Tradition & Discovery

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Preface

This issue *TAD* includes several interesting essays beginning with R. P. Doede's "Polanyi on Language and the Human Way of Being Bodily Mindful in the World." Ten years ago Doede published a thoughtful essay here (*TAD* 20:2: 28-42) and I am pleased to have this new piece, which develops and expands Polanyi's account of language. Will Stillwell's "Tacit Knowledge And The Work Of Ikujiro Nonaka: Adaptations of Polanyi in a Business Context," as his title suggests, is a report on how the Japanese management scholar Ikujiro Nonaka has taken up some of Polanyi's ideas. Jere Moorman's recent review (TAD 29:2: 55) and Stillwell's essay should make it clear to all that interest in Polanyi extends beyond the academic borders of philosophy and theology. Andy Sanders essay "On Reading Part IV of *Personal Knowledge*: a Finalism or a Simple Vision?" is a revised version of his plenary address at the 2001 Loyola Polanyi Conference. Sanders sketches a reading of the last section of *Personal Knowledge* that emphasizes religious practice rather than metaphysics. Sanders looks at the background of the Gifford Lectures and the writing of *Personal Knowledge* and poses his "simple" account of Polanyi's approach to religion as an alternative to the metaphysical approach he finds in a recent article by Jack Haught and Diane Yeager, ('Polanyi's Finalism', *Zygon* 32 [1997]: 543-566). Also you will find in this issue several reviews. Paul Lewis comments on F. LeRon Shults. *Reforming Theological Anthropology* and Shults was kind enough to respond briefly. C. P. Goodman reviews two books that treat emergence and Dick Moodey reviews another that may be of interest to those who are interested in comparing the thought of Bernard Lonergan and Polanyi.

You will find in this issue (p. 4) the program for the November 2003 Polanyi Society meeting in Atlanta. One session is on Polanyi's understanding of teleology and the other includes three papers on Polanyi and religion. Papers should be available in late October for downloading at the Polanyi Society web site (http://www.mwsc.edu/orgs/polanyi/).

Finally, notice the colorful flyer inserted in this issue. It is time to pay dues for this academic year. Increasing postage rates and printing costs make it imperative that even the most absentminded members remember to pay (see financials on p.42). The Polanyi Society is an official 501C3 non profit organization. I am delighted to provide a tax deduction letter to anyone who contributes more than the annual $25 dues.

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

The following articles were included in *Appraisal* Vol. 4, No. 2 (October 2002): Alan Ford, "The Divided Self Of Modernism In The Visual Arts": 53-63.R. J. Brownhill, "Lutheran Freedom: The Mature Scientist As An Ideal Individual": 64-70. C. P. Goodman, "Indwelling within Language": 71-84. R. C. Warren, "Personalist Philosophy: A Human Resource": 85-92.

These articles were in *Appraisal* Vol. 4, No. 3 (March 2003): Tihamér Margitay, "Freedom, Values And Knowing: A Radialized Interpretation Of Polanyi's Philosophy": 103-110. Jan Olof Bengtsson, "Spiritual Personalism: Prospects And Preconditions":111-124. Richard Prust, "Personality And Pretence":125-126.Giogio Baruchello, "Irony And Its Limits: An Essay On Richard Rorty":127-131. R. J. Brownhill, "Michael Polanyi And The Development Of Multiple Realities And Post Modernism With Special Reference To Psychotherapy": 132-137.

The following articles will be in *Appraisal* Vol. 4, No. 4 which will be published in October of 2003: Alan Ford, "Narcissism, Aesthecism and Andy Warhol": 155-164. Giorgio Baruchello, "The Polics of Cruelty: An Essay on de Sade and Neitzsche": 165-174. Wendy Hamblett, "The Reasonableness of Cruelty: An Enquiry into Wanton Destructiveness": 175-182. Konstantin K. Khroutski, "The Cosmist Future of Personalism": 183-194. Phil Mullins, "Michael Polanyi on Teilhard de Chardin": 195-200.

Appraisal will sponsor an April 2nd and 3rd, 2004, conference. As with past Appraisal conferences, papers related to Polanyi are welcomed but other topics may also be treated. For more information, contact Richard Allen (rt.allen@ntlworld.com)

Polanyiana 11:1 & 2, 2002 (http://www.kfki.hu/chemonet/polanyi/02_12/tartalom.html) is now on the *Polanyiana* web site (homepage: http://www.kfki.hu/chemonet/polanyi/). This issue honoring Eugene P.Wigner is in Hungarian, although you see an English Table of Contents (http://www.kfki.hu/chemonet/polanyi/02_12/contents.html). This issue includes a Hungarian translation of the Royal Society memoir for Michael Polanyi (**"**Michael Polanyi, 1891-1976," *Biographical Memoirs of Fellows of the Royal Society*, 23 (1977): 421-448) that was written by Eugene P. Wigner and R. A. Hodgkin. At the end of the memoir, in English, is a bibliography of Michael Polanyi's scientific papers (page 50) and a selected list of Michael Polanyi's social and philosophical writings (page 58); these were originally published as part of the memoir and have not heretofore been available electronically.

You can locate *Appraisal* articles plus reviews and other items as well as a listing of materials in *Polanyiana* by going to the page in the Polanyi Society web site that concerns *Tradition & Dicovery* (http://www.mwsc.edu/orgs/polanyi/tad.htm) and clicking on the link to Other Journals with Special Interest in the Thought of Michael Polanyi. Here you will find a table of contents for each issue of *Appraisal* and *Polanyiana* or a link.

Walter B. Mead,'s article, "Michael Oakeshott as Philosopher: Beyond Politics, A Quest for Omniscience" was recently published in *The Political Science Revuewer: An Annual Review Of Scholarship*, (Vol. 32, 2003, pp, 221-268).

Electronic Discussion List

The Polanyi Society supports an electronic discussion group exploring implications of the thought of Michael Polanyi. Anyone interested can send e-mail to Struan Jacobs (swjacobs@deakin.edu.au) who is the moderator. The address for the list is polanyi-list@deakin.edu.au

2003 Polanyi Society Annual Meeting in Atlanta

The year's Polanyi Society annual meeting will be held in Atlanta, Georgia on November 21 and 22, 2003. As in past years, meetings are to be held in conjunction with the annual meeting of the American Academy of Religion and Society for Biblical Literature. To secure hotel reservations in the immediate convention area, it is necessary to register for the AAR/SBL annual meeting. However, anyone who is interested is welcome to attend the Polanyi Society meetings, whether or not they are attending the AAR/SBL meetings. Other hotels in Atlanta are not reserved for the AAR/SBL. If you want information about registration for the AAR/SBL meetings, go to http://www.aarweb.org/default.asp or phone (1-800-575-7185 or +1-330-425-9330 [outside US and Canada]) or email aarsblreg@reg@conferon.com. The Polanyi Society program is listed in the 2003 AAR/SBL Annual Meeting Program in Additional Meetings (AM48 on p. 188 and AM86 on p. 193). Papers will not be read in sessions but they can be downloaded by early November at the Polanyi Society web site (http://www.mwsc.edu/orgs/polanyi/).

Program

Friday, November 21, 9:00 p.m. - 11:00 p.m--Marriott Marquis--Madrid Room

Theme: Michael Polanyi's Understanding of Teleology"

Moderator: Paul Lewis, Mercer University

"Polanyi's Daring Epistemology and the Hunger for Teleology"

Richard Gelwick, University of New England

"The Discovery of Meaning through Scientific and Religious Forms of Indwelling"

John Apczynski, St. Bonaventure

Respondent: Walt Gulick, Montana State University-Billings

Open Discussion

Saturday, November 22, 9 AM. - 11:30 a.m.--Hilton--Roosevelt Room

Theme: "Science, Religion and Reality"

Moderator: Phil Mullins, Missouri Western State College

"Polanyi on Religion"

Tony Clark, University of St. Andrews

"The Tacit and the Unknowable: The Bearing of Each Upon Faith and Knowing"

Walter Mead, Illinois State University.

"Polanyi's Epistemology of Discovery as Applied to Science, Religion, and Astrology"

Aaron Milavec, University of Victoria

Open Discussion

Business Meeting (11:15)-Walter Gulick, Presiding

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Polanyi on Language and the Human Way of Being Bodily Mindful in the World

R. P. Doede

ABSTRACT Key words: Michael Polanyi, articulate frameworks, intellectual passions, universal intent
Using the ideas of Clifford Geertz, Adolf Portmann, Charles Taylor, and others, I seek to develop and expand Polanyi's account of language and its role in our human way of being bodily mindful in the world. The expansion of Polanyi's ideas on language in the evolutionary rise of Homo sapiens and in the moral and mental development of the child does two things that I believe are important: (1) obviates the need to appeal to an incorporeal thinking substance - i.e., dualism - to ground the reality of human transcendence, and (2) highlights the place of natural language in the irreducibility of human mentality.

> The articulate life of man's mind is his specific contribution to the universe; by the invention of symbolic forms man has given birth and lasting existence to thought…. 1

> Our native gift of speech enables us to enter the mental life of man by assimilating our cultural heritage. We come into existence mentally by adding an articulate framework to our bodies. Human thought grows only within language and since language can exist only in society, all thought is rooted in society. 2

Long ago, Michael Polanyi spoke of the impairment of "man's moral consciousness" (*PK* 153), of the "crippling mutilations" (*PK* 381) that crass objectivism and facile physicalism impose on our humanistic self-understanding.[3] Polanyi set out to free us from the sense of obligation we feel towards scientistic ideals that rendered dubious the ontological integrity of anything that couldn't be made explicit to objective investigation (*PK* 360 & 372), inviting us "to enter avenues of legitimate access to reality from which objectivism debars us" (*PK* 292). Polanyi's account of personal knowledge shows us the hermeneutical heart of the realities most near and dear to us, disclosing how intimately we participate in and contribute to what we come to know.[4] His recognition of the role of focal and subsidiary awareness helps us accept that the most meaningful realities we encounter are the most dependent upon what he called the "ontology of commitment" (*PK* 379), and thus are not susceptible to exhaustive specification or objective demonstration (*PK* 380).

Contemporary philosophy of mind has a lot it can learn from Polanyi. Perhaps foremost is that we will never come to possess an objectively specifiable knowledge of mind, that objective observation of the particulars of mind yields knowledge only of the necessary conditions of mind's expression, but dissolves altogether our knowledge of the person whose mind is embodied in those particulars (*PK* 372).[5] Owing to the dual nature of our awareness and our essential participation in all we come to know, mind, whether one's own or another's, will never itself become an *object* of knowledge. We can come to know persons and their embodied actions, but not a mind separable from these.[6]

My interest in this paper focuses on the role of what Polanyi calls "articulate cultural frameworks" (*PK* 70) in the rise of mind. I attempt to "fill-out" Polanyi's account of articulate cultural frameworks by drawing on the work of others – e.g., C. Geertz, A. Portmann, C. Taylor – and thereby to move towards a broadly

naturalistic (i.e., non-dualist), but non-reductive, perspective on mind, what I prefer to call *the human way of being bodily mindful in the world*. I first contrast two popular views on language's role in the life of human mentality, one associated with rationalist and empiricist philosophies (the prevailing view of contemporary analytical philosophy of mind), and the other associated with romanticism and hermeneutical philosophy (the prevailing view of contemporary phenomenological philosophy of the person). Then I seek to demonstrate that the latter view comports well with the best evidence we have concerning the phylogenetic emergence and ontogenetic development of mindful bodies. Finally, I explore some of the fundamental transformations of the human way of being bodily mindful in the world engendered by language acquisition. This paper thus takes Polanyi's general outlook on language and mind and develops it to: (1) challenge, at least implicitly, the absurd reductive-physicalist ideal of parsing the mind's essence in the descriptions and categories of the physical sciences; (2) make a bit more credible the possibility of a broadly naturalistic account of mind as embodied and socially constrained yet still capable of significant agency; and, (3) reduce the temptation to posit some exotic non-physical substance to do all the magical works of mind (i.e., substance dualism).

