CONVIVIUM

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CONTENTS

1 - News and Notes.

4 - Everyman Revived - A Synopsis. Drusilla Scott.

7 - Education and Philosophical Anthropology. David Holbrook. (An Extract.)

11 - 'Lord of Heaven and Earth': Reflections on Michael Polanyi's Approach to Science and Morality. Terence Kennedy, C.SS.R.

23 - Rorty and the Scope of Non-Justificatory Philosophy I. Richard Allen

26 - Humour and Michael Polanyi's Theory of Knowledge. Jere Moorman. (From Tradition and Discovery)

31 - Vocation Recalled: Personal Knowledge and Cosmic Re-enchantment. James W. Stines. (From Tradition and Discovery)


43 - For Sale.

44 - Membership List.

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NEWS AND NOTES

Publications to watch for: In June, 1985, the Book Guild will publish EVERYMAN REVIVED, the Common Sense of Michael Polanyi, by Drusilla Scott, Price £9.25. Prof. T.F. Torrance (MP’s Literary Executor) has written about this book:

I have read this with increasing delight. It is a very faithful, clear and elegant discussion of Michael Polanyi’s thought. It has been done in a way and in a style that make for very easy reading and understanding, even by those who have not been familiar with Polanyi’s thought hitherto and who are not familiar with the deep changes going on in science. This is a fine piece of communication to the wider public and will be well and widely received.

A synopsis of Everyman Revived appears on page 4 to whet your appetite.

In May, 1985, Marshall, Morgan and Scott are publishing ENLIGHTENMENT AND ALIENATION by Colin Gunton, Professor of Theology at King’s College, London. Price £5.95. The March, 1984 Issue of Convivium carried a review of Gunton’s last book, Indicating the interesting use he makes of Polanyi’s epistemological theory with reference to method in Christology. I understand that further Polanyian insights are developed in this next book, which I hope to review in the October Issue of Convivium. Its theme is as follows:

Western culture shows many signs of deep alienation. Christians share this alienation, a major cause of which is the excessive obesance done to rationalist doctrines which derive in large measure from the eighteenth century Enlightenment and which continue to dominate thought and action. There have, however, always been prophetic voices ready to challenge the dominant ideology. In conversation with this ‘alternative tradition’, which includes such thinkers as Berkeley, Coleridge and Polanyi, the argument is developed that a major source for reconstruction in three areas of human experience is to be found in a renewal of trinitarian faith and theology.

Tradition and Discovery. The American Polanyi Society has turned its Newsletter into an attractive periodical with the above title. The arrangement whereby they print material from Convivium and we do the same seems to be a very satisfactory working arrangement. If any of you also subscribe to Tradition and Discovery, you will see that much of our material reappears in it.

The following notes are taken from Tradition and Discovery. Professor Avery Dulles, S.J., has an article "Faith, Church, and God: Insights from Michael Polanyi," in the September, 1984 Issue of Theological Studies. The
article is essentially the presentation made by Dulles as principal speaker at the Kent State Conference on Polanyi and Education.

R. Valentine Dusek, Prof. of Philosophy, University of New Hampshire is a member of the Sociobiology Study Group at Cambridge, Massachusetts, and has called my attention to the journal Science For The People. Dusek is very critical of the reductionist nature of sociobiology. As a graduate student at Yale, he met Polanyi when Polanyi gave the Terry Lectures. Though it does not refer to Polanyi, Dusek's article "Rape and Sociobiology," Science For The People, Jan./Feb. 1984 takes a very critical look at the false objectivity and reductionist viewpoint of recent sociobiology.

Ronald Hall of Francis Marion College, a longtime member of the Polanyi Society, has an article "The Analogy Between Ethics and Science" in Zygon, vol. 19, no. 1, 1984.


Jeffrey Kane, Prof. of Education at Adelphi University has published Beyond Empiricism: Michael Polanyi Reconsidered. We are anticipating a review in our next issue.

Bruno Manno, Director of Research and In-Service Programs, the National Catholic Educational Association has reported a study of effective business management that uses Polanyi's concept of tacit knowing. The study is by Richard Wagner and Robert Sternbert, psychologists, and appears in a current issue of The Journal of Personality and Social Psychology.

Richard Gelwick, the General Coordinator of Tradition and Discovery made the following comment to me in a personal letter:

More and more, I realize that one of the long range problems of the pursuit and dissemination of Michael's ideas is that they do not translate easily into a single focus. Process philosophy has zoomed mainly because it has a very distinct articulation in process theology which has become a popular movement translating difficult Whiteheadian philosophy into more manageable terms for the lives of ordinary people. That kind of conversion of philosophy into the applied questions has not occurred among us. We still deal with Polanyi very much as theoreticians. It is somewhat paradoxical, too, since Michael himself, though highly theoretical, had such a clear relationship to current events, particularly those issues of freedom in science and society. He was never just a philosopher but always concerned for application to the life and death issues of our time. I guess we are in danger of becoming scholastics.

If it is our hope that Convivium should meet a real need by developing into a journal of post-critical thought, worthy of those prophets mentioned...
by Colin Gunton, then we need to encourage more articles with a practical rather than a theoretical slant. There are so many life and death issues waiting to be explored from a post-critical perspective, not least in education. I quote below an extract from a letter sent to me by another subscriber, Denys Whiteley:

It seems to me that one of the characteristics which we need to develop above all in ethical matters is what one might term 'sensitivity'. This is within the general line of MacMurray and Polanyi. Also, many people who are criticizing each other are not really, I think, arguing about quite the same subject but about closely relating and partially overlapping subjects. Again with regard to education I feel that pupils should be exposed to various educational challenges but not compelled to continue with them all. For example, I was very glad at the age of eleven to give up music and do Greek instead, though I have learned to appreciate music since. I feel all educationalists need to remember that kids are individuals and that some of them may have quite specialised interests.

This issue of Convivium, I apologise that it will come out slightly late. Until well on into March I had practically nothing to put in it. Then, suddenly, material began to arrive! My appeal for a 'guest editor' for 1985 brought no response, so I would like to repeat my request for someone to take over for two issues, either October and next March or for 1986.

I am glad to be able to print an edited extract from David Holbrook's forthcoming book, Education and Philosophical Anthropology. I am also grateful to Terence Kennedy for his permission to reproduce an already published article on Polanyi's approach to science and morality. Now that Terence is back in Europe from Australia, we may expect to hear more from him. Richard Allen, who is settling into his new post in the Education Dept. In Trinidad University, has found time to send me an article in two parts on Rorty, Part II of which will appear in the October issue. Dru Scott, in addition to her Synopsis of Everyman Revived, has contributed a welcome comment on John Searle's 1984 Reith Lectures. I am also glad to include, with Richard Gelwick's consent, two interesting and very different articles from the American Polanyi Society periodical. Jane Moorman, who, in addition to being a business man, is clearly a humourist, is willing to send to interested subscribers his slim volume entitled, A Humerous Dictionary of the Tacit. If you would like to write to him, his address is: Box 90155, San Diego, CA, 92109, U.S.A.

Subscribers and Subscriptions. I have altered the list once again in an effort to draw the attention of forgetful subscribers to our need of funds. For those of you who rely on individual reminders, this is the best I can do. After two years, members are treated as 'lapsed'. I am glad to say
that there are only two who come into this category this year, but unfortu-
nately a few have had to resign, so counting our five new members, num-
bers remain the same as last October. The minimum subscription is still £3, due in January of each year. For overseas subscribers, the surface mail sub. is £4 and for airmail, £6. Sterling only. I am grateful to those who so generously send more than the minimum, since the minimum now no longer quite covers overheads.

EVERYMAN REVIVED
The Common Sense of Michael Polanyi
(To be published by The Book Guild - June 1985)

Chapter 1 The Power of Ideas. Michael Polanyi, himself a scientist, believed that a disastrously mistaken understanding of science was one of the root causes of the violence, hatred and tyrannies of our time. Men, still fired by ideals, are imprisoned by the scientific outlook in a scepticism which cannot allow any reality to their ideals. Their utopian idealism and their passionate scepticism can then fuse into violence and despair. He searched for a truer interpretation of science that could liberate Everyman from this sinister distortion.

Chapter 2 Everyman and Knowledge. The distortion arises because scientific knowledge is generally held to be impersonal, altogether clear and precise, obtained and verified according to strict rules. And science has given man such vast power that its way of knowing has become the model for all our knowledge. But persons, values and ideals cannot be known in this 'scientific' way and so their reality is called in question. Polanyi shows that this is a false idea of science; that science itself would be impossible if all knowledge were explicit, impersonal and exact. The story of the old Mystery play of Everyman is introduced as an illumination of the argument, illustrating man's relationship with knowledge.

Chapter 3 Discovery. The accepted view of scientific knowledge as entirely impersonal, explicit and exact cannot allow for scientific discovery, which is the vital core of science. Polanyi knew from experience that the great scientific discoveries are not achieved by following rules but by the intuitive sensing of a problem and of the direction in which to look for its solution, by leaps of imagination following on long periods of immersion in the problem, and by the passionate personal quest for intellectual beauty as the sign of reality.

Chapter 4 Tacit Knowing. To give a true account of the process of discovery we have to admit another kind of knowing, not wholly explicit or formally logical, that can lead to new knowledge. Our ordinary powers of perception provide a model for such knowledge. In perception we rely on
all sorts of clues of which we are not fully aware, and thus learn from childhood to see a stable world of solid objects, to recognise a face or read a mood. We focus on the object or the face, and not on the particular separate clues on which we are relying. As Polanyi put it, we attend from the clues to the object. In the same way, when we have learnt the skilled use of a tool we do not attend to the tool but to what we are doing with it. To focus on the tool can destroy our skill in using it.

All knowledge, Polanyi says, involves this kind of personal skill which he calls tacit knowing. Scientists use the same everyday skill, only backed by more special training; they too rely on clues which they cannot make fully explicit.

Chapter 5 Reality. Polanyi believed in a reality existing independently of us and gradually accessible to our understanding. We know when we are in contact with this reality by our personal recognition of a profundity and coherence which leads us on, always promising to reveal more. Reality appeals to the Christopher Columbus in each of us; with faith in reality we can commit ourselves to our incomplete knowledge and venture out to explore its oceans.

Chapter 6 Truth and the Free Society. Since scientific understanding is always based on tacit knowing, it can only be learnt by apprenticeship to a master skilled in its practice; it cannot be reduced to a set of rules. Scientists accept the authority and tradition of the community of science. But this is an authority which encourages originality and creative dissent. Polanyi found in the community of science a model of the free society, whose values must be sustained by tradition and authority but which must encourage continual reinterpretation. Only a belief in the independent reality of truth and other values can enable a society to permit this process to go on.

Chapter 7 Moral Inversion and the Unfree Society. The scientific outlook which denies the reality of values makes men distrust all morality as hypocritical. But men still moved by moral passions may then turn to violence and the amoral cult of power as the only authenticity. Polanyi traces this theme in literature and politics, showing how the 'moral inversion' thus produced has inspired both the individual anarchist and the totalitarian regime.

Chapter 8 A Many-Level World. But how can men escape from this destructive scientific outlook? How can human freedom and responsibility be real in the world of inexorable physical law which science seems to show us? Polanyi turns to the model which some biologists now find most convincing, the model of the world as a hierarchy of levels of existence. The lowest level, inanimate matter, can be studied by physics as controlled by physical laws, but with the advent of life another level emerges, still subject to physical and chemical laws but also to its own different principles. The laws of the lower level do not entirely determine and cannot
fully explain what happens on the higher level. The same pattern is found at each level of the hierarchy up to the responsible freedom of man; each level is still obeying the laws of the lower levels, but within these has freedom to explore creatively its own principles.

