

# CONVIVIUM

A six-monthly review of  
post-critical thought

NUMBER 23

OCTOBER 1986

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### Contributors to this issue

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## NEWS AND NOTES

Joan Crewdson's 'bad tempered editorial' (her own description!) in our last issue seems to have done the trick, and many of you have kindly sent in items of interest. Probably the most important is the news that, at Thomas Torrance's request, John Polanyi has become the literary executor of his father's papers and writings. Professor Polanyi's address is 142 Collier Street, Toronto M4W 1M3, Ontario, Canada.

Geoffrey Price has drawn our attention to an article by B.V. Manno, 'Ways of viewing reality: a proposed convergence of Polanyi, Lonergan and Tracy' in Christian Education Papers 81 (1984) pp. 5-10. After giving a brief biographical introduction to Polanyi, Lonergan and Tracy, Manno describes the reductionism which underlies the critical philosophical model that all three discuss, and outlines certain convergences between them which could be used to construct a post-critical model. Marianne von Kahler tells us of Patrick Grant's A Dazzling Darkness: An Anthology of Western Mysticism (Fountbook, 1985), which uses Polanyi's concept of heuristic passion as the basis for one of its chapters. If you are beginning to suspect a strong 'religious studies' bias to the contributions received for this month's 'News and Notes', you will not be surprised to learn that Phil Mullins (the American Polanyi Society's religious studies co-ordinator) has also sent us a notice of the 1986 Polanyi Society/American Academy of Religion meeting to be held on 22 November in Atlanta. Two papers, on the post-critical aspects of systematic theology and on Polanyi and Jung, are scheduled, and a session on Poteat's Polanyian Meditations (see Convivium 22, p. 3) is arranged for the same conference. Further details may be had from Dr. Mullins (Assistant Professor of Humanities, Missouri Western State College, St Joseph MO 64507, USA).

Those of you whose appetites were whetted by our extracts from David Holbrook's Education and Philosophical Anthropology (Convivium 20, pp. 7-11), which is due to be published by Associated University Presses in the autumn of 1987, will be pleased to hear that Gower Publications are bringing out his Evolution and the Humanities in their Avebury Series. He writes:

'This book starts from the problems which arise in the humanities from the implicit metaphysic in modern science, that life and man are but the product of 'accidents' in matter in motion, while evolution is the consequence of chance mutations, developing through the processes of 'natural selection' in which only those forms which advance fitness for survival persist.' Holbrook 'draws considerably on the work of Professor Marjorie Greene, who was a disciple of Michael Polanyi, to bring together the many doubts among scientists and philosophers about the explanation of evolution. Not only is the extrapolation of evolutionary theory into a philosophy of being doubtful, but there are serious problems in evolutionary theory itself... The work of Pierre-

Paul Grassé, Michael Denton, and Norman Macbeth is discussed, and there are critiques of Dobzhansky, Dawkins and Sheldrake. Polanyi's criticisms of DNA theory and 'coding' in biological developments is a crucial part of Holbrook's rejection of Darwinism and the impact of his mechanistic approach at the philosophical level in the humanities.

Gower are also to publish Holbrook's Further Studies in Philosophical Anthropology which attempts to show the relevance to the humanities of various thinkers in the sphere of existentialism and phenomenology, including Edmund Husserl, Maurice Merleau-Ponty, F.J.J. Buytendijk, Helmuth Plessner and others of the philosophical biologists discussed in Margorie Grene's Approaches to a Philosophical Biology. Much use is made of Polanyi's critiques in this volume which will include an annotated bibliography and a historical list of thinkers in 'Continental philosophy'.

Vision Press are to publish his Authenticity and the Novel in which he offers literary criticism of novels by Jane Austen, Charles Dickens, Henry James and Arnold Bennett, to suggest that the great English novel was rooted in a profound moral concern over the question of authenticity, of being true to the potentialities in oneself. In the introduction use is made of concepts from Polanyi as well as of existentialist ideas in psychotherapy and phenomenology.'

David Holbrook tells us he is discussing with Gower the possibility of a whole publishing programme of works on philosophical anthropology including a course-book based on ideas from psychoanalysis, phenomenology, and Polanyi's post-critical philosophy.

Finally, a much less interesting notice from the 'Editorial Board': It would be considered a courtesy if those readers who have not paid their 1986 subscription fees of £5.00, either through neglect or criminality, would do so at their earliest convenience, and thus expunge the mark of dishonour attaching to their names in the list at the end of this issue.

We are delighted to be able to publish in this issue Professor Dorothy Emmet's article on truth and the fiduciary mode in Personal Knowledge. It is an invitation to consider a problem arising from Polanyi's major philosophical work: can there be such a thing as truth in the sense of accordance with objective reality, or is a thing true only insofar as I sincerely believe it? Some of the themes of Dorothy Emmet's paper (that of 'warranted assertability', for example) also appear in the lecture by H.S. Broudy, given at the 1984 Kent State University Conference and here reprinted from the American Polanyi Society periodical. It defends the principle of liberal education by demonstrating the importance of tacit knowledge.

Joan Crewdson herself has taken time off from writing 'The Book' to produce a lengthy review article. Her subject is Professor Arthur Peacocke's important new work God and the New Biology and she pays particular attention to his distinction between ontological and methodological reduc-

tionism. Another very recent book is Bishop Leslie Newbigin's Foolishness to the Greeks, also reviewed in this number. Newbigin uses the insights of Polanyi and others to suggest a way in which the Western Church could help heal the deep-rooted alienation characteristic of post-Enlightenment society. Many of the same conclusions are reached by Andrew Louth in his essay on the nature of academic theology. Discerning the Mystery shows that the attempt by many of the humanities, including theology, to ape the 'scientific method' is wrong-headed and, drawing on the thought of Gadamer and Polanyi, amongst others, he attempts to establish a method more appropriate to the humanities. Maxine Greene, in the second of the two lectures on education reprinted from Tradition and Discovery, is also concerned with what she terms 'the problematic of the humanities', although her use of Polanyi brings her to a rather different conclusion.

The task of Convivium, as is apparent from this issue, is twofold. As a 'review of post-critical thought' it serves as a forum where developments within - and without - post-critical thought can be reported and where views on them can be exchanged. This is done through 'News and Notes' and, more formally, in our reviews and review articles. It also serves as an unofficial 'journal of Polanyi studies' in which specific aspects of Polanyi's work can be examined. I should like to suggest a third possible role for Convivium, though it is indeed one which has always been implicit. I believe it is the natural forum for setting a post-critical agenda to take us up to the next century. What I mean by this is that Convivium should look forward to likely developments in the academic disciplines and in other areas over the next ten or fifteen years; that it should attempt to identify the positive and negative aspects of these developments; and that, in the light of such developments, it should try to establish precisely what the post-critical priorities in these areas are likely to be. Contributions are therefore invited which will further this aim. I would expect convivial consensus, convivial disagreement, and a variety of approaches from the highly theoretical to the down-to-earth and practical. We look forward to reading them.

D. Bagchi.

News and Notes from Tradition and Discovery vol. XIII, no. 2  
(Spring, 1985-6).

Prompted by a New York Times editorial on the passionate obduracy with which scientists, supposedly the most objective of men and women, resist new ideas, Dr. Richard Gelwick, the editor of Tradition and Discovery, wrote a letter to that paper (published 16.11.85) which contained a pithy introduction to Polanyi's significance. His initiative brought a number of new members into the Polanyi Society!

Recent American Post-critical publications include Martin and Inge Goldstein's The Experience of Science: an Interdisciplinary Approach (Plenum Press, 1984), Harold Kuester's 'Polanyi on religion' in Faith and

Philosophy 1 (1984) pp. 77-87, and Parker Palmer's To Know as We Are Known (neither publisher nor date given) on the spiritual dimensions of education.

Ul-chol Shin of the Department of Humanities at Eastern Kentucky University reports that recordings of Polanyi's 1962 McInerney lectures at the University of California at Berkeley are available from Pacifica Tape Library, 5316 Venice Boulevard, Los Angeles, CA 90019 USA.

Tradition and Discovery also reports that Bill Scott gave a very interesting account 'of his Polanyi biography at the December meeting of the Polanyi Society at the American Academy of Religion. Scott described Polanyi's early years. One striking feature was the liberal arts emphasis of Polanyi's college preparatory education and its lack of emphasis upon natural science. Polanyi had a rich background in literature, art, and languages that contributed to the fertility of his scientific imagination. Scott expects to complete this very important work within several years'.

A second Chicago summer seminar, including the opportunity for private study in the Polanyi archives there, will be held next summer. (See the last issue of Convivium for encouraging reports of the 1985 seminar.) Please let Dr. Gelwick (Department of Religion and Philosophy, Stephens College, Columbia MO 65215 USA) know if you are interested in attending.

#### TRUTH AND THE FIDUCIARY MODE IN MICHAEL POLANYI'S PERSONAL KNOWLEDGE

I should like to put before readers of Convivium a difficulty I have long had over Michael Polanyi's conception of truth in Personal Knowledge. Polanyi was concerned, rightly, to attack the notion that thinking, and indeed its testing, can be reduced to something purely objective, formal or specifiable. There is always the personal involvement of the thinker, judging, probing, following clues in the penumbra of unspecified "tacit" awareness which surrounds anything we are concentrating on in "focal" awareness. Others have said this kind of thing, but what is distinctive about the way that Polanyi says it, besides his marvellous spread of examples, is the central place he gives to personal commitment. If we cannot rely on impersonal criteria as sufficient guides, there is no way of evading the thinker's own personal judgment. So Polanyi's "fiduciary mode" calls for any assertion p to be understood as "(I believe) p". "I believe" is a personal act of commitment; it is not just "I think" in the weak sense of think, which often just means "I am not sure". Commitment is an act of personal acceptance of a conviction, made with an orientation towards the reality one is seeking to understand, and with openness towards any clues as to its nature. This is indeed how one seeks to know; it puts heuristics, the nature of discovery, into a central place, and it is significant that

Polanyi often links knowing with discovering. Indeed, his theory of knowledge could be called a "going for" rather than a "got it" view.

My difficulty, however, is what happens to truth in this setting. Here I shall chiefly be going on the chapters "The Logic of Affirmation" and "Commitment" in Personal Knowledge. Polanyi says that to say that a sentence is true is to authorize its assertion, and that to assert is to do something, so that "truth becomes the rightness of an action" (p. 320). "The function of the word 'true' is to complete such utterances as 'p is true', which are equivalent to an act of assent of the form 'I believe p'" (p. 315). "The word 'true' does not designate, then, a quality possessed by the sentence p, but merely serves to make the phrase 'p is true' convey that the person uttering it still believes p" (p. 305).

These are only a selection of the passages where Polanyi makes this point, so we must take it as his considered view of what he means by truth. It goes with a rejection of the "correspondence" theory, i.e. that a sentence is true if it accords with the actual facts, or with reality. Of this he says "The 'actual facts' are accredited facts, as seen within the commitment situation, while subjective beliefs are the convictions accrediting these facts as seen non-committally, by someone not sharing them" (p. 304). Polanyi distinguishes "subjective", an opinion one happens to hold, or which can be ascribed to one by someone else, from personal commitment, a view held by a person who takes responsibility for asserting it. He recognizes there is always a risk in commitment; we may be wrong, and we have to come to change our commitment. But what then happens to truth? The p in "I believe p" was then true and becomes false when I come to say "(I believe that) I no longer believe p". The truth and falsehood of p will depend on what I assert in my different commitments, and will change with them. To say that p is true is to vouch for my belief in p; it is to make a claim. But is this all that is meant by its being true? We must remember that there is no criterion outside the commitment situation to which I can appeal to underwrite my endorsement. So the best we can do is to make a claim to truth, and the claim may be misplaced (as Polanyi indeed recognizes, though this does not lead him to modify his definition of truth).

