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Preface

David Kettle's article in this issue is an interesting effort, using Polanyi and Gestalt theory, to sort out the nature of the human being; his essay is in dialogue with the work of several theologians. Through a fortunate coincidence, *TAD* happened to receive this issue's essay from Harold McCurdy, a long retired psychologist who taught at the University of North Carolina, Chapel Hill. McCurdy's paper, which brings together poetry and psychology, was written for delivery at the American Psychological Association meeting in 1966. This was two years before the publication of McCurdy's similar essay "Personal Knowing and Making" in Langford and Poteat's collection, *Intellect and Hope*.

Please pay special attention to the notice on page 4 announcing the upcoming Fall meeting of the Polanyi Society. There will be only an abbreviated announcement about this gathering in this year's program for the annual meeting of the American Academy of Religion/Society for Biblical Literature. If you plan to attend, David Rutledge can provide copies of the papers to be discussed. At the business meeting, there will be discussion about changing the status of the Polanyi Society's affiliation with the AAR/SBL.

With the next issue, *TAD* will be consolidating the subscription list which Gelwick has managed with the mailing list which I have. This should make us more efficient; I already manage subscriptions outside North America. All annual membership dues will, beginning this Fall, be sent to me rather than Gelwick. I announce this now because there always are some who actually are ahead on the subscription cycle! Also, you will now be able to pay dues with a major credit card. If you take this option, provide the name (as it appears on the card), account number, expiration date, and the amount to be charged (i.e., a year's subscription, two years, etc.).

Phil Mullins

Tradition and Discovery is indexed selectively in *The Philosopher's Index* and *Religion One: Periodicals.* Book reviews are indexed in *Index to Book Reviews in Religion*.

NEWS AND NOTES

A second edition of *Tradition & Discovery, Publications of the Polanyi Society, Fall 1972 through Winter, 1984-85* has just been published at the price of $25.00 plus postage of $2.00 in the U.S.A. Several years ago, Phil Mullins put together a compilation of these materials but they quickly sold out. The present need is mainly for university libraries and doctoral students. Several of our research university libraries now subscribe to *TAD* annually and have tried to establish a complete collection. To order, contact Richard Gelwick, College of Osteopathic Medicine, University of New England, Biddeford, ME 04005.

The last issue of *TAD* reported that **Joan Crewdson**, former editor of the British Polanyi periodical *Convivium*, has just had her major work , *Christian Doctrine in the Light of Michael Polanyi's Theory of Personal Knowledge, A Personalist Theology*, published. Because inadequate publication information was provided and there seems to be some confusion, please note the following regarding availability in different locales: The Edwin Mellen Press, Lampeter, Dyfed, Wales SA48 7DY, UK or The Edwin Mellen Press, Order Dept., PO Box 450, Lewiston, NY 14092-0450, USA or The Edwin Mellen Press, Order Dept., Box 67 Queenston, Ontario LOS 1LO Canada. Price and postage: 59.95 + 2.50 sterling or 109.95 + 5.00 dollars. A review of this work in *TAD* is forthcoming.

William T. Scott's approximately 900 page biography of Michael Polanyi is being edited by **Carol Scott-Conner**, M.D., School of Medicine, Department of Surgery, The University of Mississippi Medical Center. She is Bill Scott's daughter-in-law, who later married again, after the death of Bill's son Christopher. Carol reports that the typescript of the manuscript has now been put on the computer. Because of the magnitude of this editing task, she is discussing with several Polanyi Society members and editors the course that she it taking. A skilled writer, with training in physical chemistry and in medicine, sympathetic to Bill's goals and the Polanyi vision, Bill and the Polanyi Society are fortunate to have her abilities and interest in this project.

In *TAD* 21:2, there was a request from **Diane Yeager** of Georgetown University for help from Polanyi Society members in locating secondary school teachers who might be interested in the June 26-July 28, 1995 seminar at Georgetown on *Personal Knowledge*. This program, sponsored by the National Endowment for the Humanities, could accomodate 15 applicants. Yeager recently forwarded thanks to Polanyi Society members for helping get the word out about the seminar. She received 245 inquiries and 48 completed applications. She reports that many applicants were very highly qualified; she could have put together two fully qualified seminars from the pool. The seminar was one of the two or three in the U.S. this year that inspired this level of interest. Yeager also advertised the seminar on the electronic Polanyi discussion list which **John Apczynski** moderates; she hopes to have her seminar participants "listen in" to discussions during the seminar period.

Clatsop Community College where **Shirley Thomas** teaches in Astoria, Oregon has received a Title III grant which will extend over a five year period. Thomas reports that the early phase of the grant includes a post critical project which will help faculty "to recognize the extent to which all learning is personal and to find ways to connect the learner to his/her learning."

Richard Gelwick

Program for Fall 1995
Polanyi Society Meeting

This meeting is in conjunction with the American Academy of Religion/Society for Biblical Literature annual meeting at the Philadelphia Marriott and Pennsylvania Convention Center in Philadelphia, PA. The hotel location will be announced in the AAR/SBL Program which will be available in early Fall of 1995. The papers listed below are not read during the session but are discussed for approximately one hour each. Participants can order papers from David Rutledge, Religion Department, Furman University, Greenville, SC 29613-1474 for $5. For additional iinformation contact Rutledge at (803) 294-3296, fax (803)294-3001 or e-mail Rutledge_David/furman@furman.edu.

Saturday, November 18, 1995

9 a.m. - 12 noon

Walter Gulick, Montana State University, Billings, Presiding

9:00 "Religious Pedagogy from Tender to Twilight Years: Parenting, Mentoring, and Pioneering Discoveries by Religious Masters as Viewed from within Polanyi's Sociology and Epistemology of Science"
Aaron Milavec, The Athenaeum of Ohio, Cincinatti

Respondent: **John Apczynski**, St. Bonaventure University

10:15 "Beyond Objectivism and Relativism: Commitment and Coherency in the Academy"
Elizabeth Newman, St. Mary's College

Respondent: **Andy Sanders**, University of Groningen

11:30 Business Meeting

Michael Polanyi and Human Identity

David Kettle

ABSTRACT: Key words: human and animal identity, figure-ground polarity, habitation of a world, openness, relatedness, determinacy, indeterminacy, singularity.
This paper conceives the distinction between human and animal identity in terms (drawn from theological anthropology) of distinctively human "habitation of a world.'' It develops models for this using Polanyi's account of the figure-ground polarity of acts of knowing in general. It identifies three distinct forms taken by this polarity, each offering its own model for human identity in its engagement with the world. Two of these models prove fatally one-sided. The third discloses the character of human identity in its relatedness and openness, its continuity and discontinuity with animal identity. This characterisation of human identity resonates with ideas found in Christian theological anthropology.

Michael Polanyi's work is more than a theory of knowledge. It can be read as challenging the assumptions of epistemology itself as we know it. It throws new light as much on the ''knower'' and the ''known'' as on the act of knowing. That is, it addresses the fundamental questions of human identity and of ontology. In this paper, I shall use Polanyi's ideas to pursue the former of these questions: What is a human being? What is distinctive about human life?

Human and Animal Identity

One way of pursuing the question ''what is a human being?'' is to begin from the fact that human life is emergent from animal life, and then ask how human beings are distinct from animals. This is the approach I follow in this paper.

How are human beings distinct from animals? We might answer: unlike animals, as human beings we can abstract from our situation, visualising what is absent; we can reason; we possess language; we are self-aware (humankind is ''evolution aware of itself''); we are capable of intentional action; we possess free will as animals do not. A recent author has pointed out that human beings are distinct from animals in being both consistent-handed and predominantly right-sided; humans are the ''lop-sided'' animal!

All of these answers provide valuable insight--even the last-mentioned, given the importance of the left and right-hand sides of the human brain! But the diversity of these answers leaves us food for thought. Is the human being adequately described as an animal possessing a set of capacities not shared by other animals? Or does this description miss the distinctiveness of the human being? Should we rather say that the human being represents an integration as distinct from animal life as an animal is itself distinct, as an integration, from the biochemical structures of which it is made up? In this case the above descriptions are inadequate as a definition of the human being unless recognised as derivative upon this higher integration.

Despite all that we know today of what is common to human and animal life, for my part I find myself still won to that most extreme assertion of human disinctiveness--that unlike animals, as human beings we are ''made in the image

of God.'' Regarding what this might mean, the present paper contains only hints. But for me it is the horizon within which I am confronted most forcefully with the paradox of both a radical continuity and a radical discontinuity between human and animal identity. It is this paradox which gives structure to the present paper.

It is in proposals which hover between psychology and theological anthropology that I find a way of approaching and describing this radical continuity and discontinuity. This approach defines human beings as ''inhabiting a world'' in a way that animals do not. I believe this approach incorporates the insights of the other approaches listed above, although I shall not attempt explicitly to demonstrate this now.

Martin Buber is among those who distinguish human beings from animals in these terms. Animals, he says, for their part do not ''inhabit a world,'' but have only a ''realm of life'':

> An animal's organism gathers, continuously or continually, the elements which meet the necessities and wants of its life, in order to construct from them the circle of its existence. Wherever swallows or tunny wander, their bodily being carries out this selection from ''nature,'' which as such is completely unknown to them, and on which they in turn have an effect, again as on something which they neither know or can know. An animal's ''image of the world'' is nothing more than the dynamic of the presences bound up with one another by bodily memory to the extent required by the functions of life which are to be carried out. This image depends on, it clings to, the animal's activities.
>
> It is only man who replaces this unsteady conglomeration, whose constitution is suited to the lifetime of the individual organism, by a unity which can be imagined or thought by him as existing for itself... With him, with his human life, a world exists. The meeting of natural being with the living creature produces those more or less changing masses of usable sense data which constitute the animal's realm of life. But only from the meeting of natural being with man does the new and enduring arise, that which comprehends and infinitely transcends the realm. An animal in the realm of its perceptions is like a fruit in its skin; man is, or can be, in the world as a dweller in an enormous building which is always being added to, and to whose limits he can never penetrate, but which he can nevertheless know as one does know a house in which one lives--for he is capable of grasping the wholeness of the building as such. Man is like this because he is the creature through whose being ''what is'' becomes detached from him, and recognised for itself.[1]

For Buber, ''habitation of a world'' comes about through a twofold human action: first ''the primal setting at a distance''--that is, differentiation of the world as an ''independent opposite'' to the human subject--then ''entering into relation'' with this world. These two movements interact, react and cooperate in an ongoing way.

We find another description of human ''habitation of a world'' offered by the Christian theologian Wolfhart Pannenberg. He relates it to a unique openness or freedom which characterises human beings. He speaks of the ''unique freedom of man to move beyond every given regulation of his existence'' which constitutes his ''openness to the world.'' This leads on the one hand to the emergence, for humankind, of a ''world'' as such: ''One can say that man has a world, while each species of animal is limited to an environment that is fixed by heredity and that is typical of the species.'' On the other hand, "this cannot involve only openness to 'the world'. Rather, openness to the world must mean that man is completely directed into the 'open'... beyond the world...beyond every possible picture of the world....