Chapter 9 Mind and Body. The ideas of tacit knowing and the hierarchy of levels dissolve the old problem of the relation of mind to body. The mind can be said to be the meaning of the body. It can never be explained by studying the brain, any more than a message can be discovered by studying the ink and paper on which it is written. Thus the mind is not a separate thing inside a physical body, but nor is it identical with the brain, for no higher level principle can be explained on a lower level. The mind can be free, as common sense says it is, although embodied in a physical structure.

Chapter 10 What is a Person? Polanyi has shown the limitations of impersonal rules and tests of our knowledge; he rests the validity of knowledge on the knower as a person. What then is a person? A sentient, responsible, creative being? But the prevailing conception of knowledge cannot allow such a being to be known.

Such a being cannot be known by any laboratory analysis, but can be known by our tacit powers, and Polanyi has shown that these are necessary for science too. The highest qualities and ideals of man thus have as great a claim to reality as the physical and chemical facts known by science, indeed the highest levels have the deepest reality according to Polanyi's definition of reality. And without the reality of persons there can be no science.

Chapter 11 The Poet's Eye. There are different ways of being in contact with reality. The poet's way, for instance, can be as valid as the scientist's; each is appropriate to a different level of existence. Both need faith and trained powers of imagination.

A comparison of Polanyi and Wordsworth illustrates this.

Chapter 12 A Meaningful World. The old disputes between science and religion may thus be resolved. Religion may need to become more like science really is; the religious community as vital as the scientific. Religion cannot ignore science, but will have to stop cringing before an outmoded conception of science. The difference is not that science deals with fact and religion with fantasy, but that the religious view sees a different level; and involves the whole person more deeply, requiring more commitment.

Everyman can have no guaranteed certainty of knowledge in any sphere. But science does not tell him, as he has supposed it did, that the world is meaningless. He can take heart and explore in faith all its riches of meaning.

Drusilla Scott
EDUCATION AND PHILOSOPHICAL ANTHROPOLOGY


David Holbrook's book is a wide ranging anti-reductionist manifesto by someone who is a poet, a literary and musical critic and a teacher. His critique is not primarily directed at the hard line scientists themselves - people such as Crick Brenner - though he does skirmish with them. What provokes his passionate protest is the stultifying effect which reductionist assumptions have when they dominate the thoughts and feelings of ordinary, 'educated' people.

Holbrook draws considerably on both Michael Polanyi and Marjorie Grene and especially on the latter's *Approaches to a Philosophical Biology* which may be less familiar to readers of *Convivium* than her other works. He is well aware that explaining by reduction is one perfectly good way of thinking - Arthur Peacocke calls it 'methodological reductionism'. It is the unwarranted diffusion of this method to all forms of knowing which, Holbrook would claim, is lethal. It seeps, invisibly along the ground. Other modes of knowing which heighten feeling, imagination and moral sensibility then become unconsciously degraded.

One of the original features of the book is that Holbrook draws heavily on his experience in teaching literature. The extract below is his approach to the central problem via *The Rainbow* by D.H. Lawrence. It is taken from Chapter Two which is entitled 'Towards a More Whole View of Man'.

The effect of such (reductionist approaches) on one's philosophy of life was clear to D.H. Lawrence. In *The Rainbow* Ursula puzzles over whether she herself is a mere agglomeration of 'forces' such as science describes, or whether there is some other dynamic in life to which she belongs:

But the purpose, what was the Purpose? Electricity had no soul, light and heat had no soul, was she herself an impersonal force, or conjunction of forces, like one of these?

She is looking at a plant-animal under the microscope:

She looked still at the unicellular shadow that lay within the field of light under her microscope. *It was alive - she saw the bright mist of its nucleus, as it slid across the plane of light. What then was its will? It was a conjunction of forces, physical and chemical, what held these forces unified, and for what purpose were they united?*

For what purpose were the incalculable physical and chemical activities nodalised in the shadowy moving speck under her microscope? What was the will which nodalised them and created the one thing she saw? What was its intention? To be itself? Was its purpose just mechanical and limited to itself?
It intended to be itself. But what self? Suddenly in her mind the world gleamed strangely, and with an intense light, like the nucleus of the creature under the microscope. Suddenly she had passed away into an intensely gleaming light of knowledge. She could not understand what it all was. She only knew that it was not limited mechanical energy, nor mere purpose of self-preservation and self-assertion. It was a consummation, a being infinite. Self was at oneness with the infinite. To be oneself was a supreme, gleaming triumph of identity. (The Rainbow)

Inspired by such philosophical thoughts about 'life', Ursula tries to find and to realise herself. Her impulse takes the path of a love affair with Skrebensky, which turns out, in the end, to be no fulfillment.

For our purposes here, the passage from Lawrence's novel communicates two significant things. One is that we are very much influenced in our personal choices and conduct, in our living, by the concept we hold of ourselves; and this in turn is much affected by the implicit metaphysics of science. Ursula is shown to be struggling with the concept of living existence held by the physics lecturer - that there need be 'no mystery' in our attitudes to life, and that everything is really to be described and regarded in terms of the sum of its mechanical qualities and processes. The limited 'scientific' descriptions of reality in reductionism has been extended by this scientific teacher to human existence, and has become a false extension of scientific methodology into a general philosophy of life. Ursula intuitively feels she must rebel and files into the arms of her lover, to find the sphere of 'being'. Yet her pursuit is too wilfully intellectual, even there: she has not yet learnt to be.

Fortunately, Ursula has her author to rescue her from nihilism: Lawrence is also able to communicate how the scientific discipline itself can bring awe, and a deep sense of wonder and mystery: many scientists feel these. True science, he knew, can be in this way an important cultural activity, bringing not only a respect for truth and for the mysterious complexity of existence - but also enabling an individual to ponder and develop a meaningful sense of his own being, his own existence in the cosmos. Here, pondering the existence and nature of a small creature gives Ursula a sense of how she must fulfill her own being in the human sphere in a different way. This enables her to find a sense of relationship between her separate existence, and her union with all created life. Lawrence sees that there is a continuity from primary consciousness to the highly developed consciousness of the adult human woman, with her needs for meaning, to be worked on through symbolism, and culture, in relation to her experience of inter-subjectivity.

In discussing the Implications of Lawrence's treatment of Ursula and science in The Rainbow I have discussed many concepts which would be discussed by the positivist or the academic philosopher as not really 'real',
because they cannot be subjected to scientific investigation or 'validation' in the 'objective' paradigm. They have to do also with those metaphysical questions about being, love and the meaning of life - which the Logical Positivist dismisses as 'emotional' nonsense, and which many a University Philosophy department abjures. Yet, as Lawrence's novel shows, these issues can be central to a young person's life, and Ursula cannot go on living unless she struggles with them, trying to solve very real problems of living.

Students respond with understanding and enthusiasm to these issues as evoked in a novel like The Rainbow. They recognise them as real problems which they themselves have encountered, and can see how they relate to Ursula's experience of education, both as a student and a teacher. Even as student teachers are taught a psychology and a philosophy which often fail to illuminate anything they do, they will gladly bring to bear on their practical work and living the kind of issues Lawrence raises in his novel.

If we... include in our approach the findings of psychoanalysis, then we shall need to recognise problems like Ursula's as real. The established perspectives which attach themselves to scientific objectivity can never find many of the problems with which the novelist deals: the yearnings of 'being', unconscious motives, body-meaning - these can only be found by 'subjective' disciplines. So what is called for is nothing less than a complete revision of our attitudes to human nature and the way we conduct discourse and study about it.

Perhaps we already call some of the dimensions 'Lawrentian' - uncanny and mysterious aspects of the human self and its potentialities, very much bound up with the processes of learning such as Ursula is shown experiencing. Marjorie Grene uses terms such as 'transcendence' and 'immanence'... Many therapists speak of inarticulate communication between themselves and patients, as through 'body meanings' or facial expressions... Lawrence shows himself well aware of the ineffable areas of experience, and places before us the problem of how to examine and understand these modes, which are certainly found in teaching, as Lawrence's poems about that experience show.

How can we explore the relationship between intersubjectivity and perception, in relation to what Leavis called 'the living principle'?

We only have to consider one simple ability - that of recognizing a face - to show the complexities of 'knowing'. In Polanyi we find some useful terms, to come at the ineffable, like 'subception' and 'indwelling'. Grene summarises Polanyi's examination of the problem thus:

The objective transcendence of my recognition (of a face, etc.) to use Szilasi's terms, its subjective immanence, the foundation, assimilated to myself, upon which it rests. This analysis Polanyi has recently elaborated in reliance on psychological experiments on 'subception', which seem to confirm the significance of subsidiary factors in perceptual behaviour. In philosophical terms, one could equally take
the recognition of physiognomies in Polanyi's account of it as illustrating the existentialist thesis that our being is being in a world. My awareness is not separate subject 'in-itself' but at one and the same time an assimilation of what is beyond and an extension of myself into the thing beyond. (KK, p.56 (my italics))

In this kind of philosophical anthropology we have highly acute minds requiring attention to the poetic, the inward, the symbolising faculty of man - and this should make for approaches to psychology and philosophy which are more recognisably relevant to the experience of teaching, as well as more meaningful in the Humanities.

There is no mysticism or animism or even religious content in this opening up of new realities and modes of awareness (and it can be given assent to by both agnostic and believer). It is the kind of awed recognition which asserts, as does the psychologist M.O'C. Drury, that all understanding of life is a question of mystery:

I want to say that the existence of language, and the development of the ability to speak in the child is a miracle, something that the notion of explanation as to how it came, and comes to be, does not make sense. It is something indeed for us to wonder at and be thankful for. (M.O'C. Drury, The Danger of Words, p. 76.)

Again, it is not a question of 'two cultures', but rather one of recognising that learning is a process involving the whole being. The many complaints made by students that their experience of a university or college, like Ursula's, has not been a rich one, or even a satisfactory one, perhaps reveals a failure to recognise this wholeness in the learning process. Where education has proved arid, there are perhaps two failures. One is to do with a shrinking from the kind of close relationship that is essential if there is to be whole development... The other failure may be that of failing to conceive of education as a process involving commitment and responsibility - to see that learning is bound up with values and existential choice and action, and demands the inevitable confrontation with living issues.

There is a need to heal the 'dissociation of sensibility', by bringing together the two forms of knowing, in the ways writers such as Roger Poole and Marjorie Grene have demanded. Marjorie Grene emphasises the subtle web and dynamic of our each life-world and how we must continually attend to both our world of primary experience and the intellectual and cultural world.

She goes on to make it plain that when the biologist Adolf Portmann speaks of this need for unity he is talking about the areas of experience to which the psychoanalysts are pointing - together with the post-Kantian philosophers, phenomenologists, and 'new' existentialists. In Portmann we have a scientist emphasising that the life-world in which we live is bound up with imagination and vision (and that we cannot have reason and science
without these):

... The world in which, from infancy, we come to live, and the human world shared by members of all cultures, does of course, include the surface of experience, the colours, the sounds, the rhythms of movement that confront us on all sides. But it includes also our feelings, our desires, our dreams, the creative aspirations of artists, the vision of saints and prophets, even the delusions of the insane. No single term can adequately characterise this whole range of primary experience; perhaps we can still speak here of the 'life world' if we remember that it is more than the plain, open order of 'common sense' to which we are referring. Such a life world, then, with all its opacities and ambiguities, stands in contrast with the limited but lucid sphere governed by the operations of the intellect - and that means, in our culture, by the operation of science and technology. Human nature comprises both and can dispense with neither. (AB, p. 50)

...It is very useful to have this emphasis from a philosopher of science discussing a European biologist, and emphasising the at-one-ness of science and technology with...imaginative and creative powers....