Two Positions on Language's Role in the Life of Human Mentality

Before we consider the speculative terrain of the phylogenesis and ontogenesis of language, we need briefly to look into two contrasting philosophical views on language's role in the development of human intelligence and agency.[7]

The *designative-communicative* view of language has its deepest roots in Aristotle, who claimed, "spoken words are the symbols of mental experience."[8] I call this the designative-communicative view, because it makes linguistic meaning a function of linking bits of language (i.e., words of one's mother tongue) to bits of mind (i.e., stored mental representations or ideas) in a role of *designation* or reference. Moreover, the linking of words to ideas is motivated by the exigency of *communicating* the ideas of one mind to another. The 17th century grammarians, Antoine Arnauld and Claude Lancelot, at Port-Royal Abbey in France argued "words were invented only in order to make … thoughts known."[9] They developed this designative-communicative conception of language into a linguistic rationalism that assumed "the structure of thought determines the structure of verbal expression."[10] Empiricist thinkers, such as Hobbes, Bacon, Locke and Hume, embraced a view very similar to the linguistic rationalism of the Port-Royal grammar. They, of course, rejected the Port-Royal's rationalist account of innate ideas, but they held on to the notion that ideas were the primary referents of words. Locke, for example, claimed "Words in their primary or immediate signification, stand for nothing, but the ideas in the mind of him that uses them . . . ,"[11] and a bit later in the *Essay* he states, "The use, then, of words, is to be sensible marks of ideas; and the ideas they stand for are their proper and immediate signification."[12] On this view, we humans think independently of language, but since we need language to pass our ideas on to others, we externalise our thoughts by encoding them into a mother tongue. Human ideas have to, as it were, don the particular clothing of a particular mother tongue before they can go public. Language and thought are thus conceived to be two independent, externally-related domains, so much so that Descartes and Bacon argued that when doing *real* thinking, one should strip thought of as much language as possible, because a mother tongue, unlike pure mental discourse, is prone to diversion and abuse.[13] Ideas were understood to be images that language *fallibly* denotes and/or describes. This view of thought as a purely private affair and the notion that language is merely thought's ticket to the public have dominated the linguistic speculations of modernity, and are still with us today,[14] although, as we shall see, they were challenged heartily in the 19th century.

The *historical-hermeneutical* view of language emerges in the late 18th century, and derives from Hegel's outlook on historical development and Romanticism's aesthetics and anthropology. It came to explicit expression in the writings of Condillac, Humboldt, and Herder, all of whom recognised that history enters and structures human consciousness through language. On this view, language does not designate preexisting ideas (whether innate, as the rationalists believed, or gained through experience, as the empiricists argued) in an individual's mind, but rather functions as a catalytic medium of social expression that transforms a species' instinctual intelligence into hermeneutical self-consciousness. Herder, in particular, developed the insight that language acquisition transforms the human way of being in the world, that language acquisition brought with it the emergence of a new kind of being, a reflective, self-interpreting being who "completes himself in expression."[15] This essentially Romantic (or expressivist) conception of language is taken up and expanded in the onto-hermeneutical writings of the Martin Heidegger and Georg-Hans Gadamer, where understanding is conceived of as the means by which the mind and the world are unified in language.[16] For Gadamer, humans dwell in a world that is linguistically saturated; language is the historical-cultural *a priori* that makes possible the human way of being in the world. From this perspective, the thinking most expressive of human being is essentially dependent upon language. And language, as these thinkers conceive of it, is both the product of social relations *and the producer of social beings* – self-reflexive beings whose identities are socially forged through mutual linguistic expressivity. Polanyi relies upon a conception of language that bears significant similarities to this view, a view that has tremendous import for a philosophy of mind capable of affirming a robust humanism without, at the same time, being drawn into the self-alienating and body-trivializing import of substance dualism.

The Emergence of Homo Sapiens through the Rise of Language

We turn now to the emergence of our species to get a sense of the role that language played in that stupendous drama. According to the evolutionary data, our story really begins about 7 million years ago when the hominid lineage took a separate path from the ape family. But we need not begin so early in our considerations. In fact, we need only focus our speculations on the rise of Homo sapiens (about 100,000 years ago). The cultural anthropologist, Clifford Geertz, has thought a lot about the nature of our humanity and its social dimensions in relation to symbolic media, and as we shall see, his observations help us understand the evolutionary basis of Polanyi's claim that the true mental life of humanity arose when our species transcended its mute beasthood through its development of a lasting articulate framework of thought (*PK* 388).[17] Geertz points out that recent anthropological evidence demands a revisioning of the traditional account of human descent. The traditional outlook postulates a sequential view of relations between the physical evolution and cultural development of humanity: first comes biological development, and then the *biologically complete* Homo develops culture.

The problem with this view, says Geertz, is that recent estimates suggest it took the genus Homo millions of years to achieve the cultural mode of life. Presapiens, such as Australopithecines, produced cultures of tool making and hunting rites well over a million years prior to the rise of Homo sapiens, so "the final phases (final to date, at any rate) of the phylogenetic history of man took place in the same grand geological era - the so-called Ice Age - as the initial phases of his cultural history."[18] This significant overlap suggests to Geertz that human being may well be a *naturally artifactual kind* of being, because culture, rather than being an excrescence of a finished animal, actually was ingredient in the production of the animal itself. The slow emergence of culture through the Ice Age, says Geertz, "altered the balance of selection pressures for the evolving Homo in such a way as to play a major role in his evolution."[19]

If this is true, a subtle culture sophistication dawned early on Homo's horizon, giving a selective advantage to those individuals who were best able to exploit it – e.g., the effective hunter, adept toolmaker, resourceful signaler and signal reader. This would mean that early on culture influenced the genetic development of our species by making the adept toolmaker or perceptive signal reader more likely to remain around long enough to push his or her genes into the future.[20] The genetic pool, long before the emergence of Homo sapiens, was already selectively constrained by the influences of artifacts and symbols – i.e., culture. And, of course, the selection pressures that artifacts and symbols created, once started, snowballed over the generations into a vast store of cultural practices that was passed on through traditions that later generations had the advantage of beginning already immersed in and, consequently, had a greater aptness to advance and surpass. Geertz explains the temporally correlated ballooning of the neocortex and the burgeoning of culture in Homo sapiens' past as a function of this positive feedback system of genetics and culture, each stimulating and shaping the other to higher orders of complexity.

According to Geertz then, our species' neocortex "grew up in great part in interaction with culture," and thus is now "incapable of directing our behaviour or organising our experience without the guidance provided by systems of significant symbols."[21] Humans utterly bereft of systems of significant symbols would be "unworkable monstrosities with very few useful instincts, fewer recognisable sentiments, and no intellect: mental basket cases."[22] Hence, if Geertz and others are right,[23] the very dichotomy of nature/nurture lacks application in reference to human being – for the constraints of cultural nurture were woven directly into the selective pressures sculpting Homo sapiens' genes.

Ontogenesis: Language and Mind in the Infant

The relation of language to the emergence of a child's mind in some ways parallels the phylogenetic story already rehearsed. Instead of a species modifying its way of being through an emerging framework of symbols, we have an infant whose instinctive repertoire of responses to environmental stimuli exponentially expands as it begins to pour its explorative passions into a pre-existing mother tongue, primarily through imitation of its caregivers' behavior.[24] The child's way of being in the world radically changes as its mother tongue penetrates deeper into the subsidiary roots of its point of view on the world, producing a concept of self, and the ability to abstract from its own point of view, among many other distinctly human capacities. Children begin to internalize, or as Polanyi would put it, *indwell* their mother tongue as soon, if not even before, they are born.[25] This process temporarily overlaps the exponential growth of the child's central nervous system - again reminiscent of the phylogenetic story. Unlike most other animals, however, human infants don't keep their offspring in the womb or in an egg until the offspring are well developed. Human babies enter the world helpless, utterly vulnerable, and completely dependent upon the nurture and protection of caregivers. In fact, the Swiss zoologist Adolf Portmann claims that humans are, when compared to other animals, born a year too soon;[26] they are born physiologically premature, which means they are exposed in their final stages of development to the influences of social culture. John McCrone notes, the human infant's central nervous system continues to develop morphogenetically well into its third year of life.[27] Without this prolongation in the morphogenetic development of the CNS, the acquisition of language by a child would likely be impossible. The prolongation of this process of development means that myelinization takes place largely outside the womb and thus under the direct impress of social and cultural stimuli.[28] The areas of the brain associated with hearing and speech are some of the last areas of myelinization, suggesting that genetically our brains are preset for a protracted saturation in linguistic stimuli – giving children the unique opportunity to be "osmotically" shaped by their language community. In this way, stimuli tune the human brain to the cultural and social saliencies of the *human* world. A child's CNS, even prior to birth, is immersed in linguistic stimuli that help attune it to the linguistic

distinctions operative in the lifeworld[29] of its caregivers. As we demonstrated earlier, culture was active in the phylogenetic shaping of our species' genome, here we see that language, and culture in general, are folded ontogenetically into the child's developing brain's corrugations.

While Geertz helped us recognize the evolutionary underpinnings in support of Polanyi's account of the role of language in the phylogenesis of mind in our species, Portmann provides us with some of the neurophysiological data that underwrites Polanyi's account of the role of language in the ontogenesis of mind in a child. A child, like any other animal, has what Polanyi calls "intellectual passions," meaning by this expression, an innate endowment of purposive and exploratory drives and impulses. He speaks of these passions as arising from the tacit dimension of human experience, the sub-articulate intelligence that underwrites all the symbolic, self-extending achievements of humans. As he puts it, "The inarticulate mental capacities developed in our body by the process of evolution [become] the tacit coefficients of [our] articulate thought." He aligns himself squarely with the hermeneutic-expressivist account of language in his claim that "All human thought comes into existence by grasping the meaning and mastering the use of language" (*KB* 160). Polanyi conceives of language acquisition as a catalytic process (reminiscent of language's phylogenesis), igniting within the child a multitude of new intellectual passions (*PK* 389). The child's innate intellectual passions are, according to Polanyi, "refashioned and amplified into something new" (*PK* 194) as they are inscribed by the vast networks of social rules, rituals, laws, institutions, traditions, and ideals embodied in its caregiver's lifeworld and expressed in its caregiver's mother tongue. "[T]he whole universe of human sensibilities – of intellectual, moral, artistic, religious ideas – [is] evoked by living and growing up within the framework of our cultural heritage."[30] The child's body is, as it were, a Mobius strip that acquires its subjectivity as it ribbons through human relationships and is inscribed by the cultural and linguistic forces that structure its caregiver's lifeworld. "To use language in speech, reading and writing," Polanyi notes, "is to extend our bodily equipment and become intelligent human beings," because when we learn to use language we indwell, or extend our bodily subsidiary awareness into, the cultural heritage it carries, which, in turn, develops "new faculties in us," making us grow "into a person seeing the world and experiencing life in terms of this outlook" (*KB* 148). Thus the child acquires an openness and responsibility to an already existent social world that obligates the infant's self-centred ego to de-centre, "to unfold into forms of existence more satisfying to its transmuted self" (SM 99). The child gradually begins consciously to experience its world under the concepts of its mother tongue, which are, in turn, the concepts of the child's society. The child's uptake of an articulate framework enables it to enter into the mental life of human culture – that is, the intensionality[31] and metaphorics of its mother tongue seep into the child's intellectual passions, transforming them over time into a mindful self. Acquisition of an articulate framework transforms the self-centred passions fundamental to the child's survival "into an intelligent person, reasoning with universal intent" (*PK* 395).