Such openness beyond the world is even the condition for man's experience of the world...." [2]

What is it that drives human beings into the open in this way? Something different, says Pannnberg, from ''the compulsion associated with animal instinct. The compulsive instinct in animals goes into action only when the triggering object is present. In contrast, the pressure of human drives is directed towards something undefined... it drives man into the open, apparently without a goal.'' [3]

The notion of human beings as essentially directed towards something undefined or indeterminate appears elsewhere in theological anthropology, for example in Bernard Lonergan[4]. Importantly, it is also crucial to Michael Polanyi's account of personal acts of research and discovery. Let us turn now to Polanyi for help in clarifying the nature of human ''habitation of a world.''

As we do so, let us pursue three questions. Firstly, can we develop this approach to human beings as ''inhabiting a world,'' in a way which does sufficient justice to the continuities between human and animal life? Secondly, can we develop it in a way which adequately distinguishes human from animal life without slipping into a false dualism of human subject and non-human world? And thirdly, can we maintain the dialogue with theological anthropology which links the distinctively human to our potentiality for loving, responsible, creative relationships as persons ''made in the image of God''?

Polanyi and Polarity

Readers will probably be familiar with that picture which can be seen either as a white vase against a black background, or as two faces silhouetted in profile against a white background. Devised by Edgar Rubin, it demonstrates how we organise our perceptual field into that which stands out (which Rubin called ''figure'') and that against which it stands out (which he called ''ground''); and it shows that this organisation is determined, at least in part, by ourselves and what we bring to the situation rather than by what lies immediately before us.

Michael Polanyi writes of Rubin's picture:

> This experience shows that when an area is seen as a figure, it acquires significance and solidarity, which it instantly loses when it is made to function as background --while at the same time the area which a moment ago was mere background now becomes a significant and substantial figure. We may generalise this by saying that the **figure** is something **distinctive** seen against a **background** that is **indeterminate**...[5] (bold type mine).

Having discussed other examples of figure-ground organisation, Polanyi remarks:

> An object is seen as such **by virtue** of our seeing its surroundings as its background --and vice-versa. This... suggests that we are performing one single mental act in jointly seeing an object against its background...[6]

And shortly:

> This interplay of background and figure illustrates a general principle: the principle that whenever we are focussing our attention on a particular object, we are relying for doing so on our awareness of many things to which we are not attending directly at the moment, but which are yet functioning as compelling clues for the way the object of our attention will appear to our senses.[7]

For Polanyi, this interplay of figure and ground is fundamental to all our acts of understanding. He speaks of it variously as the polar relation between our ''focal'' and ''subsidiary'' awareness, our ''distal'' and ''proximal'' awareness, or between what we attend **to** and what we attend **from**.

Importantly, this polarity is found not only in our knowledge of objects but also in our exercise of practical skills. Thus Polanyi writes:

> When we use a hammer to drive in a nail, we attend to both nail and hammer, **but in a different way**. We **watch** the effect of our strokes on the nail and try to wield the hammer so as to hit the nail most effectively. When we bring down the hammer we do not feel that its handle has struck our palm but that its head has struck the nail. Yet in a sense we are certainly alert to the feelings in our palm and the fingers that hold the hammer. They guide us in handling it effectively... I have a **subsidiary awareness** of the feeling in the palm of my hand which is merged into my **focal awareness** of my driving in the nail.[8]

Notice that for Polanyi, ground need not mean ''background'' in a spatial sense. It may represent that which is spatially closest to us. We shall discover more about this later.

Returning for a moment to Rubin's picture, this might be taken as showing only that figure/ground organisation takes place where we bring to a situation, already established meanings. After all, if we lived in a culture lacking any objects like a vase in appearance, we would not be drawn to see such a thing in this picture. But Polanyi's theory extends beyond this. It describes how we come to discover meaningful entities in the first place:

> ...the efforts of perception are evoked by scattered features of raw experience suggesting the presence of a hidden pattern which will make sense of the experience. Such a suggestion, if true, is itself knowledge, the kind of foreknowledge we call a good problem... The knowledge of a true problem is indeed a paradigm for all knowing. For knowing is always a tension alerted by largely unspecifiable clues and directed by them towards a focus at which we sense the presence of a thing--a thing that, like a problem, embodies the clues on which we rely for attending to it.[9]

Creative research and discovery is for Polanyi our paradigmatic, most lively act of knowing. It involves the most lively interanimation between our focal and subsidiary awareness, and the deepest personal ''indwelling'' on our part. This is also the character, says Polanyi, of our awareness of persons and of works of art.

His claim that this constitutes the paradigmatic case for all knowing gives radical content to Polanyi's theory. In the quotations above he describes three acts: perceiving an entity, exercising a practical skill, and making a discovery.

His claim is, in effect, that the first and second of these are ultimately to be understood by reference to the third. This claim opens up a way of pursuing further the question of distinctively human identity.

Three Forms of Polarity

I shall now use figure-ground polarity to model the distinctively human ''habitation of a world'' alluded to by Buber and by Pannenberg.

I shall start by demonstrating that this polarity takes **three distinct forms**. I shall show how each of these provides its own model for what is involved in distinctively human ''habitation of a world.'' I shall then argue for the priority of one of these models and tease out the implications of this.

My aim will be to bring out as clearly as possible the underlying logic of each form taken by the polarity. In order to achieve this, I shall discuss three examples of visual perceptions relating to motion. This will limit the imaginative power of what I am describing. To compensate for this the reader is asked to recall the richness of Polanyi's account of polarity to which I have referred above.

The first form taken by figure-ground polarity arises when we are spinning upon an axis. Here, amidst all the flux of our perceptions one ''still point'' remains by reference to which we can make sense of our situation. This lies down the axis upon which we spin, as we look along it. This ''still point'' is a singularity in our field of vision. At the same time it is continuous with everything else in this field. The closer that things lie to this point in our field of vision, the closer they proximate to its stillness, Conversely, as our eye moves away from this axis of spin, movement increases; things blur; indeterminacy increases.

The ''still point'' lying down the axis upon which we spin is the perceptual ground against which we see everything as figure. That is, we rely upon it to make sense of what we see.

We also experience this form of figure-ground polarity when we are speeding down a straight tunnel. Again, amidst all the flux of our perceptions one ''still point'' remains. This is the point which lies straight ahead. Again, the closer that things lie to this point in our field of vision, the closer they proximate to its stillness; the further they lie from it, the more rapid their movement, the more indeterminate their location.

Since neither of these experiences is particularly common, the images above may not communicate very effectively with the reader. Or they may be quite familiar from some of the entertaining visual displays shown today on computer screens when at rest, and through cinema screen effects used in some advertisements. Patterns radiating from a central point on the screen give the impression either of our travelling rapidly through a tunnel or alternatively of matter radiating outward towards us.

Note this equivalence between the form taken by polarity as we spin upon an axis and as we travel along a line. This suggests, for example, that just as light radiation can be thought of as a progression of rapidly travelling particles or of waves, so it can be thought of as a rapidly spinning axis or as a rapidly spinning helix.

But let me come to the fundamental point I want to make about these instances of figure-ground polarity. In

each case **there is a continuous link between the ''still point'' and ourselves**. In the case of our spinning, the perceptual ''still point'' lies not just beyond us, but at every point along the axis stretching from infinity to ourselves; in the case of our travelling along a line, it lies not just beyond us but at every point along the line of our travel stretching from infinity to ourselves. The ground against which every figure is seen **includes both what lies beyond us, and ourselves**.

One further point: the operation of this form of figure-ground polarity is wider than is suggested by the images of spin and travel down a line. Although this may not be immediately apparent, this form of polar relation of figure and ground, in which we ourselves share essentially in the stillness of our perceptual ''ground,'' **is implicit in any perception of ourselves as having a determinate location**. Why do I say this? Because to **perceive ourselves as having a determinate location is to register all change or indeterminacy as deriving from changes of orientation on our own part**. And this, in turn, when we reflect on it, is **to register ourselves as rotating upon an axis perpendicular to the plane of any such change in our orientation.**

In the second example to which we now turn, figure-ground polarity takes a rather different form. Imagine that we are travelling along a road which winds through a changing landscape. Amidst all the flux of our perceptions as we travel, one ''still point,'' or rather one coherent set of still points, remains by reference to which we can make sense of our situation. These are the horizon or background against which we see everything including ourselves, and from which we take our bearings. This horizon is a unique singularity (an extended one) in our field of vision. At the same time it is continuous with other things in our field of vision. The closer that things lie (spatially) to this visual background, the closer they proximate to its stillness. Conversely, the further things lie from it the more changing and indeterminate they are against it.

And now we come to a fundamental difference between this example and our first example of figure-ground polarity. In the present case, as our eye moves from the horizon towards ourselves, indeterminacy increases until the things closest to us are a blurr. When we now go a step further and introduce into this picture ourselves as an object of our perception, we introduce a basic discontinuity in our perceptual field. This discontinuity is marked by the boundary between ourselves as a determinate object of our own perception and the indeterminacy of everything else lying closest to us as we look towards the horizon.

In our first example, the ''ground'' from which we made sense of things extended towards us along an axis or line, and embraced us; in this second example, ''ground'' is strictly a matter of a ''background'' against which we stand and move in discontinuity. Here figure-ground polarity acquires **the fundamentally dual structure which holds in all our perception of discrete, enduring objects--including ourselves as objects**.

Our first example, we noted, is the form of polarity implicit in any perception of ourselves as having a determinate location. Our second example, in complementary fashion, is the form of polarity implicit in any perception of ourselves as having a determinate **orientation**. How is this? Because **to perceive ourselves as having a determinate orientation is to register all change or indeterminacy as deriving from change or indeterminacy of location on our own part**. And this, in turn, when we reflect on it, derives from **our travelling while being turned steadily towards a still point on the horizon**.

It may not be immediately apparent that bearings on the horizon provide us with a determinate orientation rather than locate us. In particular, this may be hard to see when, as we stand on solid ground, an unchanging landscape extends

from the horizon to our feet and in this way seems to locate us. It is easier to see, however, when (for example) we are on a boat at sea during the night, and when it is obvious that a distant lighthouse which offers us a definite orientation does little to locate us.

There remains a third and critical form of figure-ground polarity, which stands in odd relation to the previous two. In the two examples given above, we make sense of what we perceive by reference to a ''ground'' already adopted as such by us--in the former case our own axis or line of travel, in the latter case a distant horizon or set of bearings. In each case we have a ''still point'' or set of still points by reference to which we see everything. But what of the situation where we have no such given ''ground'' from which to see things? How do we come to register such still ''ground' in the first place? Supposing, for example, that we are astronauts travelling through a planetary system. Looking out from our spaceship we try to make sense visually of a complex set of relative motions of planets and moons. In so doing we have to work out how much of this relative motion reflects changes in our own location and orientation. In other words nothing is given. We must discover what to count a fixed location and orientation. This discovery must be made through our observations themselves. It cannot be based upon prior commitment to any given coordinate-system, whether this be unreflective or a matter of our deliberately adopting and testing a system by way of hypothesis.