I think the issue might have been clearer if he had spoken of "responsible conviction" rather than "commitment" (as he sometimes does in later writings where the word "commitment" is less prominent). We can reasonably hold convictions and take responsibility for them, and yet acknowledge that we might be mistaken. But to do this will mean holding in some sense to a view of truth as accordance with reality, however difficult it may be to say just what this accordance consists in. I think Polanyi realizes this when he speaks of the need to be oriented towards reality and responsive to clues. But his concern to attack impersonal objectivity leads him to reject any view of truth as independent of our convictions. He is right to say that any approach or judgment we make about the truth of anything cannot be

a matter of purely impersonal objectivity, but this need not lead to my having to define truth as that which I personally and sincerely assert.

I am stressing this because of the implications of this way of defining truth. Some philosophers have gone further, and spoken of the "redundancy" notion of truth: to say "p is true" amounts to an emphatic way of saying "p". Of this Polanyi says (p. 255n) "My re-definition of 'truth' is reminiscent of Max Black's 'No truth theory' of truth (Language and Philosophy Ithaca, New York 1949 pp. 104-105)", and he refers also to a view of P.F. Strawson. "But the purpose of both these authors is to eliminate the problem arising from the definition of truth, and not to accredit the use of 'truth' as part of an a-critical act of affirmation". This brings him nearer to another, and fashionable, view, which recommends substituting the notion of "warranted assertibility" for that of truth. However, those who speak of "warranted assertibility" are usually stressing reasons; Polanyi's "warrant" is in the act of affirmation itself. Another contemporary view is to speak of truth as "consensus" arrived at after long conversation (Habermas). All these views say something important, but I should want to say that truth is something which can not be identified with affirmation, warranted assertibility (in view of the corrigible character of our warrants), or convivial consensus. This means resisting substitutions for the old fashioned notion of truth as accordance with reality, and distinguishing what may really be true from any claim we can make, however responsibly and sincerely.

I do not think that Polanyi would want in the end to deny this, but the way he defines truth can give support to some who would deny it. Perhaps the trouble is that there are two levels of commitment, which I do not think he distinguishes explicitly. One is the underlying commitment which he speaks of as "my calling" - my dedication to search for truth and to declare my findings. This is not reversible. The other is the commitment to particular presuppositions and views which one may come to hold in the course of following this calling. Polanyi stresses our personal involvement in these, but they are nevertheless reversible, and he knows that they are. But by not distinguishing these two levels of commitment, he can give encouragement to those who say that the view we take simply depends on what set of presuppositions we choose to adopt. The chief exponent of this is Paul Feyerabend, and he sums it up as "Anything goes". I note that Feyerabend's book Against Method was recommended in a cyclostyled number of Convivium.

I shall add a postscript on how Polanyi's work might look in the context of contemporary philosophy. Philosophers are a mixed bag, and some of their discussions may seem to be of interest only to others of their sub-group. But there is a general recognition that there are different approaches. When Polanyi was writing Personal Knowledge the fashionable approach was the Logical Positivism of the Vienna circle, with its programme

of impersonal and formalized science and an empiricism which tried to extrude metaphysics. But even in the 1950s this was becoming no longer dominant. The two most influential philosophers in England at the time were Wittgenstein and J.L. Austin. Wittgenstein's Philosophical Investigations were published in 1953; here Wittgenstein brings out the wealth and range of meanings of words which certainly do not stand for clear and specified ideas. C.B. Daly in an article "Polanyi and Wittgenstein" in Intellect and Hope: Essays in the thought of Michael Polanyi (Duke University, North Carolina, 1981) draws parallels between a number of Wittgenstein's key remarks and ones in Polanyi. Polanyi had read Philosophical Investigations (Personal Knowledge pp. 113-114), and briefly attacks it for claiming to observe the uses of language rather than what language refers to, and he says that thereby what Wittgenstein does is "to contemplate and analyse reality, while denying the act of doing so". This is to say that the book contains implicit metaphysics, and if Polanyi had gone on to elaborate this and bring out the metaphysics, it would have been a notable contribution to the discussions that were going on. As it is, he dismisses Wittgenstein (mistakenly, Daly says) as a "Nominalist", i.e. one who thinks general terms are merely names used for classifying. What Wittgenstein was doing was to show the penumbra of meanings around these terms as they are used, and also to place their use within the way of life of a community. Understanding is seen neither as purely private, nor as something impersonal and fully specifiable, but as the ability to learn and use a skill in communication with other people.

Another essay in this same volume, one by Ian Ramsey, compares Polanyi and J.L. Austin. Austin held that every assertion had an "illocutionary" force: one must ask what kind of act was being done by it - was it e.g. a promise, a claim to truth, an excuse? And this implied there was a subject making the speech act. Austin's How to do things with Words did not come out till 1962, but he was highly influential in the 1950s. Closer discussion of such questions with contemporary philosophers might have helped to clarify some of the difficulties in Polanyi views, for instance on objectivity and reference, while it could have helped those philosophers to a deeper appreciation of what scientific thinking was really like.

Nowadays there is considerable diversity among philosophers, and the taboo on metaphysics has gone. There is a general repudiation of simple kinds of empiricism, and "Foundationalism", i.e. the view that knowledge can be based on indubitable starting points, such as self-evident axioms and clear and distinct sense data. The most impressive recent book I have read is The View from Nowhere by Thomas Nagel (Oxford University Press 1986). This is a profound study of how subjectivity and objectivity interpenetrate in all kinds of thinking. "Subjectivity" is here used not in Polanyi's reduced sense of a person's feelings and opinions as reported from outside, but in something more like his sense of the personal involvement

of the subject. Nagel is concerned with the struggle, never fully resolved, to enlarge the scope of objectivity within this inescapably personal framework, and he is alive to the tension as well as the fiduciary assurance that this can produce.

So the questions Polanyi was concerned with in Personal Knowledge are very much alive. It would be a pity if a stereotyped view of what philosophers are doing kept his admirers apart from them. You may think that in saying this I am just defending my tribe. But love of one's tribe was something Polanyi understood. And he once said to me "Keep up your criticism". I have tried here to follow his injunction on one or two points where I find difficulties. I have not dwelt on the many aspects of his work, such as the view of tacit knowledge, for which I have great admiration.

D. Emmet.

#### BOOK REVIEWS

Arthur Peacocke, God and the New Biology, J.M. Dent & Son Ltd., 1986. £10.95, pp. 198, Index. (Note: Having read this book in manuscript, I have not been able to give page numbers for the few quotations. The book will probably be out by the time readers receive their copy of Convivium.)

Arthur Peacocke is both a scientist and a theologian, and is well equipped to undertake the kind of bridge-building exercise represented by this book. Its aim is to help us ask and answer some basic theological questions in the context of modern scientific culture. No philosophical or theological reflections, he writes, on "the classical trilogy of nature, man and God" can be unaffected by the developments in the biological sciences which have taken place since Darwin, due largely to the fruitful interaction of biologists with physicists and chemists. Developments arising from the discovery of DNA are central to modern molecular biology, which represents the marriage of two strands of thought, the one concerned with the transfer of genetic information and the other concerned with the three-dimensional structures of biological molecules.

In Chapter 1, Peacocke discusses different kinds of reductionism and distinguishes in particular between the forms of ontological and epistemological reduction, which refer respectively to systems and processes or to concepts and theories. He points out that philosophical discussion is often associated with the theme of the relation between wholes and parts, since the laws that explain the behaviour of the whole is not the same as those explaining the behaviour of the parts acting separately. He refers to Ernest Nagel, who, in 1952, carefully analysed the meaning and usage of the terms 'whole', 'parts', 'sum', and 'organic unity', and whose conclu-

sions show, says Peacocke, that the question of whether "the analysis of 'organic unities'...necessarily involves the adoption of irreducible laws for these systems and whether their organisation is of such a kind as to preclude a simple summation of their parts to yield a whole" is not one which can be settled in a wholesale or a priori fashion. Each system needs to be examined on its own merits, "even each biological system and level of inquiry."

I was challenged by this statement, which differs in fundamental respects from what I understand to be Michael Polanyi's position, and I intend to discuss this question later, having first reviewed the book as a whole. In Chapter 2, Peacocke considers the relation of biology to physics and chemistry in the light of his earlier analysis of reductionism. Chapter 1 showed that methodological reduction is permissible for research, but needs balancing by holistic or 'compositionist' methodologies. Biological phenomena are emergent phenomena characterised by increasing complexity of organisation, constituting a succession of forms, a hierarchy of parts making wholes at different levels. At each new level of biological organisation, we need special concepts to describe and understand the new complex relations which emerge. This, thinks Peacocke, is strong evidence for the autonomy of biological concepts and for the impossibility of translating the distinctive conceptual terms of biology into those of physics. The interface between biology and physics-and-chemistry is a central concern of the new biology and there are various theories in circulation, but, as Peacocke points out, there is still profound confusion over the question, which seems always to centre round the nature, character and existence of distinctive relations between the parts and their respective wholes.

Peacocke refers with qualified approval to Polanyi's account of 'boundary conditions', but seems to think Polanyi's argument is vulnerable because he first works it out with reference to machines "and he then transfers the same argument to the relation of biology to physics and chemistry." Peacocke's footnote for this statement gives five general references to Polanyi's writings, including Personal Knowledge, The Tacit Dimension, and The Study of Man, but without any specific page references. He does, however, refer to Polanyi's article, Life's Irreducible Structure, originally published in Science, (1968) and reprinted in Knowing and Being (R.K.P. 1969), where Polanyi shows that living organisms work, as machines do, under the control of at least two distinct principles. In the case of the machine, the higher principle is that of the machine's design, which harnesses the principles governing the physical and chemical processes on which the machine relies in the service of the machine's own purposes. The organism is also a system which works according to at least two different principles, its structure serving as a boundary condition harnessing the physical and chemical processes by which its organs perform their functions. Polanyi argues that any two-level system operates under dual con-

trol, whether we are speaking of human artefacts or of biological systems. Peacocke finds the argument vulnerable because, in his view, "the concepts of mechanical engineering are reducible to physics and chemistry, at least in principle; for, given the parts with their physico-chemical properties and the relationships between these parts (his italics), the operation of the machine can be deduced. It would then seem plausible to argue that mechanical engineering is indeed reducible to physics and chemistry." (Compare this with Polanyi's comment, "A complete specification of a machine in physico-chemical and engineering news".) I am genuinely baffled by Peacocke's logic at this point, but I am still leaving discussion till later. I note, however, that Peacocke agrees with Polanyi that "the differentiating characteristic of the concepts of mechanical engineering is that they are concerned with the relations between parts and are, to that extent, distinct from those of physics and chemistry." Yet this is clearly not enough, in Peacocke's view to establish what he calls epistemological autonomy, let alone process autonomy.