What Language Hath Wrought: The Human Way of Being Bodily Mindful in theWorld

The preceding examination of the evolutionary and neurophysical mechanisms of the phylogenetic and ontogenetic transformations brought about by language helps explain Polanyi's use of the historical-hermeneutical account of language acquisition and the central place he accords it in our becoming fully human. I am convinced that philosophers, especially many of those of the Anglo-American tradition who claim to have passed through the "linguistic turn," have yet fully to absorb the meaning and import of mother tongue acquisition in the human way of being bodily mindful in the world.[32] For many of them, still held captive by rationalist notions of "language of thought" and the designative-communicative view of language it supports, are blinded to the historical and cultural *a priori* that structure our human way of being mindful in the world. Below I briefly highlight a few of the civilizing transformations that the rise of articulate cultural frameworks brought to human being – the phenomenological "phase transitions" engendered by language acquisition.[33]

A: The Inauguration of the Lifeworld Through Language

Prior to the phylogenetic rise of language in Homo sapiens, external relations[34] reigned over the energies of the natural world; causation – the quintessential external relation – solely structured all finite being. No doubt there were animals with tremendously sophisticated repertoires of adaptive and learned behavior, but this animal ingenuity bottomed-out in the impersonal biological forces of survival. The environmental niche occupied and instinctively orchestrated by the animal forebears of Homo sapiens had yet to be named and thus become *world*, i.e., lifeworld, the communal matrix where the meaning of things slips between causal stimulus and instinctive response, were bodily purposiveness acquires an intentionality that bears universal intent (*PK* 389). These early forms of animal communication were a form of signaling, i.e., conspecific emissions of stimuli, evoking genetically selected, hard-wired, responses. Where this communication had a proto-semantics (e.g., chimp shrieks) it altogether lacked syntax, and where it had a proto-syntax (e.g. bird songs) it entirely lacked semantics. To use some distinctions Walker Percy borrows from Charles Pierce, such communication was wholly "dyadic" in nature.[35] Dyadic communication supervenes on external relations. Perhaps a helpful way to understand what dyadic communication amounts to is to consider a case of indigestion. One's stomach typically growls due to the stomach acids breaking down ingested foods. Although this may communicate to one that his or her stomach is upset or in need of food, the growl itself does not symbolize the acids or even the state of the stomach. Consequently, the stomach acids' relationship to the acoustic shape of the stomach growl is wholly explicable in terms of physical causation, and thus ultimately dyadic in nature. The same holds true for whatever intra-species signaling transpired prior to the development of articulate frameworks. But with the rise of language in Homo sapiens, this all changed, and a whole new level of reality emerged in the living world. Polanyi, following Teilhard de Chardin, called this new level of reality the "noosphere" (*PK* 388). Environmental stimuli for the first time would be subsumed under the auspices of symbols, thereby giving birth to what Percy, following Pierce again, calls "triadic" behavior, wherein stimuli are mediated through arbitrary symbols whose meanings have no causally-sufficient physical conditions.[36] Now the *word* "growl" has an internal relation to a certain class of physical processes, a naming relation that lacks any physical necessitation, and thus exceeds the explanatory purview of all physicalisms. World arises out of the environment through the word.

With the emergence of language, new kinds of relations become possible as well, relations that don't contravene dyadic forces but co-opt them to serve supervening triadic possibilities. The environment, the organism-indexed array of causally impinging stimuli, becomes in-habited as it were, with internal relations, giving way to a totality of linguistically mediated, socially motivated, holistically constrained, and culturally sustained individuations and affordances.[37] So now an infant is thrown into the lifeworld of its caregivers to rise to self-consciousness already participating in triadic behavior and relations. A rift in being was effected by language, because now items of one's environment may not be items of one's lifeworld: e.g., a certain toxin may have permeated one's environment undetected – the descriptions one lives one's life under don't mention toxins although they are part of the environment one lives one's life in. But as well, not all items of one's lifeworld are items of one's environment: e.g., Santa Claus – the descriptions one lives one's life under may include Santa Claus, although Santa Claus isn't an item in one's environment. However, even as an undetected toxin may cause cancer in my body, so too my belief in Santa Claus may cause me to go to bed early and experience great difficulty in sleeping. To one possessed of a language, environmental items are no longer the sole causal factors determining his or her trajectory through the world. We live our lives under descriptions; our very identities are formed and sustained by the semantic and social spaces they create. Consequently, environmental causes no longer sufficiently account for much of human behavior and becoming.

B: The Restructuring of Subjectivity That Language Brings

As Polanyi pointed out, the child's channeling of its prearticulate intellectual passions into a linguistic framework profoundly alters these passions: a linguistic framework is not a neutral conduit, nor merely a tool for forging wordless thoughts into social commodities. Through training, nurture, and immersion in a linguistic culture, a child progressively relies upon a linguistic means of expressing its desires and thereby progressively in-habits a lifeworld. Prearticulate passions and desires are in-formed and transformed by the inherited distinctions of the traditions and practices that have become part of the linguistic medium that structures the linguistic culture the child rises to self-consciousness through. And those same passions, once articulated into self-consciousness narrative agency, may turn on the traditions and practices, thematise, evaluate, and even reject some of them (*PK* 104).

The language-afforded capacity to re-present at will the perceptual actualities of past and present, distances one from the immediacy of perceptual actuality, and effectively robs the five senses of their sovereignty over one's repertoire of discriminations and attentions.[38] One's transactions with otherness become *more than* causal, because one's conscious uptake of the perceptual world is structured by the conceptual discriminations of one's language, which means one is always conscious of something *as* something. That is, humans inhabit their lifeworlds under the auspices of signs, under descriptions; intensionality and interpretation pervade the human way of being in the world, so much so that most of human behavior is driven by meanings rather than determined by causes.[39]

We now can explicitly thematise our experience and re-present it in various ways such that our possibilities of response to it are greatly multiplied. Our linguistic framework gives us the resources to freeze and sustain the present experience in a linguistic re-presentation, and even cast it into counterfactual contexts both spatially and temporally. A nonhuman animal's sensory ingress into an environment comes in real time and space, and the animal, not having a means of objectifying and re-presenting its environment, responds to its challenges with whatever wisdom its bodily instincts and repertoire of learned responses possess. The language-born capacity to transcend conceptually space and time allows our intentions, emotions, and moods – what Heidegger called our "existentiality" – to encounter not only new possibilities of existential enrichment, but also new existential liabilities as well. To name just a few of the more important of these liabilities, mis-representation,[40] preoccupations with possibilities that never become actual, and anxious brooding over one's own being-towards-death.[41]

The moral of this story - which we've only had time to touch upon - is that once a child indwells its mother tongue, it attends *from* a new tacit base of sensitivities *to* a world of new affordances (i.e., enhancements of what Husserl, Wittgenstein, and Merleau-Ponty called our bodily "I can"). And engagement with these new affordances feeds back through the child's tacit base of sensitivities, dialectically restructuring its pre-articulate subjectivity into an articulated and articulate point of view on, and point of action in, its lifeworld.

C: The Possibilities of Self-making That Language Brings

I only have time here to highlight a few of the many ways that language truly is the primary medium in which selves live and move and have their being. Charles Taylor implicitly endorsing Polanyi's notion of the ontology of commitment, notes that we don't have selves like we have hearts or livers.[42] Hearts and livers are not, according to Taylor, description-sensitive realities, because they continue to function and be what they are

independently of how they are described – they are wholly dyadic entities. The situation, however, is otherwise, with selves: self-description does not leave the self unchanged, for selves possess their being through narrative self-emplotment. We do not begin with a unified self; a unified self is an achievement realized by living a life under descriptions that are amenable to narratized coherency and cogency. While the nominal and pronominal apparatuses of one's mother tongue calls forth the self-notion, selfhood itself is unified, sustained and advanced through a dialectic of first-person *and* second-person conceptualisation and narratisation that can only occur in a consciousness pre-structured by the semiotic resources of an articulate framework, which means, therefore, that selves can develop ontogenetically only in relations with other selves.[43]

The linguistic ability to bind time's tenses into a unified narrative, gives one's self the wherewithal of weaving memories of its past (the "no longer") into its hopes and fears regarding the future (the "not yet") so that its *present* actions will be conditioned by and oriented according to these *absences of intentionality*[44] – i.e., the nothingnesses that help structure human selves. *Socially* who I am is who I've been woven into relations with, so too *temporally* I am now who I am because I am not anymore who I was nor am I yet who I will be. My memories and hopes are as ingredient to who I am now as are the actualities of my present perceptual consciousness. The socio-linguistic storehouse of cultural *a priori* embodied in the lifeworld – i.e., one's cultural memory – gives the emerging self the ideals and norms towards which it may transcend and define itself. These cultural absences get folded into the human way of being bodily mindful in the world – this is how traditions make their way to the future. So human selves are actually shaped by taking up positions towards things that are *not*, and some that never were or will be, actualities. Think of how fictions figure into our identities. Language acquisition brings with it the capacity to create and sustain intersubjective and fictive spaces where one can co-attend to posits of highly theoretical or fictive worlds of discourse as well as to culturally demarcated features of empirical realities. Think as well of the role of ideals in our self-formation. By bringing new ethical ideals to bear on one's past actions, one's self-understanding may alter dramatically, e.g., from pride to shame or vice-versa – distinctly language-dependent transformations. Bringing new ideals to bear on one's first-order desires (i.e., egoistic desires that one is pushed around by) generates higher-order desires (i.e., desires infused with universal intent that one is pulled around by) such that one can take up a position on the contours of one's self and take action to modify them. Only a being that is linguistically apt could re-present its own interests *as* less than desirable – this is the beginning of an ethical way of being in the world.[45]

Conclusion

I would like to conclude by reflecting briefly on ethical self-making and the cultural determinism latent in most social constructionist accounts of human being. As we noted earlier, a mother tongue is acquired through surrendering (acritically) one's intellectual passions, many of which are natively self-centred and survival-vectored, to the individuations, saliencies, affordances, narratives and norms pre-articulated in one's language community's practices. Consequently, the agent of language acquisition inherits a wealth of "linguistic facticity" that has already begun him or her long before he or she self-consciously and intentionally begins articulating him or herself. One is always already emploted to some extent in narratives of which he or she is a character – not the author. Thus we all begin becoming selves already having been begun, but we are able, because of the transcendence articulate cultural frameworks engender, to redirect and sometimes even refuse some of the biological and social forces in-forming our selves. Social constructionists fail to recognise that although our entrance into selfhood precedes our intentions, the self we end up with is severely dependent upon what we make of the self we were thrown into being-with-others through – we are not merely passive sites through which cultural forces circulate, intermingle, and ultimately disperse. Despite the socio-linguistic forces

in-forming its nature, the self has genuine agency in the world, such that despite who it began its adventure to personhood as (e.g., an abandoned child, a spoiled child, etc.), who it becomes is to some extent its own responsibility.