It is this kind of primary discovery which Polanyi describes so well in terms of the polarity of figure and ground emergent in our most lively knowledge and research. Essentially such discovery involves **our immersion in a dual indeterminacy, out of which arise figure and ground in polar relation to each other**. This point is of fundamental importance. Figure and ground arise together, interanimating each other. **Even though having once arisen, ground appears logically prior to figure, ground does not arise before figure: they arise together**. This, Polanyi shows us, is the structure of our most creative discoveries in science, and also of our language-acquisition.

It is also, Polanyi claims, our paradigmatic act of knowing. If this is so, it is quite crucial that we should not automatically reduce it to other acts of knowing. This is the mistake we make when we automatically reduce finding our bearings to a process of testing successive hypotheses. Now this latter process comprises discrete steps and contains two distinct elements: committing ourselves to an hypothesis is one thing and testing it is another, and the former precedes the latter. By contrast, in creative discovery commitment and testing are as inseparable as they are in the act of trying to master a skill. For example, when learning to ride a bicycle ''trying to'' ride and ''trying whether we can'' ride are inseparable. And our act of commitment in ''riding a bicycle'' acquires definition only in the process of discovering whether we can ride. In the same way when seeking our bearings, our commitment to what offers us bearings acquires definition only in the process of viewing all that is before us--including what is (as we shall come to discover) in motion rather than at rest.

Let me refer back now to our experiences of spinning on an axis and of moving against a far horizon. In these experiences we made sense of what we saw by reference to a given, still ground, which represented respectively determinate location and determinate orientation. Here in this third example, however, we have the form of polarity through which we discover **what counts both as a fixed location and a fixed orientation in the first place**. We have the emergence, out of a dual indeterminacy, of what it means for us to look to the world, from the ground at once of a determinate orientation (disclosed as from beyond and over against us) and a determinate location (disclosed as both beyond and within us)--and in this act, to make sense of a world in which we are spatially located.

Consider the nature of what is discovered here, in the discovery of fixed orientation and location. Firstly, this

is the discovery of what counts as absolute rest--zero movement, zero acceleration, zero value for every differential of location or orientation with regard to time. It is not just the discovery of what is contingently at rest. Secondly, this discovery is the discovery not just of what to rely on as bearings in a particular situation, but a renewed discovery of the very meaning of bearings, absolute rest, location and orientation in the first place.

This last point about the original discovery of meaning is of fundamental importance if we are to understand the possibility that the third form of polarity is primary and not reducible to the other two forms of polarity. Let me therefore illustrate this point in another way.

Kurt Goldstein conducted an experiment with people who had been brain damaged and left with a condition he labelled ''amnesic aphasia.''[10] On the face of it, their condition was that they could not match words with properties or classes of objects to which these referred. Goldstein established that their problem was of a different and deeper kind. He did so by presenting such people with skeins of wool of varying colour, thickness, length, etc., thrown together in a heap. He began selecting from the heap strands of wool with a common characteristic--say, the same colour but of differing thickness, etc. --and invited them to continue the procedure. This they could not do. If, however, the strands were identical among themselves in every respect, they were able to continue the procedure.

It appeared that Goldstein's patients could not integrate multiple concrete experiences in such a way that the possibility arose of a meaning ''standing out'' from them. Their thinking had been reduced entirely to the immediate; Goldstein described them as capable only of a ''concrete'' attitude to the world.

Now it would be wrong to assume that because Goldstein's patients could select identical strands that they could see ''red.'' Similarly regarding ourselves, it would be wrong to assume that when as young children we first integrated multiple experiences in such a way that the meaning ''red'' stood out for us, this was a matter of our recognising the common denominator among various discrete meanings already known to us us prior to this act of integration. Rather we must think of meaning arising in the first place as we indwell multiple, indeterminate experiences and achieve a form of dynamic equilibrium in which meaning arises as a figure-ground polarity.

In conclusion, the primacy of the third form of figure-ground polarity has two aspects. Firstly, it is epistemologically prior to the first two forms of polarity. Discovery precedes knowledge. Only through our participation in it do we ever come to experience the first two forms of polarity. Secondly, it involves more from us than these other two forms of polarity by way of attention and creative, responsive ''indwelling.'' Indeed we can understand the first two forms of polarity as special cases of the third, in which the issue of what counts as ground (and with it the vitality of interanimation of figure and ground) has lapsed in one way or another. By contrast, we cannot understand the third polarity by reference to the first two.

I want to suggest now that **this third form of polarity models our very discovery of a world and of ourselves as inhabiting a world**. Human ''habitation of a world,'' which gives an account of human identity, can be seen as about **our indwelling a dual indeterminacy from which there emerge in polar interanimation that to** which we attend--our world--and that **from** which we attend--our embodied selves and our transcendent bearings.

Let me develop this suggestion further by reflecting that each of our three forms of figure-ground polarity provides a model for human identity. I shall consider each model in turn, and show how the third embraces the positive

insights of the first two while avoiding their respective limitations.

The Openness of Human Identity

Let us consider, as a model for human identity, the first form of figure-ground polarity described above. Can we regard human identity as about an open system comprising a polarity of this form, in which humans and their environment are bound together and constitute one common ground for a distinctive figure-ground polarity?

Certainly, I would suggest, at least we may view the identity of a given animal species in this way. We can think of an animal specimen as an open system oriented towards dynamic equilibrium with its environment. The identity of the animal is defined by a regulating principle which sustains a particular morphological field characteristic of the species. This determines the animal's actions from moment to moment, which actions can therefore be thought of as at once constituting and as directed towards the ''self-actualisation'' of the species.

Can we think of human identity in the same way? Certainly there are those who have believed so. Among them was Kurt Goldstein (again), whose beliefs drew their impetus from his observations of the striking power of morphological principles operating in people who had suffered brain damage in war. He formulated an ''organismic'' theory of personality, seeing the human organism as directed essentially towards ''self-actualisation.'' His theory influenced popular psychotherapy such as that associated with Karl Rogers.14

Such an approach to human identity helps us to take seriously the richness of continuity between animal and human life. But I suggest it cannot, by itself, capture the distinctive character of human beings (over against animals) as ''inhabiting a world.''

Can we develop the model afforded by the first form of figure-ground polarity so as to cope with this distinction? We cannot, I believe, develop it thus from within itself. We can, however, develop it suitably by starting rather from the third form of polarity described above. In order to see this, let us begin by noting that the first form of polarity, as we have described it, already involves the dimension of perceptual depth: we look **along** our axis of spin or path of travel as it stretches away from us. But on reflection we must acknowledge that this dimension of depth presupposes our participation in the third form of polarity, through which we discover ourselves differentiated from a world which we inhabit spatially. Without such prior participation, perceptual depth does not arise. The first form of polarity will now be equivalent to spin on a flat surface on which we are stuck. **Here we recognise, indeed, the character of animal identity expressed by Buber's description of an animal as wearing its ''world'' as a fruit wears its skin**. By contrast, the introduction of perceptual depth to the first form of polarity allows for differentiation between the human subject and its world while linking these continuously in perceptual ground. In such terms, then, we can develop the model for human identity afforded by the first form of polarity so as properly to distinguish human from animal identity.

The emergence of perceptual depth in human experience correlates, I suggest, with the emergence of a new openness of identity--or should I say with the emergence of essentially emergent identity. A spatial analogy for this is as follows. When we look straight along a stick we have no sense of its depth: the stick is foreshortened to the point of being ''flattened.'' The sensori-motor activity of an animal is analogous to this. Stimulus-response reflexes bind an animal to its environment without depth or distance. These get coordinated together, in an overall pattern of figure-

ground excitation, by the morphological field of the animal species concerned. In human life the emergence of depth breaks down this field and reconstitutes it in a way that requires a whole new integration. This new integration can be likened to learning to coordinate alot of optical tubes so as to look through them together in one direction rather than many.

There arises now the question what counts as depth in a determinate direction, i.e. as the alignment of stimulus-response ''vectors'' (indwelt ''sticks'' or ''tubes'') in a coherent direction. Openness to this new question constitutes the new openness and orientation towards personal integrity distinctive of human identity. This contrasts with the bondage of an animal species to its regulative principle, which unlike it is adequately modelled by the first form of figure-ground polarity.

I find this new, distinctively human ''openness'' reflected in Jerome Bruner's account of infant behaviour and in particular, the emergence of ''open'' systems of behaviour alongside automatic ones. He writes:

> It is quite apparent that many biological systems operate from the outset as hierarchically organised wholes by their very nature. But it is also true that some systems achieve structure slowly and haltingly. In early human growth, the initially well-organised systems seem to be predominantly of the automatic or overcontrolled type as with breathing, swallowing an initial sucking. With a minimum of initial priming, all three of these are potentiated easily and go off in appropriate ways to appropriate stimulation.[11]

By contrast there are emergent ''open'' systems which grow slowly and with awkwardness. Bruner considers, by way of example, a child's efforts at performing voluntarily an act of sucking which had previously been a matter purely of reflex. This involves learning, in groping manner, to detach the sucking reflect from its original stimulus and coordinate it with other systems of response.

As Bruner points out, these open systems ''are the systems of action that become generative in the linguistic sense... it is the open quality of these systems that allows for their incorporation of prosthetic devices and tools on the one side, and of language as a medium of programming action on the other.''[12]

The openness Bruner describes is modelled by the openness of our third form of figure-ground polarity as compared to the first. It is not simply the actuation of a reflex in which we are bound to the world in a manner analogous to the figure-ground polarity we experience when spinning on an axis down which we look. It is rather analogous to the groping search for bearings in which we are open to what counts as a determinate axis of spin in the first place.

We should note how radical is the openness before us here. Within any hierarchy of systems, identity at a given level is always open or indeterminate relative to the level below it. Even the dynamic equilibrium of a candle flame has no description in terms the particles which make it up. However each system does have its own level of description. In the case of human identity, however, we witness something unique--we testify to a system which is essentially emergent or self-transcendent--open relative even to itself. As human beings we are directed beyond every regulation of our existence. Recalling Pannenberg's words, we are directed beyond ourselves towards the world, and beyond this world, and beyond every possible world...

It might seem that, given all this, if we now continue claiming that there is such a thing as determinate human identity, when it is now apparent that this refuses equation with any conceivable determinate open system in the world, then we claim for human beings an identity radically discontinuous with and unrelated to the world. This calls us now to explore the second form of polarity as providing a model for human identity.

The Relatedness of Human Identity

The approach outlined above finds animal identity unproblematic, but finds human identity problematically open or indeterminate. However, if we start instead from what we take to be human identity, the matter appears quite different, as we shall now see.

Imagine that, walking through the park at night, we hear a noise nearby in the bushes. Is that someone about to attack us? Ah--no, there's nobody there, it's only a cat. When we speak in this way, we testify implicitly to a primary perception of ours, of the **absence** of human presence or agency. Granted lower levels of cause and effect are present, but these do not count decisively for us as a ''presence.'' Such perception underlies our way of thinking of human beings as ''there,'' possessing identity over against their environment, in a way that animals are not--still less, inanimate causes such as a sudden breeze which shakes the bushes.

