polanyi said and to state what his position further implies. I shall take up in turn some of the problems which Mr Palmquist raises.

1. Mr Palmquist claims (p. 2) that within Polanyi's philosophy there can be no distinction between knowledge and illusion, if "I believe p" and "p is true" are identical. What we need to realize, and what is frequently overlooked, is the difference between the abstract distinction between knowledge and illusion, truth and error, and the application of that distinction to oneself. Thus Polanyi argued (PK p. 304) against the notion, to be found in Russell and many others, that we should compare our subjective beliefs and the actual facts and correct the former by the latter. This, he rightly argued, cannot be done, because in attending to the actual facts I accredit them as I remain with the "commitment situation" in believing these to be the facts. Otherwise they are only alleged facts. It is, as he rightly says, "nonsense to imply that we simultaneously hold and do not hold the same belief" in supposedly referring to our beliefs as mere psychological facts and (confidently) to the facts which they intend. This does not mean that we are trapped within the closed circle of our beliefs and can never correct them. Far from it! Polanyi constantly emphasizes, against all conventionalist and utilitarian theories of science, that science aims at a reality beyond itself, and generally that our beliefs are (or should be) anchored by a commitment to a reality beyond them. He argues both against all denials of the possibility of truth and against all "Objectivist" claims that truth can be impersonally attained by strict criteria and without the exercise of our (largely tacit) powers of judgment and decision. What Polanyi's argument against Russell and others does mean is that I exercise those powers in referring to the facts as facts, that in so doing I believe them to be the facts, and so, if I now view the facts differently, I have already changed my beliefs from what they were.

This is how my view of myself differs from my view of others. I can simultaneously compare and contrast what another believes and what the actual facts are (but, of course, only by exercising my powers of judgment in holding his beliefs to be A, B, C, and the facts to which they refer to be L, M, N).
But I cannot do this in my own case: I can only contrast what I now judge the facts to be from what I previously judged them to be. I can take a fresh look at the facts themselves or the evidence for them, but that necessitates acceptance of the facts or evidence, and thus will be either a re-affirmation of what I have believed all along or a modification, minor or major, of my beliefs in the act of accrediting the facts or evidence as other than I used to believe them to be. When, in such a case, I suspect that my beliefs may be false, my commitment is already weakening and I could be on the verge of committing myself to something else. I shall return confidently to my former belief if I decide that my suspicions were groundless; I shall remain with a weakened commitment if my suspicions continue yet I cannot judge them to be confirmed; and I shall end my commitment to what I now believe if and as I do judge my suspicions to be confirmed. Hence I can, and rationally, change my beliefs, but never by comparing them (while they are my beliefs) with "facts" which I do not believe to be facts.

Polanyi, in this passage and for the reasons given, rejected the correspondence theory of truth. But by that he meant correspondence as a test and not a definition of truth, although he did not explicitly say so. Correspondence cannot be used as a test because we cannot compare our beliefs with the facts except by believing in the facts. Idealist philosophers, such as Brand Blanshard, argued somewhat similarly against correspondence as a test of truth but then went on to reject it as a definition. Rightly seeing, as Polanyi did, that we always exercise our judgment in grasping and accrediting the facts as facts, they concluded that all we have is a circle of judgments. But Polanyi, had he dealt with idealism, would have argued that in judgment we attend from ourselves to that which we judge to be such and such, and that implicit in this is a reality which we are trying to grasp as it is and in which we responsibly anchor our commitments.