Peacocke sees more force in Polanyi's argument when it is applied to a biological system such as DNA, which carries biological information. "The concept of 'information transfer' which is needed to understand what is going on biologically when DNA functions in an actual cell, cannot be articulated in terms of the concepts of physics and chemistry." This leads Peacocke to the cautious admission that "there does seem to be a prima facie case for arguing that some biological concepts, and so theories, are autonomous and not reducible in the strict sense." Again, Peacocke is clear that, to be governed by the dictates of naive reductionism is to allow oneself to be robbed of the conceptual resources for describing the complexity of reality. Why, he asks, should molecules and atoms alone be 'real'? There are enduring entities on every level. "There is", he says, "no sense in which subatomic particles are to be graded as 'more real' than, say, a bacterial cell or a human person, or even social facts. Each level has to be regarded as a cut through the totality of reality, ... in the sense that we have to take account of its mode of operation at that level." Such a statement seems to me to show that Peacocke fully appreciates the irreducible reality of things and situations on every level of reality. Why, then, does it not provide him with strong evidence for the autonomy of biological systems and for the impossibility of reducing them as well as the concepts we hold about them to their physical and chemical components? I am beginning to suspect that the answer to this question will reveal a disagreement, not about the nature of reality, but about the relation between epistemology and ontology.

In the next two chapters, Peacocke picks out a few leading features of the 'new biology', dealing in Chapter 3 with biological investigations that rely on a 'holistic' methodology and in Chapter 4, with investigations that aim to reduce the concepts and theories of high level sciences (biology,

sociology and the study of behaviour) to lower level description. In Chapter 3, he talks about new ways of thinking about biological evolution, made possible because matter is now understood to be self-organising and capable, through its own inherent properties, of producing new living forms. Evolution is open-ended, unpredictable, creative, and increasingly so, as one goes up the scale of evolution, focussed more and more in the activity of the biological individual, till, in man's creativity and sense of freedom to take responsibility for his decisions, it reaches its apogee, and also manifests most clearly that this process involves interdependence as well as struggle, pain and suffering. The death of the old is the prerequisite of new life; but the survival of the new involves an intricate exchange of energy and matter - hence, the importance of ecology and of a holistic outlook. To survive, man must become a wise and committed steward of the earth, using his technical powers to protect the biosphere in all its interconnectedness.

In Chapter 4, Peacocke speaks first of the work of Prigogine and the Brussels school, which has thrown light on the emergence of self-producing living systems, which can maintain themselves in an ordered, steady state. Work in molecular biology and biochemistry has shown that the interplay of chance and law is creative in a way that makes the emergence of living structures inevitable, including the possibility of biological and human life. In the second part of Chapter 4, he discusses sociobiology, which studies the biological basis of all social behaviour and aims to 'biologise' the various social sciences, that is, to reformulate them and integrate them in what is called 'the modern synthesis'.

The second part of the book is an attempt to assess the implications of these new biological perspectives for our understanding of man, nature and God, "since our explicit concepts of God must be sensitive to the best knowledge of the world available to us." In Chapter 5, Peacocke gives a brief survey of nineteenth and twentieth century theological reaction to the impact of Darwin and the Darwinians, concentrating on the more positive responses of European theologians like Bergson, Pannenberg, Moltmann, Rahner, Tennant and Raven, drawing attention also to the influence of Whitehead and his idea of 'becoming' on thinkers like William Temple and L.S. Thornton, as well as on those who call themselves 'process theologians'.

In Chapters 6 and 7, Peacocke attempts his own unified perspective on the classical trio of nature, God and man, offering us a theologically informed view of nature as creation and of man's role as co-creator, and pointing out that a right relation between man and nature involves cost and sacrifice of selfish ends and commitment to a holistic view of nature. The 'simple' matter of the 'big bang', he writes, had implicit in it every level of development that has taken place since - but has only gradually unfolded. "We do not know all there is to be known about oxygen, carbon, nitrogen, hydrogen and phosphorus until they adopt the form of the DNA

molecule in its biological milieu." Indeed, we do not know all that is to be known about matter until it adopts the form of persons. Man is one of the new features and properties of matter, whose self-consciousness is one of the most real and significant features of the cosmos, showing the potentiality of living matter in a new light. Peacocke describes his own theological position as pan-entheistic, defined as the belief that the being of God penetrates the whole universe but is not exhausted by it. God is immanent in the creative interplay of chance and law that has given rise to the increase in complexity in the universe, but also transcends it. Christian materialism sees the physical and the personal as facets of one reality, making nature an expression of God's being and sacramental of personality. A sacrament is a focused instance of what is happening all the time. We live in a world of continuous creation, an open-ended process of emergence of new forms. Man alone has the power to refuse his calling to be a co-worker with God in loving and intelligent stewardship and to introduce instead discord and imbalance.

In Chapter 8 Peacocke poses some questions to advocates of 'evolutionary naturalism', who see nature as 'all there is', dynamic and evolving, but explicable entirely in the causal language of genetics, with behaviour viewed merely as a strategy for gene survival. Peacocke is clear that we need a language other than that of genetics to express the possibilities for self-fulfilment and creativity which have been opened up by the freedom God has allowed to evolve. His sacramental view of the cosmos brings the scientific and theological perspective into a single focus. In Chapter 9, he discusses the sacramental and instrumental functions of matter and suggests that there are two ultimate sacraments - the created order as a whole and the incarnation, which Christians believe uniquely expresses God and his purpose as well as being uniquely operative of that purpose. In Christ, the sacramental character of the world was made explicit and perfected.

In a short concluding chapter, Peacocke draws the threads together. He reminds us that it is the natural processes of the world that have led to the emergence within it of human beings, whose sense of transcendence over their environment led to the quest for "One who makes intelligible the fact that there is anything at all". Peacocke also points out that it is the transcendence-in-immanence of man's experience that raises the hope that in man "immanence might be able to display in a uniquely emergent mode a transcendent dimension to a degree which could unveil, without distortion, the transcendent Creator". This is precisely what the incarnation means to Christian faith - the unveiling to us in personal form of a Creator who shares in the creative process in which suffering and death are the unavoidable gateway to new life and new creation. Just as transcendence and immanence belong together in personal being, so do emergence and continuity in the process of evolution, and Peacocke rightly warns of the danger of treating our relation to nature as merely that of a stage on which to

strut. We overlook our continuity with the organic world at our peril, but equally, we must not forget that "the final agony and apogee of the evolutionary process is the paradox of a man on a cross exalted by God into the divine life." With these words the book ends, leaving one with the feeling that one has participated in a highly satisfying exercise in interdisciplinary study. There is also a useful appendix on Thermodynamics and Life, which will be welcome to those who, like myself, have problems in understanding how a universe that is 'running down' can also continuously 'wind itself up'. In other words, the appendix is about entropy and its mysterious relation to the process which gives rise to a continual increase in complexity and order.

I want now to return to the earlier question raised by Peacocke's suggestion that we need to distinguish between the hierarchy of theories, concepts and descriptions employed by different sciences and the hierarchy of organised systems and real relations between events to which the theories and concepts refer. Is it, in fact, necessary to distinguish between epistemological and ontological reduction, between what Peacocke also calls 'the autonomy of theory' and 'the autonomy of systems and processes'? The idea is that it may be possible to view higher level concepts and theories as non-reducible to terms of lower level parts and the laws which govern them. As Peacocke says, the extent to which reduction is possible involves the question of whether methodological reduction is merely a technique for studying real entities, or whether it involves a metaphysical claim. Methodological reduction is itself merely a strategy for studying problems by breaking down wholes into their component parts. This analytic procedure is a prerequisite of research and involves no philosophical claims, whereas hard reductionism is the view that wholes reduced to parts are 'nothing but' the component bits. Each science is a relatively autonomous interlocking network of theories, concepts, experimental techniques and fields of observation, yet most scientists have an implicitly reductionist outlook. The central dogma of molecular biology is the transmission of genetic information through molecular structures and its ultimate aim is to explain all biology in terms of physics and chemistry. Sociobiology is also reductive in import and hopes eventually to 'biologize' the various social sciences. Peacocke exposes the circularity of hard reductionism by showing what happens when the argument is pushed to its logical conclusion: not only is all biology reducible to physics and chemistry, but this is merely the application of mathematical truth, which is merely the result of rules of thought, which are merely the product of social, cultural and linguistic influences, which are merely the expression of psychological mechanisms, "which are merely physiological processes"!

Peacocke points out that the issue of whether methodological reduction is merely a technique or whether it involves the genuine ontological reduction of real entities hinges principally on the question "whether the theo-

ries and experimental laws formulated in one field of science can be shown to be special cases of theories and laws formulated in some other branch of science." If such is the case, we can say that the former branch of science has been reduced to the latter. The hard reductionist believes there is no stopping place short of the so-called 'fundamental particles' which are supposed to be the indivisible units of matter - the 'billiard balls' that underlie the mechanical model of the universe. But, according to the new physics, there may be no such 'thing' as an elemental particle, since even the smallest identifiable element of matter seems to be a pattern of energy, to be regarded in theory as a 'composite whole', even if, in practice, it is too infinitesimally small to be analysed.

As has already been said, Peacocke accepts that many of the concepts we use are non-reducible, since, as new forms of matter emerge, new terms need devising, descriptive of new relations and processes. For example, in evolutionary theory, we speak of mutation, sexual recombination, natural selection, and so on - terms which belong to the logic of biology, which cannot be translated into terms of physics. What I find puzzling is the argument that we can accept epistemological autonomy - the autonomy of biological concepts - but not the autonomy of the new forms of matter which make the new concepts necessary. I am also puzzled by the suggestion that we can accept epistemological autonomy in particular cases, but that each case has to be settled on its own merits, not as a matter of general principle, based on the logic of the part-whole relation.

The layman is always at a disadvantage in discussing scientific matters, especially if the question at issue has to be decided empirically. However, if, as I believe, there are logical grounds for the difference of viewpoint, I must venture to pursue the matter with 'universal intent', hoping at least to provoke further discussion and to clarify my own thinking, and not to contribute to the confusion that marks the current debate amongst scientists and philosophers. As I have already indicated, I suspect that the problem arises because we start from different presuppositions about the nature of the relation between epistemology and ontology. Anyone familiar with Polanyi's analysis of the structure of knowing will be aware that the act of knowing consists in integrating clues of which we are subsidiarily aware to form a meaningful coherence at the focal level of awareness. We attend from the subsidiary level of awareness to the focal level, and in doing so, we integrate the subsidiary particulars or parts to form a pattern or whole. The parts and the whole belong to different logical levels. In the context of epistemology, the difference of logical level is demonstrated by the fact that we cannot be aware focally of the clues from which we attend and of the whole to which we attend simultaneously. It is logically impossible to achieve focal awareness of different levels at the same time. In the context of ontology, it is equally true that parts exist on a different logical level from the wholes which they jointly form. Every

composite entity exists on at least two logical levels. The difference of level means in this case that the principles and relations which govern the behaviour and define the meaning of the parts (as such) are different from those which govern the behaviour and define the meaning of the whole. Their 'logic' is different. Both kinds of relation and both sets of 'laws' operate in the same physical space. They are not levels in the sense of being separable layers - top, middle, bottom and so on. If this were so, they could be set side by side and viewed simultaneously as one might do with the layers of an archaeological dig or a sandwich. In a logical sense, the layers of a sandwich all exist on the same level. Because we are talking about different logical levels, the whole cannot be reduced to terms of its parts without destroying it. Reduction is irreversible in the case of physical dissection, though it is a reversible process for observational or theoretical analysis, and depends simply on a switch of attention from the whole to the part or vice versa.