Now this way of thinking corresponds to the model for human identity provided by the second form of figure-ground polarity described above. According to this model, our identity is distinct from and discontinuous with the perceptual ground against which we see ourselves as moving and acting. Indeed we are dependent upon this separation in order to ''be there,'' to stand out from our environment. This separation gives us an independent existence from which we can act freely upon our environment--as opposed to our being determined by our environment as some kind of dynamic system **within it**.

Now it may seem that this approach offers the surest possible statement of the fact of human existence by comparison with the existence of anything else in the world. People are there! On further reflection, however, the situation is more ambiguous. Two problems arise. Firstly, is our apprehension of human presence and absence really very different from the experience of looking for a particular friend in a crowd with the outcomes either of apprehending her presence or absence? Jean Paul Sartre would say not, and he effectively builds a whole theory of human identity out of it.[13]

Secondly, even if we hold that our apprehension of human presence relative to its absence involves something crucially more than the recognition of a friend among strangers, is it not true that we apprehend animal presence in a parallel way relative to inanimate objects? We recognise ''something there'' in the case of a living organism, which we surely do not see--despite some striking similarities--in the case of the dynamics of a thundercloud[14] or of a computer ''virus.'' Yet in the context of the question of human presence, animal life is merely part of the environment. And we can go a step further: in turn we recognise an inanimate object as ''there,'' standing out from its background, despite the fact that in the context of the question of a living presence, it is merely part of the environment.

The point is that this second model for human identity--or for animal or inanimate identity for that matter--fails to acknowledge the relatedness of what it models to its setting. It fails to acknowledge the polarity of figure and ground, as described by Polanyi and quoted early in this paper. Nor can we develop this model from within itself so

as to do so. We **can** develop it suitably, however, by starting instead from the third form of polarity. In order to see this, let us begin by recalling how we and our world arise together in mutual interanimation. **Only subsequently does the appearance of discontinuity between ourselves and our world arise, and then only with respect to our habitual ''middle'' environment**. By contrast our primary, lively experience of an emerging world and of our emerging selves is one of relatedness--of unity as much as of separation. It is an experience of participation and of creative response. This remains our experience in personal relationships and in moral, artistic and spiritual encounter--that is, in the realms of knowledge which entail, as Polanyi says, ''deep indwelling.'' Deep indwelling implies lively mutual interanimation of figure and ground, as we give ourselves fully and creatively to discovering the world and ourselves.

Seen strictly by reference to the second form of polarity, this relatedness of human identity remains problematic. It appears to be some kind of transitional stage between ignorance of and knowledge of a world essentially distinct from ourselves. It appears to be situated at that odd moment incomprehensible to traditional epistemology, when we seem miraculously to bridge the gap between ourselves and our world and we know something. But this problem for a dualistic viewpoint is hidden from itself, and instead the problem posed by our relatedness gets evaded: the ''knowledge'' which has essentially to do with our relatedness gets dismissed as merely a matter of self-relation --as a circular, subjective act of self-definition. Personal, moral, creative ''knowledge'' are discounted as knowledge of the real world.

Once we start from the third form of polarity, however, the relatedness of human identity reveals itself, on the contrary, as integral to our paradigmatic experiences of reality and of ourselves as real. **The world we ''inhabit'' (a habitation which defines us as human beings...) is first the world of people, morality, creativity--and, Christians would say, of God**. In these matters our primary encounter with reality is not as autonomous agents viewing the world in detachment and manipulating it, but as lively, responsive and responsible persons indwelling, participating in, creative and moral life.

Once again this truth can be illuminated from early childhood experience. Children do not address first the inanimate world, and then people as belonging to this world; rather they first respond to people who engage them in relationship. And as they do so they do not bring set questions, but rather they reach out, as Bruner says, gropingly. From this primary, exploratory participation (in that commitment of indeterminate range which Polanyi calls ''indwelling'') there slowly emerges a sense of the real world and of personal identity.

Let me emphasise again: **we do not first exist as persons, and then indwell this life: our indwelling, our habitation constitutes us as persons**. The second form of figure-ground polarity cannot adequately model this relatedness, but portrays us ultimately as self-sufficient, self-determining individuals; while human relatedness as modelled by the first form of figure-ground polarity is ultimately deterministic. Only the third form of figure-ground polarity captures the paradox of our relatedness and our openness or freedom as human beings.

The Dialogue with Theological Anthropology

We have been pursuing what is distinctive about human beings as compared to animals. We began with the proposal in theological anthropology that human beings ''inhabit a world'' in a way that animals do not. We have explored what this ''habitation'' or ''indwelling'' may be like, and discussed in particular the distinctive openness and relatedness of human identity. The conclusions we have reached resonate in various important ways with the insights

of Christian theological anthropology regarding what it means for human beings to be made ''in the image of God.'' Further attention to these resonances may therefore help us enlarge our understanding of the conclusions to which we have come.

Let me finish by indicating briefly five such points of resonance, and so indicate an agenda for this unfinished dialogue:

1. Both affirm human identity as grounded essentially in participation in lively, moral, practical, personal knowledge--rather than in technical knowledge and mastery of the material world on the one hand, or in the automatisms of cultural ''self-expression'' on the other. This lively knowledge --and searching--is vital to human life in a strict sense; our humanity is drawn from it. To evade its demands is to contradict ourselves practically, as human beings. Christian theology makes this connection between knowledge and life (and between evasion and death) in its theology of the Spirit.

2. Neither posits a dualism between subject and subject. Both affirm that human identity is essentially relational, rather than being either undifferentiated within a larger whole on the one hand, or an isolated individual agent on the other. Christian theology speaks of human life as created to share in the inner relational life of the Divine Trinity.

3. More generally, neither posits a dualism between subject and world. Both affirm that the ground of our human identity is at once beyond us and within us, in an infinite horizon which lies both beyond us and within us. Christian theology speaks of God as at once transcendent and immanent.

4. Accordingly, neither posits a dualism between our own initiative as agents and either the initiative of other people or what happens to us generally. Our most lively, creative initiatives are fundamentally a response to the reality of other people and of the world. Christian theology affirms the paradox of grace, that God's activity towards us is expressed not in human passivity but human vitality.

5. Both affirm human identity as essentially emergent. We are by nature directed forward into the open--in the primary instance, in responsiveness towards undisclosed personal, moral, creative reality--rather than ''possessing'' an identity. We live under the summons to ''become what we are.''.Christian theology speaks of this emergent character of human identity whenever it speaks of us as standing under the summons of God--and also when it speaks in eschatological terms of a life beyond the material world in which we may now already share.

ENDNOTES

[1] Martin Buber, "Distance and Relation", *The Knowledge of Man* (ed. Maurice Friedman, London 1965), 59-71, 60-61.

[2]W. Pannenberg, *What is Man?* (Philadelphia 1970), 8.

[3]Ibid, 9.

[4]Bernard Lonergan, *Insight* (London 1983). See, for example, Chl2.

[5]Michael Polanyi, "The Unaccountable Element in Science", *Knowing and Being* (ed. Marjorie Grene, London 1969), 105-120, 110.

[6]Ibid, 111.

[7]Ibid, 113.

[8] Michael Polanyi, *Personal Knowledge:Towards a Post-Critical Philosophy* (London 1958), 55.

[9]Polanyi, "The Unaccountable Element in Science", 117.

[10]Kurt Goldstein, "The Problem of the Meaning of Words based upon Observation of Aphasic Patients", in *Selected Papers* (The Hague 1971), 345-57.

[11]Jerome Bruner, On Voluntary Action and its Hierarchical Structure, *Beyond the Information Given* (London 1974), 280-94, 280.

[12]Ibid, 282.

[13]See Sartre's well known analysis of looking for his friend Pierre in a cafe: Jean Paul Sartre, *Being and Nothingness* (London 1969), 9.

[14]W. H. Thorpe, *Animal Nature and Human Nature* (London 1974).

The Significance of Poetry for Psychological Theory

Harold G. McCurdy

ABSTRACT Key Words: psychology, associationism, imagination, feeling, esemplastic power, poetic truth, reality, Coleridge, Hartley, Brown, Wedgwood, Emmet, Shakespeare, Polanyi.
Contemporary associationistic psychology excludes poetic truth an all that it implies regarding the participation of the observer with the observed in building up our conception of reality.

Prefatory Note

The following paper was read September 1966 in New York to a general assembly of Division 10 of the American Psychological Association. It ran counter to the mainstream of American psychology and still does. Perhaps it would have had more impact if it had laid greater stress on Michael Polanyi. Not being much of an academic strategist, I dwelt rather on S.T. Coleridge for reasons, historical and otherwise, that I hoped my discussion would illuminate. So it happened that I invoked the name of Polanyi at only one point, in connection with a quotation from Dorothy Emmet about Coleridge's view that poetic truth is "a knowing which is at the same time a making." Later I was more expansive on this theme. Polanyi himself, I was told, looked with favor on "Personal Knowing and Making," my contribution to Langford and Poteat's *Intellect and Hope* (Duke, 1968). In 1966 I had supposed that a single reference to Polanyi would suffice to bring to my auditors' minds the main thrust of his thought. His *Personal Knowledge* had been in circulation for eight years. It was current enough by 1962 that I did not hesitate to use the concepts of focal and subsidiary awareness at Beloit that summer in lectures published subsequently as *Personality and Science* (Van Nostrand, 1965). Possibly Polanyi's name was not as evocative as I had hoped, either at Beloit in 1962 or in New York in 1966. Yet in 1966 Abraham Maslow, soon to be president of the APA, was trumpeting Polanyi in the preface of his *The Psychology of Science* (Harper & Row, 1966), calling *Personal Knowledge* "this profound work which is certainly required reading for our generation." Maslow was more positive than the editors of *Intellect and Hope*: they admitted puzzlement and entered various caveats against Polanyi's daring venture. I myself, however, like Maslow, wholeheartedly welcomed Polanyi's work. It seemed to me to be boldly articulating an understanding of our human place in the world which has always been current among thinking men, though recently submerged and discredited by Cartesian science. With a man of science now coming forward to lift the repression a hope arose that the ravaged cultural landscape I saw around me might once again be refreshed by life-giving streams. It is hard for me today to justify that hope. Yet one must always hope, and I am encouraged by what I know of John Puddefoot's large work-in-progress.

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My purpose today is to consider that turbulent mid-region of human thought where poetry and science flow into each other and contend for primacy. In order to be as concrete and authoritative as possible in the limited time at my disposal and in order to avail myself of the common fund of knowledge which can be expected in an audience such as this, I will center the discussion on Samuel Taylor Coleridge (1772-1834), who was a psychologist as well as a poet, though usually not mentioned in the histories of psychology. No doubt the selection of Coleridge as representative of poetry will introduce a certain bias which a more general discussion might be able to avoid, but I personally think that his scope is sufficient to cover a wide range of poetic styles, and, in any case, he has the peculiar advantage for us that he studied passionately and challenged vigorously a psychological theorist who, if he returned today, would find himself reasonably well at home in our American psychological climate, namely David Hartley (1705-1757), the founder of associationism.