2. Along with that problem, Mr Palmquist raises the question of strict and objective criteria for truth, which, he rightly states, Polanyi rejects. He states (p. 3), and presumably endorses, that Kant claimed that, having through faith entered an epistemological system, one can outline impersonally and without explicit reference to faith the conditions for objective knowledge. Polanyi, he states, would reject the latter claim. Now I think that Polanyi would allow that some of the conditions can be outlined, and that this can be done without explicit reference to faith. What he would deny is that all the conditions can be outlined, and that in outlining those which we can, we can do so without implicit exercise of faith. For proof of this I need only refer to the mass of examples given throughout Personal Knowledge, and especially with reference to language in Chapter 5. He would also deny, for the reasons given in (1) above, Mr Palmquist's subsequent claim that, having committed ourselves to a system, "the truths arising out of this context can be viewed apart from our commitment". Yes, they can but not by us while we are committed to that system. Only thus can we accredite them as truths. To call them "truths" is already to endorse and commit oneself to the system and
processes whence and whereby they have been derived. In using a calculator, computer or marking scheme, I commit myself to its truth, reliability, accuracy and appropriateness. Of course, I can operate it mechanically and impersonally but not in order to make correct calculations, draw correct inferences and award valid marks. Once I do that, I personally endorse and commit myself to the accuracy of the calculator, the validity of the program and the appropriateness of the marking scheme (see "machine, inference" in the Index to PK). One of Polanyi's targets was the self-deception and "bad faith" of those who use such devices while claiming no personal responsibility and commitment in so doing.

May I ask Mr Palmquist if he would reject this claim, and if so for what reason? If he would please reply, and if the Editor would please publish his reply, we can make clear the exact points of disagreement.

Likewise with his claim that there are strict criteria, which presumably can be specified. Could he please state: (a) where he thinks Polanyi has gone wrong in citing the many examples of personal judgment needed with even the most exact instruments; (b) where again Polanyi is in error in arguing that at every moment we are exercising our (largely tacit) powers of judgment and decision in endorsing, confidently using and so relying upon and committing ourselves to whatever standards, instruments, organs, and so on, we employ in knowing and acting; and (c) what he would take to be the authentic examples of strict criteria for knowledge. Once again the exact points of difference can be made clear, and we can see if his strict criteria are really such or not.

3. Mr Palmquist (p. 3) objects to Polanyi's claim that it is meaningless to represent life, clocks and poetry in terms of physics and chemistry. He states that some such things could be said and that they would have "objective" meaning, and that Polanyi's claim would be true only if meaning here is "personal" meaning and what is said uses "impersonal" meanings. Again, I would like Mr Palmquist to specify what he means by "objective" and "impersonal" meaning and how they differ from "personal" meaning, so that once more we can be clear about the points of difference.

As with "personal knowledge", "personal meaning" is for Polanyi almost a tautology. I think he would agree that the automatic processes of perception in animals and infants are better termed "sub-personal" knowledge. For while, as Gestalt psychology has shown, there is an effort guided by standards in perception, to which Polanyi refers, there is no explicit effort, attention to standards and responsibility, which are the marks of the realm of the personal. But in adults those processes do become subject to personal decisions, for we can refuse to accept the evidence of our senses, as when faced with optical illusions. Therein we exercise our personal responsibility for our knowing. Apart, then, from such sub-personal modes of knowing, all knowing is personal, and is accompanied by the "personal coefficient". (Sub-personal knowing, I would say, is accompanied by a sub-personal coefficient, shown in the animal's and infant's effort to make sense of its perceptions.) I would, in the spirit of Polanyi's philosophy, similarly distinguish between personal and sub-personal
meanings. All meanings are by or for a consciousness of some sort - animal, human, angelic or divine. The meaning of one animal to another animal as mate or prey, is an example of sub-personal meaning, as also with animal cries. Language is a set of personal meanings. But there are no meanings which are impersonal, neither personal nor sub-personal and neither for or by a consciousness of some level. Would Mr Palmquist wish to reject or modify this account in order to make room for a category of impersonal knowing and meaning?

Now Polanyi's argument about levels of reality is that the higher cannot be described in terms of the lower alone. This Mr Palmquist accepts. What, to judge by his words, he rejects is Polanyi's further claim that a science of the lower level by itself alone cannot even refer to or recognize something on a higher level: i.e. by using physics and chemistry alone we could not even recognize living things, machines and poems (PK p. 330). Physicists and chemists can say some important things about living things, machines and works of art (e.g. how they have died, broken down or decomposed), provided that, using their additional knowledge from everyday life they first recognize that the objects in question are living, machines or works of art, and that there is something wrong with them.