Linguistically apt human selves can turn on the very forces that gave them birth, the biological forces churning in their loins and the emotional, psychological, and socio-linguistic dispositions and biases their caregiver's invested them with, and call these into question. This is nowhere more apparent than in the resistances of the four "F's" of evolutionary survival that the most human of our species, saints for instance, have carried out. To give some concreteness to the moral space created by the acquisition of an articulate cultural framework, consider:

> **Feeding**. We are passive to hunger's importunities, but language allows us to bring the ideals we've acquired from our linguistic heritage to bear on this impersonal force such that we can make our natural desire to eat when we are hungry an object of a higher desire, say the desire for justice,[46] and thereby transgress the trajectory of our natural survival drives. We can take the position of the other on our own first-person desire to eat and refuse it so that others may eat. We are *not* locked into the first-person, self-centred perspective that our body natively gives, and thus we can personalise our way of being hungry and even starve ourselves right to death so that an other might not starve.
> **Fighting**. Nonhuman animals will fight when it comes down to a perceived chance of escaping harm. Humans can and do become pacifists and will sometimes choose even death when the slightest effort to fight would preserve their lives.
> **Fleeing**. Nonhuman animals typically run to safety in the face of life threatening danger. No doubt dogs and other animals have died seeking to protect their masters, but such actions are not committed in full awareness of the bearing of their act on their own non-being. Yet humans sometimes spurn the threat of death and courageously and knowingly embrace torture unto death to protect others they do not even know.
> **Fornicating**. Intentional celibacy entered into the natural world of survival of the fittest through Homo sapiens. Out of concern for the interests of others, certain humans have taken up a position of refusal towards the powerful, impersonal forces of reproduction. One would be hard pressed to find any example of this in the world of sub-articulate animality.

These are just a few examples of how the firmament of obligations supervening our articulate cultural frameworks has brought to our species possibilities of self-transcendence.

Language acquisition inducts a naturally purposive but largely reactive animal agent into a world of meanings and possibilities through which it can actively take up a position on impinging stimuli and on its own purposes. This language-afforded transcendence gives humans the ability to become morally kenotic in their way of being in the world. Non-human animals' way of being in the world is pretty much settled by the forces of nature coming to expression through the interaction of their genes and environmental conditioning. Nonhuman animals do not therefore *bear* the burden of their being as a possibility, a task, or a risk – they are not self-makers. Only linguistically-reflexive animals can represent their own point of view on the world as one possibility amongst many others, and only normatively reflexive animals can position themselves for-others against their own self-interest, or bring "I ought" to bear on their "I can." Language gives one the possibility of taking up the position of the other on one's own desires and interests, and this issues in a choice of the kind

of self one will bear one's being into the future through. Clearly, language is the primary medium in which selves live and move and have their being.

It is shocking to realise what little is left of the human way of being in the world once language is theoretically bleached out of it. And this, of course, should raise suspicions about those philosophical accounts of language that depict it as a mere conduit through which fully constituted thought flows to an outside world, as well as relieve the temptation to embrace substance dualism as the only means of "saving the appearances" of human subjectivity. Because language is always already there tacitly in-forming the flow of our experience and constraining the trajectory of our intentionality, its role in our way of being in the world is easily passed over in silence.[47] Polanyi's account of the role of articulate cultural frameworks in the rise of mind and selfhood helps provide the conceptual resources for forging an embodiment perspective on mind that can absorb the legitimate insights of naturalism without having to, at the same time, either embrace the crude reductionism that often accompanies them, or feel obliged to appeal to a soul substance to account for all the phenomenological danglers that reductive physicalism cannot plausibly explain.

Endnotes

[1] Michael Polanyi, *Personal Knowledge: Towards a Post-Critical Philosophy*, Chicago, University of Chicago Press, 1958, p. 264. Henceforth, *PK*.

[2] "A Conversation with Michael Polanyi," Interviewer Mary Harrington Hall. *Psychology Today*, 1968: vol. 1, p. 67.

[3] See Polanyi's essay "The Two Cultures," p. 46 in *Knowing and Being: Essays by Michael Polanyi*, edited by Marjorie Grene, Chicago: University of Chicago Press, 1969 (henceforth *KB*), where he states that a humanistic revisionism can be secured only after we have emancipated the biological sciences and psychology from the scourge of physicalism.

[4] "Indwelling" is the word Polanyi uses to describe the tacit intimacy that breaches the entrenched dichotomy of subjective and objective: "We shall remain blind in theory to all that truly matters in the world so long as we do not accept indwelling as a legitimate form of knowledge" in Schwartz, Fred (ed.) *Scientific Thought and Social Reality: Essays by Michael Polanyi*. New York, 1974: International University Press, p. 148. In his Preface to the Torchbook edition of *Personal Knowledge*, Polanyi says of his notion of indwelling that it "is Heidegger's *being-in-the-world*", p. x.

[5] As Marjorie Grene puts it in her introduction to *Knowing and Being:* "The atomic topography of my central nervous system is not myself; it is a set of objectified conditions of my existence, and only self-delusion can equate my existence with its conditions, however complex and however necessary"(xi).

[6] See Polanyi's essay, "Faith and Reason," p. 127 in *Scientific Thought and Social Reality: Essays by Michael Polanyi*, edited by Fred Schwartz, New York: International University Press, 1974.

[7] This is not meant to suggest that there are only two views on language's relation to human mentality, but that these two views are largely representative of the tendencies and content of the contemporary discussions of this issue.

[8] Aristotle's *De Interpretatione* and *Categories*, H. P. Cook, London: Heinemann, Leob Classic Library, 1938; *De Interpretatione*, 16^{a3}.

[9] From *Grammar* p. 66; quoted by Harris, Roy and Talbot J. Taylor *Landmarks in Linguistic Thought: The Western Tradition from Socrates to Saussure*, London: Routledge, 1989, p. 98.

[10] Ibid.

[11] John Locke, *Essay concerning human understanding*, P. H. Nidditch's edition, Oxford: Oxford University Press, 1975, bk. II, ch. iii.

[12] Ibid., III.ii.1.

[13] See Ian Hacking's *Why Does Language Matter to Philosophy?* Cambridge: University of Cambridge Press, 1975, p. 16.

[14] Today a designative-communicative view of language is implicit and often explicit in much that goes under the name of cognitive science see, for example, Jerry Fodor's *Language of Thought*, Cambridge: Harvard University Press, 1975, Noam Chomsky's *Language and Problems of Knowledge*, Cambridge: MIT Press, 1988, and Steven Pinker's *The Language Instinct*, New York: William Morrow, 1994.

[15] See Charles Taylor's, *Philosophical Papers*, vol I, Cambridge: Cambridge University Press, 1985: p. 233, where Taylor argues, "Language realizes man's humanity. Man completes himself in expression."

[16] Heidegger claims: "Language is the house of Being. In its lodgings dwells man" ["Letter on Humanism," 1946: 239]. According to Gadamer, "Being that is understood is language" [*Truth and Method* (2nd ed.), xxxv], and "...language is not only an object in our hands, it is the reservoir of tradition and the medium in and through which we exist and perceive our world" [*Philosophical Hermeneutics*, 1976: 29].

[17]Polanyi elsewhere refers to language as a "symbolic formalism" that is itself "an embodiment of our antecedent unformalized powers – an instrument skillfully contrived by our inarticulate selves," *PK* 131.

[18] Clifford Geertz, *The Interpretation of Cultures*, Basic Books, 1973, p. 47.

[19] Ibid.

[20] Here we have an example of "Baldwinian evolution," where the learning of flexible behaviors by certain individuals actually amplifies and bias the course of natural selection – see Terrence Deacon's *The Symbolic Species*, New York: W. W. Norton, 1997, pp. 322ff.

[21] Geertz, p. 49.

[22] Ibid.

[23] Terrence Deacon, a biological anthropologist, argues in *The Symbolic Species* (1997), that the brain of *Homo sapiens* co-evolved in relation to the constraints of language's emergence – see his discussion of "Emerging Universals," pp. 115-122.

[24] See Jerry Gill's Polanyi-influenced Wittgensteinian reflections on language acquisition in his *If a Chimpanzee Could Talk*, Tucson, University of Arizona Press, 1997. Deacon (1997) contends that the information needed to "grow" a language "is highly distributed across myriad interactions between children's learning and the evolution of a language community," p. 115.

[25] Elaborating on Hans Leowald's psychoanalytical view of language and early primary mother-child relations, Stephen A. Mitchell, in his *Relationality: From Attachment to Intersubjectivity*, Hillsdale: The Analytic Press, 2000, says that language is a fundamental dimension of human experience "not only after birth, but in utero. …[T]he earliest experience of language is deeply embedded and embodied in the child's undifferentiated union with the mother inside of whom he slowly grows into awareness." pp. 8-9. Mitchell appeals to the experiment of DeCasper and Fifer to corroborate Leowald's view. Their experiment involved pregnant women in their final trimester reading aloud Dr. Suess' *The Cat in the Hat* to their fetuses. Shortly after birth these babies displayed a definite preference for the tape-recording of their mother's voice over a tape-recording of another woman reading the same book. This phenomenon also has significant bearing on the case of Helen Keller who, at age five, seems to have been catapulted into the linguistic way of being in the world almost instantaneously outside the pump-house in Alabama; see chapter Three in Gill (1997), where he offers a helpful account of the nurturing stage setting for this phenomenon. I'd like to thank the anonymous reviewer who directed me to Mitchell's fascinating book.

[26] See Marjorie Grene's discussion of Adolf Portmann in her book *Approaches to a Philosophical Biology*, New York: Basic Books, 1968, pp. 42-54.

[27] See John McCrone, *The Ape that Spoke: Language and the Evolution of the Human Mind*, London, Macmillan, 1991, pp. 164-5.

[28] Myelinization is the process whereby a fatty protein forms around nerve branches (axons) to insulate neuronal connections. Like the rubber around electric wiring, myelin stops the neuro-electrical pulses from leaking out and diffusing into other neural pathways. This fatty sheathing thus speeds up a nerve impulse and prevents it from dissipating before it reaches its proper destination (McCrone, 37). There is a kind of natural selection that takes place among the many neural branches in the brain. Those branches that aren't stimulated are pruned away and those that are used are myelinized into the hard-wired architecture of the brain.

[29] This is an expression deriving from philosophical anthropology and taken up by phenomenologists to denote the world of meanings through which humans in-habit their environments.

[30] Michael Polanyi, *The Study of Man*, Chicago: University of Chicago Press, 1959, p.98. Henceforth, *SM*.

[31] Intensionality refers to semantic relations whose truth-value is not preserved under substitution of co-referring terms, creating what is known in philosophy of language as opaque semantic contexts. This failure to preserve truth-value under co-referring substitution is what makes the project of reducing mind to neurophysiology incredible. If the human way of being bodily mindful in the world is linguistically sustained and structured (as I argue was Polanyi's position), then causality – the paradigmatic external relation – will always prove inadequate to tracking the so-called "state transitions" of human thinking, for they are driven by meanings (e.g., rationality constraints) and therefore cannot support psychophysical causal laws essential to such a reduction. This is one of the central points of Donald Davidson's influential paper "Mental Events," in his *Essays on Actions and Events*, Oxford: Clarendon Press, 1980, chapter 11.

[32] Typically language acquisition figures into discussions of linguistics and/or cognitive science only as it bears on the nature/nurture, rationalist/empiricist debate: do humans have an innate language of thought (Fodor's mentalese or Chomsky's *mentis lingus*) or do they learn their language of thought. Sometimes this discussion unfolds into questions of whether humans can think without a sententially structured innate language of thought, or whether they can think without having acquired a mother tongue (feral child), or whether some of our thoughts can be carried by mental images alone, etc. As well, one might find post-linguistically-turned analytical philosophy mentioning language acquisition and the role of mother tongues in discussions of speech-act theory or in the debates surrounding the realism/antirealism question. However, these discussions rarely, if ever, explore the way the acquisition of a mother tongue gives birth to the distinctly human way of being mindful in the distinctly human world.

[33] I.e., what Polanyi refers to as the "semantic" and "phenomenal" transformations brought about by the integrations of tacit knowing – see Grene (ed., 1968), p. 218.

[34] External relations, put quite simply, obtain between relata whose identity is constituted independently of the relations they sustain.