David Holbrook

Some of the books referred to in the extract:


'LORD OF HEAVEN AND EARTH'

Some Reflections on Michael Polanyi's Approach to Science and Morality


Perhaps you have never asked yourself what part of the Creed is of greatest interest and importance to a scientist. Rudolf Bultmann has certainly taken possession of the popular mind with his demythology. He asserts that the classical model of a three storey universe - heaven, earth
and under the earth - is quite incomprehensible to the modern scientific mind. In other words, the myths that validated the classical worldview and along with it the language and expressions of the Creed, have long lost their powers of interpretation for the modern mind. The Creed, because it is a mythological formulation of belief, has simply become incredible. In particular, the Resurrection of Christ, His Ascension into Heaven, the Descent into Hell, and His Coming to judge the living and the dead, all need demythologising and rephrasing in the terms of the modern positivistic approach to science.

I shall not argue Bultmann's case here, except to use the issues he has raised as a platform for my consideration of Michael Polanyi. Like Bultmann, Polanyi was thoroughly modern. Yet, in his last book, 'Meaning', his approach, without entering into polemics and apologetics, is just about completely contradictory to that of Bultmann. Most commentators on Polanyi would attribute this to the fact that his post-critical and therefore realist, as opposed to positivistic philosophy, had released him from the bind of faith versus science, that ensnared Bultmann.

But have we considered sufficiently what his personal way of knowing released him for? What was the new area or sphere of reality into which he entered? It was an intuition that transcended the use of words in science, and which could only come to expression through a symbol which somehow comprehended the space-time unity of the whole universe to which man belongs.

The Universe and Its Meaning. Now such an intuition is more a matter of mysticism, of the perception of truly ontological depths in our space-time world and its history, than of a purely scientific theory or hypothesis. Yet to Polanyi, without such a mystical fire guiding a scientist through the dark night of research, insight as an enlightening indwelling in reality would never be achieved (PK 64). Enlightenment needs more than scientific method for its illumination. It has been noted how Polanyi passes so easily from scientific to mystical language in order to give some verbal shape to his deepest convictions and experiences as a scientist. In 'Meaning' he invokes symbol as the only way of incorporating this experience of the awesome order of the universe in human language (M 178-9).

I believe that at this stage we do not have the end-point of his development. What we have is a revelation of the vision, the unifying experience that underlies all the tacit premises of his convictions.

So it is only at the end that the guiding hand of his development is revealed. Once this factor is recognised, all the previous stages of his development should be interpreted in relation to it. It is the end which determines the stages of development and uncovers what was implicitly and potentially contained in the starting-point or origin.

Polanyi discussed the representative power of religion in the chapter 'Meaning'. He shows that religion is accepted precisely on the ground that
Its myths, rituals, ceremonies and doctrines give a unified order and meaning to the whole universe, as well as inserting man into that order, thus endowing him with personal meaning (M 153). In one way these representations open the mind of man and point it upward in prayer, adoration and in a feeling of trust that makes us dwell in the Kingdom of Heaven. It is by prayer, reverence and by gratitude for the goodness we share, that man relates to God through an indwelling in His action in the world. 'The contents of a religion will have as their import the story of a fundamentally meaningful world (M 159). But since we find meaning in the universe, therefore religion is not only possible but real. Our experience does lead us to a relationship with God. "The whole experience of mankind has surely been that in general men do have such a 'will to believe' (M 160).

Science and religion are ultimately founded on acts of belief. It is here that the positivist view of the universe comes to grief precisely because it cannot preserve the integrity of meaning. "If we do believe in such a 'value-free' universe, then as James said, the 'religious hypothesis' is not a viable one for us and we cannot entertain it," (M 160).

What can we say then of a scientist's approach to religion and hence to God as set out by Polanyi in his post-critical philosophy? Firstly, he does not accept the rationalism of the proofs of God's existence - although it might be shown they are coherent with his own vision and even demanded by it. But the spirit of such proofs goes against the fiducial and Augustinian approach of post-critical philosophy. Secondly, he uses experience as a pointer to meaning. Hence his conception of God grows out of the scientific myths that have taken possession of the modern mind. By breaking with positivism, Polanyi opened the way to scientific myths as the key to order in the universe, and order in the universe is the symbol that reveals God to us through worship, wonder, prayer and adoration.

We could say that Polanyi finds himself related to God through the givenness of the experiences that arise in him in the course of his work as a scientist penetrating into the structure and content of the universe which give it meaning. Since this is a given, it cannot be denied, but it can be understood - if we have faith. St. Augustine again! 'Religious belief cannot be achieved by our deliberate efforts and choice. It is a gift of God.' (M 180) Unless you believe, you shall not understand.

A properly formed scientific myth that embodies the order of the universe, seems to be a necessary condition for the gift of faith today. Without such a myth the mind cannot make enough sense of our type of world to make contact with God. Polanyi proves this assertion by a negative strategy - by showing how its denial destroys the religious experience that is the form of our involvement with God.

It is beyond much doubt that this representational content of the religious myth is at least one of the serious stumbling blocks to the acceptance of religion in our day. So much is this so that a whole
school of theologians has become busily engaged in demythologising our religions. But, if it is true that myths are an essential part of any religion, the success of such a movement can mean only the total demise of religion. (M 158)

In the end it is the ecstasy and mystical experience of religious celebration that validate our approach to God - not a rationalistic and absolutely coherent conceptual proof of His Being and Existence. This is personally involving - through a personal acceptance of religion - and shows that God is personally involved with us through his gift. This insight is in no way original, and Polanyi finds no need to dwell on it at any length.

However, if we make a comparison with other scientists who have treated the same issue some remarkable results appear.

Werner Heisenberg has emphasised how the abandonment of the positivist position has opened up the question of God for physicists. Knowledge of the real and its profundities has forced physicists to interrogate the structures that bear the real. So for Heisenberg what was formerly understood under the rubric of God is considered under the key term of 'central organisation' and behind this tentative conception lies the question: Is this organisation capable of asserting itself beyond the fact that it exists? Has this organisation a quality that should be thought of in a manner that is analogous to how we perceive the human person: 'Can you - or can we - approach very closely the central organisation of things and facts whose existence we cannot doubt at all? Can we enter a relationship with it as closely as we can with the soul of another person? If you ask me this question, I shall reply, Yes.' (TG 293) It follows that to reject creation as meaningful is to reject the Creator.

Heisenberg described the central organisation as a magnetic compass that provides the pathway through life that we seek (TG 291, 294). Here he re-echoes Polanyi's abhorrence of nihilism:

Once the magnetic attraction that has guided the compass comes to a halt - and it is clear that such an attraction can only arise from the central organisation - I fear that dreadful things may take place, things that go beyond even the concentration camps and the atomic bomb. (TG 295)

So Christian faith is not against reason, but protects reason from manipulation and exploitation by any philosophy that would empty it of content. At the same time faith forms a synthesis or a symbolic whole with scientific reason by placing this central organisation within the Christian Mystery. The central organisation then becomes transparent to this higher light that incorporates it into the story of Creation and Redemption in Christ. The Creed may be considered as a myth that integrates the three great symbols of the Christian religion - the Father as absolute source and Creator; the Son as the Incarnate Image of the Father and embodiment of His
Love and the Spirit as the Unifier or Integrator of the Trinity's Inner life. It seems that the Intellectual life of the scientist is appropriated by and embodied in our belief in God the Father who, as absolute origin is Creator of heaven and earth, of all things visible and invisible.

The Structure of Symbols. Polanyi has noted what this religious integration does for scientific beliefs. The Intellectual life of a scientist brings an integration to the ego that is self-centred. Scientific language indicates objects by their proper qualities.

Perception, for instance, is of things seen from the self as a centre. The self is never carried away in indication; it is never surrendered or given to the focal object...indications are always self-centred.

(M 74)

The Creed and religion act otherwise by forming us into part of a higher meaning - in this case the Christian mystery. The point of using symbolism to represent mystery is that it can fuse incompatible elements into a higher meaning without contradiction. This is done by an embodiment of meaning in a wider frame of reference which relates all the subsidiaries to one focal object. The relation between the subsidiary meaning (the scientific world-view) and the focal object (in this case the Christian mystery) remains tacit; and so need not be articulated in explicitly logical relationships.

Symbolisations are self-centred. That is, the symbol, as an object of our focal awareness, is not merely established by an integration of subsidiary clues directed from the self to a focal object; it is also established by surrendering the diffuse memories and experiences of the self into this object, thus giving them a visible embodiment. This visible embodiment serves as a focal point for the integration of these diffuse aspects of the self into a felt unity, a tacit grasp of ourselves as a whole person, in spite of the manifold incompatibilities existing in our lives as lived. Instead of being a self-centred integration, a symbol becomes rather a self-giving one, an integration in which not only the symbol becomes integrated but the self also becomes integrated as it is carried away by the symbol - or given to it.

(M 74-75)

The key question for a scientist is: what or to whom is he giving himself by the exercise of his science? In other words, what is his ultimate commitment? Science of itself cannot rise above itself, although it has an inner drive and orientation to fuller meaning. This orientation is fulfilled only in an new frame of symbolic reference, whose focal point is the self-giving of the scientist. One of the clear conclusions from this line of thinking in Polanyi is that science cannot stand alone as a complete system in itself, since there is nothing within it that justified this self-donation. Positivism, seen as the adoration of the scientific
The method as self-sufficient is inherently self-contradictory. It can never rise to the level of the truly personal which is only grasped in a symbolic mode of thinking.

This paper suggests that for a mind that experiences a sense of wonder and adoration when it contemplates the universe, there is a spontaneous integration of the scientific world-view into the symbols of the Christian Creed. The key to this integration in faith is the recognition of God as the Lord of heaven and earth, to whom we give ourselves in an act of worship.

Any symbol, and the Creed par excellence as THE SYMBOL, postulates an unbreakable unity among its parts. One part is contained in another by a force greater than logical coherence.

The parts interpenetrate by a necessity arising in the realities themselves. It is quite impossible to abstract parts and propositions out of a symbol, without denying the unity underlying the symbol, which contains the reality as one whole and simultaneously brings it to expression.

Joseph Ratzinger in a masterful discussion of the Christian belief in Creation says that this belief is our posture or approach to reality here and now and not the memory of some long past divine deed. He continues:

For Christian faith in creation, it is decisive that the Creator and Saviour, the God of the beginning and the God of the end, should be one and the same God. Wherever this unity is broken, heresy is born and the faith is shattered in its basic aspects. (GJC 34, cf. M 132-148)

What does a symbol do for a person who gives himself to it in an act of personal commitment? The person enters into the realities held in a unified whole by the frame of reference that defines the limits of the symbol. We may say that by giving himself to them he brings them to life with his own spirit and vitality. Polanyi's term for this mutual sharing of life forces is 'Indwelling'. 'Thus the myth of creation opens to its followers a certain view of the universe and makes them feel at home in it.' (M 147)

Is it any wonder that heresy is best described as a malicious turning of one's back on the household of the faith?

Given the Unity of the creed, we can enquire how do we see God not just as Origin but in His Inner life and activity. Let us restate Polanyi's starting-point:

It is therefore only through participation in acts of worship – through dwelling in these – that we see God. God is thus not a being whose existence can be established in some logical, scientific or rational way before we engage in our worship of him. God is a commitment involved in our rites and myths. (M 156)

The Inner reality of God is revealed solely by its action and presence in our world; the inner reality unveils itself to our eyes when it clothes itself in history. Here symbolism becomes Incarnation: God is embodied in
human existence. In this way, Christian faith sees Christ as a symbol coming from God into our world. Polanyi would approach this same reality of Christ communicated through the Creed and Christian worship as communion that embodies our existence within the frame of reference of Christ as Saviour, the story of whose life now becomes normative for our personal existence and moral living.

Here is how he represents this situation:

Our Existence embodied in frame story (M 88)

In Holy communion the myth, of course, is the story of the Last Supper in the upper room in which the Lord himself instituted the rite, to be performed until he should return 'in remembrance of me'.