4. This brings us to the key issue of the "personal" and the "subjective". Polanyi will always fall foul of "Objectivists" - those who hold that any personal involvement in knowing renders it thereby "merely subjective", and who, it appears, wish to have a knowledge which is no one's knowing, a knowledge simply there, not upheld or believed in by a person or persons. His detailed demonstration of the personal coefficient always at work in many ways in all our knowing and acting, will therefore, to such people, mark him as a "subjectivist". Since they have only two categories - "objective" (i.e. uncontaminated by any personal involvement) and "subjective" (so contaminated) - Polanyi must to them appear as advocating "subjectivism". And that is what has happened in many cases. (It is similar to those who in politics operate only with the categories of "Socialist" and "Fascist": all who do not share their Socialism are inevitably dismissed as "Fascists"). Hence Polanyi's attempt to avoid this vicious dichotomy by using "personal". Now I must say that it appears to me that to some extent Mr Palmquist is employing that dichotomy. Perhaps he does not intend to and it is merely the way in which he sometimes expresses himself. Again, could I please ask him to clarify his position in this respect.

He states that Polanyi does not escape subjectivism by means of "strict (objective) rules" (p. 4). True! Polanyi argues that there are and can be none. There is nothing that guarantees that we are correct in what we believe and judge and do. What keeps us from subjectivism is the attitude: responsibility - see PK pp. 309, 315, 322-3 - the effort to grasp reality as it is, the "objective pole", even though we run the risk of failure. With this goes "universal intent", the claim that others should share my vision, judgment, decision or belief, for it is anchored in a common reality. Subjectivism,
therefore, should be interpreted as an irresponsible staying within the circle of what I happen to believe now, without any effort to follow up intimations that things may be otherwise or richer than I now believe. Now if Mr Pahnquist rejects all of Polanyi's arguments against the possibility of "strict (objective) criteria" (which would "relieve us from all responsibility for the holding of our beliefs" - PK p. 323), can he please present us with some examples so that we can see if he or Polanyi is correct.

Mr Pahnquist asks, "What gives Polanyi the right to reject alchemy or astrology?" (p. 4). As for astrology and alchemy in particular, he can consult the Index to PK for Polanyi's reasons. Now I would say, in the spirit of Polanyi's philosophy, that there can be no universal rules or criteria, and that, in every case, it is a matter of judgment. But let us note that one general reason for preferring one scheme to another is that the one can accommodate what the other cannot, so that modern science is capable of extension far beyond what astrology and alchemy can do. As for the Zande, yes, he too has the duty to accept his calling. In terms of the old distinction in moral theology, he should fulfil his "subjective" duty, that which, with the light that he now has, he takes to be what he ought to do, whether or not that coincides with his "objective" duty - that which Omniscience would unerringly discern as his duty. What else can he or any one else do? You cannot ask the Zande to practise a European medicine of which they have never heard. But, of course, one "objective" duty which we all have is to try as best we can to make our light better and thus our "subjective duty" a closer approximation to our "objective" duty. This is nothing new: it is the human situation and always has been. Polanyi, without using this terminology, in effect applies traditional moral theory to our intellectual and other activities.

6. Mr Pahnquist rightly notes Polanyi's concentration (not exclusive) upon natural science in PK. There were two reasons for this: (a) it was Polanyi's own field; and (b) it is the chosen ground of the "Objectivist" who thinks that there, at least in physics and chemistry, there is no or but little "subjective" contamination, so that Polanyi carried the battle into the enemy's camp. There is an implicit a fortiori argument in PK: if the personal coefficient is so pervasive, and necessarily so, in natural science, how much more it is elsewhere; and if it therefore cannot be held to invalidate natural science, then it cannot be held to invalidate other activities. Now Polanyi was not and did not set out to be a systematic philosopher, and there is much scope for others to apply this fundamental scheme of tacit integration and its ramifications to other fields. After PK he did go on, as in The Study of Man to do some of the things Mr Pahnquist mentions (p. 5).