Logical levels are levels of meaning. Polanyi always uses the term 'level' in the sense that it represents a level of organisation or meaning, and it is part of his holistic metaphysic that meaning cannot be separated from its object, any more than knowing can be separated from being. According to Polanyi's thesis, knowing is a form of being, and this was the great discovery he made in the course of his analysis of the structure of knowing: namely, that we indwell what we know subsidiarily in the way we dwell in our body - so that body and mind can be viewed as a two-level unity; so that all knowledge can be said to be bodily knowledge; and so that persons can be understood as embodiments of what they 'know' (in the broadest possible sense). On a Polanyian view, epistemology and ontology belong together in a unity that is like that of form and content. All facts are meaningful facts. They are only recognisable as facts because of our powers of aesthetic recognition, which enable us to discern pattern and coherence. Meaning can never be separated from its object precisely because there is no such thing as a 'bare' fact. Facts are inherently meaningful because they have 'shape' or significant pattern of some kind. William Temple once expressed this quite simply by saying, "The actual significance of an object is more properly called its reality or substance than is its purely physical nature." (Daily Readings, 1948, p. 186, Hodder.) Our intimations of reality have to do with our discernment of some kind of significant pattern. We recognise an entity in virtue of the order which gives it coherence and meaning. We both achieve this integration of clues to form a pattern and discover the order and pattern that is objectively there, waiting to reveal itself. This gives to knowing its polar structure. The knower, as subject, stands in a relation of polar complementarity to the object of his knowing.

When we recognise an entity as real, we form a concept that reflects the meaning we have discerned. It is part of Polanyi's basic thesis that

the structure of our comprehension reflects the structure of the entity comprehended. This is what validates the claim that knowledge of the real world can be genuine knowledge. This, in my view, is the great merit of Polanyi's theory of personal knowledge. He bridges the gap between knower and known by his discovery, (made in the course of analysing the structure of knowing) that the structure of knowing actually reflects the structure of being and is itself part of being. This goes together with the realisation that genuine knowledge is 'understanding' and that the quest for knowledge is a quest for 'meaning', which can be satisfied because the real world is inherently meaningful. It also goes together with the recognition that knowing and being share the same two-level, part-whole structure, on which the dialectical interaction depends, which takes place in all acts of true participatory knowledge. Knowing is both achievement and discovery, and takes place within a framework of commitment. This means that the knower's very being is involved in his knowing, or as Polanyi sometimes says, knowing has a subjective as well as an objective pole - an element of personal legislation as well as an objective reference.

There seems to be little disagreement between Polanyi and Peacocke about the fact of the non-reducibility of concepts, but Polanyi's reasons for arguing for what Peacocke calls 'epistemological autonomy' are different from Peacocke's. In Polanyi's view, epistemological and ontological reduction stand or fall together, and the non-reducibility of concepts derives from the non-reducibility of the entities or systems referred to. Any biological entity can be analysed into its parts as a matter of methodological reduction; but concepts reflect the meaning inherent in the entities to which they refer, and a meaningful entity is no more reducible than a meaningful concept. On Peacocke's view, one may have epistemological autonomy without ontological autonomy. If Polanyi's metaphysical assumptions are correct, this is not possible. It would only be possible by allowing facts to be separated from meanings and treated as mathematically measurable 'bare' facts. According to Polanyi's metaphysics of levels, every real entity is a unique meaning or meaningful coherence while, at the same time, being a collection of parts on a different logical level. Each level of being has its own distinctive unity or principle of rationality which is its meaning. One can trace this principle from atoms to galaxies. On one level, the unit of reality or coherence is the atom; on another it is the molecule, on another the cell, and so on, up the scale of levels from organs to organisms, to populations of creatures, to ecosystems. Each higher level includes all the preceding levels in a hierarchy of growing complexity. Each whole is a meaningful system with its own distinctive internal relations and principles of organisation, irreducible to the relations and 'laws' of lower level wholes, which remain recognisable for their own distinctive relations and ways of being.

Because a whole exists on a different logical level from its parts.

its functioning in no way interferes with that of the lower level entities which constitute its parts. A molecule has its own distinctive internal relations and way of being, which does not interfere with that of the atoms which compose it. The molecule relies on the atoms for its existence, but harnesses them in the service of its own distinctive 'higher' level functions. Their relation is one of complementarity, not of contradiction, but they do not exist on the same logical level. When analysed, the molecule is a collection of atoms, but the atoms, viewed as such, do not constitute the reality of the molecule. The two are not synonymous, because the molecule has an order and a pattern, a 'Gestalt' which constitutes a meaning that is 'more than the sum of its parts'. Additive logic does not work for entities whose meaning is inherent, because every change of logical level involves new emergent properties and new organisational principles which are definitive of their meaning.

Different logical levels can occupy the same physical space, but we are able to focus attention on which level we choose, as when the artist switches attention from his painting to the individual brush strokes. Brush strokes and picture relate as parts to a whole and the former derive their meaning from the latter. Similarly the scientist can switch attention from a molecule to the atoms which compose it. In doing so, he is switching attention from one logical level to another. In every act of perception, the clues which lie in our subsidiary field of awareness derive their meaning from the pattern or coherence which is formed by our ability to integrate parts to wholes at the focal level of awareness. What we observe depends on our intention. The principle is the same when the nuclear physicist sees either a particle or a wave movement in an experimental situation. Which he sees depends on his intention, on his experimental technique and on the questions he is asking at the time.

In this paper, I have been 'thinking aloud' - trying to identify the nature of the disagreement between Peacocke and Polanyi, and daring to do so only because of my belief that the difference has little if anything to do with the study of particular cases and everything to do with basic presuppositions about the nature and structure of reality. Quite often in the course of his book, Peacocke makes statements which appear to support 'systems autonomy', (the non-reducibility of higher level systems and processes to terms of lower level laws and relations), but he remains insistent that this is not a matter on which judgement can be made wholesale or a priori. This increases my conviction that he must be working with presuppositions that differ in certain respects from those which I share with Polanyi.

It seems clear to me that the confusion has to do with the nature of logical levels and whether the relations and principles which govern the structure and behaviour of any given level also define the nature of each particular reality and give it a rationality and a meaning which inhere in its very structure. If we believe that meaning is inherent in its object,

we must - it seems to me - agree with Polanyi that epistemology and ontology belong together, that knowing is a form of being and that the cognitive or theoretical aspect of our knowing reflects the structures and meaning of what we know. The issue seems to hinge on whether one can say that the richly complex and manifold forms of nature are recognised in virtue of their inherent rationality or whether order and meaning is something we arbitrarily impose on the sense data. Only if the latter is the case can we separate objects from their meaning and allow methodological reduction to develop into ontological or metaphysical reduction.

For Polanyi, the unity of fact and meaning is integral to his metaphysic. He repeatedly demonstrates that, when we analyse a whole into its parts, or view the particulars focally, the meaning of the whole is lost. This can be demonstrated in a wide variety of experimental situations, but is also part of our everyday experience. Every whole as such has a meaning that is more than that of a collection of its parts. An organism as such is not reducible to terms of its organs, and so on. If one wishes to analyse any particular whole into its component parts, the original whole is destroyed, though not irreversibly in the case of mere perception. Methodological analysis is, of course, a prerequisite of research, but the point is that, for as long as the parts receive focal attention the whole and its internal relations and processes is lost sight of. Nor can the laws and relations of the whole be deduced from a knowledge of the laws and relations operating in the parts.

For Polanyi, concepts correspond to the realities to which they refer. We invent concepts to help us understand the real world and its inherent rationality and communicate our experience. Concepts are symbols of our comprehension; they are the correlate of what we comprehend. As Polanyi says, the structure of our comprehension reflects the structure of comprehensive entities. Higher level concepts are irreducible precisely because they refer to autonomous realities whose meaning is part of their being. We recognise these meaningful coherences in virtue of our aesthetic power to integrate parts to wholes. As has been said already, knowing is for Polanyi both achievement and discovery, a dynamic and dialectical interaction between subject and object. Polanyi's presuppositions being what they are, he is able to say that one can make an a priori judgement about the irreducibility of concepts and of entities to which they refer. Such a judgement has to do with the logical relations that obtain between parts and wholes. In his system of thought there is no possibility that our concepts about a biological system may be autonomous, while the system itself may be viewed (though not adequately described) in terms of the laws governing its component parts on a different logical level. The idea of conceptual autonomy combined with ontological reduction makes no sense, because concepts derive their meaning from our knowledge of the relations and laws which govern 'wholes' on their own logical level. Reduce a whole to terms of its parts.

that is, to terms of its lower level relations, and you have a different set of concepts, relating to different realities. If you reduce a molecule to a collection of atoms, you no longer have a molecule. When any whole is reduced to its parts, that collection of parts cannot, logically cannot, mean what the same collection of parts meant when they were organised to form a more inclusive whole. When they function as parts, components derive their meaning from the whole. Conversely, when the whole is dismantled, its own distinctive relations and operational principles cease to control the parts, because its own higher level 'logic' ceases to exist and its own distinctive concepts become 'homeless'. This is what happens when methodological reduction develops into ontological reduction. This is why positivists like Ernst Mach and his followers could regard all theoretical constructs and concepts as merely convenient summaries of experience and could argue that the structure of our thought can claim no relation to reality.

Polanyi's theory of personal knowledge assumes a genuine relation between epistemology and ontology, a relation that allows our theories and concepts to be 'true' or 'false', and not just convenient summaries of the data of experience. It allows our concepts to correspond to different kinds of reality and to reflect the inherent meaning of real entities and systems on different levels of being.

To sum up, it seems to me that the disagreement between Polanyi and Peacocke is initially of a logical character, but raises at a deeper level, an ontological issue, because it concerns the question of whether the concepts and theories we form about them genuinely reflect the nature of this inherent rationality or meaning. Polanyi is only able to maintain his thesis in the context of his theory of personal knowledge. The very structure of knowing is anti-reductionist, because we cannot know anything without integrating the subsidiary clues to form a meaningful coherence. It is in virtue of the structure of tacit knowing that he can demonstrate that the part-whole structure of real entities corresponds to the two-level structure of knowing. Knowing is an exercise in synthesis, in achieving meaning - the reverse of reduction. We recognise meaningful patterns in nature by our powers of integration. This gives rise to intimations of reality, which depend on the coincidence of pattern achieved and pattern recognised, that is, recognition of the inherent principles and relations which are constitutive of meaning. Polanyi's ontology is therefore also anti-reductionist and includes mind and the emergent properties of consciousness and self-consciousness as modes of being. True knowledge is, for Polanyi, a matter of understanding - that is, of participating in the richness and complexity of reality, which is its meaning - a complexity that, at the level of conscious and self-conscious behaviour, includes purpose and intention and the search for meaning - which suggests that life is in an ultimate sense future-drawn and not merely causally conditioned.

Having said this, I have to add that, on the basis of the kind of

discussion which marks the second part of Peacocke's book, which deals more specifically with theological issues and stresses the sacramental nature of the cosmos. I am persuaded that he would probably want to endorse all that Polanyi says about our powers of participating in and contributing to the rich ontological complexity of our world. I have to conclude that, whatever disagreement Peacocke may have with Polanyi on questions to do with reduction and autonomy, they share a remarkably similar vision of what is ultimately and irreducibly 'really real'.

J.O. Crewdson.