My reading of history suggests to me that those who attach themselves tenaciously to asssociationism or its modern equivalents tend to be antipathetic to poetry, either by choice or by invincible ignorance. Newton — I mention Newton because of his magisterial influence on Hartley —, Newton, "when asked what he thought of poetry, said: 'I'll tell that of Berner: he said that poetry was a kind of ingenious nonsense.'"[1] As for Locke, Hartley's second major authority, "Locke was equally straightforward. 'Poetry and Gaming, which usually go together, are alike in this, too, that they seldom bring any advantage but to those who have nothing else to live on.'"[2] Hartley himself showed no enthusiasm for poetry. Neither did James Mill, and although John Stuart Mill has the distinction of having been saved from suicide by reading the poems of Wordsworth, his gratitude did not seriously unbalance his utilitarian sobriety. In America, more recently, Howard Warren, the approving historian of associationism, remarked of his encounter with a representative of the Scottish School at Princeton: "Dr. McCosh's psychology struck me as too poetical... My sympathies leaned more and more toward associationism.'"[3] The Battle of Behaviorism fought between McDougall and Watson was, in a sense, a repetition of that between Coleridge and Hartley; for McDougall loved Coleridge and Wordsworth and was fond of quoting them both, whereas Watson was perhaps never touched by poetry at all. I have run across one possible exception to the general rule that associationism and poetry are incompatible. That is the questionable case of Thomas Brown (1778-1820), author of *The Paradise of Coquettes* as well as of *Lectures on the Philosophy of the Human Mind*, who, prouder of his verse than of his philosophy, is nevertheless remembered in the histories as an associationist. I say he is a questionable case, because, on the one hand, his poetry is weak, and, on the other, he considerably modulated the Hartleian mechanics.

Coleridge was far more of a poet than Brown, and he had a more fundamental conflict with Hartley. At first he was a devoted disciple. In an early poem, where he joins together in one breath Milton, Newton, Hartley, and Priestley as precursors of the Millenium, he refers to Hartley as

> he of mortal kind
> Wisest, he first who marked the ideal tribes
> Up the fine fibres through the sentient brain.[4]

That was in 1794, when he was twenty-two. Two years later, when his first child was born, he named him David Hartley. But not long afterwards his discipleship changed into opposition. The basic cause, I think, was his deepening awareness of the nature of poetry, as he composed his own masterpieces and followed Wordsworth's development; but an episode of 1797 is a part of the story, too, and deserves mention.

In that year Tom Wedgwood, a friend of the radical William Godwin, proposed to Coleridge and Wordsworth that they should join him in making practical application of the principles of associationism to the education of children, for the purpose of fostering a new race of geniuses. I am indebted to a richly learned article by David V. Erdman[5] for knowledge of this episode and its effects. Wedgwood's educational theory, outlined in a letter to Godwin, emphasizes systematic, controlled input of distinct ideas, under the guidance of a superior character or genius who is himself thoroughly systematized — in short, programmed instruction by a dedicated programmer. The hardware available had not reached today's level of sophistication, but it was pointed in the same direction. Dr. Thomas Beddoes, a physician and scientific writer, another friend of Wedgwood's, was inventing and putting on the market suitable educational equipment — a mathematics textbook accompanied by a kit of "schemes and models of theorems in plane and solid geometry" and sets of Rational Toys, as he called them, such as sequences of tools from the plough to the steam-engine and "interlocking bricks ... that could be pieced together to make mechanical models." In his preface to the textbook of mathematics, Dr. Beddoes explains the purpose of his geometric models and Rational Toys, which are expected to guarantee:

> not merely information in mechanics, chemistry, and technology, but the improvement of the senses, by presenting in a certain order and upon principle, objects of touch along with objects of sight. In this important business, we have hitherto trusted to chance. But there is every reason to suppose that INTELLIGENT ART will produce a much quicker and greater effect. Should instruction addressed to sense, be made in any country the principle of education; should the best method of cultivating the senses be studied, and should proper exercises be devised for reproducing ideas (originally well defined,) sometimes with rapidity, at others in diversified trains, the consequence is to me obvious. The inhabitants of that country would speedily become ... superior to the rest of mankind in intellect and efficiency....[6]

From such reasonable arguments and from assignment as superintendents over this sort of education, the two poets recoiled. Wordsworth seems to have been particularly offended by the assumption that children would be corrupted by wild nature's chaotic bounty of uncontrolled and irrational stimuli and should therefore be brought up in bare-walled laboratories. Coleridge took the line that the poetic imagination was a power to be respected in children, and that in his own case it had been nourished by the early reading of fairy-tales — something that would have been forbidden on Wedgwood's principles. He also agreed with Wordsworth that wild nature is anything but chaotic and demoralizing.

The education program that Coleridge rejected was based on a psychological theory which is both simple and comprehensive. In Hartley's scheme all mental life is derived from impressions made on the body by material impact. These impressions follow a dual path: the path of vibrations in the medullary substance of the brain, and the parallel path of sensations in the mind. The sensations pass over into ideas as the vibrations dwindle to vibratiuncles, and persist in that form as the stuff of memory and imagination. The mind is initially an even blanker tablet than it was for Locke, who did slip in a capacity for reflection. Mental activity is simply the association of sensations and ideas and bodily movements according to a perfectly mechanical process, summed up in one law — contiguity.

How could so bare a system have attracted the luxuriant mind of Coleridge? Partly because it was connected, in Hartley's case, with exalted religious views. Once Coleridge had succeeded in disentangling these views from the

psychological system, the system itself appeared to him starkly inadequate. The revulsion was already setting in by 1797, when, agitated by Wedgwood's educational proposals, Coleridge began examining his own education in autobiographical letters to his friend Thomas Poole. He wrote in one of these:

> ... my father was fond of me, and used to take me on his knee, and hold long conversations with me. I remember, when eight years old, walking with him one winter evening from a farmer's house, a mile from Ottery; and he then told me the names of the stars, and how Jupiter was a thousand times larger than our world, and that the other twinkling stars were suns that had worlds rolling round them; and when I came home, he showed me how they rolled round. I heard him with a profound delight and admiration, but without the least mixture of wonder or incredulity. For from my early reading of fairy tales and about genii, and the like, my mind had been habituated to the Vast; and I never regarded my senses in any way as the *criteria* of my belief. I regulated all my creeds by my conceptions, not by my sight, even at that age. Ought children to be permitted to read romances and stories of giants, magicians, and genii? I know all that has been said against it; but I have formed my faith in the affirmative. I know no other way of giving the mind a love of the great and Whole. Those who have been led to the same truths step by step, through the constant testimony of their senses, seem to me to want a sense which I possess. They contemplate nothing but parts, and all parts are necessarily little, and the universe to them is but a mass of little things. It is true, the mind may become credulous and prone to superstition by the former method; — but are not the experimentalists credulous even to madness in believing any absurdity, rather than believe the grandest truths, if they have not the testimony of their own senses in their favor? I have known some who have been rationally educated, as it is styled. They were marked by a microscopic acuteness; but when they looked at great things, all became a blank, and they saw nothing, and denied that any thing could be seen, and uniformly put the negative of a power for the possession of a power, and called the want of imagination judgment, and the never being moved to rapture philosophy.[7]

The kind of education Coleridge had enjoyed was not that proposed by Wedgwood; furthermore, in regard to his own mental workings, he denies one of the fundamental postulates of the Hartleian system, namely the priority of the senses. Let it be noted that this letter antecedes Coleridge's visit to Germany and his subsequent immersion in Kant and Schelling, to whom entirely too much of Coleridge's theory of poetry has been attributed. I stand with Kathleen Coburn in supposing that it was not his acquaintance with the transcendental Germans so much as it was his knowledge of himself as poet that disenchanted Coleridge with associationistic psychology. I guess, as she does, that "Coleridge began to suspect the soundness of his enthusiasm for Hartley as soon as he saw that Associationism in this form meant the passivity of the mind, a concept he rejected out of his own immediate experience.[8]

Coleridge's contemporary Thomas Brown, as I have mentioned, found it necessary to qualify the Hartleian scheme in a number of ways, notably by stressing that original constitutional differences affect scope of memory and mode of association — introducing thus, in the case of poetic genius, a penchant of the mind for association by analogy rather than by contiguity. Coleridge's revision is more radical. It's not that he denies the occurrence of association, whether by analogy or contiguity; but he brings all mere association under the head of fancy and relegates fancy to a minor though useful role as a sort of hewer of wood and drawer of water for the imperial and non-associationistic power that he calls imagination. Fancy (i.e., the play of association) carries in bundles of memories and pails of feeling, but it builds no fire and makes no feast, and, above all, it does not organize and permeate the whole upsurge of life which

is the poem before the poem appears as a dancing, singing, variegated, thoroughly disciplined and articulated company of living and lovingly embracing words. That is the work of imagination, and Coleridge knew only too well what it was to have to try to do without it. I.A. Richards has correctly underlined this important fact:

> The contrast between living power and lifeless mechanism was no abstract matter for him, but a daily torment. Recognizing this more clearly as the `years matured the silent strife', refusing the comfort of forgetfulness, he had to extricate himself from the Locke tradition, not because it was `false', but because for himself, at some hours, it was too painfully true. It was the intellectual equivalent of his uncreative moods, and of the temper of an uncreative century.[9]

If Coleridge had been more continuously a poet, if he had been Shakespeare, he would probably not have troubled to deal with associationism at all, except as material for some dramatic joke such as Shakespeare makes of the pedantry of grammarians. He was not Shakespeare, however, and (when at times he was reduced to slaving in the "dark Satanic mills" of the mind) he could plainly see imagination standing at a distance and towering over the humdrum mechanical association of ideas, as some deprived factory worker in one of the new temples of the Industrial Revolution might through a dirty window stare at a far-off regal mountain crowned with blue sky and white clouds.