Added to this meaning through its mutual embodiment in this myth, is the further metaphorical meaning of the satisfaction of a spiritual hunger and a replenishing of the spiritual life through the ritual assimilation of the body and blood - the substance - of the Son of God, which the bread and wine are. (M 153. The meaning of this and similar passages has been disputed. It is obvious that myth and reality are not exclusive terms.)

The effect of the Eucharist, therefore, is communion with God and a brotherhood among men. For the intellectual community this brotherhood is described as conviviality. It is treated at length in the second section, of 'Personal Knowledge' as the sharing not just of knowledge, but of life itself. It is a project of understanding which means living within or indwelling the household of the truth. The principle symbol of human togetherness, is the Eucharist. Thus conviviality would be its realization among the intellectual community. This is an example of the use of Polanyi's hierarchy of meaning whereby a lower level remains open to a higher level which acts to regulate its entry into a higher integration. (NB. This principle is known as 'dual control' and is inspired by Einstein.)

Faith and Science. Polanyi sees the development of science in Western Europe as occurring precisely within the context of a Christian culture which was too authoritarian (M 184). The first initiative of this incipient science was a rebellion against the role of authority. The scientists claimed that reason alone must be followed. Descartes was the hero of reason. He postulated the conscious self as the centre of all understanding. Polanyi by calling his philosophy 'post-critical' aims to break out of the Cartesian imprisoned autonomy of the self-conscious subject (M 184).

Polanyi, starting from a phenomenology, how the mind of the scientist does in fact work, concluded that consciousness, or better awareness is directed outward toward reality. The mind does not exist as a point without extension, but as a human spirit in a body which is precisely the contact of mind and extra-mental reality. Man is essentially and inseparably involved in his knowing through his bodily being. There is no doubt that
If a scientist cannot trust his own body, he cannot achieve understanding. Polanyi treats this idea at length under the rubric of the body/mind problem. This is a magnificent affirmation of the need for faith on our part and for the incarnation on God's part as His way of making contact with us.

Polanyi did not articulate his convictions in this theological form. He took his point of reference from the practice of scientists themselves. The net result was a liberation from the prison of the self-contained Cartesian ego, and a return to faith as trust in the intellectual premises which guide critical research. It cannot be passed over that here we have a return to Christian intellectual ideals by a re-evaluation of faith and the body.

Polanyi's life was, according to his repeated assertion, an attempt to re-establish the foundations of faith. Looked at from the point of view of the Creed as a guiding symbol, this project could be described as the redemption of the mind.

Corresponding to the redemption of the mind itself is the perception of the Redeemer, of Christ who took a body in order to save man in his total personality, body and mind. Salvation from Cartesian dualism means the preservation of the dogma of Christ the Saviour. By introducing scepticism into the Christian conscience, Cartesian philosophy invalidated our moral and religious traditions. Polanyi saw this state of affairs as a 'Fall', a sort of intellectual sin where the mind became sufficient unto itself.

'The modern critical movement destroyed the communion between the Christian conscience and the person of Christ.' (P p43) Rationalism not only devalues all personal relationships by denying the I-Thou structure of personal knowing, it makes any personal contact with God unthinkable.

Redemption comes to science as a grace whereby it 'breaks out' of its old framework to make fresh contact with reality (PK 199). This conversion happens as an illumination discovering a new vision fostered by the beauty, symmetry and profundity of the reality touched, felt and perceived. It is no wonder that he viewed the darkness of the modern mind as a 'Fall' from which it could only be redeemed by grace 'so we are freed from worry about our insurmountable limitations'. (M 157)

In fact, Polanyi proposes grace precisely as the answer to the human paradox found both in religion and in science. Grace is a human necessity where our human resources fall short and call to be transcended by a greater power. This greater power, however, is not something operating outside us, but from within us. And he evokes the memory of St. Paul who felt the tension of being bound to an ideal he could not achieve.

The simplest expression that I know of the scientists' obligation can be stated in terms of the Christian paradox, that man is called upon to try the impossible but is not expected to achieve it. As scientists we must seek a truth which is unambiguous and universal, even though at the same time we must recognise this is impossible. (STSR 77)
The source of this Impossibility and indeed meaninglessness is the naturalistic conception of the universe. It is grace that opens the premises of this naturalistic conception to the sphere of ultimate meaning. This is the work of grace which acts not through a chain of logical necessity but by incarnating this commitment into a set of ultimate beliefs. A commitment has two poles - the personal or subjective and the universal or objective. Science is ultimately a set of beliefs to which we are critically committed.

Hence we can now discern the fundamental fallacy of the positive model of science. It tries to construct a machine which will produce universally valid results. But universal validity is not a conception that applies outside the commitment situation. Any reference to it is merely a manner of expressing our submission to an ultimate obligation and can appear only as part of a fiduciary declaration. The attempt to construct something universally valid, prior to any belief, is logically nonsensical. (STSR 80)

Faith enables scientific thought to make contact with ultimate obligations through commitment. It follows that scientific premises are open to obligations that go beyond the sphere of science, i.e., obligations on which they might not logically depend but to which they are open and in no way repugnant. Here is the radical possibility of religion as an integration of all aspects of life including the scientific work of the mind. If science is a penetration by intuition and critical reason into the structure and content of the universe, it must lead to a religious commitment in faith or collapse into a heap of meaningless details because there is no ultimate that holds it together in synthesis. Polanyi would say that this is the choice before our culture. It is grace that 'jumps' the gap between the plausibility of a religious account of the world and actual commitment to it. We cannot live in an eternal uncertainty of 'If not this, then what?' (M 159-160) Religion both transcends science and integrates it into ultimate meaning in the universe. Grace, for Polanyi, is not abstract but seems to reside in the tacit dimensions of religious experience.

We can assert quite confidently that religious symbols are the way grace acts to integrate scientific meaning into ultimate purpose in the universe. There is no need to emphasize that here we are well beyond any natural cosmology or ontology that leads to a natural theology. This is a celebration of the ultimate reality of life itself. To quote Polanyi at some length again:

We dwell in the hope that we may, by the grace of God be able somewhere, somehow, to do that which we must, but which we can at this moment see no way to do...

Dwelling in this religious frame of mind, we have not lost the tension, but it does not worry us nor do we become complacent. Our myths tell us of the Fall and of how and why we are excluded from Paradise,
... But they also tell us of the Redemption and of the power and grace of God that is to be dispensed to us as needed... we are humbled before God in the recognition of our utter dependence upon him for the ultimate victory through Christ. (M 157)

That an Intuition of God, Creator and Saviour, is necessary to uphold scientific enquiry into the universe as a whole, is confirmed by a study of scientists and how their minds work in practice. Christianity stands on its own premises of God's Revelation in Christ. In our culture it is the Christian framework or myth that makes this Intuition of the Creator possible for the scientist. It follows that Christianity by upholding reason has been very fruitful in the development of science as we know it. It is only in a universe redeemed and graced by Christ that it is possible to believe in a heavenly Father who preserves and supports a rational order and purpose embracing the whole universe. Stanley L. Jaki bluntly asserts:

History clearly shows that it was only a Western world steeped in Christianity that was capable of creating science, economy and business on a scale never witnessed before. (TBE 151)

The road of science becomes a way to God. Faith and science continue as a tradition down the centuries of mutual help that is fruitful in new understanding of man and the universe. This tradition creates new insight from age to age because of the grace of the Spirit.

The Crisis of Culture. Science is a moral activity involving conscious commitments and deliberate decisions. If man creates his life project through his moral decisions, then our culture is the creation of the modern mind whose greatest boast and achievement has been the development of science. In fact science more than religion is the undisputed authority in Western culture.

The Cartesian model of self-consciousness has already been described, so has Laplace's mechanistic universe of atoms in motion. This is the scientific universe of the positivists that is closed both to God and real meaning. It cannot achieve truth as a conscious contact that grasps reality in its essential features.

Man's motives which move him in all his moral activities are described by Polanyi as moral forces or energies (PK 234). Their usual manifestation is a moral passion which guides our search for truth. They have direction and universal intent and are essentially heuristic.

Cartesian consciousness and a mechanistic world-view together serve to reduce moral values and passions to nothingness. Man is expelled from the world and science becomes a pattern of relationships without content. It is this reduction, this assent, more than any other one intellectual factor that has set science and religion in opposition to one another in the contemporary mind. (M 162)

A meaningful universe full of purpose implanted and embodied in it by
the Creator has already been treated. But what of moral man? What price does he pay in this reduction? How is purpose and meaning restored to his life? He stands in need of a redemption from the intellectual framework in which man can live at peace within his own mind.

The first step has been a revolution from within science itself. T.F. Torrance has described how Einstein, Bohr and Gödel inspired Polanyi with an ideal of science as contact with the real world, a penetration into its inner structures (TFT). Within this model of science as 'Personal Knowledge' man's passion for knowledge can find a new home. The main postulate of this personal model of knowledge is that everything we know is full of meaning and leads to greater meaning. There is as Polanyi puts it a 'gradient of meaning' (M 178) operative in the Universe. To fail to grasp this is to fall into absurdities.

The second stage is to analyse the moral failure that spreads contagiously from a false ideal of science through every level of our culture. Polanyi's reasoning is direct and startling. If positivistic science achieves recognition as the ideal of knowledge, as in fact it has, then scepticism reigns over all our values, traditions and social institutions. Scepticism can dissolve values and void the edifices of authority, faith and tradition as indefensible acts of trust. The end result of this movement cannot be other than nihilism. 'Men are living in a spiritual desert' (PK 236) becomes the sad state of a culture whose ethical role of science has been misdirected.

If the moral passion for knowledge is displaced away from the truth, we have to ask where does its homeless energy go and what damage can it do. Moral passions become the fanatical fires that inflame immoral purposes. Polanyi lists many examples that convince him that the 'pathological morality of our time' (KB 18) is the attempt to remake society after the ideals of positivistic science. He cites the violence of Robespierre and his followers in the French Revolution, the Russian Revolution, Hitler and the modern totalitarian state as examples of this fanaticism (SFS 77-78).

Nihilism for Polanyi is the unholy marriage of positivistic scientific ideals and homeless moral aspirations and the union becomes a mechanism of destruction since the sceptical scientific mind turns man's vital moral impulses against himself.

In other words while a radical denial of absolute obligations cannot destroy the moral passions of man, it can render them homeless. The desire for justice and brotherhood can then no more confess itself for what it is, but will seek embodiment in some theory of salvation through violence. Thus we see arising those sceptical, hard-boiled, allegedly scientific forms of fanaticism which are so characteristic of our modern age. (LL 47)

It goes without saying that any organisation of the state based on a deterministic model not only has no space for liberty in theory but must
arrive at contempt for freedom, both personal and social.

The immoral form of existence that corresponds with this denial of liberty is called moral inversion.

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. (LL 106)

Moral inversion is the direct result of inverted consciousness. It is the consequence of the application of the Cartesian model of thought to our moral drives. These forces have their direction set by the intentionality of consciousness. The scientific revolution of the twentieth century initiated by Einstein, Bohr and Gödel, caused Polanyi to rethink the direction taken by consciousness, or awareness as he prefers to call it. He postulated a vital thrust in knowing from the subjective pole to the objective pole. Awareness is directed outward, therefore, so that the subject and object become an inseparable unity in Personal Knowledge.

Our awareness of ourselves and our knowledge as directed outward to the real has momentous consequences for morality. It is the redemption of the mind as it breaks through moral inversion. Our moral energies are then attracted to their true home—the universal values we believe in and to which we commit our lives.