[35] See Percy's stimulating essay, "A Triadic Theory of Meaning," in his *The Message in the Bottle*, New York, Farrar, Straus, and Giroux, 1980.

[36] In Sausaurre's terms, the development of articulate frameworks brought into the world new relationships that are meaningful, yet causally arbitrary, through the coupling of signifer and signified, thereby making explanatorily incomplete even an exhaustive physical specification of the causal antecedents of most instances of social behavior.

[37] "Affordances" is J.J Gibson's term for the opportunities that *gestalted* stimuli provide an organism, see Gibson's *The Ecological Approach to Visual Perception,* Boston: Houghton Mifflin, 1979.

[38] In this context it is interesting to think of language as a kind of meta-sense. Let me briefly explain. Our senses give us a point of view on otherness. Our sense of taste, for example, gives us otherness in a very immediate, intimate, and vulnerable fashion - we must take the otherness into our own bodies and thus risk altering and being altered by whatever the gustatory sense opens us to. The ingress into otherness that the gustatory sense offers is very limited in terms of information extraction (sweet/sour, salty/not, etc) and is extremely risky. At the other end of the spectrum is sight - the noblest sense, as both Aristotle and Descartes claimed. Sight is the most distanced of senses. With the native eye we can see things millions of miles away. Sight extracts information about objects without altering them or risking alteration by them. It opens us to actual objects, but owing to its transcendence of space, it also gives us a preverbal encounter with possibility; our uptake of distance objects includes an uptake of possible routes to them or away from them – i.e., we can see the road not taken. And, of course, as the existentialists make so compellingly obvious, the greater the context of possibility a point of view projects itself into, the more individualised it may become through what it actualises.

Now a linguistic framework becomes a kind of meta-sense in this regard. It takes up and unifies all of the possibilities that derive from one's sensory access to the world and re-presents them in the context of a whole culture's experiences, present and past. The world that the language "sense" (*communis sensus*) opens upon is infinite in possibility, and it is in this linguistically structured and culturally sustained context that we forge our identity by actualising certain of those possibilities and taking up a position of refusal towards the others.

[39] This is why we don't experience the "booming buzzing" environment of stimuli William James suggests babies encounter, nor do we experience the sense data the phenomenalist suppose, but rather, we hear the chirping of a bird, or, for some of us, the chirping of a canary - such linguistic distinctions aren't added on to the raw stimuli, but are experienced as ingredient to the encounter – see Heidegger's *Being and Time*, tr. Macquarrie and Robinson, New York: Harper, 1962, p.207. For languaged beings, such as ourselves, our world comes pre-configured linguistically and only in moments of severe disorientation do we experience mere stimuli or sense-data. As adults, our experience of, and response to, the perceptually impinging world is always already enchanted by our indwelling-attunement to the semantic and phenomenal saliencies carried by the linguistic framework of our cultural heritage.

[40] Although animals can mis-take a decoy for a conspecific, they are exempt, Polanyi points out, from the "errors due to elaborate systems of false interpretation, which can be established only in verbal terms," *PK* 93. See too *PK* 253.

[41] This is why humans "need a purpose that bears on eternity," Michael Polanyi, *The Tacit Dimension*, Glouchester, Mass: Peter Smith, 1966, p. 92.

[42] Charles Taylor, (1985), *Philosophical Papers I: Human Agency and Language*, Cambridge: Cambridge University Press, p.75.

[43] Alasdair MacIntyre speaks of "the narrative unity of life," which depends upon the "interlocking" of characters in each other's stories, and he emphasizes the essential role of narrative in the formation of self-identity, *After Virtue*, 2nd edition, Notre Dame: University of Notre Dame Press, 1984, pp. 217-18. See as well, Anette Baier's (1985) *Postures of Mind: Essays on Mind and Morals*, London: Methuen, p. 85, where she states "Persons come after and before other persons. …Persons are essentially successors, heirs to other persons who formed them and cared for them…".

[44] The expression "absences of intentionality" is meant in a subjective genitive sense (were English an inflected language), suggesting not a negation of intentionality, but absences in the plenum of being that come to *be* (resultative) only through intentionality. Thanks to an anonymous reviewer for identifying this ambiguity.

[45] Second-order desires require a symbolic medium in which to re-present first-order desires as intentional objects of propositional attitudes, e.g., "I desire (2nd) to not desire (1st) x".

[46] In this context, it is interesting to take note of Hans Jonas's critical review of Rudolph Arnheim's (1969) *Visual Thinking*, in the *Journal of Aesthetics and Art Criticism*, Fall 1971, where he rejects Arnheim's naïve claims that language merely names perceptual entities. Jonas argues that language actually *creates* ideals, such as validity and justice, and these are then used to criticize perceptual entities such as human behaviours. The concepts of validity and justice do not originate in observation – here the *logos* is a priori to the *phainomena.*

[47] We easily remain focally ignorant of language's *role* in our way of being bodily mindful in the world, because it is so subsidiarily ubiquitous in our *way* of being bodily mindful in the world. Along the same lines, see Polanyi's argument that the "pseudo-substitution" underwriting modern science's mythical objectivist self-understanding is a result of its failure to recognize the self-effacing transitivity of subsidiary awareness and its tacit funding of the scientific point of view, *PK*, 169.

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 double-spaced type with notes at the end; writers are encouraged to employ simple citations within the text when possible. MLA or APA style are preferred; because the journal serves English writers across the world, we do not require anybody's "standard English." 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. Consistency and clear writing are expected.

Manuscripts normally will be sent out for blind review. Authors are expected to provide a hard copy and a disk or an electronic copy as an e-mail attachment. Be sure that electronic materials include all relevant information which may help converting files. Persons with questions or problems associated with producing an electronic copy of manuscripts should phone or write Phil Mullins. Insofar as possible, *TAD* is willing to work with authors who have special problems producing electronic materials.

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Tacit Knowledge And The Work Of Ikujiro Nonaka: Adaptations of Polanyi in a Business Context

William D. Stillwell

ABSTRACT Key Words: Polanyi, Michael; Nonaka, Ikujuro; knowledge creation; tacit knowledge; business organization

Ikujiro Nonaka, whose formative experience is Japanese, is an established scholar who has written about large business organizations. He sees knowledge at the heart of the organization and its products and aims to develop Michael Polanyi's conception of tacit knowledge in a practical direction to enhance organizational "knowledge creation.." For Nonaka, what matters is the practice, the doing, the embodiment of knowledge. An organization can amplify and crystallize individuals' tacit knowledge in a process that allows them to experience deeper understanding . Nonaka holds that it is iimportant to explore the potential that knowledge holds. His spiral process describes disciplined practices that make tacit knowledge independent and available to restructure the organizational knowledge context.

For close to twenty years, Ikujiro Nonaka has been writing for people in large-scale business organizations. He tells stories about companies that successfully bring innovations to the marketplace. He advises managers of international business how to build their organizations around the core process of creating knowledge. His central concern is thus "knowledge creation" in and for the organization.

From his basic assumption that an organization is a living entity, Nonaka understands that for a business to continue its liveliness (its attraction to employees and customers, indeed its very survival), it must carry on continuous self-organizing. He sees knowledge at the heart of the organization and its products. Most businesses are organized to process information in an orderly way, but what they really need is to dissolve existing structural and cognitive orders and create new order out of the "chaos" of knowledge and information. (Nonaka, 1988b)

Nonaka's concepts and practices are grounded in Japanese culture, a domain primarily known and honored tacitly (Nonaka and Konno, 1998). His approach has less to do with representational ideas and more to do with a constructivist understanding of knowledge (von Krogh, 1998). Nonaka does cite Michael Polanyi's conception of tacit knowledge, and says he aims to take Polanyi's notion in a more practical direction. To do this, he outlines an approach that works with many colleagues, borrowing ideas, modifying, inventing, fitting, and trying them out. Working thus in social interaction is the very process Nonaka recommends for people to develop knowledge within their organizations. "Knowledge is alive because it changes continuously… transferred through human interaction" (Nonaka, 1994).

From his experience of profound East-West differences in styles of business activity, Nonaka suggests that tacit and explicit knowledge are best epistemologically understood as two distinct types. Tacit knowledge is characterized by "analogue" qualities – parallel processing of continuous complex variables – while explicit knowledge shows the discrete discontinuities characteristic of "digital" processing (Nonaka, 1994). This heuristic makes a dualism of tacit knowledge and explicit knowledge. Focusing on the tacit, (which for Polanyi is subsidiary) Nonaka contends that he gains further access to the knowledge resources of the person.

The creation of organizational knowledge begins with subjective tacit knowledge, that flow of information which individuals have created and proven in their own committed, effective, embodied actions. Nonaka understands an individual's tacit knowledge as "pure experience," an intentional self-involvement in the object and situation that transcends subject-object separation. Knowledge is personal, a "justified true belief." Nonaka wants to facilitate the justification of each individual's true beliefs within a wider community.

In Nonaka's vision, an organization can amplify and crystallize individuals' tacit knowledge by allowing them to experience deeper understanding of any knowledge they may receive, and importantly, the potential that knowledge holds. He believes that business "problems" (and something of their solution) are originally known tacitly by an individual (Nonaka, 1991). He offers a "spiral" process towards solution that begins in part-time, problem-focused work teams, which he calls "microcommunities of knowledge." Members engage in "dialogues" between the tacit and explicit ways they hold knowledge; they engage in practices which first dis-embody and then re-embody tacit knowledge. The spiral describes stages in a process by which knowledge is converted first, among various tacit forms, second, from tacit to explicit states, third, among competing explicit possibilities, and, finally, from explicit existence back to tacit knowledge. Each knowledge conversion stage is distinct; each involves a different self-transcending experience for participants, and each calls for differing styles of personnel management. Organizational knowledge is created by the completion of all four conversations/conversions.

In Socialization, the first stage, each person's tacit knowledge is converted to tacit knowledge now also held by other members in the microcommunity. Let's say our problem is to build a table. During the Socialization stage, each team member (and sometimes people from outside the core staff) acquaints herself and the others with her experiences with existing tables. Our meetings may take place in various settings, at different times in our daily rhythms, experiencing different tables. This is how we gained our tacit knowledge in the first place, that is, through informal relationships with people who live by means of their own tacit knowledge.

In the next stage, Externalization, tacit knowledge is converted to explicit knowledge comprehensible to others. Particularly through the contradictions found in metaphor, and later, the harmonies understood in analogy, team members work with one another to articulate out of tacit familiarity what each has known about tables. Our ways of accommodating to and being accommodated by tables becomes knowledge we can share with others who have not gone through our group experience.

During Combination, the third stage, this newly explicit knowledge becomes widely disseminated, discussed, redesigned and modified. Our team's ideas about tables and possible new table-like entities are talked about, built into models, criticized in every aspect from appearance, to use, to design, to market acceptance. Potential customers, potential suppliers, the company CEO may all get involved.

The final stage is Internalization. People all over the organization use and live with tables made to our new designs in their daily activities. Internalization converts the changed, explicit knowledge again to a tacit form, this time held by many people. It then becomes clear how knowledge thus built into a product or a service, actively solves perceived problems. (see von Krogh, Ichijo, and Nonaka, 2000).

A successful product or service, Nonaka contends, will touch the tacit knowledge of customers, some of whom may have been part of the team. Customers will be moved to purchase because the now built-in tacit knowledge appeals to their own sensual participation and matches their own embodied grasp of the nature of

things (Nonaka, 1994). Without the practice of Internalization, some appealing products may have unwanted tacit implications. In an example from industrial creative designer Jerry Hirshberg, a company not involved with Nonaka sold an aesthetic and clever vehicle, which could be changed by owners back and forth between automobile and truck. But few who bought it actually used this feature; few accommodated the vehicle metamorphosis process into their behavioral habits. (Hirshberg, 1998:220).