The central characteristic of the sovereign power of imagination, according to Coleridge, is that it unifies. "Esemplastic" is the term he introduced into English to signify this aspect. Imagination "molds into one." As applied to the making of poems, this means the unification of diverse elements of imagery, diction, syntax, metre, etc., into a whole in which nothing seems forced, superfluous, deficient, or out of place; in which a prevailing energy sets the tone and gives the meaning to every discriminable part. Neither contiguity nor analogy nor any other supposed law of association accounts for this effect, but only the breath of life which proceeds from the imagination. "Ideas no more recall one another," he says in 1804, "than the leaves in a tree fluttering in the breeze propagate their motion one to another."[10] In an exactly parallel sentence, more conventionally phrased, he says: "Association depends in a much greater degree on the recurrence of resembling states of feeling than on trains of ideas."[11]

The esemplastic power of imagination does even more than has been suggested by these remarks on states of feeling and the wind that blows the leaves. It not only sets in motion and organizes available materials; it creates what it organizes. For before there is the poem, there is the poet, in a state of feeling capable of generating the poem — not out of absolute nothing, to be sure, but out of a magma of experiencing which is not divisible initially into words or thoughts or things. "Joy" is the term Coleridge applies to this state in one of his most emphatic utterances. From joy is emitted the light by which things are seen, the voice by which words are spoken, the music by which thoughts dance together. In his *Biographia Literaria* Coleridge sums up the doctrine about the unifying power of imagination in a compact statement about man as poet:

> The poet, described in ideal perfection, brings the whole soul of man into activity, with the subordination of its faculties to each other according to their relative worth and dignity. He diffuses a tone and spirit of unity, that blends, and (as it were) *fuses*, each into each, by that synthetic and magical power, to which I would exclusively appropriate the name of Imagination. This power, first put in action by the will and understanding, and retained under their irremissive, though gentle and unnoticed, control, ... reveals itself in the balance or reconcilement of opposite or discordant qualities: of the idea with the image; the individual with the representative; the sense of novelty and freshness

with old and familiar objects; a more than usual state of emotion with more than usual order; judgment ever awake and steady self-possession with enthusiasm and feeling profound or vehement; and while it blends and harmonizes the natural and the artificial, still subordinates art to nature; the manner to the matter; and our admiration of the poet to our sympathy with the poetry.[12]

A second characteristic of the poetic imagination, according to Coleridge, is that it is musical. In his analysis of the marks of poetic power in Shakespeare's *Venus and Adonis* and *Lucrece*, in the very important fifteenth chapter of *Biographia Literaria*, he mentions this first. "The man that hath not music in his soul," he declares, "can indeed never be a genuine poet." And he adds: "But the sense of musical delight, with the power of producing it, is a gift of imagination; and this ... may be cultivated and improved, but can never be learned."[13] Let me footnote Coleridge here by observing that the individual poem may begin, and often does, as a perfectly wordless condition that might be described as a musical mood, that is, a feeling in which the first structural feature is the pulsation of a rhythm, an intellectual rhythm that seeks to be bodied forth in a concrete expression. The poet, "of imagination all compact," as Shakespeare puts it,

> gives to airy nothing
> A local habitation and a name.[14]

That "airy nothing" is the musical pulsation in the soul. Carol Johnson in her book *Reason's Double Agents* refers to Paul Valéry's experience with "Le Cimetière Marin": It first came to him as a "figure rhythmique vide," an empty rhythmical pattern. "He foresaw the necessity of a line dense and `forcement rhythmé' to shape an unfolding monologue whose speaker, a certain `moi,' is envisaged as an `amateur d'abstractions.' All this before the words came." She wisely goes on to remark: "But such an inception, with varying states of self-awareness, undoubtedly typifies the experience of many poets."[15]

Now, a cardinal feature of this musical impulse is its freedom from egotism. It is the most impersonal of the personal expressions of life. This is what Coleridge seems to mean in his Dejection Ode when he says that the creative joy is given only to the pure and in their purest hours. Certainly the purity he has in mind is not puritanical. For he makes it a special point in his examination of Shakespeare's youthful poems of male and female lust that, although the poet is dealing with matter that is not morally or aesthetically elevated, the ever-active, swift, and glancing music plays over the fleshly details with vigorous delight. Neither sensuality nor pride, puritanical or otherwise, is capable of this freedom, which can deal with anything at all and make a poem of it.

A third characteristic of imagination stressed by Coleridge is that its unifying and musical activity participates with external reality in constructing the living reality of the poem. He has various ways of saying this. One vivid statement is found in the Dejection Ode:

> O Wordsworth! we receive but what we give,
> And in our life alone does Nature live:
> Ours is her wedding garment, ours her shroud!
> And would we ought behold, of higher worth,
> Than that inanimate cold world allowed
> To the poor loveless ever-anxious crowd,

Ah! from the soul itself must issue forth
A light, a glory, a fair luminous cloud
Enveloping the Earth — [16]

As critics of poetry, we can fix our interest on the musical impulse and the esemplastic power alone and ignore the relation of the poet to his world; we can, if we wish, regard the poetic activity as being self-contained or at least contained within the circle of images and emotions supplied by the poet. But here Coleridge calls our attention to the problem of the relation of the poet's music and unifying passion to a reality which is not the poet himself. That reality, which is the setting of our daily actions and the constant object of scientific investigation, he by no means denies or minimizes; but he asserts that its aspect depends upon the observer, that it meets the observer in terms set by the observer. To the immense crowd of people who are lonely and loveless and anxious, nature is cold and inanimate, exactly the world described by science on the Newtonian model. To the poet turning to it in the confidence of joy, however, it reveals itself as something of higher worth. By virtue of his joy the poet enters into the most intimate of unions, he *weds* himself to nature, and the wedding gift is

A new Earth and new Heaven
Undreamt of by the sensual and the proud.

It is extremely important to notice that Coleridge is not saying that nature is a projection from the Unconscious; he is saying that its reality is such that it responds to us. Not inert and not a machine indifferent to our emotional state, it lives toward and with us when we love it; it dies and becomes cold to us, when we fail to love it. When we are in the right condition of soul (the poet's ideal condition), even aspects of nature which ordinarily seem loathsome to us may become beautiful. Thus in *The Ancient Mariner*, that poem of "dereliction and joy," as Dorothy Emmet calls it, the moment of the mariner's salvation comes when, alone among dead men on a becalmed ship in a rotting tropic ocean, he suddenly sees that the water snakes, in their brilliant colors and energetic kinesis, are beautiful:

O happy living things! no tongue
Their beauty might declare:
A spring of love gushed from my heart,
And I blessed them unaware:
Sure my kind saint took pity on me,
And I blessed them unaware.[17]

Observe that the speaker is represented not as a poet but as an ordinary seaman who, after dreadful experiences, now emerges into a new relation with the world. That illustrates the soundness of Dorothy Emmet's understanding of Coleridge when she says: "I believe that Coleridge is concerned to explore not only a source of creative power of imagination shown in genius but also more generally the liberation of the mind from deadness and dereliction, a liberation on which its growth depends.[18]

I wish now to elaborate briefly on the topics of emotion, music, and poetic truth, as extracted from Coleridge's analysis of poetic activity, with special reference to their bearing on psychological theory today.

(1) Emotion. The closest point of contact between Coleridge's theory of poetry and the mainstream of

psychological theory is where he emphasizes the associative power of emotion or feeling. We have, for example, his sentence; "Association depends in a much greater degree on the recurrence of resembling states of feeling than on trains of ideas." Taken in conjunction with the emphasis given by both Coleridge and Wordsworth to emotion as a source of poetry, this statement joins Coleridge's poetic theory with a massive trend in psychology culminating in Freud.

I must restrict a long history here to a hint. Thomas Brown makes virtually the same statement as Coleridge about the associative force of emotion in his *Lectures on the Philosophy of the Human Mind*:

> In cases of the more shadowy resemblance of analogy, in like manner, — as in those comparisons with objects which constitute the similes and metaphors of poetry, — though there may never have been in the mind any proximity of the very images compared, there may have been a proximity of each to an emotion of some sort, which, as common to both, might render each capable indirectly of suggesting the other. When, for example, the whiteness of untrodden snow brings to our mind the innocence of an unpolluted heart, — or a fine morning of spring the cheerful freshness of youth, — they may do this only by the influence of a common emotion excited by them. The tendency to suggestions of analogy ... may thus be only another form, or, at least, a very natural result of that susceptibility of vivid emotion, which, even by those who have not formed the same theory of genius, is usually conceived to be characteristic of the poetic temperament.[19]

The theoretical tendency expressed by Brown, already present a century earlier in the emphasis of Shaftesbury and others on the moral sentiments in an effort to compensate for the Enlightenment's reduction of reason from a full-blooded power or faculty of the soul to a mere ratiocinative combinatorial mechanism, as shown in the brilliant research of Robert Voitle[20] — this tendency insinuates itself into much of the subsequent psychological literature and issues in our century in the Word Association studies of Jung, where the associative behavior is used to detect emotional complexes, and in the theory and practice of Freud, where the most random-looking collocations of images and symptoms are taken as revealing, because governed by, persistent emotional currents in the unconscious depths. This development in psychology from the associationism of Hartley to the new-style associationism of Freud is in the direction of a more explicit recognition of the poetic activity inherent in all men when emotionally aroused.

(2) Music. I cannot recall anything in the general psychological theory to which we are ordinarily exposed that makes the slightest concession to the musical element in human experience, as that is meant in Coleridge's analysis of poetry. The "delight in richness and sweetness of sound," the "sense of musical delight," which he links with a phrase from Shakespeare when he says, "The man that hath not music in his soul can indeed never be a genuine poet," is a non-existent topic for our psychology textbooks. That takes on a very sinister significance if we suppose that there is truth in the Shakespearean passage from which Coleridge drew his phrase. It is that very familiar scene in the Fifth Act of *The Merchant of Venice* where Lorenzo invites Jessica, daughter of an avaricious, bloodthirsty, and frenzied man, to sit on a quiet moonlit bank and contemplate the stars in their harmonious courses. Jessica remarks, after Lorenzo has called upon the musicians to play, "I am never merry when I hear sweet music." Lorenzo replies:

> The reason is, your spirits are attentive:
> For do but note a wild and wanton herd,
> Or race of youthful and unhandled colts,

Fetching mad bounds, bellowing and neighing loud,
Which is the hot condition of their blood;
If they but hear perchance a trumpet sound,
Or any air of music touch their ears,
You shall perceive them make a mutual stand,
Their savage eyes turn'd to a modest gaze
By the sweet power of music: therefore the poet
Did feign that Orpheus drew trees, stones and floods;
Since nought so stockish, hard and full of rage,
But music for the time doth change his nature.
The man that hath no music in himself,
Nor is not moved with concord of sweet sounds,
Is fit for treasons, stratagems and spoils;
The motions of his spirit are dull as night
And his affections dark as Erebus:
Let no such man be trusted. Mark the music.[21]

Apparently our textbooks are written for boys and girls who have no music in themselves and who can accordingly only understand external stimuli, anatomy of the brain, and schedules of reinforcement consisting of tedium and trinkets. Suppose, however, that the music which is experienced by poets, whether in the form of Valéry's "figure rhythmique vide" or Wordsworth's "still sad music of humanity" or Eliot's "unheard music hidden in the shrubbery" or Dylan Thomas's "And the mystery/ Sang alive/ Still in the water and singingbirds" or any other version — suppose that this music, which in truth is not confined to verse-writers, were admitted into textbooks and into the purview of our theories, what would be the outcome? Complete wreckage of the APA? Or a more adequate psychology?