Mr Pahnquist is especially concerned that Polanyi concentrated on empirical psychology, how scientists in fact operate, and ignored transcendental enquiries in the style of Kant (p. 5). On this I would like to make two comments. Firstly, Polanyi was describing science from within, from within the commitment situation, and was implicitly and often explicitly endorsing as appropriate the ways in which, from his own first-hand experience and from
the history of science, he knew scientists to operate. It is therefore not merely empirical psychology, and to regard it as such is to adopt an external point of view. Secondly, Polanyi in effect rejected, and rightly so, any attempt at transcendental critique. Especially in PK Chap. 6: 6, "The Premisses of Science", he argued that we cannot but start with acceptance of the facts established by science (or everyday knowing, or scholarship), from which we draw out, if we can, some of the premisses, rules and presuppositions involved in them: "The logical premisses of factuality are not known to us or believed by us before we start establishing facts, but are recognized on the contrary by reflecting on the way we establish facts" (PK p. 162). This is the standard objection to Kantian critique, that you cannot validate knowing without first knowing something of what you seek to validate. (See also his criticism of attempts to prove the validity of induction - PK p. 306.) But Polanyi's position does not rule out any endeavour to articulate general structures in our knowing. Indeed, he did just that in his account of tacit integration - of knowing as attending from one set of things known subsidiarily and mostly tacitly to another known focally and possibly explicitly. It is any "critical", "justificatory" or "foundational" ambition - of Descartes, Locke, Hume, Kant, Russell or Husserl (in some moments) - that he would reject. What he in effect provides is a back-handed justification for procedures such as induction - that any attempt to justify them must employ them, and that we cannot but employ them while we live and think. These we have to rely upon acritically, for any proof or justification of A must rely acritically upon B, and one of B upon C, and so on.

7. Mr Palmquist goes on to contrast "universal intent" with "personal knowledge" (p. 6). He appears to assume here that "personal" means "peculiar to the individual", and thus states that Kant's philosophy was "transpersonal". Yes, but for Polanyi "personal" is never "merely subjective", and always includes that intention to reality, a common reality, which expects others' assent (though it may not get it!). Hence the importance which he sees in a scientist's attempts to convince his colleagues of his discovery. There is no substantive disagreement here.

But there may well be in respect of something else in the same paragraph. Noting that Polanyi admits of degrees of personal involvement, Mr Palmquist finds it difficult to see why he could not accept the ideal of objective knowledge. Now it seems that here "objective knowledge" means "knowledge without personal involvement" - the limit to which knowledge tends as we go down through biology, to chemistry to classical physics. If so, then of course Polanyi rejects it and PK is devoted to rejecting it - because there can be no such thing and because the belief that there could and should be such a thing is destructive of our intellectual, social and moral life. But if "objective knowledge" does not mean that, could Mr Palmquist yet again say what it does mean so that we can see what, if any, real disagreement there is. For example, it may mean "knowledge without any error", in which case that is Polanyi's ideal, but one (in this world at any rate) we can never quite achieve
or be sure that we have achieved. Or it may mean "knowledge without any possibility of error", in which case Polanyi rejects it as an impossible and thus destructive ideal - see PK p. 312 and the whole of Chapter 10. (Of course Polanyi did not take up the question of whether, in quite other conditions of being "in glory" and "knowing in God", we could ever have indefectible knowledge.)

Hence it seems that Mr Palmquist has misread Polanyi's critique of doubt. "We may be mistaken" is not a new version of Descartes, for Descartes used that to reject that about which we may conceivably be mistaken (epistemological neurosis or paranoia!), whereas Polanyi argues that the implied ideal of impersonal and indefectible knowledge is false and destructive, and that we have just got to accept the fact that we could, in varying degrees of likelihood, be mistaken, and not allow this in general to unsettle us.