EDITOR'S NOTE. Professor Peacocke has been kind enough to reply briefly to Joan's review, and permits us to reproduce the following comment: 'You cannot, in my view, talk of the "autonomy of new forms of matter" [e.g. p. 14 above]. Autonomy is about nomoi - laws, and so is about concepts and so is epistemological. I think she is too much in the strait-jacket of Polanyi's classifications to accept my point. Thus I do not think Polanyi's account of perception (clues from, attend to, subsidiary/focal awareness and all that) is about the same area of discourse as what I refer to as the hierarchy of complexity in both the sciences and in natural systems.' The Editor hopes that this soup(on of controversy will encourage our subscribers to read Peacocke's book and perhaps contribute their own impressions. As they might say in the trade, 'This correspondence is now open'.

Leslie Newbigin. The Other Side of Nineteen Eighty-Four: Questions for the Churches. The Risk Book Series no. 18 (Geneva: World Council of Churches, 1983) ISBN 2-8254-0784-4. 75pp.

-----, Foolishness to the Greeks: The Gospel and Western Culture (SPCK: London, 1986) ISBN 0-281-04232-2. iv + 156pp. Bibliography. Index. £3.95.

The distinguished theologian Bishop Newbigin was a missionary in India for forty years. In these two books he asks the surprising question: what would be involved in bringing the Gospel to the West? The answer he gives is a radical critique both of the 'scientific' culture of the Enlightenment which dominates modern Western society and of the Church which has so readily surrendered to it.

The Other Side of Nineteen Eighty-Four was commissioned by the British churches to provoke discussion about the State in the year of Big Brother. Foolishness to the Greeks is based on the author's 1984 Warfield lectures delivered at Princeton Theological Seminary and is at once an expansion of the theme of the first book and a re-casting of it for an American audience.

Until the time of Newton, argues Newbigin, physics was dominated by the Aristotelian explanation of things in terms of their purpose. Newton's formulation of the principles of nature, blind laws of cause and effect, meant that physics could now ignore the questions of ultimate purpose, and paved the way for a 'godless' picture of the world, of mankind and its history. A fact was now divorced from any value with which one might choose to invest it - Lessing's famous ditch between the accidental truths of history and the necessary truths of reason; and therefore the public world of factual discourse was divorced from privately held beliefs. The legacy of the Enlightenment is evident all around us, in the division and mechanisation of labour, in urbanisation, in bureaucratisation, in market economics. And it is almost wholly destructive.

Such alienation can be resolved only by reversing the priorities of the Enlightenment. Public fact and private value must once again be integrated. The solution Newbigin adopts is that offered by Michael Polanyi. Doubt, though always necessary, must be made secondary, and faith recognised once more as primary (1984 23). Augustine's credo ut intelligam must replace Kant's sapere aude as our society's watchword (1984 24, Greeks 25). But where does Christianity fit into this? Once again, the author uses an idea pioneered by Polanyi. We understand the world around us from a series of viewpoints on an ascending scale. Mechanics gives way to physics, physics to chemistry, chemistry to biology and biology to the behavioural sciences, as ever more complex ways of understanding nature. In the same way as Newton's laws could not anticipate Einstein's physics, but Einstein could and indeed had to account for the undoubted validity of the earlier principles, so are the higher orders of explanation valid for the lower but not vice versa. This much was established by Polanyi. A yet higher level of explanation is one which addresses itself to the relations between persons who accept one another as responsible beings, and it is also reasonable to suppose that there is a higher order even than that, a relation between the Creator and his creation, 'a fully reciprocal relationship between the Father and Son within the being of the Godhead, into which believers are drawn by the power of the Spirit.' (Greeks 90). The theistic hypothesis has the power to account for the widest range of phenomena in a world both rational and contingent, that is to say, it possesses the greatest 'rationality' (Greeks 64).

Because there is no distinction between public and private, between fact and value, the Church must have a political programme, but one which cannot be identified with either socialism or capitalism in their classic forms.

'Human beings find fulfilment not in the attempt to develop themselves, not in the effort to better their own condition, not in the untrammelled exercise of unlimited covetousness, but in the experience of mutual relatedness and responsibility in serving a shared goal.' (Greeks 122)

Only the Church can achieve this, because only the Church has for its centre not the universalised programmes of individual men and women - which can and do easily slip into totalitarian tyrannies - but in the rule of Christ.

'The sovereign rule of God requires that the state acknowledge its responsibility to reflect in all its ordering of society the justice of God - a justice that is primarily embodied in covenant relationships of mutual responsibility.' (Greeks 133)

But might not the Church itself slip into tyranny, as it has done in the past and as is happening now with Islam in certain middle Eastern nations? To obviate such a danger, the Church would have to be deliberately tolerant of (not neutral or indifferent towards) dissentient views. 'Fiduciary frameworks' are the beginning, not the end, of thought. There would need to be a 'genuine dialogue' with other systems of belief which continually causes the Church radically to reconsider its own beliefs. (Here the author recognises that he parts company with Polanyi, for whom a belief could be challenged only on the premises and within the community of that belief.)

It is very rare these days to hear anything good said about the adoption by the Emperor Constantine of Christianity as the official religion of the Roman Empire, and of the ensuing corpus christianum. Newbigin, however, defends it. It was an 'experiment of a Christian political order' which 'had to be made' (1984 34). It had its attendant dangers of course, but it was truer to the 'this-worldly' nature of Christianity than the privatised mystery religion that passes for Christianity in the West today. It is time for a new experiment.

Both books were designed by the author to provoke strong reactions. One's immediate unease is prompted by the thought that this is yet another example of Christianity flexing its political muscle, that it is a Polanyi-an blueprint for the Moral Majority. Newbigin, however, roundly condemned the religious right before his Princeton audience as a product of the Enlightenment (Greeks 116-7). One could argue that his vision of a fiduciary framework common to the entire nation, within which exists a deliberate policy of toleration of other faiths, admirably describes the established church in England! But the very fact that the Archbishop of Canterbury seems so ludicrously harmless by comparison with Revd Falwell or Ayatollah Khomeini proves Newbigin's point that the Church in this country has abandoned its public place.

An obvious criticism might be that Newbigin is more influenced than he realises by Enlightenment presuppositions. For example, he speaks of dialogue and toleration where the pre-Enlightenment Church (with a handful of exceptions) would have spoken of heresy and the stake. Moreover, if the same Bible was used in the Middle Ages to justify social iniquity but today justice and peace, what chance can there be of the Bible's being allowed to

govern society except via the interpretations, not of the community of faith, 'conviviality', but quite simply of those in power? Newbigin would think it foolish of us to pretend that we are not living after the Enlightenment. In so many cases for the better, it has happened and cannot unhappen.

A final point might be that, in writing two books which cover much the same ground, the author should have stated his provocative thesis in one volume, and used the other to enter more deeply into the argument, covering himself from all possible objections to it. But this would be both to ignore the circumstances of production of the two books, and more generally to miss the point. Newbigin set himself the specific task of examining Western society from the point of view of a Christian missionary coming, as it were, from abroad. He has proposed, boldly and barely. It is for others to elaborate on, object to, or even carry out his proposal. Using insights derived from Michael Polanyi, Bishop Newbigin has drawn up for the Church and its academics a post-critical agenda. May many others, in their own disciplines and spheres of interest, do likewise!

D. Bagchi.

Andrew Louth, Discerning the Mystery: An Essay on the Nature of Theology. (Oxford: Clarendon Press, 1983 Repr. 1985) ISBN 0-19-826657-X. xiv + 150. Index. £17.50

#### I

Those with long political memories may remember a series of battles waged on several educational fronts in the early eighties which even made news in the popular press. The Cambridge English faculty was split between structuralism and traditional lit. crit. The social studies department at Warwick was formally arraigned for political (i.e. Marxist) bias. And the minister for education recommended that only 'patriotic history' be taught in schools. All this seemed to herald the abandonment of academic impartiality as both left and right pressed for the adoption of an ideologically committed approach. The only disagreement of course was over whose ideology deserved to be adopted.

It was appropriate, then, that Andrew Louth's 'essay on the nature of theology' should have appeared in 1983. Theology has long been something of an embarrassment to the universities precisely because of its 'committed' approach. (Strictly speaking, theology is the 'study of God'. It is therefore, in theory at least, unlike religious studies which has for its object the religious experience of mankind without reference to questions of God's existence.) But as theologians have attempted to become more academically respectable by distancing study from belief they have become more remote

from believers in the pews. The purpose of Louth's essay was to defend the principle of commitment, or 'prejudice', in theology against the 'objectivity' demanded by the scientific method and against the belief that truth can be found only in the sciences or in those humanities which ape the scientific method.

The pseudo-scientific approach adopted by theology, in common with several other humanities disciplines, was 'historical criticism'. Originally developed by the Romantics as a means of explaining the strangeness of the past, it quickly became, according to Louth, a means of explaining away the past. A method, which can be applied by anyone at any time to the evidence and always come up with the same result, is not a way of understanding appropriate to the humanities. As long ago as the eighteenth century, Vico was demonstrating the fallacy of applying methods adapted from the study of the natural world, which is external to us, to the study of human history, which we know 'from the inside'. At the close of the following century, Dilthey was arguing in similar vein that our interpretation of the human, as opposed to the natural, world was based on our 'indwelling' in the minds of others. But Louth contends that neither Vico nor Dilthey succeeded in establishing a peculiarly human science, but only ensuring a division between the sciences and the arts, between mind and heart, between truth and subjectivity.

Louth finds the answer in the suggestion of the philosopher Gadamer that Bildung, formation, occupy the place in the humanities which method has in the sciences. Whereas 'method' attempts to raise the observer above reality that he might gain an objective viewpoint, Bildung initiates a person into these prejudices, makes him sensitive to his own historical situation 'and all that has contributed to it...that he can engage with the past in a fruitful dialogue' (p. 43) in short Bildung is initiation into a tradition.

Having established that the humanities and the sciences use essentially different approaches, there is still the tradition that theology is in some sense the 'queen of the sciences' to dispose of. While acknowledging it as 'the most significant attempt in recent years to rethink the notion of theology as a science and thus elucidate the question of theological method' (p. xii), Louth rejects the work of Torrance in this area.

'If our main criticism is accepted, it means that if the theologian is to look over his shoulder at other academic disciplines at all, it is rather to the humanities that he should look, and in doing so should not be looking there for any analogy to the scientific method, but rather a different way of knowing that does not rely on method and technique.' (p. 54)

So Gadamer's Bildung into the 'truth that transcends the sphere of control of the scientific method' (p. xii) still holds good for the theological task. Moreover, Michael Polanyi has shown that science as a human

pursuit of truth is much less privileged than the claims of the Enlightenment might lead us to suppose (pp. 59-66). The philosopher Gabriel Marcel has made a distinction between problem and mystery, and this provides us with an insight into the difference between the sciences and the humanities. A problem is a barrier to further understanding, whereas a mystery is something in which I myself become involved. The sciences are essentially problem-solving enterprises (though they have an aesthetic dimension) whereas the humanities, though they contain a problem-solving element, are ultimately concerned not with solving anything, but with engaging sympathetically with other people.

Sympathetic engagement with other people - even people long dead - is in theological terms, according to Louth, tradition or, put more simply, the Church's way of life. It is the faith, for faith is not something believed so much as something lived. The way into this tradition, contends Louth, is through allegory. And this is where his book becomes really controversial, and why it created such a stir in theological circles when it was first published.