Knowledge by participation, so firmly grounded, makes a clean sweep of the claim that in order to be valid, knowledge must be established objectively without relying on personal judgements. And this restores our confidence in moral principles that are ultimately known to us by our commitment to them. (PK 236)

A personalist view of science restores the worth of absolute obligations both in the life of the individual and the society. It preserves the relationship between Christian conscience and the person of Christ. Our moral desires are once again open to eternity (P 43, M 9, 10). The Christian hope of life everlasting does not have to be reduced to social liberation and economic betterment. Radical secularization becomes quite an impossibility. Our concern for historical progress through political and social reform is now guided by a 'firmament of values'. (SM 41) Truth, love, beauty, honesty and justice become guiding stars that call man out of himself towards the absolute. This vocation finds its sole adequate and satisfying embodiment in the Christian mystery. There is a 'gradient of meaning' immanent in creation that leads us from lesser to greater truth. It is this spontaneous force that at once reveals an order founded on liberty and a purpose forever pointing to unity. It convinces us that a grace greater than the human mind must be at work in the world. For the believing Christian this grace can be nothing other than the Spirit who reveals Himself in the tacit dimension of all meaning. Polanyi never quite articulated his conviction in this form. It is an insight that is not only
coherent with his thought but readily flows from it.

Polanyi had a mind naturally bent on synthesis, that is, on bringing diverse truths into unity. Science, faith and religion all find their unity in the great symbols of belief. Without a God who is Lord of heaven and earth, faith has lost its object and science becomes a set of empty mathematical relationships without a soul. 'A society refusing to be dedicated to transcendent ideals chooses to be subject to servitude.' (SFS 78-9)

Father Augustine Regan in his doctoral dissertation described the Trinitarian relations, and how the Divine Persons have a mission to us and our world. This essay shows that Christian faith in the Divine Persons can lead science to a meaning that it contains only tacitly, implicitly and in symbol. The illumination that overwhelms the mind of the scientist and sets him aflame with expectation is indeed a 'clue to God' (PK 324) that is necessary for the children of this scientific generation.

Terence Kennedy, C.SS.R.

Abbreviations:

TG Der Teil und das Ganze W. Hasenberg, Munich 1969.
KB Knowing and Being M. Polanyi.
LL The Logic of Liberty M. Polanyi, Chicago 1951.

RORTY AND THE SCOPE OF NON-JUSTIFICATORY PHILOSOPHY - I

In his Philosophy and the Mirror of Nature (Princeton U.P. 1979), Professor Rorty rejects the whole notion of 'justificatory' and 'foundational' (or critical) philosophy, which aims to assess from some superior and external standpoint the claims to truth and validity of the other sciences. He identifies that objective with virtually the whole of modern philosophy, stemming from Descartes, Locke and Kant. Like Polanyi, whom he mentions only twice and then in restricted and misleading contexts, he rejects the
idea of being able to assess one's own representations or beliefs from a 
transcendental standpoint by inspecting the relations between them and 
their objects (293 - compare PK 304). Also like Polanyi, he rejects the 
idea that 'whatever cannot be discovered by a machine programmed with an 
appropriate algorithm cannot exist "objectively" and thus must somehow be a 
"human convention"' (342). No 'justification' is possible except by what 
we already accept and what is coherent with it (177). He exposes the 
geneticist fallacy in Locke - the assumption that a causal account of how 
our representations or beliefs arise is therefore a justification for holding 
them. This is a fallacy hidden by the notion of 'foundations' (140, 
152). His own position, 'epistemological behaviourism', concedes that there 
is no neutral matrix, which philosophy would study and formulate, for as-
sessing the correspondence to reality of our perceptions and beliefs (178).

While rightly locating Linguistic Analysis within 'justificatory' 
philosophy (8, 134n, 172, 257), Rorty finds himself needing justificatory 
and systematic philosophy in order to have something to oppose. He invokes 
the later Wittgenstein, Heidegger and Dewey, as providing an essentially 
reactive 'edifying' philosophy which criticises systematic philosophy for 
its attempts of find a neutral matrix or transcendental standpoint (366).
Edifying philosophy is intentionally peripheral, unable to use argument, 
and taken to be 'not really philosophy', for it does not aim to find new 
truths and it decodes views without having a view about views. It aims to 
keep options open and the conversation going and so to prevent philosophy 
from becoming science (369-72). This is, I presume, what Rorty does in 
Part I of his book, where he argues against the whole idea of the mind and 
the need to have a view of it. In Part II he does the same with regard to 
knowledge. In neither case does he aim to provide an alternative view 
(6-7). Positively he sees a role for hermeneutics, precisely as filling 
the cultural gap voided by the demise of epistemology and as a struggle a-
gainst the idea that there is a set of rules which will make all discourses 
commensurate and so settle all disputes rationally (315-6). Rather, he 
recommends it as an attempt from within a 'normal' discourse to make sense 
of an abnormal one without trying to make it commensurate with that normal 
one (318-21). Yet he does have definite views about mind and knowledge, 
his 'epistemological behaviourism'. For, to criticise one view is to 
present, implicitly at least, an outline of a counter-view. Perhaps he 
should not have argued against views of mind and knowledge.

In Part II I shall briefly consider Rorty's positive positions and 
shall argue that his rejection of justificatory philosophy really needs 
Polanyi's account of commitment and that his account of 'the mental' re-
quires the theory of the tacit integration of levels within a comprehensive 
entity. This will provide an organic criticism of his dichotomy of justi-
ficatory or edifying philosophy. In the meantime, I state simply that it 
eglects the possibility and actuality of systematic, non-justificatory
philosophy, as may be found in much of Husserl's own phenomenology, as well as in that of Scheler, Pfänder, Merleau-Ponty and Ricoeur, or in classical and Scholastic philosophy, or in Polanyi. Nor do such thinkers proclaim the latest method as the only one and try to impose it on all – very much the contrary. Rorty says of such an attempt that it would take away choice and make Man an être-en-sol (376). He criticises Sartre for trying to create a new systematic philosophy out of the insight that man's essence is to have no essence and so for trying to find new truths from it (378). But Rorty himself errs in taking man to have no essence; for human freedom is not the Sartrean total freedom of a 'Nothingness' to be anything but a limited and situated freedom to work with or against the grain of our nature and situations. A systematic philosophy can try to describe the structures of human nature and the human situation and the scope for choice left open by them. Choice requires an unchosen range of options and a similar set of preferences, the one to choose from and the other to choose by. Choice and responsibility exist on a higher level and require the lower level of a given, yet not closed, nature and situation in and through which to express themselves. The higher level is one of judgment and decision guided by values. To describe it and its values and the possibilities and exigencies of the lower level is, in a sense, to provide 'more objective truths' as Rorty says, and to which he objects (383). Yet substituting a 'pseudo-cognition for choice' and 'claiming that moral decisions are based on knowledge of the natural world' (383) need not be philosophy's form of bad faith. That, I would say, lies in the pretence of justificatory philosophy to make a new start and to believe nothing until it has been justified while continuing, as Descartes openly avowed, to live by one's existing and unjustified beliefs (cf. PK 269-72). In saying this, I suggest that Rorty himself takes knowledge of nature as 'normal' and regards decision and value as 'abnormal'. Systematic philosophy straddles the gap between description and justification, cognition and choice, getting the facts right and telling us how to live (387). But, while the first is an error, the others are not. It is only the (tacit) metaphysics of bare and neutral fact and of a neutral and meaningless universe confronting man as a self-defining subject (with no essence), all implied in the 'Naturalistic Fallacy', which creates the dichotomies of description and evaluation, knowing and choosing. (On the former, contrast PK Chaps. 11 and 12.) On any sane outlook, our action is based on what is the case, on the possibilities and necessities of our situation. To think otherwise is what Edmund Burke called 'metaphysical madness'. To cut duty off from the facts of our situation is either to be mad or to deny that we have any duties but only whim and fancy. Of course any account of what we can and should do leaves open the choice actually to do it and the responsibility for deciding what exactly one's own particular circumstances require. Rorty seems to evoke a Sartrean and analytic freedom devoid of values and totally arbitrary, in
response to an objectivist foreclosure of freedom (cf. R.M. Hare, Freedom and Reason p.4). This either denies it or provides a mechanical casuistry, like Kant's a priori categorical imperative or Bentham's felicific calculus. Just as there are no algorithms in practice, there are none for practice. But Rorty seems to have only a subjective and irresponsible freedom to set against natural or moral objectivism, not the personal freedom in responsible commitment to self-set yet self-transcending standards. 'The freedom of the subjective person to do as he pleases is overruled by the freedom of the responsible person to do as he must' (PK 309).

I conclude that a truly edifying philosophy (aiming at Bildung) needs to be a systematic yet non-justificatory one, conducted with a sense of personal responsibility and describing the structures within which personal responsibility operates and the standards and values which guide it. Readers of Convivium will know that this is to be found in the writings of Polanyi. Explicitly, Polanyi confines philosophy to a presuppositional approach, that articulates those ultimate beliefs which we find ourselves holding and without which we cannot think or act (PK 269, 299). This is post-critical and fiduciary philosophy which articulates the structures of commitment and provides a critique of doubt, and which alone can be self-consistent (PK 299). Yet, as one might expect, Polanyi's explicit statements do not account for all his practice. They leave out the descriptive side, the epistemological and ontological structures of tacit integration. I have already indicated how they are needed in the articulation of choice and responsibility. In Part II I shall show how they are needed by Rorty's own accounts of mind and knowledge.

R.T. Allen

HUMOUR AND MICHAEL POLANYI'S THEORY OF KNOWLEDGE

There is the story of the young man who registered his requirements for an ideal date to a computer dating service. He wanted someone who enjoyed water sports, liked company, was comfortable in formal attire, and was very short. The computer sent him a penguin.

This paper will be an inquiry into the application of Dr. Michael Polanyi's theory of tacit knowing towards an analysis of this joke. A brief introduction to his theory is a parallel objective.

Dr. Polanyi, born in Hungary in 1891, has authored numerous books and articles expounding his belief on a person's personal participation in his knowledge, in both its discovery and its valuation. Among other terms he gives to this personal component of knowing is the tacit component. He has written about his theory in Personal Knowledge and The Tacit Dimension, and both of these books will be drawn upon heavily. Let us see how this tacit
component might relate to our penguin joke. Remember that analyzing humour is often a non-humorous enterprise, undertaken by those without a sense of humour. Let us also remember that when humour is meant to be taken seriously, it's no joke!

Polanyi recognizes that the enormous range of lore and knowledge possessed by humanity has been made possible by the use of language; but that the basis for language itself is an inarticulate grasping of meanings, which differ only in an apparently slight, yet crucial, way from animal knowing. Polanyi reports in considerable detail on this type, or level, of knowing; this inarticulate grasping of meanings. He demonstrates its pervasiveness throughout human endeavor. Language is known in tacit ways, whose correctness we can appraise in ourselves, but which we cannot reflect on critically as a whole. As the saying puts it, Life is the art of drawing sufficient conclusions from insufficient premises.

We know something tacitly by relying on it, but being unable to explicitly tell what it is that we are relying on. We know more than we can say! This epigram of Polanyi's is the quintessent statement describing tacit knowing. Denotation is an art, not an exact science; and language forever has a metaphoric quality, which both facilitates its vast richness, and leaves it open to gross hazards of incorrect inferences and misunderstandings.

This tacit component is shown by Polanyi to be necessary if we are to know anything at all. It can be reduced, but can never be eliminated. Failing to recognize and acknowledge the nature of this tacit component is contributory to many, if not all, interpersonal conflicts, conflicts which dogs and other animals are free of. As the saying puts it, If dogs could talk, we'd have as much trouble getting along with them as we do with people.