While one may associate creativity with productively playful experiences, knowledge creation is work. By including many participants' experience, by understanding through trial and error, by expanding and accepting overabundant, equipotential information, the teams create a chaos they then try to bring into order. Collective action is achieved only if individuals assert themselves at each stage. Important also are different styles of management at different stages. Freedom, redundancy, and uncertainty, for example, are amplified by open and loose facilitation during the Externalization (second) stage. At the Combination (third) stage, in contrast, the facilitative discipline will be very focused, even rigid, and feature criticism, rigorous justification, and mutual intrusion into one another's expertise. As practiced in Japan, this process can be quite stressful and exhausting. It requires individuals to keep options active and in opposition and in communication, it requires people to invite diversity and emotional vulnerability, it requires participants to arrive at justified true belief with their colleagues. It re-organizes and re-news the organization.

By nurturing and facilitating numerous long-term communities of interaction, Nonaka believes that an organization can keep alive those creative features employees value in their work experience. He lists the features as commitment to an active, real result, autonomy to motivate oneself and absorb knowledge, and stimulus to reconsider through breakdowns in comfort and habit. The company continually reorganizes and develops itself in reference to its newly emerging knowledge and continually produces innovative products and services. All employees – not only a creative elite or a few experts — are paid to engage their creative capacities. Customers are not only offered (presumably) better products and services, but participate in the process as well. Nonaka believes he is advancing "a basic theory for building a truly humanistic knowledge society beyond the limitations of mere economic rationality" (Nonaka, 1994).

I see in Nonaka's work — concerned as it is with creativity, knowledge, and interpersonal dynamics — a potential for radically changing how we work together. Surely Nonaka's process remakes not only an organization as he claims, but also the selves of the organization's members. Social creativity and change functions that way. All our institutions (not only businesses) would clearly be different were we participants committed to their self-organizing renewal. The experiential, tacit dimension exposed and utilized in experiential learning might indeed serve as a means to such an end.

Perhaps Nonaka's epistemological distinction between tacit and explicit knowledge does irreparable violence to the wholeness implicit in Michael Polanyi's beautiful subtlety. Polanyi would probably decry the destruction of a person's personal knowledge by the kind of objectifying particulate examination of tacit knowledge that Nonaka recommends. Yet Nonaka's cross-cultural perspective provides opportunity to open ourselves to different perceptions and a new way of understanding the tacit. For Nonaka, a person whose formative experience is Japanese, what matters is the practice, the doing, the embodiment of knowledge. Intangible knowledge has no value until it gains organic concentration and focus in people immersed in situations of living and doing. Nonaka's spiral process describes disciplined practices that make an embodied argument for the independence and availability of tacit knowledge. The disciplines suggest ways we in the West might experience tacit knowledge newly, and conceptualize it differently.

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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 three issues of *TAD* each year.

Annual membership in the Polanyi Society is $25 ($10 for students) beginning in the fall of 2002. The membership cycle follows the academic year; subscriptions are due September 1 to Phil Mullins, Missouri Western State College, St. Joseph, MO 64507 (fax: 816-271-5680, e-mail: mullins@mwsc.edu). Please make checks payable to the Polanyi Society. Dues can be paid by credit card by providing the card holder's name as it appears on the card, the card number and expiration date. Changes of address and inquiries should be sent to Mullins. New members should provide the following subscription information: complete mailing address, telephone (work and home), e-mail address and/or fax number. 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.

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A Memorial Project: An Invitation to Contribute

Appraisal, with the cooperation of *Tradition and Discovery* and *Polanyiana*, is organizing a special feature on Drusilla Scott (who died in Februrary, 2003) and Robin Hodgkin (who died in August, 2003), two close friends of Michael Polanyi, who were inspired by him and wrote about him, and were, successively, the chairmen of the old Convivium Group, the UK Polanyi group that was several years ago united with the Polanyi Society. Anyone interested in contributing an article to this feature should contact Richard Allen, *Appraisal* editor, (rt.allen@ntlworld.com) with an outline and estimate of length. Allen needs to know what will be offered as soon as possible. To avoid duplication and to make this memorial project easier, Allen has suggested that contributions should be on particular publications or specific aspects of Scott and Hodgkin's books and articles. Additionally, Allen will provide general summaries of the life and work of Scott and Hodgkin..Plans are to include this material in the March 2004 issue of *Appraisal*. *Tradition and Discovery* and *Polanyiana* will post this material at the same time on their websites.

On Reading Part IV of *Personal Knowledge*: a Finalism or a Simple Vision?

Andy F. Sanders

ABSTRACT Key Words: Polanyi, Michael, Haught, John, Yeager, Diane, metaphysical theism, finalism, process theism, interpretation of Part IV of *Personal Knowledge*, Gifford Lectures, Polanyi's account of religion.

In this paper I argue that there are good reasons for not reading the last part of Polanyi's book Personal Knowledge *(1958) as the outline of a finalistic metaphysics, as proposed recently by Haught and Yeager, but rather as a modest speculative attempt to fulfill the requirements of a Gifford Lecturer, namely to treat of the relation between God and the world. Apart from the background of the writing of the book, I suggest that the predicament of theism in the contemporary antimetaphysical climate and Polanyi's emphasis on religious practice, rather than metaphysical theorizing, as the locus of meaning in his other writings on religion, support this reading as well.*

1. Introduction

What is the nature and status of the "conceptual framework" that Michael Polanyi develops in the last part of his *Personal Knowledge,* especially in the final chapter "The Rise of Man"? Recently, John Haught and Diane Yeager suggested that it "outlines a significant religious metaphysics" from which a number of robust and fruitful metaphysical principles can be distilled.[1] According to them, the vision that Polanyi presented in Part IV is a deliberate attempt at theological renewal in which "the hierarchical vision of traditional metaphysics" is joined to "a cosmology of emergent evolution" (p.544).[2] They find it hard to see how *Personal Knowledge* could be read "as anything but a critique of Cartesian metaphysics from the standpoint of something other than Cartesian metaphysics" (p. 546). According to Haught and Yeager, the "implied metaphysical alternative" that Part IV has to offer, must be a robust metaphysics, a "finalism" as they call it, the distinctive mark of which is

> that in order for life to have a chance of coming to existence at all, *nature must already be ordered* in such a way that random events can be stabilized into enduring open systems constrained by organizational principles whose presence cannot be accounted for by one more evasive appeal to the notion of chance (p. 561).

They then proceed to elaborate the main principles of finalism in the context of their critique of materialist evolutionism. Finalism suggests a conception of God as a "cosmic field which called forth all animate centers by offering them a[n] ... opportunity for making some progress of their own towards an unthinkable consummation" (*PK* 405). Taking this field as "the divine field of influence on the emergent universe," Haught and Yeager call it "the metaphysical foundation" of the strivings of human beings and other active centers in response to that influence (p.548). They explicate and defend this teleological vision as a viable alternative to the prevailing materialist evolutionism that completely excludes human subjectivity and personhood. Ac-

knowledging that the theory of selection by reproductive advantage is a powerful explanatory device, they argue at length that it cannot explain the evolutionary process as a whole. Hence, it is entirely proper to introduce teleological factors into the explanation of evolution in the sense of Polanyi's proposals, which, as they rightly point out, are in no way conflicting with science but quite out of step with scientism (p.557). However, the viability of Polanyi's version of finalism "depends on the success of his more fundamental attempt to reestablish the cognitional stature of personal knowing." Though they do not pursue this issue much further, Haught and Yeager acknowledge that they must eventually give their consent to the concept of personal knowledge "if we are also to make room for any teleological factors in the emergent evolution of life" *(ibid.*).[3]

In sum, if Haught and Yeager are right, the closing part of *Personal Knowledge* offers an outline of a naturalistic theism or a natural theology, perhaps even a so far neglected argument from design *in nuce*. This, at least, is how I would understand the conjecture of "a cosmic ordering" that allows chaotic events to be stabilized into ever more complex levels of being.[4] I agree that certain ideas of Polanyi may be fruitfully employed in the critical conversation with the advocates of scientism and that one might develop Part IV into a full-blown religious metaphysics. *Personal Knowledge* leaves the latter possibility open and I suggest that this openness was intended. Some might take this as a weakness, suggesting that Polanyi left us with an incomplete metaphysical system.[5] In contrast, others may judge it a strong point that Part IV leaves much to be explored and many possibilities of sense to be discovered. They may not subscribe to the idea that metaphysical theorizing and system building is the proper aim of philosophy to begin with. Siding with the latter, my aim is to show that Part IV not only need not be interpreted or developed into a metaphysical theology on the lines envisaged by Haught and Yeager, but also that there are good indications not to do so. First, we are interpreting Polanyi's text in what Haught and Yeager rightly call "the contemporary antimetaphysical climate" (p.545f.). Whereas they recognize that in view of this climate, "we might be wise to leave it at that," they nevertheless proceed to uncover the "metaphysical principles" implied by Part IV as part of their own larger project in theological metaphysics. Second, *Personal Knowledge* as a whole and its closing chapter in particular, has a specific history that is relevant to the question of its interpretation. Third, Polanyi's other writings on religion, especially *Meaning*, are significantly different from the closing chapter of *Personal Knowledge*. Though it is common practice in the current postmodern climate to interpret texts independently of the intended meaning of their authors, I would nevertheless suggest that at least in this case the work as a whole might well be relevant to the interpretation of a part of it. If there is a natural theology or a naturalist theism implied by Part IV, surely the question whether it is consonant with Polanyi's other writings on religion, and if not, how the difference is to be explained, is relevant. To provide a background for addressing this question, let me start by giving a brief characterization of theism.

2. Theism

In its traditional or classical form, "theism" may be characterized as a philosophical theory built around a particular conception of a single, supreme and benevolent being. As Richard Swinburne puts it:

> by "God" a theist understands something like a person without a body (i.e. a spirit) who is eternal, free, able to do anything, knows everything, is perfectly good, is the proper object of human worship and obedience, the creator and sustainer of the universe.[6]

As a metaphysical theory, theism is not the same as, and should therefore be distinguished from, systematic or dogmatic theology. To be sure, systematic theologies may be developing or employing ideas derived from

theological metaphysics in reflecting on the concepts embedded in a religious tradition or practice, but it is in no way incumbent upon them to do so. They may highlight different characteristics of the divine being than the ones that classical theism is typically concerned with, such as omnipotence, omniscience, all-goodness, *aseitas*, and the like. Whereas theists tend to focus on the logical and conceptual implications of the divine unity and transcendence, theologians need not follow them in this. The latter may wish to elucidate doctrines like, say, the theological doctrine of the trinity or the incarnation as part of the religious language and the tradition in which they participate. Again, whereas theists may be strongly concerned with questions regarding the intelligibility of God's agency in the world or with the compatibility of theology and science in general, theologians may wish to eschew such issues altogether. The latter may well hold that science and religion are very different cultural practices or forms of life and that the two should be kept distinct both for theoretical and practical reasons. That is not to say that both theists and theologians may not feel challenged by certain philosophical speculations about the religious view of life that completely fail to do justice to what that life is about. Theism may therefore be seen to overlap with, or to encompass, "natural theology" insofar as it seeks to argue the existence of God or to justify the coherence, plausibility, rationality or intelligibility of religious belief *vis-à-vis* philosophical extrapolations of the natural sciences, in particular the many varieties of reductionist scientism. Nevertheless, theism should be distinguished from the actual practice of religious faith. A person could, without any logical inconsistency, be a fully committed theist without participating in any form of religious practice. Finally, I would like to point out that it does not follow from these remarks that particular versions of theism may not influence systematic theology or that religious believers may not strongly be committed to certain theistic assumptions, say, about God's omnipotence.