The writings of the early Church Fathers were almost exclusively expositions of the Holy Scriptures. Their treatment of the New Testament was by and large straightforward. But the literal, historical meaning of many Old Testament passages was either inaccessible to them or else considered too trivial, and was therefore supplemented with a 'spiritual' interpretation. (A classic example of this is the book known as the Song of Solomon. It appears to be a sensual love-song, but Christians have traditionally taken it to signify Christ's love for his Church.)

The modern mind has a great resistance to allegory, based partly on Romanticism's emphasis on the importance of the writer's intention, partly on the Protestant principle of sola scriptura - both of which Louth describes as 'unexamined' presuppositions (p. 98). But no work of art is bound by the artist's intention: it takes on a life of its own by engagement with the minds and lives of others. Tradition is likened to a vast echo-chamber. Scripture provides the original bare sounds, but its echoes result from years of interpretation and reinterpretation made by a community in a living relationship with God and with each other.

But what would allegory, as a method of theological study, actually prove? Nothing, for it is meant to prove nothing. The proper study of the humanities is man, and of theology is God. In both we are up against an irreducible mystery. We can live a mystery, we can even delineate a mystery, but we cannot solve a mystery.

## II

This is a trenchant and courageous defence of the place of tradition in the humanities in general and theology in particular. Readers of Convivium will be familiar with many of the criticisms made by this book and

many of the concerns raised in it. It is not immediately obvious, however, that the solution offered by the author is the only one, or even a valid one within its own terms. I will limit my criticisms to three turning-points, as it were, in his argument. I will suggest that, even on the path that he chose, there were alternative and surer ways to his goal.

The first stage in Louth's argument, which takes up the earlier half of the book, is that the sciences and the humanities are essentially different disciplines. It is odd that in the course of this treatment he summons Polanyi as his witness, whose purpose was rather to show that all knowledge is essentially the same - it is personal. (His use of Polanyi is for the purely negative function of showing that there is nothing sacred about the 'scientific method'.) Louth's distinction between the two disciplines is based on the view that the former deals only with problems, the latter only with mysteries, but it is not at all self-evident that such a distinction can be made. Many scientists would claim to have experienced mystery, in the deepest sense of that word, in the contemplation of nature. Moreover, from the point of view of natural theology, nature is God's creation and must therefore show something of the mystery of God. Had the author followed Torrance's demonstration of a universe both rational and contingent, he could have accepted a greater degree of continuity between the two disciplines. As it is, he helps perpetuate the distinction between truth (though now in the pejorative sense of problem-solving) and subjectivity (though now in the positive sense in which Kierkegaard meant it) which he deplores, and of which he accuses Vico and Dilthey.

The second stage of his argument is that the idea of initiation into a tradition is a better model than 'method' for the humanities, including theology. Here Polanyi is a much more appropriate witness. But Louth uses the word 'tradition' in an extremely selective sense. To give an example, he says of the sola scriptura principle that it 'is not in the least traditional - unless one regards what stems from the Reformation as traditional' (p.99). Now if the Reformation is not part of the 'tradition' (in Gadamer's and Polanyi's sense) of the modern Western Church, then nothing is. In the same place he dismisses Romanticism's insistence on the primacy of the writer's intention as an 'unexamined' legacy which prejudices us against allegory (p. 98). This was after having already established that one's legacy of prejudices is not to be examined (in the sense of being tried and found wanting) but rather consciously appropriated (p. 43). From these examples we can see that Louth intends to limit tradition in some way. But it is not clear on what grounds such limiting is to be done, supposing it can be done at all. According to his own premises, we stand in a tradition whether we like it or not, and we must learn to like it: there can be no idea of 'good' or 'bad' tradition, no picking and choosing.

The third stage of Louth's argument is to establish allegory as the paradigmatic way of entering into this tradition. But it is not obvious

that allegory serves this function. On very many occasions, the Fathers used allegory simply because they did not understand a particular passage, through ignorance of languages or of history, for example. In this sense, allegory was often a problem-solving device rather than a means of discerning the mystery, to use Marcel's distinction. This is not, of course, to deny that allegory could ever be used for this purpose, but it does warn us that the example chosen, of allegory as used by the Fathers, has its own dangers. The question of danger in the use of allegory brings us to another difficulty. Louth is quite insistent that there can and has been bad allegorisation as well as good (see p. 119). This may strike us as an eminently sensible hermeneutic safeguard, until we realise it is a safeguard of which Louth has deprived himself. According to the literary theory (here represented by Gadamer and T.S. Eliot) that a text has a life of its own, independent of such 'unexamined idealisations' as the writer's intention or the original audience, any engagement whatsoever which the reader has with the text is a valid one. There is therefore no basis, in this theory, for the criteria which Louth lays down for valid allegorisation. The same literary theory makes nonsensical the claim that the Fathers' interpretation of the Bible should be taken as paradigmatic. The only reason for making it so (and most Christian traditions have wanted to claim that it is) is on the grounds of historicism: that the Fathers were closer in time to the community from which the New Testament arose. But Louth has rejected historicism. Finally, a literary theory which accords text and interpretation equal importance strikes one as being highly 'untraditional' (in Louth's sense of the word), for the Fathers themselves always put forward their own allegorisations very tentatively.

This is not, however, the place for a detailed criticism. I hope I have given some idea of the freshness of Louth's approach and of the aggressiveness of his attack on liberal theology. (I would recommend the book for its polemic alone!) I have also tried to give an indication of the sort of objections that could be raised against it from within the theological community, which is at the same time an indirect indication of the importance of this book within the canon of recent theological publication in this country. Its principal weakness, however, could be seen to be its characterisation of the sciences and the humanities as two essentially different disciplines. Such a position can only exacerbate the dissociation of mind and heart which he attacks in his opening chapter. Had the author followed Polanyi in this respect as far as he did with relation to tradition and skill, his argument as a whole might have been stronger.

D. Bagchi.

FROM TRADITION AND DISCOVERY

THE USES OF SCHOOLING IN PERSONAL LIFE  
AND PROFESSIONAL PRACTICE\*

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

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

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

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

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

In such situations - and the most important situations confronting the

citizen are of this kind - decisions depend more on the credibility of the advocates than on the truth of their assertions. The grounds for warranted commitment are not identical with grounds for warranted assertion. In such a culture group problem-solving techniques have to be supplemented by a touch of fideistic existentialism. The roots of such faith are more often tacit than explicit.

Despite my animadversions on the positivistic criteria of schooling and my indebtedness to Polanyi's theory of tacit knowing, I have not abandoned philosophical realism altogether. I still believe there is a difference between fantasy and reality, between opinion and truth, between being and being interpreted. Such realism is popular with neither the positivists nor the diverse schools of hermeneutics.<sup>2</sup> The grounds for warranted commitment are to be found in the ultimate willingness to risk much - sometimes everything - on the existence of objective values.

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

#### Testing for the Tacit

To convey the import of tacit knowing to schoolboard members, parents, and students I have suggested The New York Times (or some similar publication) test. The test asks the readers to scan items in the major categories: current events, the arts, science, politics, economics, and to underline passages or phrases that they cannot understand.

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

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

The selections were as follows: A Look at Venus on the Full Shell reporting the attempts of NOW to persuade the International Astronomical Union to name recently discovered features of the planet Venus after famous

women rather than mythological ones. There were also articles on the economy, modern dance under Anthony Tudor, neutrinos, and some current problems in archeological research.

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

The responses were recorded and transcribed. A group of colleagues at the University of Illinois had little difficulty in identifying the blocks and the lack of the formal schooling to which they were related. Neither had the participants in the study, for that matter, as they muttered that they never had a course in this or that or that the course was not satisfactory for one reason or another.

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

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

### The Uses of Schooling

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

1. Replicative, in which the instructional input is reinstated pretty much as originally learned, e.g., the multiplication table, dates, names, formulae, etc.
2. The applicative in which what has been learned is used to manipulate a situation to reach a goal. For example, the principles of hydraulics are used to invent machinery for the pumping of liquids or Boyle's law is used to deduce hypothesis about the design of steam or gasoline engines.
3. The associative in which experience in and out of school is elicited by a situation in no uniform way, but somehow relevant to the situation.

4. The interpretive in which schooling is reinstated not precisely as learned but as the residue of learnings in the arts and sciences. We shall refer to these residues as schemata, lenses, stencils, or cognitive/conceptual structures.

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

A more sophisticated test of schooling is the ability to apply (rather than repeat) school learnings. For example, one learned that oxidation has many forms - combustion, rusting, etc. One applies the principle of oxidation to explain spontaneous combustion, the uses of foam to put out a fire, and the use of paint to protect wooden surfaces from rot, etc.

Unfortunately, as most takers of our test discovered much of what they learned for replication they can no longer replicate, unless their work requires frequent reinforcement of those learnings. We recall the multiplication table up to 12, a few dates and names in history, a few poems that we can recite 'by heart', but considering the time spent on depositing facts for replication, the amount so retrievable is disappointingly small. Yet rote learnings cannot be dispensed with. Deducing the number facts from theories of number whenever needed is wasteful.

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

If the criteria of schooling are the replicative and applicative uses, most of the time spent in school must be regarded as wasteful. Yet as the test-takers discover the blocks to understanding in reading, it dawns upon them that there must be other uses of schooling that are neither replicative nor applicative, yet indispensable.

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

The extent to which ordinary reading of ordinary materials requires associative context is rarely noted. The uproar about functional literacy makes it sound as if more practice in coding and decoding English prose is all that is called for. However, no amount of decoding will enable the reader to understand the locution 'We worked around the clock' unless a tacit supply of meaning is supplied. To a generation accustomed only to digital watches and clocks the locution would be mystifying. Colloquial discourse relies heavily on associative contexts. Thus 'The motorist

opened the boot to get a scraper to remove the ice from the windscreen' can be translated by the American reader, but only because of his familiarity with motor car contexts.

The computer affords a striking example of the difference between language as a symbolic code and language as comprehension of a code. The computer manages any given code without ambiguity. The human reader or speaker deals with ambiguity, figures of speech, allusions, and plain mistakes. When we deplore lack of reading ability of the generation it may well be the poverty of images, shades of meaning, and inflection we are bemoaning rather than lack of decoding skills. The difficulty with the computer is not lack of accuracy, but the inability to tolerate ambiguity.

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

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

#### Professional Uses of Schooling

The professional uses of knowledge include all the other forms - plus familiarity with a domain of practice. Skills, principles, technology, economic, and political contexts - even gossip - make demands on the professional which the layperson is spared. Vocations differ in the degree to which skills, theory, and practice are required. The professional, of course, has a personal life and therefore general education has its place in it, but the needs of these lives do not coincide. The marketplace makes rules for the first that do not always apply to the second.

The distinction between these two uses of schooling is blurred by the

location of departments of the humanities, including the departments of literature, language, classics and often the fine arts, in the college of liberal arts. Courses in these fields are used to meet requirements in general education. However, universities and even liberal arts colleges recruit their faculties from the pool of Ph.D's, who belong to the guilds of professional scholars. Their prestige, and often their salary status, depend on the judgments of their professional colleagues. The professional careers of their graduate students, rather than the life careers of undergraduates, are likely to become their major concern.

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

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

### The Educated Mind

It may be objected by the eager undergraduate that the associative and interpretive resources for which general education is prescribed will be furnished by the mass media and by the informal lore and customs of the social order, so that the luxury of an educated mind can be postponed to later life when practical pressures are lessened. Whether it is better to have an 'educated' store of associative resources than not may be debatable, but that there is a difference in what we think, feel, perceive with is clear.