In our penguin example, the joke specifies four clues, provided by the client, to the dating service, for his ideal date; clues which we see also describe a penguin. The description of the parts, or clues to the ideal date were originally known to the client in terms of their contribution to a possible result. They have never been known and were still less willed in themselves; and therefore, to transpose a significant whole into the terms of its constituent elements is to transpose it into terms deprived of any purpose or meaning. As the saying puts it, To say that a man is made up of certain chemical elements is a satisfactory description only for those who intend to use him as a fertilizer.

The penguin fits the specifications of the clues presented in the joke's straight line; but the penguin is not a plausible result. The heuristic crossing of the logical gap of discovery from the computer dating service clues to a plausible result involves an unspecifiable element, a tacit component; a component not accounted for by the clues in their focal known state. There is more to the resulting whole than is in the relied
upon clues; and these clues take on a radically different appearance in the
whole, than they do as meaningless fragments. The forest looks radically
different from the trees. We intimate that this reasonable result is out
there; and we know that the penguin is not the result we are looking for.
Our discovery of the implausible penguin is an example of comical juxta­
positions which are possible in inquiries of this kind; and sometimes, these
novel juxtapositions are recognized as scientific discoveries.

We can communicate this explicitly unspecifiable knowledge of the
ideal date, provided we are given adequate means for expressing ourselves.
The police have recently introduced a method by which we can communicate
much of the knowledge of a physiognomy that we know but cannot tell specif­
ically how we recognize.

The police method mentioned involves a large collection of pictures showing
a variety of noses, mouths and other features. The witness selects the
particulars, or clues of the person he knows (and cannot say) and the
places can then often be put together for a reasonably good likeness of the
person whose identification is sought.

Let us suppose that these clues might produce a likeness which looks
like a penguin; this result may well be amusing to the police artist and
the witness; but it is unlikely that the result, literally "true", would be
validated as a legitimate suspect for a bank robbery.

We can see that the formal description of our object, without consider­
ing this personal act of tacit integration, looking toward this known
but unspecifiable reasonable result, is necessarily incomplete. Polanyi
shows how both the discovery and validation of this reasonable result is
rooted in this tacit, fiduciary act; and he calls upon us to acknowledge
this tacit component as a vital component of knowledge, and not a mere
imperfection, or subjective whim.

The mathematician, Kurt Gödel, has shown that provability is a weaker
notion than truth. In other words, our penguin is "provable" but not
"true". "The letter killeth, the spirit giveth life." As the saying puts it, to the lexicographer, god is simply the word that comes next to 'gocart'.

Polanyi argues persuasively that a thoroughgoing reductionism that
contradicts this Gestalt point of view, produces a kind of ontological
theory that denies organized wholes of the sort which includes ontological
theories. I quote selectively from Personal Knowledge on Polanyi's fiduci­
ary program:
1) "We must now recognize belief once more as the source of all know­
ledge."
2) "No intelligence, however critical or original, can operate outside

such a fiduciary framework."
3) "Our mind lives in action, and any attempt to specify its presuppositions produces a set of axioms which cannot tell us why we should accept them."

4) "This then is our liberation from objectivism: to realise that we can voice our ultimate convictions only from within our convictions - from within the whole system of acceptances that are logically prior to any particular assertion of our own, prior to the holding of any particular piece of knowledge. If an ultimate logical level is to be attained and made explicit, this must be a declaration of my personal beliefs." (pp. 264-67)

Polanyi seems to be suggesting a change from the ideal seeing is believing to believing is seeing... If I hadn't believed it, I wouldn't have seen it.

The very act of grasping of the meanings contained in any theoretical or conceptual operation involves these tacit, whole-perceiving functions. Perceptions and concepts themselves are achievements. As examples of goal seeking, purposeful activity, they are subjected to considerable analysis by Polanyi; along with achievements of all sorts, an animal's success in learning a maze, for example. As the saying puts it, the speed of a runaway horse counts for nothing.

Similarly, a successful performance of a measurement in nuclear physics has the character of an achievement; and so does the ordinary process of reading a text and grasping its meaning. Even the use of a computer, or logical inference machine, requires a reading of the result and an appraisal of the correct working of the machine by those in charge of it. The penguin joke illustrates the absurdity of the result of a logical inference machine making decisions by itself.

As the story puts it, a computer once translated from Russian into English the biblical saying "The spirit is willing, but the flesh is weak". The English output read, "The vodka is good, the steak is rotten". As we have said, denotation is an art, an achievement, requiring unspecifiable, tacit acts of integration. We must ultimately rely on our beliefs as to their bearing on the experience we wish to know; when this happens invertedly forcing experience to bear on our belief, we run the dangers of logical paradoxes. Even worse, when a creed is inverted into a science, the results can be both blind and deceptive; the kinds of results which we saw in Hitler's Germany and Stalin's Russia, and perhaps suggested in Orwell's 1984.

Polanyi is seeking to establish an alternative to this, "to restore to us once more the power for the deliberate holding of unproven beliefs". We should be able to profess now openly and knowingly these beliefs; beliefs which are sincerely and responsibly held, that is, in conscientious awareness of their own conceivable fallibility. When this takes place, there is an affirmation present which cannot be criticized on any ground whatsoever;
though the facts themselves can be criticized on various internal and external grounds; the final acceptance of the fact as true is a fiduciary act which we are doing, not a fact that we are observing.

The penguin is somewhat compelling as a fact; but it is not a plausible date for a dance...the penguin is not reasonable. In other words, skillful knowing and doing is performed by subordinating a set of particulars, as clues or tools, to the shaping of a skillful achievement, whether practical or theoretical. We may then be said to become 'subsidiarily aware' of these particulars within our 'focal awareness' of the coherent entity that we achieve. Clues and tools, including denotative words, are things used as such and not observed in themselves. They are made to function as extensions of our bodily equipment and this involves a certain change of our own being. Acts of comprehension are to this extent irreversible, and also non-critical, or acritical. For we cannot possess any fixed, explicit framework within which the reshaping of our hitherto fixed framework could be critically tested.

One cannot endorse his own signature of a cheque. Such is 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.

In the light of our analysis of humour using the theory of tacit knowing, we can see that humour is a momentary inversion of subsidiary and focal awareness. At the sudden, surprise appearance of the joke's punch line, subsidiary clues to the ideal date become opaque, deprived of their sense, meaningless. As we look at these clues focally we are aware that, yes, they could describe a penguin, but they don't. Our puzzle is solved, our disfunction relieved, we let off a mildly euphoric laugh...and we put our mind and body back together in a from-to vectorial relationship with our clues toward the ideal date and our heuristic inquiry...only temporarily interrupted by the appearance of a lovable, but otherwise unsuited penguin.

I hope we will find Polanyi's theory worthy of further study. His insistence on the acknowledgement of the tacit dimension of knowing adds a needed bit of humility to our epistemology. As the saying puts it, effective knowledge is that which includes knowledge of the limitations of one's knowledge, and if you think you are not ignorant, your ignorance is beyond cure.

We are all exposed to the hazards of knowledge every day of our lives during frequent interpersonal misunderstandings. Hopefully, a fuller knowledge of the tacit component can help us be more patient with ourselves and others during these misalignments of the tacit coefficients of knowing when we begin to recognize the difficulty of relying on one framework, and attempting to demonstrate a proposition to persons relying on another frame-
work, we see that within two different conceptual frameworks the same range of experience takes the shape of different facts and different evidence.

Jere Moorman

VOCATION RECALLED: PERSONAL KNOWLEDGE AND COSMIC RE-ENCHANTMENT

"I do not believe the universe is meaningless" (Polanyi 1958, 286).

In stating and developing the broad implications of his "post-critical theory of knowledge" Michael Polanyi rearranges some important conceptual landscapes in a number of highly novel ways and invites us to view as close neighbours certain ideas which the modern intellectual legacy had seemed to divorce or even to banish forever. One such clustering of ideas embraces philosophy of nature, theology, the problem of other minds and the concept of calling (in that sense which has affinity with such cognates as "voice," "invoke," "provoke," "evoke," "vocation," etc.). The purpose of the present essay is to discuss the nature of this strange gathering with a view to demonstrating its promise for once again enchanting human consciousness and its world with the animating power of a grand vision in which the reality of persons is evoked and sustained.

The major aspects of Polanyi's thought giving rise to this conceptual mapping are: 1) the principle of marginal control; 2) emergence; 3) indwelling; 4) gradient of meaning; 5) mind. All that follows is predicated upon the reader's basic understanding of these concepts. We provide here only brief indications of Polanyi's adumbrations upon them.

1) The principle of marginal control refers to the control exercised by the organizational principle of a higher level of organization on the particulars forming its lower level. In terms of human comprehension the principle entails that we cannot expect to comprehend any comprehensive entity - whether a word, a rose, a snow crystal, a weaving loom or a game of chess - merely by a specification of its isolated particulars and the laws which govern them as such. Correlatively - in terms of the being of the word, the rose, the loom - the principle entails that comprehensive entities are not reducible to their parts and that the laws governing the comprehensive entity (the higher level of organization) "can never be derived from the laws governing its isolated particulars" (Polanyi 1966, 1967, 37).

2) A corollary of the principle of marginal control is the claim that every comprehensive entity is an emergence - an organization whose reality and whose operational principles constitute a new level, an innovation, which is not explicable in terms of its particulars considered in themselves together with the laws which govern them as such. The emergent
entity depends upon its particulars, and we should say (following Polanyi
and in anticipation of the ensuing discussion) that, as a "gradient of
meaning" it evokes or calls them into being, bringing them under control as
its own constituent particulars. Neither the particulars of the entity nor
of our awareness of it can be released from the control bestowed by the
emergent organization of which they are a part without ceasing to have the
same force or meaning. Abstracted and attended-to, rather than relied-upon
as subsidiary components of an integration which is their meaning, the par-
ticulars are, at most, candidates for innumerable possible incorporations
and, at least, meaningless, exanimate weight. Only when a particular begins
to be appropriated does it begin to have a ('proper') place. Expropriated,
I.e., isolated or unincorporated, it does not yet have meaning or place.
Meaning in this sense of "calledness" in relation to emergent reality and
our awareness of it is an essential aspect of the distinction between
actual objects of consciousness and the abstraction of the an-sich; and it
is this calledness which bestows propriety and place.

3) For the enrichment of our understanding of emergence it is neces-
sary to deal with tacit knowledge understood as indwelling.* The paradigm-
atic case of knowledge which we have by relying upon it for attending to
other things (tacit knowledge) is the kind of awareness people ordinarily
possess in relation to their own bodies and bodily processes. The body is,
as it were, a probe and the ultimate instrument of all our knowledge. We
do not ordinarily attend to it except in the privative cases of pain and
illness; rather, we rely upon it for attending to other things. And every-
thing which we annex to our own bodies - whether physical probes like
telescopes and eyeglasses, or conceptual probes like the principle of the
rectilinear propagation of light or the myth of Purusha - becomes for us a
tacit moment in the bipolar tacit-explicit structure of knowledge. That is
to say, all knowledge which we have by relying on it for attending to other
things becomes knowledge which we have by dwelling in it, by embodying it
or incorporating it. Our bodies in this enriched sense - human bodies in
any other sense are abstractions, I.e., corpses (Korper), not lived bodies
(Leib) - become the horizon from which and to which there appears a
'world', which is to say a conglomerate of explicit meanings. Hence, what
Polanyi designates as "the proximal terms" in tacit knowing is what we know
by relying upon it, that is, by living its meanings. It is, in short,
Descartes to the contrary, embodied intellect.