8. Finally the presence of the personal note in PK. Polanyi does not go beyond the generalized "I" used frequently in philosophy, the "I" that implicitly means "we all" and is used to bring the reader on the inside of the point in question (like "subjective" technique in fiction). He does mean "I, Michael Polanyi". But, contrary to Mr Palmquist's statement (p. 10) he never states, nor implies, that what he writes is what merely he believes - see PK pp. 269, 299, for the two most prominent statements. There is the implicit generalization, the "universal intent", the invitation to the reader to verify it in his own experience. Polanyi does not shy away from the most explicit statement of the personal coefficient. His first person utterances are explicitly about himself to an extent beyond that usual in contemporary writing. Yet he is asking us to share his vision, or, rather, to recognize that we already share it. PK is an invitation to self-knowledge, to recognize and fully admit what we implicitly believe but may explicitly deny, to free ourselves from the self-deception and inhibitions of "Objectivism". Hence it is written in an explicitly personal mode and requires an explicitly personal response. (Of course even the most turgid tract, in the third person and passive voice, is still a personal statement no matter how much the author may think otherwise and attempt to deceive his readers as well as himself.)

I have not taken up all of Mr Palmquist's points, nor have said anything about the ways in which he claims that Kant remedies Polanyi's alleged weaknesses. What I have endeavoured to do is make clear exactly what Polanyi was saying and what he was rejecting, and what, in general, his reasons were. I think that many problems may be merely verbal and that some may now be dissolved. But it appears to me that some are very much ones of substance. I hope that Mr Palmquist will take up these points and that the Editor will publish his restatement of his difficulties. This discussion goes to the heart of Polanyi's concerns. Confusion upon the items debated here will prevent any proper appreciation of his work.

Richard T. Allen
In some ways *The Varieties of Realism* can be seen as following the Polanyi tradition. The book is often hard going; but it is full of interesting, post-Polanyi ideas, some of which I will touch on here.

In the first chapter Harré salutes Polanyi for understanding the moral basis of a community of scientists and this remains a key idea. Nevertheless he is critical of Polanyi's inadequate epistemology.

Polanyi was one of the first to promote the idea of science as the practice of a community of scientists ... dominated by a moral order. [This] produces "science", that is trustworthy beliefs about nature presented in esoteric but public language. ... [This] idea was to become a commonplace of the discussion of scientific communities since his time, often without acknowledgment of his priority. (p. 16)

Harré then goes on to show that there are gaps in Polanyi's "fiduciary" treatment of how we know.

To adopt the fiduciary mode is itself a fiduciary act. But faith in what? Presumably in the ways I have gone about garnering those "facts" about which I, as a member of the scientific community, demand your (layperson's) trust. (p. 19)

"Garnering" is a favourite Harré word. One could almost characterize his whole project as being to maximize the meaning of the phrase "knowledge garnering" in respect of nature. He seems to say, "judge me, as a scientist, not primarily by what I say or by my 'community', but my the quality of my knowledge-garnering techniques; that is by my models and my words about them and by my conduct in the lab. and in the field."