(3) Poetic truth. If the phrase "poetic truth" does not seem too monstrously paradoxical, it might serve usefully as a counterbalance to the phrase "scientific truth." To put it very nakedly, scientific truth has come to mean a world from which man has tried to remove himself, whereas poetic truth concerns a world in which man insists on being present. Now, it appears that a world from which one is absent is different from a world in which one is present. Either world may be described as if it contained all its properties in itself, but the poet, it seems, is readier than the scientist to admit that in some way or other he is a participant in those properties. Coleridge, at least, knew that the manner of his presence in the world influenced the way the world appeared to him; and I think it is not expressing it too strongly to say that he believed that the depth of reality, not merely the surface, is affected by the individual human attitude. Perhaps Wordsworth was never out of rapport with nature. Coleridge, on the other hand, knew what it was to be alienated and divorced. He therefore speculates more on what is required of him if nature is to appear in her wedding garments. He identifies the necessary condition as joy, an outgoingness that blesses and in return is blessed. Its antagonist is envy. In his Philosophical Lectures of 1818, where he uses the term "genius" to stand for poetic power, he says:

> The moment you perceive the slightest spirit of envy in a man, be assured that he either has no genius or his genius is dormant at that moment, for all genius consists in a participation of a common spirit. In joy individuality is lost, and it is therefore liveliest in youth, not from any principle in organisation but simply from this, that the hardships of life, that the circumstances that have forced a man in upon his little unthinking contemptible self, have lessened his power of existing universally; it is that only

> which brings about those passions. To have a genius is to live in the universal, to know no self but that which is reflected not only from the faces of all around us, our fellow creatures, but reflected from the flowers, the trees, the beasts, yea from the very surface of the (waters and the) sands of the desert.[22]

It is from that sort of relationship that poetic truth emerges. Dorothy Emmet, commenting as a philosopher concerned with epistemology, concludes that Coleridge's theory of imagination

> ... suggests that what is called "poetic truth" is not a matter of correspondence with an external world, nor of coherence in the logical sense of the consistency of propositions. It is the creation of something new, and its truth consists in the authentic realizing and fusing of images in an individual vision. To the poet, this experience is, as Coleridge is always saying, a knowing which is at the same time a making.[23]

But is there really any other sort of knowing than "a knowing which is at the same time a making?" Isn't scientific truth, in the style of Newton and Hartley, a making which pretends not to be? A making which is effected by posing as neutral observers and pure logicians, until nature, including human nature, retorts with the cold blank stare of a mechanical robot? Aren't we paid back in coin that bears our own superscription? It is my understanding of Michael Polanyi's position in *Personal Knowledge* that this is indeed the case.

I can illustrate what I think is our general situation as theorists by referring to a theory prevalent among male students on the campus of my university. This theory is that people are unfriendly, especially girls, and the scientific proof is that people, especially girls, do not smile at you. Now and then the campus newspaper, through a letter, an editorial, a cartoon, gives the theory public expression. Furthermore, if from some concealed observation post you watch students going across campus, you will notice that smiles are not exceedingly common. The state of affairs has not reached that described by Eliot in *The Wasteland*,

Sighs, short and infrequent, were exhaled,
And each man fixed his eyes before his feet,

but there is a similarity. An undergraduate honors student of mine, Miss Joan Woodworth, became interested in the local theory. She herself smiles charmingly and readily. And so, as part of the work on her honors paper, she undertook a simple experiment. On certain days, as she crossed the campus to and from classes, she looked into the faces of those approaching her and smiled; on others, she looked but did not smile. The results are not amazing but they are worth considering. When she did not smile, she rarely received a smile. When she did smile, a smile was often returned. Not often enough to suit her, I must add — because when her smile was not returned, she felt personally diminished, and on some days she was unable to continue her experiment. Her tabulations show that her smile elicited a reciprocal smile from 32% of the boys, 63% of the girls. When she did not smile, the frequency of smiling dropped to 5% for the boys, 18% for the girls. Our students do seem to suffer from mutual distrust, and few are inclined to initiate smiling. Even so, one who dares to smile will see more smiles than one who does not. In short, the evidence for the theory that fellow-students are unfriendly is partly generated by the theory, which interdicts smiling.

Not that smiling is safe! Miss Woodworth, reflecting on her experiences, concluded that there is a two-edged

difficulty: If your smile is rejected your self-esteem is damaged, and if it is reciprocated you feel yourself becoming involved with another person more deeply than you may wish. One can see the risk. I believe a similar risk affects our whole knowledge enterprise. In our arrogance or our timidity, we have chosen to place excessively high value on prediction and control in our dealings with the universe. We have been willing to sacrifice beauty and the higher ecstasies and the fullness of life itself for a grammar of science that contains no conscious subjects and no lovingly active verbs.

But that's not the end of the matter. Who knows what the scientific future holds? Along with the Newton who did so much to mechanize our conception of the world, I remember the Newton who, in a moment of poetry, compared himself to a boy contenting himself with a few pebbles picked up on the beach while the whole unexplored ocean of truth roared before him. Along with the Fechner who made such rigorous and parsimonious experimental psychologists of us, I remember the strangely unguarded Fechner who attended to aesthetics and who called seven times to a materialistic age to wake up to the conscious life pervading the whole of nature. And in Coleridge, wrestling with the psychological theory of Hartley in the name of poetry, I see the possibility of a psychological theory which is not afraid to proceed in terms of poetic truth. Indeed, among our contemporaries there are certainly a few, and I suspect there are many, who recognize the attraction and perhaps the necessity of a less constricted psychology than we have, a psychology more conscious of our actual personal involvement in the construction of the world-picture which we call science, and more alert to the possibility that the human family might live at higher levels of delight and wisdom and mutual love than it does, in a universe more responsive to our human condition than we have been taught to believe.

ENDNOTES

[1] Thomas Woods, *Poetry and Philosophy, A Study in the Thought of John Stuart Mill*. London: Hutchinson, 1961. P. 16.

[2] Ibid., p. 16.

[3] Carl Murchison, ed., *A History of Psychology in Autobiography*. New York: Russell & Russell, 1961. Vol. I, p. 450.

[4] Ernest Hartley Coleridge, ed., *The Poems of Samuel Taylor Coleridge*. London: Oxford Univ. Press, 1961. P. 123, 11. 368-370.

[5] David V. Erdman, "Coleridge, Wordsworth, and the Wedgwood Fund, Part II, Nursery of Genius or School of Nature? How Should Children Grow and What Should Children Read?" *Bulletin of the New York Public Library*, 1956 (October), 60, 487-507.

[6] Ibid., p. 492.

[7] Samuel Taylor Coleridge, *Biographia Literaria; or, Biographical Sketches of My Literary Life and Opinions*. Prepared for publication in part by the late Henry Nelson Coleridge, completed and published by his widow. New York: Harper, 1853. P. 609.

[8] I.A. Richards, *Coleridge on Imagination*. Bloomington: Indiana Univ. Press, 1960. P.xv.

[9] Ibid., p. 60.

[10] Ibid., p. 68.

[11] Ibid., p. 68.

[12] Ibid., p. 374.

[13] Ibid., p. 376.

[14] *A Midsummer-Night's Dream*, Act V, Sc. 1, 11. 16-17.

[15] Carol Johnson, *Reason's Double Agents*. Chapel Hill: Univ. of North Carolina Press, 1966. P. 123.

[16] *Poems*, op. cit., p. 365. Text modified from notes.

[17] Ibid., p. 198, 11. 282-287.

[18] Dorothy M. Emmet, "Coleridge on the Growth of the Mind." *Bulletin of the John Rylands Library*. Manchester: Manchester Univ. Press, 1952. Vol. 34, 1951-52, 276-295. P. 290.

[19] Thomas Brown, *Lectures on the Philosophy of the Human Mind*. Edinburgh: James Ballantyne, 1820. Vol. II, p. 339.

[20] Robert Voitle, "The Reason of the English Enlightenment," *Studies in Voltaire and the Eighteenth Century*, XXIV/XXVII. Geneva, 1963. Pp. 1735-1774.

[21] *The Merchant of Venice*. Act V, Sc. 1, 11. 70-88.

[22] Quoted by Dorothy Emmet, op. cit., p. 290.

[23] Ibid., p. 295.

Submissions for Publication

Articles, meeting notices and notes likely to be of interest to persons interested in the thought of Michael Polanyi are welcomed. Review suggestions and book reviews should be sent to Walter Gulick (see addresses listed below). Manuscripts, notices and notes should be sent to Phil Mullins. Manuscripts should be doublespaced type with notes at the end; writers are encouraged to employ simple citations within the text when possible. Use MLA or APA style. Abbreviate frequently cited book titles, particularly books by Polanyi (e.g., *Personal Knowledge* becomes *PK*). Shorter articles (10-15 pages) are preferred, although longer manuscripts (20-24 pages) will be considered.

Manuscripts should include the author's name on a separate page since submissions normally will be sent out for blind review. In addition to the typescript of a manuscript to be reviewed, authors are expected to provide an electronic copy (on either a 5.25" or 3.5" disk) of accepted articles; it is helpful if original submissions are accompanied by a disk. ASCII text as well as most popular IBM word processors are acceptable; MAC text can usually be translated to ASCII. Be sure that disks include all relevant information which may help converting files to Word Perfect or ASCII. Persons with questions or problems associated with producing an electronic copy of manuscripts should phone or write Phil Mullins (816-271-4386). Insofar as possible, *TAD* is willing to work with authors who have special problems producing electronic materials.

Phil Mullins
Missouri Western State College
St. Joseph, Missouri 64507
Fax (816) 271-4574
e-mail: mullins@griffon.mwsc.edu

Walter Gulick
Montana State University, Billings
Billings, Montana 59101
Fax (406) 657-2037

Notes on Contributors

David Kettle is Anglican Chaplain at Massey University, New Zealand, having moved from England four years ago. The ideas expressed in his article relate to a larger unpublished work in philosophical theology. Articles by Kettle have appeared in the New Zealand journals *Stimulus*, *Affirm*, *Journeyings* and *Today's Christian*.

Harold G. McCurdy was born and educated in North Carolina. He studied Greek and botany before completing his Ph. D. at Duke in 1938 under William McDougall in psychology. He taught at several colleges before coming to the University of North Carolina, Chapel Hill where he worked for many years and retired as Kenan Professor of Psychology in 1971. His many publications include *The Personality of Shakespeare: A Venture in Psychological Method* and *Barbara, the Unconscious Autobiography of a Child Genius*. As the "Prefatory Note" with his article explains, McCurdy contributed an essay to *Intellect and Hope* (1968), an early volume exploring Polanyi's thought. Since his retirement, McCurdy has continued to write and publish in both prose and verse. He reports that his essay "The Duality of Experience and the Perplexities of Method" appearing in *Humanistic Psychology* (1981) , edited by Royce and Mos is perhaps his most significant recent publication. McCurdy's article here comes to us via the good fortune of having UK Polanyi scholar John Puddefoot visit North Carolina and, by chance, have a conversation with the author.

Reviews

Aaron Milavec, ***Exploring Scriptural Sources***, Kansas City, Missouri: Sheed and Ward, 1994. pp.xix+202. ISBN: 1-55612-706-5. $19.95.

Without any explicit reference to Michael Polanyi's thought, long time member of the Polanyi Society Aaron Milavec has developed an interesting application of Polanyi's epistemological principles. *Exploring Scriptural Sources* is a case study in pivotal issues in the Christian church today: authority in the church - the leadership of Peter and the foundations of the episcopacy, how Christians whether Roman Catholic or Protestant can study scripture and tradition together, the meaning of the priesthood of lay believers and ordination, Jesus's relation to women and their being ordained, the meaning of sacrament and of baptism, and the end of history and future life. Many of these issues are ones that have divided Roman Catholics from Protestants and Protestants from each other. One of the merits of Milavec's book is its demonstration of a method that lay adults can use regardless of their affiliation. Instead of suggesting an orthodox interpretation on these questions, Milavec has developed a heuristic approach that engages students in looking into scripture and historical theology and then making up their own minds on the issue and its application to the church today. This method seems to allow for a creative approach and rapprochement that respects the history of various traditions but opens up unifying understandings. For example, Milavec poses the question of how the conservative Peter became a daring innovator and leader of the church, but he does not propose the answer. His method focuses on the scriptural sources, introduces key interpretations in historical theology that have led to differences, and then puts the student in the role of a detective in trying to solve the puzzle.