It is worthwhile noting that there is some fruitful equivocation in
Polanyi on this issue of meaning which may be unscrambled, at least,
partially, by recourse to expressing the issues in terms of the relation
between being a meaning and having a meaning. In general it may be said
that to be a meaning is, epistemologically speaking, to be an object of
focal awareness and, ontologically speaking, it is to be a comprehensive
entity; to have a meaning is to be an object for subsidiary component of a
comprehensive entity. Hence, there is what Polanyi calls "a semantic aspect" of tacit knowing which has to do with the fact that the tacit dimension is the meaning-bearer, the foundation and harbinger of meaning as the tellable. Whatever is accredited as being real and/or true is, as such, embodied by the knower and the knowing process itself. Here is the crux: The truth becomes ever more 'atoned,' 'attuned,' 'at one with,' the way; ontology becomes epistemology. Epistemology expresses ontology. Truth, Incorporated and lived by the subject, takes on a life of its own and accordingly gains in its unspecifiable powers Insofar as It wholly outstrips any explicit control or deliberate manipulation. At any given level the boundary conditions, though presupposing the earlier levels of integration, are left open by them. Hence, "we keep expanding our body into the world, by assimilating to it sets of particulars which we integrate into reasonable entities. Thus do we form, intellectually and practically, an interpreted universe populated by entities the particulars of which we interiorized for the sake of comprehending their meaning..." as components of ever richer and more comprehensive integrations (Polanyi [1966] 1967, 29).

These observations concerning marginal control, emergence and indwelling become most momentous when we begin to look at their implications in terms of the grand sweep of evolution. Problems and promises of organization and meaning at the macrocosmic evolutionary level suggest themselves at a glance in an approach to the study of an individual human being ranging from the study of the typical human shape, through vegetative functioning, sentience, consciousness, and "...uppermost we meet with man's moral sense guided by the firmament of his standards" (Polanyi [1966] 1967, 37). In this example, each level of organization is above the inanimate but presupposes it and, hence, for its operations, each level directly or indirectly relies upon the laws of physics and chemistry which govern the inanimate. But according to the principles already delineated here any account of these biotic levels and operations solely in terms of the laws of physics and chemistry will fail.

As we have seen, the relation of a comprehensive entity to its particulars is a relation between two levels of reality with the higher level controlling the marginal conditions left open by the principles governing the lower one. Such levels form an inverse pyramid or a hierarchy which eventually opens onto the panorama of stratified living beings and to reflective consciousness and human society. This stratification offers the frame for returning to the concept of emergence as "the action which produces the next higher level, the first from the inanimate to the living and then from each biotic level to the one above it" (Polanyi [1966] 1967, 55). Each more primitive level may be said to have meaning(s) in terms of its bearing on the comprehensive entities of which it is a subsidiary component or in terms of the act of comprehension to which it is a clue.

This scenario gives rise to reflexivity and inevitably evokes the
question of what, if any, is the marginal condition to which the emergence of human consciousness is subordinate. If there is any higher level it is consistent with the foregoing to conceive it as a meaning by which all more primitive comprehension and emergence has been evoked—evoked, as we shall see, not as by necessity and "destiny," but contingently as by "vocation." The question of such a transcending comprehension is, of course, not evoked in, nor provocative to, a disembodied mind. It is not asked nor is there any sense of the promise of an answer except insofar as one stands at the top of a pyramid of emergent organization indwelling its legacies, and experiencing the calling unique to such an act of cosmic interiorization.

4) Before launching more fully into the implications of these suggestions it is necessary to consider what status, if any, in the scheme delineated to this point, is to be accorded to the concept—heretofore acritically employed—of "call" and its cognates. This consideration has to be discussed in tandem with what Polanyi terms gradient(s) of meaning.

One of the conditions in terms of which a given material may be said to 'speak' to us or become the medium of some sort of message or signification is that it is ordinarily information-neutral. If, for instance, stones had any inclination at all to roll themselves, or to be blown by winds, or washed by floods, into letters and words, we could not successfully use them to convey the message at the station, e.g., "Welcome to Zima Junction." When we attend to a weak radio signal we do so because sound, as such, is signal-neutral. We distinguish signal from background noise only insofar as we attend to certain sounds with the emerging conviction that they are not arranged or disarranged, as usual, but precisely because of the improbability of their order. We can speak meaningfully of a DNA configuration transmitting information only as a function of the tacit recognition that its order is not reducible to the forces of potential energy. "Just as the arrangement of a printed page is and must be extraneous to the chemistry of the printed page, so the base sequence in a DNA molecule is and must be extraneous to the chemical forces at work in the DNA molecule" (Polanyi 1975, 172). Otherwise, we should never have gotten interested in it and, certainly, we could not think of it in terms of information transfer. Moreover, we may make judgments about failure or success, pathology or health, what supports in contrast to what constitutes violence in relation to any material organization only insofar as we perceive it to be suffused by a gradient of meaning—that is, by a directional tendency which we sense that it is striving or being called upon to achieve. We may try to disinfect our thinking of the embarrassing crypto-animism which may seem implicit in this kind of language. However, doing so seems inevitably to entail a great deal of obfuscation if not downright violence to the phenomena in terms of which we, in fact, recognize fruitful problems and seek their solution. Here potential energy clearly does not explain how we come to observe just this or that discrete event, and no one would offer it as
an explanation except in a moment of gross abstraction. We focus on discrete phenomena because they evoke our attention as meanings or as potential meaning-bearers, i.e., in light of our sense of something which they achieve (or which is achieved in them) which we take to be significant precisely insofar as what they are achieving is underivable from potential energy.

Polanyi notes that physicists do not themselves think of potential energy except in tandem with the supposition that inanimate nature is controlled by forces which draw it toward stable configurations. This assumption "...substitutes a new sort of 'end' in nature for old 'ends'. It does not eliminate the notion of 'end' altogether if, by 'end', we mean simply a directional gradient exhibited by a process" (Polanyi and Prosch 1975, 174). Neither probable tendencies "...nor the gradient of the minimization of potential energy could be said to cause the ensuing event, although they might be said to evoke it" (Polanyi and Prosch 1975, 175).

We have here, then, in the idea of gradients of meaning, an ingredient in terms of which emergence is discerned to be not simply a function of what lies 'under' or 'behind' physical processes, but also of what lies 'ahead' evoking them. Evolution becomes a series of emergent syntheses each level of which relates to the past as the stage upon which novel gradients of meaning become manifest as the lure of a genuine 'future' as a call in contradistinction to a destiny. (Destiny, as such, is eternally posited 'from behind',) In human terms, as Polanyi would put it, my historical condition is the stage upon which I receive my calling. The accidents of my subjective condition provide one pole in the assignment of my problem. The acceptance of my condition is one with the acceptance of concrete opportunities for exercising personal responsibility. "This acceptance is the sense of my calling" (Polanyi 1958, 322).

5) At this juncture we arrive at the fifth in our series of concepts: mind. In cosmic terms our understanding of the affiliation of emergence with gradients of meaning suggests a series of levels, being lured hierarchically and contingently, until we come full circle to the human mind seeing a problem and undertaking its pursuit in light of a range of potentialities for meaning and under the influence of a gradient of meaning sloping in the direction of the resolution of tension. It should be noted, however, that we do not cast aside at any level the coupling of emergence and the principle of marginal control. Deliberate thought or mind presupposes, but is irreducible to, the antecedent levels of emergence. It is not therefore, even for the sake of argument, as in the case of inanimate and prevolltional stages of emergence, to be modeled in terms of spontaneous gravitation, or reagency, in the context of material, efficient or final causes or some composite of these. As Polanyi notes, "discoveries differ from inanimate events in three ways: (1) The field evoking or guiding them is not that of a more stable configuration but of a problem;
(2) their occurrence is not spontaneous but due to an effort toward the actualization of certain hidden potentialities; and (3) the uncaused action which evokes them is usually an imaginative thrust toward discovering these potentialities" (Polanyi 1966: 1967, 89). We may add that what Polanyi here, in the context of discussing mind, calls "uncaused action" (which is a corollary to freedom) is clearly not a fact among other facts. Rather, freedom is the presupposition of every fact for consciousness; and humans could not even explore the issues of free will and determinism without presupposing the act of choice in terms of which a project is made of defining freedom in such a way as to be able to determine its presence or absence. Such a project, in other words, presupposes freedom. Hence, if freedom is a fact it is one which is clearly out of phase with other facts since it is behind them or ahead of them and never simply standing present as one fact among others of the same order. In this sense it is correlated to the commitment situation presupposed by all explicit awareness; and, as Polanyi would say, the commitment situation cannot itself be expressed non-committally. It is mind as abode or habitation and as choice.

Mind, then, stands at the highest evolutionary level presupposing and, in varying ways, embodying antecedent levels of emergence and the gradients which evoked them. As such, mind is the fulcrum point which is inexpansible and inalienable in all attempts at a comprehensive approach to nature. Our descriptions of world-minus-the-person tacitly presuppose the projects of consciousness or, if you will, Berkeley's and Anselm's god. If we could get rid of mind and its projects we might get rid of god; just as surely, in the Biblical view, if it weren't for God, we surely wouldn't have ourselves on our hands. But if knowing is personal, and if knowing and being co-respond, no ontology will be able to discard the concrete subject which, as such, has a world. It would appear that even God is concrete in this sense and, therefore, vulnerable insofar as He calls or speaks a world into being.

**Synopsis: Re-enchantment**

"I shall show how we can arrive by continuous stages from the scientific study of evolution to its interpretation as a clue to God" (Polanyi 1958, 285).

Clearly, Polanyi is inviting us to consider marginal control, emergence, indwelling, gradients of meaning, in their confluence in producing and being produced by mind or personal knowing, as clues to God. And he is inviting us to consider the way by which we come to know and influence other minds as an analogue to the way by which we might come to know (and to influence and to be influenced by) God. Hence, God is implicitly a marginless (beyond every image) marginal condition, a gradient or voice in terms of which the world itself might be said to speak. If nature and history 'say' nothing, if they have no semantic dimension, then our exis-
tentative experience of them is that of pure violence. Bertrand Russell gave eloquent expression to this fact when, in "A Free Man's Worship" (Mysticism and Logic) he spoke of the brevity and powerlessness of man's life: "... on him and all his race the slow sure doom falls pitiless and dark. Blind to good and evil, reckless of destruction, omnipotent matter rolls on its relentless way." "Man is the product of causes which had no prevision of the end they were achieving ... his origin, his growth, his hopes, his fears, his loves and his beliefs are but the outcome of accidental collocations of atoms...." But the foregoing descriptions suggest that evolutionary changes emerge in connection with gradients of meaning which are irreducible to the presumed muteness of atomic particulars taken in themselves. Moreover, it would be arbitrary to assume that the only evocations which remain after so long a history of evocation are the ones which mind in isolation from any other provocation - and thus mind as a Cartesian abstraction - supplies to itself. Communication at this level, as at lower levels, involves the coincidence of call and response; but here the call is both addressed to, and evocative of, a deliberate - yet-evoked act of Indwelling of a sort which must be common to the most basic philosophy of nature (including environmental wisdom) and its religion. In both cases human understanding is one with its way of Indwelling the cosmos itself.

A major manifestation of what Polanyi has called the "self-immolation of the modern mind" is that there is an overwhelming bias against listening for meaning at this level of inclusiveness. A central aspect of Enlightenment self-congratulation has been in relation to disenchanting the cosmos. Locke's world of primary qualities is colorless, odorless, tasteless, and utterly mute. Nature cannot chant or call since its reality is given from behind in atomic constituents which comprise brute facts. Certainly it is a scandal to the critical skittishness of Enlightenment disenchantment to suggest that the enterprise of questioning about mind (and its questions) is itself a response to a gradient of meaning which must lie beyond the "world" understood as the specifiable processes fully contained within our present evolutionary condition. However, to Polanyi, the real scandal resides in the absurdity of the description of knowing and being which is correlated to the objectivist-materalist idiom. Moreover, the refusal or incapacity for listening to, or asking about, meaning at this present level is one with the lack of any fundamental philosophy of nature or sense of correspondence with nature. That threatens abortion of the historical-natural future by condemning us to regarding world, in a kind of self-fulfilling prophecy, as cadavre (Körper). In such a context nature can be valued only with respect to inevitably partial and selfish projects. The motivation to unselfishness does not reside in the world regarded, as a chance collocation of atoms and/or as a machine. As such, it is dumb. Only if Indwelled and regarded as lived-body (Leib) does it speak.