In his account of the origins of theism, Ingolf Dalferth points out that the term "theism" first occurred in the preface of Cudworth's book *The True Intellectual System of the Universe* of 1678.[7] Meant as a reply to what since the middle of the sixteenth century was called "a-theism," theism was of course not a completely novel set of ideas because it built on theological traditions of many centuries. A major factor that led to its development was the need to articulate a concept of God "that would reach beyond the idiosyncrasies of the opposing versions of Roman Catholic and Protestant Christianity."[8] That need was pressing in view of the devastation caused by the religious wars of the seventeenth century.

Intellectually, theism was clearly parasitic on the atheist's rejection of the Christian conception of God. As there were (and are) many varieties of a-theism, there were (and are) many versions of theism as well. A main feature of them, from the Renaissance onwards, is the attempt to ground the scientific account of the world in terms of a natural and rational theology that argued as much as possible on the same premises of modern science and methodology that were held by their adversaries, the atheists and "freethinkers."

Modern science and methodology made all the difference. Whereas in pre-modern times the book of nature was a component chapter of the book of scripture, in modernity the reading of the book of nature became independent and a matter of mathematical calculation and experiment alone, as Galileo and Descartes had already suggested. As Dalferth shows convincingly, the scientific study of nature still worked from metaphysical premises such as the unity, regularity and intelligibility of nature, but these premises now became severed from their traditional theological justification.[9] Consequently, theism flourished from the seventeenth to the eighteenth century as a sustained effort to bridge the widening gap by reuniting both books to a new, single metaphysical framework. However, all this was to no avail because, to put the familiar story all too briefly, enlightened modernity with its comprehensive scientific account made a reunification that had any plausibility in the eyes of the citizens of modern Western societies virtually impossible.

Leaving economical, social and political considerations aside, a number of factors contributed to this. First, the theistic proofs for God's existence turned out not to be decisive; not only could it not be proven beyond a reasonable doubt to all reasonable and enlightened men and women that God exists but the criticisms of Hume and Kant put their very viability into doubt. This alone meant a dangerous threat to the heart of the theistic endeavor. Second, theism was forced into the defensive also by the fact that the so-called "problem of evil" put the consistency and intelligibility of the theistic conception of God into question. In spite of valiant attempts, I think it is fair to say that yet no theologically and/or philosophically convincing solution has been found for this problem. Next, things became worse when morality became detached from its religious groundings by the relentless attacks of the nineteenth century critics of religion on the socially self-evident link between the liberal values of Western civilization on the one hand, and the God who was supposed to be their source and custodian on the other. The twentieth century demise of theism's close philosophical ally, epistemological foundationalism, created further embarrassment. For it became increasingly clear that all attempts to argue God's existence over against the cultured despisers of religion started, so to speak, from the wrong footing to begin with. Finally, with the appearance of alien, competing views of life within the wider culture, that is, with the appearance of both philosophical extrapolations from the sciences (scientism) and serious religious diversity, the predicament of classical theism became even more hazardous.

All this, of course, does not imply that metaphysical theism is false and I am not suggesting that it is. To the best of my knowledge, it has not been shown to be logically inconsistent or intrinsically meaningless. Nor is my aim to show that the Christian conception of God is (in)consistent or that theism is (un)reasonable, (ir)rational or (un)tenable in the light of this or that. Rather, my point is that if this brief historical narrative has even a grain of truth in it, the predicament of classical theism seems to be fraught with so many difficulties that it leaves us with no other choice than to comply with Theodore Jennings' remark that nowadays, under post-modern pluralist conditions, "theism has lost its context of plausibility."[10] However, that would perhaps be too hasty, for the history of theism has not yet ended.

3. Process Theism

At this point, it might be objected that notably A.N. Whitehead, Charles Hartshorne, John Cobb, David Griffin and many other process thinkers have fundamentally revised classical theism. Contrast, to begin with, David Griffin's definition of the word "God" with Swinburne's classical conception:

> "God" refers to (1) a personal, purposive being who is, (2) supreme in power and (3) perfect in goodness, who (4) created the world, and (5) acts providentially in it, who (6) is experienced by human beings, especially as the source of moral norms and religious experiences, and is (7) the ultimate guarantee for the meaningfulness of human life, (8) the ultimate ground of hope for the victory of good over evil, thereby (9) alone worthy of worship.[11]

Some theologians would agree that process theism is in many respects superior to its predecessor - if only because it replaced the morality of the imperial model of God with the "the brief Galilean vision", and the barren notion of the impassionate mover by the picture of a passionate God who is "the fellow-sufferer who understands."[12] However, this is not to say that process theism is theology's best friend in all respects. Other theologians will not be impressed by Whitehead's allegations that creativity is an "ultimate" and "God ... its primordial, non-temporal accident" or that God and the world are totally interdependent in the sense that "he

is not before all creation but with all creation."[13] As these ideas imply fundamental revisions of the traditional doctrines of God's omnipotence, of God's absolute uniqueness and of the divine *creatio ex nihilo*, they may be seen to jettison, for example, the scriptural notion that the contingent world is wholly dependent on God.

However, let us not delve too deeply in the many intricate theological issues that loom large here. My point is that even though process theism may well be the most impressive revision of classical theism so far, it remains a paradigm example of a "grand metaphysics" that aims at a harmonization of science and theology within a larger metaphysical framework. Conceptually dependent on Whitehead's metaphysics of creativity, it is a highly ambitious attempt to reconstruct not only the inadequate conception of God of classical theism, but even modern science itself. Let me give two examples to illustrate this. Recently, the process philosopher of religion David Griffin made a case for the *naturalistic* character of process theism.[14] Classical theism employs a supernaturalistic God conception in that it allows for divine intervention in the normal cause and effect patterns. By contrast, naturalistic theism advocates a theory of divine agency that allows for divine action in the world *without* God's interrupting or intervening in the natural course of things in any way. In order to make this intelligible, Griffin introduces the notion of a "God-shaped hole," by which he means, "divine causation … is an essential *factor in* [the normal causal] pattern."[15] Consequently, naturalistic theism employs a notion of the natural that *includes* "divine causation" as a matter of course. As divine causation or agency is commonly held to be a metaphysical notion, it follows by definition that the natural now comes to include the metaphysical.

A further example of this kind of theorizing, is what Griffin calls "panexperientialism," his term for the idea that the ultimate units of nature are not vacuous or insentient but *experiencing* actualities.[16] Following Whitehead's categorical scheme according to which all actualities have experience, Griffin suggests with *gusto* that, for example,

> The atom need not only be thought to consist only of its subatomic particles and the relations between them. It can be thought to involve, as well, distinctively atomic occasions of experience, more complex than the electronic, protonic, and neutronic occasions of experience.[17]

Must one be an advocate of objectivist scientism if one were to question the very intelligibility of these metaphysical notions of "causality" and "atom"? I don't think so; and as these examples could easily be multiplied, I would suggest that process theism, like its classical predecessor, is a large-scale metaphysical cosmology, an ontology of becoming, which aims at a metaphysical "explanation" of the universe in Whiteheadean terms.

A further feature that classical and process theism have in common is that they cannot evade the issue of God's existence. Process theism too must argue at some point the intellectual plausibility of the existence of God. In spite of the revival these arguments enjoyed with the help of modern symbolic logic in the seventies and eighties of the last century, they still fail to convince the atheist opponent. Still, Griffin's conclusion on the cumulative basis of nearly a dozen such arguments is:

> ... [it can now be seen] that whereas there are many considerations that count against atheism, there are none that count against process theism. The truth of something like process philosophy's naturalistic theism is *overwhelmingly* more probable than the truth of atheism[18]

Surely this is too bold to be plausible.

So, can there be in current Western culture, with its pluralism, postmodernism and distrust of grand metaphysics, a context of plausibility for process theism any more than for classical theism? Of course, theists think so. They might reply "Well, so much the worse for postmodern culture. We are not going to give up on our metaphysics - we held out against Hume for almost 250 years, we survived Nietzsche and his postmodern followers so far – and who knows, the tide may turn again." Others, like the Wittgensteinian philosopher D.Z. Phillips, disagree. Referring to Kierkegaard and Wittgenstein he says:

> ... on the one hand we have a pious story, which says it has a message which every person stands in need of. On the other hand, we have philosophical cathedrals in which, it is said, the pious story must be read if it is to be a proper lesson. Kierkegaard argued that such cathedrals are marked for demolition. Wittgenstein called them houses of cards.[19]

Obviously, not even Kierkegaard and Wittgenstein will settle the issue. As Polanyi pointed out, systems of belief with a venerable history and a rich idiom display great stability. So let us leave here metaphysical theism and return to Haught's and Yeager's suggestion that Part IV of *Personal Knowledge* implies a particular version of it.

4. A Simple View?

In contrast to Haught and Yeager, I would like to suggest a different reading of the closing chapters of *Personal Knowledge*, one less richly metaphysical and, I think, more in line with Polanyi's other work. First, we may recall that *Personal Knowledge* was based on, and developed from, the Gifford Lectures that Polanyi delivered at the University of Aberdeen in 1951-52. The aim of this still highly prestigious series of lectures which began in 1888-89, funded by the estate of Lord Gifford, is the promotion of the study of natural theology and in particular the diffusion of "sound views" regarding:

> the true knowledge of God, that is, of the being, nature and attributes of the Infinite, of the All, of the First and the Only cause, that is, the One and Only Substance and being, and the true and felt knowledge (not mere nominal knowledge) of the relations of man and of the universe to Him, and the true foundations of all ethics and morals.[20]

This robust declaration may give us already a clue to understanding the puzzling discrepancy between the "natural theology" implicit in Part IV of *Personal Knowledge* and the more phenomenological and anthropological approach to religion in his other work. In some way, his Gifford Lectures had to address the question of the relation between the universe, humankind, and God. For Polanyi, who was neither a systematic theologian, nor a philosopher of religion nor perhaps a devout religious believer, this must not have been an easy task. The history of the writing of *Personal Knowledge* bears this out. In the Acknowledgments, Polanyi tells us that subsequent work had not essentially changed his views so that "large parts of the lectures could be retained unchanged" (PK ix). However, some parts of the lectures had been reconsidered and amplified and, on the basis of Phil Mullins' careful analysis of the correspondence between Polanyi and his friend and advisor J.H. Oldham, I think it would be a safe guess to hold that the last chapter of *Personal Knowledge* was one of those parts.[21] Consider what he wrote his friend Oldham in the beginning of 1957: "I have still not been able to make up my mind about the concluding section so there are about 10 or 20 pages missing at the end." Later that year he invited Oldham to give detailed criticism of the finished manuscript, indicating that he was dissatisfied with the book's conclusion because, "Its closing pages are limp and not definitively formulated."

In his reply, Oldham agrees that especially the concluding chapter seems, "the weakest and least well written chapter in the book" and he then goes on to advise Polanyi that his approach in the final chapter should rather be "We have declared our position. Let us now see how the theory and facts of evolution look in the light of the fiduciary philosophy we have espoused." Rather than "an isolated addendum and after-thought," Oldham urged Polanyi to make his critique of natural selection an integral part of a philosophical conclusion. Polanyi took this advice to heart for he promised his friend that he would "rewrite the last chapter altogether in the sense that you suggest." Considering the result, he did this modestly, as a scientist concerned with, and with sympathy for, the religious form of life with its many pictures of a meaningful life in this world. Above all, he kept things simple by staying as much as possible within the range of common sense informed by science.