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

'personal' knowledge.

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

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

Judgements of credibility depend largely on characterial traits such as honesty, candor, loyalty to ideals rather than on the truth of what is being asserted. The concordance between the explicit claims and hidden motives is often a measure of credibility. By restricting responsibility to special technical rules, not only the business world, but also the lawyer, physician, and educator can evade social and moral responsibility. Restricting responsibility in this way may be called demoralization.

The clues to our judgments of credibility are tacit rather than explicit. Consider some criteria of credibility. One is the willingness of the person or persons to live by what they profess or putting their money where their mouth is. The blood of the martyrs is still the strongest proof of sincerity. Does willingness to test one's faith prove the correctness of its object? Sincerity, loyalty to the truth and to the ideals being professed are also taken as signs of credibility, but do they verify these ideals? Or do the norms, ideals, and values act subsidiarily to evaluate the focal situation?

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

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

All of which may explain the apparent ineffectiveness of teaching moral principles and codes of conduct. To become effective in action the principles of right, wrong, duty, etc. have to operate on the situation subsidiarily or focally. Subsidiarily they give the focal situation tacit intimations of right and wrong. Focally, they analyze the practical situation cognitively. To paraphrase Kant, without the conditionings moral

education is empty; without the principles the conditionings are blind.

### Epilogue

If the discussion has been tortuous, it is because the tacit dimension of schooling is so strategic for its defense. In the nature of the case confirmation of the tacit dimension is hard to make explicit. Yet it can be done, and the concept of the different uses of schooling may help us do so. The current spate of criticism of the public schools only emphasizes the improper claims and expectations even the educated part of the public entertain for general education.

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

### NOTES

\*The Distinguished Scholar Lecture, Kent University, March 8, 1984.

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

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

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

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

H.S. Broudy.

### THE PROBLEMATIC OF THE HUMANITIES: CLUES AND CUES FROM MICHAEL POLANYI

To return to Michael Polanyi's work is to be reminded of what it signifies to engage fully in the life of meaning. It is to recall how we feel when we yearn beyond ourselves, when we reach out from our lived landscapes and our everyday concerns towards something wider, something that transcends the here and now. In this technicized moment, this time of slippage and uncertainty, Polanyi's conceptions of personal knowledge, intellectual passion, and an articulate framework hold great appeal. They seem to hold

a promise of awakening us to ourselves, of sustaining our efforts to keep alive the world we have in common - what has been called the human world.

The humanities, through a Polanyian perspective, emerge out of 'the whole network of tacit interactions on which the sharing of cultural life depends'.<sup>1</sup> 'Tacit assent', he wrote, 'and intellectual passions, the sharing of an idiom and of a cultural heritage, affiliation to a likeminded community: such are the impulses which shape our vision of the nature of things on which we rely for our mastery of things.'<sup>2</sup> In other places, he linked our cultural life, not solely to a 'system of acceptances', but to 'all that is coherently believed to be right and excellent...'<sup>3</sup> The criteria of excellence, as he saw them, were to be found in the standards set by 'masters' and upheld by certain cultural leaders who would supplement each other's judgments and guide public appreciation of the culture. Polanyi thought that relatively few, at any given time, would have opportunities for encounters with the range of symbolic forms. Intellectual leaders were necessary, in consequence, to offer occasions for 'second-hand' or mediated knowledge of what existed in the larger domains of the humanities. Without such leaders (critics, teachers, various other 'authorities') ordinary people would have little idea of what existed beyond their predictably limited lives. Authorities were needed to beckon beyond, to indicate possibility, to initiate into the 'articulate heritage'.

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

The humanities may be conceived as comprising the arts of criticism, literature, philosophy, and history. This is the traditional approach: and, for Polanyi as well as the traditional theorist of the humanities, painting, music, and theatre belong to a different realm. Nevertheless, given the rootedness of articulated systems in the tacit, given the effects of certain art experiences on the ways in which knowledge is held, it is difficult to exclude the range of created forms from a treatment of the humanities. It is, in any event, the case that the several arts, along with the humanities, are given relatively short shrift today. This may, in

large measure, be a consequence of an obsession with objectivist frameworks that leave little room for intellectual passion or personal participation in accord with standards set by 'connoisseurs'.<sup>6</sup> Instead, standards are likely to be set (admittedly or not) according to use values, conceptions of efficiency or effectiveness, cost-benefit considerations, salesability.

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

In the domains of criticism and literature, nonetheless, most listeners hear a 'babel of voices'. Edward Said writes of a 'peculiar configuration of constituencies and interpretive communities',<sup>11</sup> each one a kind of guild with its own orthodoxy. Most of them speak to small audiences of scholar-intellectuals. Whatever authority they claim is acknowledged only

by those within their own community. There is little evidence, in fact, that there exists a secular space large enough to provide a framework for more than a few. Frank Kermode has said that, if what used to be called the 'Common Reader' still survives, he/she is entirely different from the so-called general reader, who is largely ignored by academic critics or serious reviewers and left to his/her pleasures with television and film.<sup>12</sup> In any event, the general reader would almost surely find the writings of authoritative critics incomprehensible. It follows that there are no significant authorities for ordinary men and women, no 'superior' persons to whom they can grant credibility. Obviously, there are the 'great communicators', the talk-show hosts, the official spokespersons on policy matters, the celebrities; but these are not in any degree what Michael Polanyi had in mind.

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

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

whatever meaning is separable from a text is embedded in an intertextual sphere; and we are left in the indeterminacy of endless commentary.

There is, however, an approach to literature that does attend to personal engagement to a far greater degree. It stems in part from the phenomenological insistence that meaning in some sense precedes language and that to criticize literature is to make visible its inner meanings. And in part it derives from the movement described as 'hermeneutic', focusing upon the interpretations of meanings conceived as historical, because human existence is constituted in time.<sup>19</sup> For Martin Heidegger, especially in his later work, the essence of language is to disclose. To interpret a work is to move back from mere explanation and to achieve a thinking dialogue with a text, the place (Heidegger at length believed) where 'being shows itself'.<sup>20</sup>

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

This approach has contributed to the rise of what is sometimes called 'reception theory', or a mode of criticism (as in the case of Wolfgang Iser<sup>23</sup>) focusing anew on 'reader response'. According to this view, a

work (in order to 'signify' at all) has consciously to be realized by a reader, aware that there is no way of verifying or validating his/her interpretation by asking the author what he/she actually meant. In the contemporary novel, The Color Purple by Alice Walker (a black woman's novel not easily accommodated by the mainstream tradition), the first sentence is 'You better not never tell nobody but God. It'd kill your mammy.' And then: 'Dear God, I am fourteen years old. I am (crossed out) I have always been a good girl. Maybe you can give me a sign letting me know what is happening to me.'<sup>24</sup> The reader, almost without realizing it, is involved in trying to discover the meaning of what is at first shown through the perspective of a half-illiterate, uninformed southern child who has been made 'big' by a man she knows as Pa. In order to create the novel as a whole as meaningful, the reader must not only make sense of a world seen through the perspective of a growing girl writing letters to God, but through the perspectives of the people around her: the visiting blues singer; the boy she thinks of as her stepson; the missionary sister writing letters from Africa; the white people on the fringes of these lives; the novelist's background perspective and social reality; and the perspective of the individual who is reading, now transformed into the reader being addressed by Alice Walker.

Connections have to be made; gaps have to be filled, sometimes by imaginative leaps; puzzles have to be resolved. Hoping against hope for a total coherence, a final resolution, the reader cannot but come up against obstacles and indeterminacies, in part because so much depends upon interpretation. If the novel is worth reading, as The Color Purple clearly is, it is likely to challenge the reader's preconceptions, violate his/her normal ways of seeing, communicate new codes for understanding. I cannot but be reminded of a quotation Polanyi took from Marcel Proust having to do with the resemblance between a creative writer and an eye specialist, whose treatment is not always pleasant. When the treatment is over, the specialist says 'you can look now. And thus the world which hasn't been created only once, but is recreated every time a new artist emerges, appears to us to be perfectly comprehensible - so very different from the old'.<sup>25</sup>

This said, I want to reemphasize the point that the viewing of literature I have just described still takes place within an enclave, which may or may not be opening to some wider secular space and affecting how persons read. Also, neither the hermeneutic nor the 'reader reception' theories of criticism are oriented to what Polanyi called a form of 'superior knowledge' that includes 'besides the systems of science and other factual truths, all that is coherently believed to be right and excellent by men within their culture'.<sup>26</sup> For Gadamer, there are many 'pre-theoretical' understandings due to our membership in a common culture reaching back over time;<sup>27</sup> but this, like Martin Heidegger's view of historicity, does not suggest the potential existence of an objective reality. As I read Polanyi,

I find an external truth continuing to beckon, like some remote and glistening pole. Those who see themselves as 'explorers' are asked, I think, to continue looking outward, groping towards that pole. For all that, there are interesting overlaps and connections in the treatment of the humanities.

Like the hermeneutic critic, Polanyi believed that 'what we see or feel depends very much on the way we make sense...': and, in this respect, our readings are always corrigible. Our making sense of Alice Walker's novel, our knowing and appreciating it, according to his view, take place within a largely unspecifiable framework. Certain pre-conceptions are bound to be brought to the work. They are grounded in past experiences (with novels, probably, or with accounts of unfamiliar lives, or with descriptions of the American South); and a variety of subsidiarily known linguistic pointers bring these pre-conceptions to bear on the interpretation of the book. Knowing, as 'indwelling',<sup>28</sup> fuses our subsidiary awareness of the particulars of the novel (the written words, the figures) with the cultural background of our knowing. The framework chosen or created imposes 'indications and standards' that govern the unfolding of our understanding. Regarding the novel as a mental dwelling place, we might go on to adapt Polanyi's notion that, through our personal participation, we experience a gradually growing appreciation of what we read.

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

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

telling us how rational agreement can be reached, agreement of the sort capable of settling every issue on which statements conflict. Rorty objects to the epistemological assumption that there exists some pre-existent common ground uniting people in a common rationality. There would appear to be, in his argument against 'universal commensuration through the hypostatization of some privileged set of descriptions',<sup>32</sup> a connection with Polanyi's distinctive challenge to objectivism. But then he goes on to propose, as an alternative to a philosophy based in epistemology, what he calls an 'edifying philosophy', the point of which is to keep the 'conversation of mankind' going. He views Dewey, Wittgenstein, and Heidegger as the exemplary edifying philosophers, sceptical about systematic philosophy, insisting that 'words take their meanings from other words rather than by virtue of their representative character and...that vocabularies acquire their privileges from the men who use them rather than from their transparency to the real.'<sup>33</sup> Using language in that fashion, people participate in a conversation rather than contribute to an inquiry. It may be (although this is not entirely clear) that the conversation itself might enhance what Polanyi named 'understanding', for all the rejection of representation and the idea of a hidden reality. The difficulty, however, is that Rorty seems to believe that all objective truth is settled, that no aspect of the world or of human beings can 'escape becoming objects of scientific inquiry.' There seems to be no acknowledgement of the need for a critique of objectification or for a recognition of levels of knowing. What is left is a conversation in which people may be doing little more than expressing their subjective attitudes, if not engaging in semantic and semiotic 'play'.