Now it is implicit in Polanyi that to Indwell the cosmos is to "know
God" or that knowing God corresponds with a kind of cosmic insight. Knowledge of God and world is knowing even as I am known. The analogy suggested is that God is related to the world, in certain important respects, as I am related to my own body. Hence, knowing God is like knowing other minds. The issues here may be clarified by Polanyi's succinct statement in Meaning (46-47): "The theory of tacit knowing, while it ... tells us that we do not know another mind by a process of inference, nevertheless retains the dualism of mind and body in this sense: it says that the body seen focally is one thing, while the body seen subsidiarily points to another thing; these two things are the body and the mind."

"The body seen subsidiarily points to another thing" - that is, the body as relied upon, the body as lived (Leib) has a semantic dimension; it has meaning as the bearer of meaning. It is the given, the Indwelt - present, Indicative, active - upon which I rely in listening, leaning toward or sensing something else. As such, body is the manifestation of mind and is, for each person, inalienable. He/she can never make his own body. In this sense, an object for focal awareness, for all focal awareness will presuppose it. Nor can I, if I wish to comprehend the mind of another person, regard his/her body simply as an object of focal awareness. I must enter upon my relation to another human body as an entity having meaning by virtue of being Indwelled - or, in short, in the same way I enter upon knowing anything through a dialectical interplay of Indwelling and subsidiary awareness - focal awareness - subsidiary awareness. The difference here is that the object or subject of focal awareness, the mind-body of the other, can never be fully Indwelt and, as it were, put behind me as object simply for incorporation as a means because the object (subject) here is living and endlessly rich with meaning; thus it opposes any presumption to be finished with it. Hence, it's always cynical if someone looks at you out of the corners of the eyes and says "I know you!" That's like saying "Bang! You're dead," or "We're finished!" I must regard your body as "minded" or ensouled and your mind as an embodiment or "Indwellingment," and I, also, must attempt to Indwell your body if I am to have any hope of understanding you, of knowing your mind. We do not reduce the master chess player's mind to the moves he makes, or we reduce them to corpses. In disenchanting, we brutalize. Rather, we dwell in these moves as subsidiary clues to the strategy of the master mind which they will enable us to see to the degree that we catch sight of his subtlety (Meaning p. 48). I.e., if I do not 'em-pathize' and rely upon your body as you do, if I do not regard it as haunted by you, it will be as dumb and unspeaking as any other old stick of wood. Even otherwise beautiful bodies lose their charm when thus disenchanted.

I believe it clear in Polanyi that if I am to understand the cosmos I must come to see it as having a personal coefficient, as being literally
haunted by others like myself and, even more fundamentally, as being haunted by God who as the ultimate speaker relies upon it for his own self-manifestation. Thus indwelling it and calling through it, He would rescue it from ultimate muteness and brutality.

The world simply as object of focal awareness - the first moment of explicitation - probably does, as Sartre has argued, disintegrate into sheer facticity lending itself to any conceivable use or meaning and leaving such concepts as "impropriety" or "violence" in relation to it without any toehold. Disembodied 'souls' and disensouled 'bodies' are correlative. The one is like a speaker without words, and the other is like words without a speaker. Neither communicates. Both are abstractions. The concept of violence is as inconceivable in relation to a purely objective or disensouled world as it is in relation to a wholly amputated and exanimate arm or toenail or atomic constituent thereof.

Ultimately, therefore, any philosophy of nature which is correlative to the sense of knowing which we have described and which, as such, would provide support for a living environment and for speech, must speak in terms of a world regarded as Leib. That is, as with the relation between a physician (worthy of the name) and his patient, the basic - though not the only - moment of our relation to it must be one in which it is regarded as one would regard the body of another person when seeking to know the person. We know something about violence in that case. We know, for instance, that an approach to that body purely as Körper (unincorporated and displaced object) presumes death at the outset and ultimately, therefore, entails not the knowledge of, but the destruction of, the other as Leib. This suggests the reason we cannot know another mind by coercion. In fact, our experience of violence or brute force is parasitic upon the primacy of hearing a beckoning call, of freely listening for another word (vocable) and responding. If necessity were primary there could be no brute force, no crime of violence, no rape, no speech, and no vocation.

Polanyi held that "The way these religious conceptions speak of the entire universe and of our destiny as human beings within these boundless perspectives make them mystical..." (M., p. 126). He also said that "The assumption that the world has some meaning which is linked to our own calling...is an important example of the supernatural aspect of experience..." (Polanyi 1958, 285). One is reminded of Wittgenstein's comments about the mystical in the final paragraph of the Tractatus and his declaration that if there is any meaning to the world, it must be outside the world. It would appear that this meaning which lies outside the world and which is "mystical" or "supernatural" may be no more nor less basically mystical than the emergence which every comprehensive entity is, and which, while it is immanent in its constituent particulars, is not reducible to them. If "world" (understood generally the way Wittgenstein understood it in the Tractatus, as what is housed in language) has any meaning, if it is Leib,
then its meaning, like my own, is both immanent within and transcendent to the body, just as the meaning of language is both immanent in and transcendent to its material constituents.

Now this basic imagery in terms of which "world" is regarded as Leib is, of course, not novel. What is novel is that set of concepts which Polanyi's work has provided for thinking this issue anew. The idea obviously suggests hair-raising theological questions. E.g., if God, as here suggested, is to be conceived as the boundless boundary condition of all being, is He, then, dependent upon, but not reducible to, the laws governing the particulars whose boundary and meaning He is? But Polanyi clearly wants to say that 'god' and/or meaning are in some sense 'ahead' of 'world'. (See M., p. 125ff, etc.)

A gradient of meaning would seem to be at least correspondent to particulars, luring them as meanings into being, but dependent upon them for the manifestation of meaning. God might be said to lure the world into being, and insofar as the lure is not thwarted, to be manifest in a vision of at least some of the tendencies of the world. Polanyi allows for a failure of this cosmic seduction only very ambiguously and ambivalently. In Meaning (p. 18) he says: "... we are addressed by nature to the attainment of meaning, and what genuinely seems to us to open the doors to greater meaning is what we can only verbally refuse to believe. As Santayana has also said, should we ever 'hear the summons of a liturgical religion calling to us: Sursum corda; Lift up your hearts, we might sincerely answer, Habemus ad Dominum, Our hearts by nature are addressed to the Lord.'" This accords with a very interesting admixture in Polanyi of Platonism and existentialism. But perhaps there can be rapprochement here. Polanyi does acknowledge that gradients of meaning may be unrealized. Further, it is clear in Polanyi that they are not given a priori but in correspondence with the questing mind. This suggests that human projects and human freedom can count and can be relatively limitless while, nevertheless, being called - not destined - to accept the limits imposed by some such gradients as the condition of regard for other lived bodies as such and for their response to vocation and the realization of meaning. Gradients as "call" or "voice" cannot contradict freedom and response-ability without becoming destiny and thus reducing all of reality to violence or - more accurately - rendering the concept meaningless.

The plethora of questions which Polanyi evokes at this point reduplicates itself as what I have come to think of as "Polanyi's Taoism." The manifest being of things modifies our knowing and being; and our knowing modifies being by incorporating it into new meanings. This dialectic is never finished any more than life, as such, is ever finished. Polanyi, therefore leads us toward a kind of wu-wel, a kind of vulnerability to life and to its source which is to be contrasted to the death wish implicit in the will to invulnerability of the traditional objectivism.

James W. Stines
A COMMENT ON THE 1984 REITH LECTURES BY JOHN SEARLE


These were easy lectures to listen to and easy to read, being crisp and clear in style, and sometimes funny. John Searle dealt competently with some of the muddled ideas, leftovers from Cartesian thinking, which confuse us about minds and brains. He is particularly good on 'artificial intelligence;' he believes and proves that machines cannot think although they may simulate thinking.

But when he comes to his central point, which is to convince us that there is no mind-brain problem; that 'naive mentalism' and 'naive physicalism' are both true, and compatible, the crispness and clarity of style is not enough to make it work. 'All that exists is physical particles, their properties and relations'; this is his naive physicalism, and the naive mentalism is 'mental states are real, conscious, subjective, intentional and can cause things to happen in the physical world.' He believes enthusiastically in both, but has he the tools to fit them together? If ever arguments needed a dose of Polanyi, I thought, these do. Reading them sent me back to Polanyi, and when I read again the essay on "the Structure of Consciousness" in Knowing and Being, I found Searle's formulations very superficial in comparison.

These are some of the Polanyi Ideas which I think Searle's argument lacks. First, the group of Ideas which includes the notion of levels and boundary conditions and the structure of tacit knowing. Searle starts talking about levels as though he was going to develop a Polanyi sort of argument. He explains how an object can be described on two levels, for
Instance a hammer described on the higher level is solid and heavy; this weight and solidity is caused by the behaviour of particles at a lower level and can also be described in these terms. If I raise my arm, at the higher level it can be said that my intention to raise my arm causes it to move, but at the lower level the explanation is that a series of neuron firings starts a chain of events which results in the contraction of the muscles. But this presentation lacks the structure of ideas which would make it possible to show how mind is nevertheless real and independent. Brains cause minds, Searle says; electrochemical processes cause consciousness. This seems to me like saying that pianos cause music or the letters on a page cause Hamlet. For the mind to be real and independent we need the notion that the higher level is made possible, and limited, by the lower, but not determined by it — in fact the idea of boundary conditions. With the help of this idea one can see that no comprehensive entity existing on a higher level can be fully described in terms of its lower level constituents, since the higher level embodies laws which are not observable on the lower level. So life cannot be fully described in terms of physics and chemistry, nor mind in terms of neurophysiology. Minds are, as Searle says, biological, but they are more. Searle defines mind as "the sequence of thoughts and feelings and experiences that make up our mental life." But this leaves out the characteristic of mind which is most unaccountable if we are trying to think of mind as caused by the brain; that is, its relation to external reality; its capacity for distinguishing truth from error.

The lack of these ideas also makes it impossible for Searle to see how free will can be real, although he is sure that it is. As Polanyi wrote, if mind and body were two aspects of the same thing, mind could not conceivably do anything but what the bodily mechanism determined. The other group of Polanyi ideas which is needed is that of indwelling and the convivial recognition of other minds. Searle complains that some people he talks to object that mind, consciousness, and subjectivity are unsuitable subjects for scientific study. But so they are, if scientific means impersonal, laboratory type study. As Polanyi says — "to depersonalize our knowledge of living beings would result, if strictly pursued, in an alienation that would render all observations of living things meaningless... We know another person's mind by the same integrative process by which we know life... we experience a man's mind as the joint meaning of his actions."

There is nothing, Searle says, more mysterious about how one chunk of matter can think, than about how another chunk can be alive. Perhaps not more mysterious but certainly not less, and these lectures are not a convincing abolition of mystery.

It has always been the trouble about getting rid of Cartesian thinking, that if you simply say — 'mind and matter are not two things, they are the same thing' — and you don't have a good theory of their relationship, you end up with just matter, however much you want to hold onto both.

Drusilla Scott
### For Sale

Some Pamphlets, Lectures, and Articles by Michael Polanyi are still available for purchase to Convivium readers, by permission of Dr. Magda Polanyi. Prices are quoted with the addition of 20p for envelope and postage (within the U.K.). Anyone wanting one of these, please write to Lady Scott, Ash House, Aide Lane, Aldeburgh, Suffolk. (Note. Some of these were later incorporated in published books.)


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