One can accept that Polanyi, by leaving so much rolled up in the tacit human holdall, did leave many unpacking tasks to those who came after. Polanyi was well aware that many levels of tacit knowledge would be open to this kind of detailed examination; but of course no matter how much tacit knowledge we open up analytically, there will always be further layers, unopened. In one direction, much of this hidden material is in our bodies - in the domain of physiology etc. Another part is hidden in all that we share - in the communication patterns of culture and society. As an aside, it seems to me likely that much, in future, will hang on our growing understanding of perception theories and on linguistics, just because these are the two forms of science which focus on the transition between inner and outer reality. We can already begin to sort out those whom we see as Polanyi's successors according to which of these many areas of 'the tacit' they are probing. T. H. Kuhn, for example, focusses on the language of science. He understands the community of scientists largely in terms of the characteristic questions they pose. Such questioning and hypothesizing create a mainly propositional network or "paradigm" in which scientific orthodoxy eventually becomes embedded. In
contrast, cognitive scientists and neurologists are mainly at work on the "mechanics" of the inner domain. On a much wider canvas, Marjorie Grene brings her phenomenological and biological knowledge to bear in the wake of *Personal Knowledge* and she produces an epistemology and a perspective on Nature which Polanyi would, surely, have found congenial. Also, like Rom Harré, she homes in on J. J. Gibson's revolutionary perception theory - not well thought of by the cognitive cognoscenti. Both Grene and Harré undoubtedly see Gibson as offering a key to unlock the first link in the Cartesian chain which we all wear.

Rom Harré, as far as I understand him, is going down to a deeper level than Kuhn. He is saying that the matrix in which most scientists work and find a measure of unity is pre-verbal. It is something real, both inwardly and outwardly. It is a bundle of key models and diagrams with a few crucial words and problems mixed in. Such a complex can unite a small group of explorers. And from it they pull out, spin out - like thread from a distaff - the elaborated hypotheses, propositions or theories which make the explicit, propositional world of science. Harré calls this kind of mental creation "a cognitive object". When he first formulated the idea - in 1970 - he used the term "statement-picture complex" but he clearly needed a less static term - more like a mental working model. A classic example of such a fertile focus of word and picture movement - though I do not think Harré quotes it - would be the Kepler-Newton version of the sun-centred, elliptical solar system. It still dominates our thinking about the near universe and has been continuously productive of theoretical, mathematical and technical achievements.

What kind of entity is a cognitive object? Very similar ideas are already familiar in developmental psychology. When Piaget describes a ten-year-old as doing "concrete operations" (for example, mentally tilting a flask of water at different angles to see, with an inward "eye", what happens) he is describing a similar version of cognitive activity. The process starts much earlier. As soon as a child is ready to be autonomous it will often become attached to special "comforting objects" which become part of its mental and emotional life. D. W. Winnicott terms these "transitional objects" - "transitional" because they often seem to belong to, or represent, the mother, from whom "I" come and also the world to which "I" am going. Like many well-loved toys and tools in later life these have what Winnicott calls "a me, not me" quality which is reminiscent of Polanyi's description of a person "indwelling" his or her tools. Cognitive objects, as Harré envisages them, seem to be a sophisticated version of these transitional phenomena. But they possess a significance, a ready shareability and a power of enduring within a cultural community which makes them only fully available to people of maturity and of relevant experience. When introducing the idea (p. 80) Harré makes the important point that "when knowledge is expressed in the iconic mode as a diagram or model, representational accuracy and inaccuracy (faithfulness etc.) replace "truth" and "falsity" as the main ways of assessing epistemic worth". Harré's preference for concepts which highlight relative accuracy/inaccuracy, rather than truth
and falsity, is just one example of his claim to be "modest" as opposed to an "absolute" realist.

A final quotation may serve to emphasize this point and also to suggest why later parts of the book are much concerned with a theory of perception which assumes that the beauty and the truth of a pattern are primarily "out there" and only secondarily "in the mind":

One's adherence to scientific realism is an act of moral commitment rather than a wholly rationally grounded realization of some inescapable conclusions from incorrigible premises. That idea is part of the myth of the strict system. The actual-ideal system is a network of human exchanges and practices based on a morality of trust. But it must also be grounded in a genuine inter-personal experience of such aspects of the natural world as our evolutionary heritage has fitted us to take account of. The defence of scientific realism must in the end be based on a realist theory of perception.

(p. 145)

There seems to be a lot going on here. It is not just children and, in their specialist way, scientists who use and share cognitive objects. What happens when the term is extended to encompass our mental re-creations of people who also can become cognitive "objects" - mental models around whom morality and trust can grow?

Robin Hodgkin

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