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

I am excluding analytical, linguistic, and various kinds of technicist philosophies from the category of philosophy as one of the humanities in this strangely confused time. But there are numerous non-Cartesian, non-positivist, if not necessarily 'edifying' philosophers appearing among us today. What distinguishes most of them from Polanyi is a lack of consideration for the 'tacit dimension', for the 'subsidiary awareness of particulars which jointly constitute the meaningful entity', and for the importance of the 'chooser's choice' when it comes to the search for significant solutions. I make an exception, as I believe Polanyi has done, for the

phenomenologists, particularly Heidegger and Maurice Merleau-Ponty. Heidegger put great stress upon a nonobjectifying pre-understanding of the meaning of Being and upon a pre-technological way of relating to nature. For Heidegger, human beings share a range of tacit assumptions that are aspects of their being practically bound up with the world; and scientific theories and explanations must be understood to be abstractions from these concrete concerns. Much like Polanyi, Heidegger thought of them on the analogy of maps with relation to lived and traveled landscapes. As has been suggested, he also developed a notion of the 'hidden'. He wrote about the 'Thought-provoking', related to what 'withdraws' and, in withdrawing, draws the human being to what is not yet.<sup>35</sup> He connected this with the shapes 'slumbering within wood' to which the cabinet-maker responds in achieving an appropriate relatedness to wood 'as wood enters into man's dwelling'.<sup>36</sup> Heidegger, too, used the term 'apprentice'; but, in his case, to speak of teaching was to speak of learning to 'let' the apprentices learn. 'The teacher is far less assured of his ground', he wrote, 'than those who learn are of theirs. If the relation between the teacher and the taught is genuine, therefore, there is never a place in it for the authority of the know-it-all or the authoritative sway of the official.'<sup>37</sup> Questions of standard, questions of excellence, even questions having to do with the common remain unresolved.

In the case of Merleau-Ponty, Polanyi himself drew attention to the significant idea of 'embodiment' and the descriptions of the ways people experience their own bodies. He saw this as foreshadowing his own analysis; but he did not believe that Merleau-Ponty did justice to the 'logic of tacit knowing'. In order to discover a logic by which tacit powers could achieve 'true' conclusions, however, Polanyi turned to the example of perception in much the way Merleau-Ponty had done not many years before. We structure the world by means of our perceiving, Merleau-Ponty said; but the objects given in perception are given 'as the infinite sum of an indefinite series of perspectival views in each of which the object is given but in one of which it is given exhaustively.'<sup>38</sup> For Polanyi, there were multiple changing clues, some in the field of vision, some in the eyes, some in the body; but these varied clues could be seen jointly as a single unchanging object due to the perceiver's capacity to perceive coherence.<sup>39</sup> For Polanyi, of course, we do not attend directly to such clues, whether they are subliminal or marginal: but our awareness of them is subsidiary to our focal awareness of the object. Tacit knowing refers to the act of integration as found in visual perception and in the discovery of scientific theories. For Merleau-Ponty, the integration or the synthesis that gives meaning to the data of perception is not intellectual. The perceiver, taking a point of view in a field of perception and action identified with his/her body, grasps the whole through certain of its aspects. But the whole or the perceived thing is not an ideal unity in the possession of the intellect:

"It is rather a totality open to a horizon of an indefinite number of perspectival views which blend with one another according to a given style which defines the object in question."<sup>40</sup> The world, then, becomes something other than that theorized by the scientist. It must be grasped as the totality of perceptible things.

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

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

I cannot but read Polanyi from an existential phenomenological standpoint; and that means I read him with deep doubts and with a kind of stubborn hope. The doubts are in some degree epistemological and in some degree political. For me, reality must be understood as interpreted experience; and, although I believe there can be assent to intersubjective interpretations, I cannot accept the notion of an independently existing reality, one that is hidden or waiting to be revealed. I am aware of his concern for personal knowledge, judgment and choice; I think I can comprehend Polanyi's

claim that we may transcend our subjectivity by 'striving passionately' to fulfill our obligations to 'universal standards'.<sup>42</sup> Knowing, he believed, is guided by a sense of obligation towards truth: 'by an effort to submit to reality'.<sup>43</sup> Yes, I know: we choose those obligations responsibly. Perceiving ourselves as 'novices', we perform an 'act of affiliation' by which we accept 'apprenticeship to a community which cultivates this lore, appreciates its values and strives to live by its standards'.<sup>44</sup> I see the educational significance of this idea of a novitiate; I cannot but see the 'community' spoken of as one of a multiplicity of communities. Nor can I imagine transcending intentionality as we attempt to 'submit', no matter how intense our strivings for excellence and for truth. Nor can I posit an objective or universal ground. We can choose ourselves with respect to what we believe ought to be; we can choose to surpass. To submit, however, to place 'an exceptional degree of confidence in another', may be to deny our freedom, to submerge our life stories.

My other doubt arises out of Polanyi's stress on a 'chain of authorities'. Given what we have learned about the provisional nature of all authorities, I find it intensely difficult to propose that students simply assume the dependability of 'masters' (or, as Polanyi wrote, 'distinguished speakers or famous writers'), or acquiesce in the words of 'superior men'. I understand that the European pedagogical and intellectual tradition once offered a warranty for apprenticeship to great men and for submission of the kind described. My objections to it, however, are akin to my objections to Polanyi's treatment of history and his call for apprenticeship 'to the understanding and imitation of great minds of the past'.<sup>45</sup> Even as I recognize the importance of regulative principles and ego ideals, I cannot refrain from thinking of current interest in a dialogical relation to the past as a companion and a counterpart to documented knowledge. For one thing, this allows for a consideration of the ways in which even great 'men' of the past were engaged in efforts at sense-making with respect to their own lived worlds; in the second place, it questions the modern historian's claim to omniscience, even as he/she sorts out the Napoleons and the Nietzsches from the Jeffersons and the Einsteins. In addition to this, I have difficulties with the idea of unitary, mainstream traditions, for all the visions of consensus and order they carry with them. For one thing, I know how exclusive these traditions have been, how frequently defined and demarcated by an elite few. Like Michel Foucault, I have to take into account existing 'discursive practices' and the sense in which such practices have served over time as forms of power.<sup>46</sup> What is a connoisseurship, I want to ask, that overlooks the voices of women, Blacks, Hispanics, Orientals, the 'years of solitude'? If excellence is spelled out in purely academic, univocal terms, what 'hidden reality' does it represent? And where is the 'universal standard' in a world marked by heteroglossia.<sup>47</sup> by multiple voices on all levels of knowing, uttering incommensurable things?

Surely, if there is to be something approaching the 'universal', something that can be cherished in common, it must be emergent from the multiple perspectives, the many voices; it must arise by means of dialogue, flowing on and on, never twice the same.

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

It is with a vision of incompleteness--and a tribute to Polanyi--that I choose to end. In the chapter called 'Cetology' in Melville's Moby Dick, there is an account of a Sub-Sub Librarian's lifelong effort to collect all the allusions to whales ever made, all the 'higgledy-piggledy whale statements' ever uttered, in order to come to a conceptualization or definition of 'Leviathan'. After identifying and illustrating all the folios and octavoos and chapters, after noting names he suspects as being 'mere sounds, full of Leviathanism, but signifying nothing', the narrator writes:

Finally: It was stated at the outset, that this system would not be here, and at once perfected. You cannot but plainly see that I have kept my word. But I now leave my cetological System standing thus unfinished, even as the great Cathedral of Cologne was left, with the crane still standing upon the top of the uncompleted tower. For small erections may be finished by their first architects; grand ones, true ones, ever leave the copestone to posterity. God keep me from ever completing anything. This whole book is but a draught - nay, but the draught of a draught. Oh, Time, Strength, Cash, and Patience!<sup>48</sup>

This is a discovery made by the individual, Ishmael, a discovery prepared for not merely by a consideration of the 'exhibition of the whale in his broad genera'. It was prepared for, also, by all sorts of specific encounters and events: the images of city people 'of week days pent up in lath and plaster - tied to counters, nailed to benches, clinched to desks' and on Sundays 'fixed in ocean reveries'; the coffin warehouses into which Ishmael found himself glancing; recollections of going to sea as a sailor; curiosity about the great whale. Looking back later, he tries to see into 'the springs and motives' presented to him under 'various disguises'. But they were actually things unspecified at the time, things he came to know through indwelling, things tacitly known, things intuited and imagined that led him to go to sea on a whaling ship for the first time in his life. The

decision to go was a response to the clues in what he had experienced, and to a feeling that there was something to be discovered; and Ishmael took the responsibility for going in search. All that may be considered foreknowledge of his view of an unfinished system. It pointed towards a focal awareness of Captain Ahab's single-minded, absolutist, finally suicidal pursuit; of the doomed 'island men' aboard the Pequod; of the partial nature of all perspectives; of the 'whiteness' and the impenetrable mystery of the whale. For all Ahab's king-like confidence that he would break through appearances to what lay behind, there was no articulate framework to be found, no cosmic reality waiting to be unveiled. There was only Ishmael's lived life along with others, a life interpreted, made meaningful, saved. He 'escaped to tell', and there was the possibility of 'telling', of dialogue with others - men and women - who had sailed on different voyages and had watched the ships from the shore. Something might emerge, something new and yet old, something held in common, something always in process - always to be clarified and renewed.

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

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

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

I would go back, then, to the idea of sharing an idiom, of a conscious assent to a framework I should like to see always in the making. I believe persons come to such assent through initiation into provinces of meaning, into the normative communities that might be identified with the arts and

the humanities, the natural and social sciences, the religions, each one governed by particular and often changing norms, each one characterized by a distinctive cognitive style. Polanyi spoke often of norms, of 'impersonal requirements', which he linked to responsibility with respect to the 'reality' each knower strives to know. In my view, there are ways of attending associated with being mindful; there are disciplines, yes, requirements if, for example, one is to be able to break with the natural attitude and be free to take that voyage with Ishmael, free to interpret women's history in America, free to decode symbol systems, free to ponder what a 'nuclear winter' might mean. There are interpretive, perspectival ways of attending; and connoisseurship may have to do with the mindfulness and craft and care that must accompany them.

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

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

## FOOTNOTES

1. Michael Polanyi, Personal Knowledge (New York: Harper Torchbooks, 1964), p. 203.
2. Polanyi, op. cit., p. 266.
3. Polanyi, op. cit., p. 375.
4. See Paulo Freire, Pedagogy of the Oppressed (New York: Herder and Herder, 1970), p. 76ff.
5. See Gabriel Garcia Marquez, One Hundred Years of Solitude (New York: Harper & Row, 1970).
6. See Polanyi, op. cit., p. 88.
7. Theodor W. Adorno, 'Introduction', Philosophy of Modern Music (New York: The Seabury Press, 1980), p. 5.
8. Polanyi, op. cit., p. 207.
9. Polanyi, op. cit., p. 265.
10. Polanyi, op. cit., p. 266.
11. Edward W. Said, 'Opponents, Audiences, Constituencies, and Community', Critical Inquiry, September 1962, Volume 9, No. 1, The Politics of Interpretation, p. 17.
12. Frank Kermode, 'The Common Reader', Daedalus, Winter 1983, Reading Old and New, pp. 1-10.
13. Polanyi, op. cit., p. 207.
14. See Gerald Graff, Literature Against Itself (Chicago: The University of Chicago Press, 1979), pp. 191-205; Terry Eagleton, Literary Theory (Minneapolis: University of Minnesota Press, 1983), pp. 127-150.
15. Jacques Derrida, Margins of Philology (Chicago: University of Chicago Press, 1981), pp. 3-27.
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