While Milavec is in the Roman Catholic tradition, his scriptural and theological sources are very ecumenical as well as the breadth of his contemporary scholarship. If one could find a fault, it might be that he is a daring Catholic theologian whose openness will challenge anyone content to rest on the dead letter of church teaching. His attitude and method are exemplary of what Polanyi saw in Christianity as a progressive enterprise leading to enlarged perspectives of knowledge and fresh vistas of Christian faith.

It is finally then the method of inquiry provided by Milavec that is so attractive and central in his contribution here. Any teacher, struggling to engage mature persons in theological inquiry about major yet practical problems of Christian belief, could learn much from Milavec's model of exploration. It is one that gives students the tools but allows them to discover answers for themselves. Again, there is in his method, the Polanyian sense of pursuing a good problem. The issues are set forth at their edge, on the frontier where 21st century Christians are going. Milavec does not assume that bishops, sacraments, ordination of women, and related issues will remain simply as they are now. Students who follow this method will find new possibilities, ones that will challenge and reform the status quo yet doing it from the background of scriptures and church traditions. It is striking that one cannot review this book by stating Milavec's conclusions and positions. The closest thing to a position is Milavec's taking the life and mission of the church as a serious object for inquiry. In doing this, he has selected ecclesiological issues rather than the usual questions of belief and unbelief, faith and doubt, or the meaning of life. By making possible a lively and heuristic approach to church teachings, Milavec makes Christian faith itself more interesting and challenging.

Richard Gelwick
University of New England

Aaron Milavec, *EasyGreek Case Studies: Soul Journeys for Inquiring Adults*, Computer Software, Easy Greek Software, 1994.

Although it is somewhat misleading and anachronistic to term it so, this is a review of the "electronic version" of *Exploring Scriptural Sources* which Richard Gelwick reviews on page 32. Aaron Milavec has put together and published a collection of eight computer-accessed case studies under the title "EasyGreek Case Studies: Soul Journeys for Inquiring Adults." The cases are available singly for $12 from EasyGreek Software, 3759 N. Berkley Circle, Cincinnati, OH 45236. This material is shareware: after using the first case for 90 minutes, you are expected to register (and pay $12); you can try another case or order the other seven at a discount (all seven for $50). You can order a sample case for $5 in North America (to cover the cost of diskette, postage and handling) or $8 outside North America if you indicate you saw this review in ***TAD***. Soon you can download Case One from Compuserv or America Online (listed as CASE01.EXE or CASE01.ZIP) as a shareware product.

Milavec's software is what is technically termed hypertext or hypermedia: it is digitized information which is divided into clusters or nodes that are electronically linked. It is, of course, electronically stored and instantly accessed, and this means that the ordering of material can be less linear than a printed book: you can, in short, use the menus to move around material in a variety of ways, although the author does have a rather clear sequence or progression of thought in mind for users and he controls the linkages to lead readers down the proper path through each case study. "Soul Journeys" ran flawlessly with WINDOWS (3.1) on my 486 DX after a relatively simple installation. There is some graphic and audio material used in the case presentations but it is limited. There is a Hebrew chant that is sung at intervals (it can be turned off); there are some illustrations and a shareware bird in flight animation cleverly used to unite the material and represent the user's journey; but there is no quicktime video and many of the bells and whistles that are found on ultra sophisticated multimedia software are not incorporated. The software thus does not really require some of the standard features of a multimedia machine (e.g., CD-ROM drive, motion card, multimedia capacity hard drive) yet it artfully embodies what integrated, interactive media is all about. No doubt, as we move deeper into electronic culture, we will see more electronically-accessed material such as Milavec's case studies.

As Gelwick notes, what is especially interesting about Milavec's work is the way in which he has thought through, in Polanyian terms, the project of educating adult Christians; further, this software indicates he has thought through how to take advantage of the interactive potential of the new electronic medium to accomplish his ends. What the electronic case studies are is heuristic devices or structures designed to provoke investigation and discovery. As Gelwick notes, the cases focus upon critical issues (authority, the role of tradition and innovation, the role of women, etc.); each case puts the resources of scriptural and historical studies at the disposal of the student interested in examining the issues. One of Milavec's introductory screens indicates that each case is intended to produce "deep learning." Clearly, Milavec understands some of the ways in which the electronic environment can be a user driven pedagogical vehicle which produces a high level engagement in problem solving. Polanyi often described the endeavor of the scientific researcher in this way. Polanyi vividly portrays the scientist's effort at dwelling in a problem and coming up with a solution; the strongest sense in which Polanyi uses the term "personal knowledge" implies such serious engagement as well as commitment to the results of investigation. What Milavec does is embody this "discovery model" in the case study approach constructed in the electronic context where instant, random access is possible.

In this software, the issues embedded in a case study unfold as a series of questions to which the reader is invited to repond, often in writing. To think about questions, there are available, in pop up windows, supporting tools such as the relevant biblical text. Written reactions can be saved in a journal and later modified or

printed out. The whole investigative process is carefully staged with a warmup phase, sleuthing stage and a debriefing. There is even a "guardian angel" screen which pops up to prod the user if too much time is taken on preliminary work which may prove a digression, allowing the user not to get the overall point made by moving through the entire case. It requires two to two and a half hours to work carefully through a case. Working through can be an individual journey or it might be done with a group. In fact, one of the pop up menus offers advice on group use of the software. Some of the comments made on screens indicate that the software might be used in conjunction with other activities by a teacher who thoroughly knew the case. This is apparently how Milavec himself uses the software.

In sum, Milavec's well designed electronic teaching tool is a creative and interesting effort to promote Christian education; it makes tangible in the new world of integrated, interactive media some important Polanyian themes regarding learning.

Phil Mullins
Missouri Western State College

Harwell Wells. "The Philosophical Michael Oakeshott". *Journal of the History of Ideas* 55:1 (January 1994): 129-145.

It was under the influence of the British Hegelian F.H.Bradley that Michael Oakeshott (1901-1990), in *Experience and its Modes* (1933), claimed that we abstract from the essential unity of experience various modes of understanding. In his later work, Oakeshott sought to ground modes of experience within a practice. *In Rationalism in Politics* (1962), he claimed that by counting only general rules as knowledge, rationalism forgets that technical knowledge is no more than an abstraction from a practice. In his excellent article, Harwell Wells claims that one of the influences which helped Oakeshott to formulate this conception was the early writings of Michael Polanyi. Oakeshott however took the claim that a practice cannot be wholly grasped by any set of explicit rules to an extreme by claiming that technical knowledge has no meaningful existence. As Wells points out

> Polanyi believed in two sorts of knowledge, but Oakeshott came to believe that there is only one type of real knowledge - practical knowledge (138).

Wells suggests that this extremism was inspired by a Neo-Bradleyian resistance to epistemological domination by the sciences. Although Polanyi, as far as I am aware, never made any direct reference to the work of Michael Oakeshott, it is clear that he would have regarded any attempt to undermine the value of theoretical activity as an attack upon our obligation to pursue the truth. Unlike Oakeshott, he did not regard our practices as a cultural given; he claimed that they need to be constantly reformed in the light of appeals to transcendent ideals.

Chris Goodman
University of Sheffield U.K.

Lewis E. Hill and Eleanor T. von Ende. "Towards a Personal Knowledge of Economic History: Reflections on Our Intellectual Heritage from the Polanyi Brothers" *American Journal of Economics and Sociology* 53:1 (January 1995): 17-27.

The authors suggest that Polanyi's post-critical philosophy of history had as its purpose "to justify and to authenticate the historical scholarship of his older brother, Karl Polanyi" (18). To make this case, the authors begin with a brief discussion of perspectives in Michael Polanyi's post-critical philosophy and historiography. They provide a reasonably good summary, although they confusingly conflate personal knowledge and tacit knowledge. Next the article discusses Karl Polanyi's *The Great Transformation* (1944) as a good example of the model of historiography proposed by his younger brother. Karl Polanyi's methodology embodies Michael's views insofar as he is an economic historian who "evokes his creative imagination to fuse all relevant facts into an integrated whole" (23). Karl's perspective is identified as a "long-run

perspective" which warns of "the danger of insisting that the true beginning of the history of our civilization coincided with the publication of Adam Smith's *Wealth of Nations. . .* " (23). As the conclusion of this article makes clear, the exploration of the ideas of the Polanyi brothers is used here chiefly to argue against economic history strongly oriented to quantitative analysis and statistical verification of ideas. The authors associate the Polanyis with the "logic of discovery which produces new ideas and hypotheses" and not with what they regard as the second phase of scientific or historiographical methodology, namely the "logic of verification which tests the validity and usefulness of ideas and hypotheses in order to confirm them as true or to disprove them as false" (24).

Phil Mullins
Missouri Western State College

Electronic Discussion Group

The Polanyi Society supports an electronic discussion group exploring implications of the thought of Michael Polanyi. For those with access to the INTERNET, send a message to "owner-polanyi@sbu.edu" to join the list or to request further information. Communications about the electronic discussion group may also be directed to John V. Apczynski, Department of Theology, St. Bonaventure University, St. Bonaventure, NY 14778-0012 PHONE: (716) 375-2298 FAX: (716) 375-2389.

Polanyi Society Membership

Tradition and Discovery is distributed to members of the Polanyi Society. This periodical supercedes a newsletter and earlier mini-journal published (with some gaps) by the Polanyi Society since the mid seventies. The Polanyi Society has members in thirteen different countries though most live in North America and the United Kingdom. The Society includes those formerly affiliated with the Polanyi group centered in the United Kingdom which published *Convivium: The United Kingdom Review of Post-critical Thought*. There are normally two or three issues of *TAD* each year.

The regular annual membership rate for the Polanyi Society is $20; the student rate is $12. The membership cycle follows the academic year; subscriptions are due September 1 to Phil Mullins, Humanities, Missouri Western State College, St. Joseph, MO 64507,. Please make checks payable to the Polanyi Society. Duescan be paid by credit card by providing the following information: subscriber's name as it appears on the card, the card name , and the card number and expiration date. Changes of address and inquiries should be mailed, faxed or e-mailed to Mullins (e-mail: mullins@griffon.mwsc.edu ; fax: USA 816-271-4574).

New members must provide the following subscription information: complete mailing address, telephone (work and home), institutional relationship, and e-mail address and/or fax number (if available). Institutional members should identify a department to contact for billing.

The Polanyi Society attempts to maintain a data base identifying persons interested in or working with Polanyi's philosophical writing. New members can contribute to this effort by writing a short description of their particular interests in Polanyi's work and any publications and /or theses/dissertations related to Polanyi's thought. Please provide complete bibliographic information. Those renewing membership are invited to include information on recent work.