Part IV itself gives us some clues in support of this. Consider Polanyi's pedestrian remark, noticed by Haught and Yeager as well, that he has "arrived at the opening of this last chapter without having suggested any definite theory concerning the nature of things" and that he will "finish this chapter without having presented any such theory" (*PK* 381). Polanyi then reveals his more ambitious purpose, namely "to re-equip men with the faculties which centuries of critical thought have taught them to distrust." "All the book was meant to do", he says, was to invite the reader "to use those faculties and contemplate thus a picture of things restored to *their fairly obvious nature*" (*ibid*., my italics)

A similar kind of statement can be found near the end of his Terry Lectures where we are told that, "all I have spoken of presents *a single, fairly simple vision*. This part of the universe, in which man has arisen, seems to be filled with a field of potentialities which evoke action" (*TD* 90f., my italics). Notice, that the prestigious Terry Lectures (1905 -) at Yale University that were subsequently published as *The Tacit Dimension* have a somewhat different aim than the Gifford Lectures. The former are meant to address broader issues of religion and its application to human welfare in the light of scientific knowledge and philosophical insights, but Polanyi hardly even mentions these issues. Writing about the new traditionalism he is advocating, he only suggests that it might have implications for "religious thought." Maintaining that modern man's "critical incisiveness" must be reconciled with his "unlimited moral demands" and that "the enfeebled authority of revealed religion" cannot achieve this, he wants to reconcile them "first of all, on secular grounds" (*TD* 62).

In this light, I am inclined to read Part IV in a similar vein, that is, as a rather modest attempt to say how the appearance of the human mind in the world might be accounted for in terms of a common sense informed by science that is deliberately open to the possibilities of religious sense. Support for this, I suggest, is provided by his use of the concepts of God and of a field of force in Part IV. The word "God" is used explicitly only twice (cf. *PK* 380, 405) and it is left wholly to the reader to identify it with "a prime cause emergent in time" (*PK* 405). That it is the last word of the whole book must have been deliberate. Consider the last sentence of *Personal Knowledge*: "And that is also, I believe, how a Christian is placed when worshipping God." Notice that this is not a confessional remark, for Polanyi is not saying that *he* is so placed. Rather, it indicates, modestly and perhaps somewhat reluctantly, the possibility of consonance between his scientific speculations and the possibilities of sense that the religious way of life may offer. Notice also that the clause "when worshipping God" points to religious practice rather than to theorizing about God.

The use of the notion of a field of force seems puzzling in the light of what I take to be his central concern: to re-establish a picture of a meaningful world in which human subjectivity and responsible personhood can openly be acknowledged as real features of that world. As this notion is derived from the natural sciences, the

question arises whether its employment in the context of Part IV may not be a violation of Polanyi's own rule that nonsense and self-contradiction, in short, deep confusion, will inevitably result "whenever a language that is apposite to one subject matter is used with reference to another altogether different matter" (*PK* 282). Notice how close this maxim comes to certain concerns of the later Wittgenstein, another philosopher who went against the tide. Wittgenstein held that the application of the rules of a particular language-game (say, science) to another (say, religion) leads to distortion and confusion.

There are further indications, both in *Personal Knowledge* and in other work, that seem to resist a reading of Part IV as an implicit Polanyian theism. First, we do not find any attempt on Polanyi's part to address the theologico-philosophical problem of evil or to prove the existence of God. As far as I know, the former is not even seen as much of a problem. The same goes for the latter. Taking religion as a different cultural system than science - though both rest on the common ground of human knowing - Polanyi tells us that "theological attempts to prove the existence of God are as absurd as philosophical attempts to prove the premises of mathematics or the principles of empirical inference" (*PK* 281f.). Again, this is a decisive move away from theism, which, as we have seen, has to take recourse to a robust natural theology in order to ensure the coherence of its conception of God and the plausibility of God's existence.

Second, Polanyi appears not at all concerned with the positivist and verificationist critiques of religion and theology of his days. Consider, for example, his remarks that, like truth or beauty, "God cannot be observed" (*PK* 279) and that "any scientifically convincing observation of God would turn religious worship into an idolatrous adoration of a mere object, or natural person" (*PK* 284). They clearly show that he, unlike theists, is not particularly concerned with the positivist critique simply because he is not in the grip of the scientism that they believe is the last word from the world of science. Unlike theists, he is not in the least inclined to defend or argue the religious case on their terms.

Third, Polanyi's account of religion as a "fusion of incompatibles" and of the Christian god conception as in some sense self-contradictory, does not point at theoretical unification but rather at the concreteness and particularlity of religious life and practice. In *Meaning*, we are told that "... the idea that agencies existing outside the world and before its existence, but nevertheless operative on and therefore *in* the world, combines patent incompatibles" (*M* 125). Such an idea, he adds, is conceivable only by a feat of the imagination. Whether this means that God's "reality" is a figment of the mind rather than an "external reality" is a question I do not have to answer here. Let me just point out that it may well be the case that the alternatives are not exhausted by the all too familiar opposition of "external reality" and "internal reality."

Polanyi does not seem worried by this at all. In *Meaning,* religious practices are characterized as "a fusion of incompatibles" (*M* 153f.). Consider, for example, what he says about thanksgiving and Holy Communion: "How can it be meaningful to thank, for certain specific blessings, received by certain specific persons, the God of all, whose very essence is thought to be always to do what is best for all?" In addition, the ritual of Holy Communion is said to "bristle[s] with irresolvable incompatibilities." (*M* 154f.)

In knowing God, the subsidiary particulars and focus of attention are said to be incompatible as well:

> God is a commitment involved in our rites and myths. Through our integrative, imaginative efforts, we see him as the focal point that fuses into meaning all the incompatibles involved in the practice of religion. However, ... God also becomes the integration of all the incompatibles

in our own lives. (*M* 156)

On the individual, existential level, we have the following examples of incompatibles in people's life:

> These incompatibles include not only all the false starts and stops in our lives, the blind alleys, the unfinished things, the loose ends, the incompatible hopes and fears, pains and pleasures, loves and hates, anguishes and elations, the memories, the half-memories, the forgotten moments that meant so much to us at the time, the disjointed "dailiness" of our lives - in a word, all of our inchoate memories and experiences - but also the incompatibles that make up the whole stance of our lives: the hope that we may be able to do or achieve what we know we must do but which we also know we have not the power to do (*ibid*.).

I fail to detect much metaphysical concern in these pictures of religious practice. The emphasis is on imaginatively fused particulars in the context of practice and on experience that is structured, evoked and enhanced by participating in it. Concerning religion, I see hardly any concern on Polanyi's part for the ideal of the ultimate unification of knowledge, but all the more concern for the possibility of meaning in the concrete existence and experience of explorers. The very idea that religion is a matter of the integration of "incompatibles" will, I suspect, not be appealing to theists.

As they see it, things only appear to be incongruous: as soon as they are taken up into a larger theoretical framework these apparent incongruities turn out to be not incompatible at all. They can be harmonized, or, perhaps in accordance with the rules of Hegelian dialectics, be synthesized in some way at ever higher levels. However, this is not the direction into which Polanyi's ideas are pointing. On the contrary, the incompatibles can only be integrated into coherent and meaningful wholes at the level of the actual practice of the tradition in question, not at the level of theoretical speculation.

So far, in my case for not reading Part IV of *Personal Knowledge* as announcing the launch of a novel metaphysical system, I have tried to show that Polanyi was not aiming at any deep or grand metaphysics but at a "simple vision" that allows for new possibilities of meaning. This is not the reading of Haught and Yeager - they do not wish to contemplate Polanyi's picture "of things restored to their fairly obvious nature" but to go further by reconstructing it as a metaphysical theory from which foundational principles can be derived. In doing so, they are replacing "the simple vision" by a very different picture. Although the text as such allows for this, there are good reasons for caution, in particular in view of the current antimetaphysical climate, the predicament of theism and main features of Polanyi's other writings on religion that seem to focus on meaning and practice, rather than on theorizing. Why are human strivings and cravings in need of a metaphysical foundation if worship, that is, religious practice, do all the grounding that is needed - as Polanyi himself suggests in saying that "Christian worship sustains, as it were, a never to be consummated hunch" and that "Christianity sedulously fosters ... man's craving for mental dissatisfaction by offering him the comfort of a crucified God" (*PK* 199).

Let me add one final point to this. It would be a misrepresentation of Polanyi's endeavor to re-enchant the world by showing its possibilities of sense to say that it was fueled by theological or philosophical considerations only. At least as important were his social, moral and political concerns: a world devoid of meaning and value may yet again become a world in which people will not be witnessing a rebirth of meaning but rather its demise in the horrors that new tyrants of this world may bring.

Notes

This paper is a revised version of a public address delivered at the Polanyi Society Conference "Polanyi's Post-Critical Thought and the Rebirth of Meaning", Loyola University, Chicago, June 8, 2001. Abbreviations used in the text for Polanyi's works: *Personal Knowledge* is *PK*. *The Tacit Dimension* is *TD*. *Meaning* is *M*.

[1] J. Haught and D. Yeager, 'Polanyi's Finalism', *Zygon* 32 (1997), 543-566. Further page references are in the text.

[2] That Polanyi is advocating "the hierarchical vision of traditional metaphysics" is an interpretation that would need further support. For a different, non-traditional and epistemological construal of Polanyi's hierarchies in terms of levels of cognitive structuring, cf. my *Michael Polanyi's Post-Critical Epistemology*, Amsterdam 1988, p. 232.

[3] This seems to suggest that the viability of finalism (metaphysics) depends on the theory of tacit knowing that is at the heart of the conception of personal knowledge (epistemology). Note, however, that at an earlier stage of their argument Haught and Yeager suggest that Polanyi's advocacy of final causation and his critique of ontological reductionism and evolutionary theory, "constitute his warrants" for his critique of, and his alternative for, the ideal of objective knowledge (p.545).

[4] By using the term "design", I am not suggesting that there is any connection between Polanyi's ideas and what is currently being advocated under the name "intelligent design."

[5] According to Richard Gelwick, "Polanyi's metaphysical system is incomplete." In my view this is no criticism, for he goes on to say that it is incomplete "because Polanyi saw the knower more as a theologian sees the worshipper than as the speculative philosopher sees the thinker." See his 'Science and Reality, Religion and God: A Reply to Harry Prosch', *Zygon* 17(1982), 33

[6] R. Swinburne, *The Coherence of Theism*, Oxford 1977, p. 1

[7] I.U. Dalferth, 'The Historical Roots of Theism' in: S. Anderson (ed.), *Traditional Theism and Its Modern Alternatives*, Aarhus 1994, p. 15

[8] Dalferth, 'The Historical Roots of Theism', p. 42

[9] Cf. Dalferth, 'The Historical Roots of Theism', p. 25

[10] Cf. Dalferth, 'The Historical Roots of Theism', p. 42; see also Th.W. Jennings, *Beyond Theism: A Grammar of God-Language*, Oxford 1977, p. 30

[11] D.R. Griffin, *Religion and Scientific Naturalism. Overcoming the Conflicts*, Albany 2000, 90

[12] A.N. Whitehead, *Process and Reality. An Essay in Cosmology*, New York/London 1978, p. 342, 351

[13] Whitehead, *Process and Reality*, p. 7, 343

[14] Griffin, *Religion and Scientific Naturalism*, p. 82ff.

[15] *Ibid*., p. 94; cf. also D.R. Griffin, *Reenchantment without Supernaturalism. A Process Philosophy of Religion*, Ithaca/London 2001, p. 139: "The term naturalistic theism … means that the basic God-world relationship lies in the very nature of things."

[16] Cf. Griffin, *Religion and Scientific Naturalism*, p. 101ff.

[17] *Ibid.*, p. 175f.

[18] Griffin, *Reenchantment Without Supernaturalism*, p. 203

[19] D.Z. Phillips, 'Introduction: Piety, Theism and Philosophy', in S. Anderson (ed.), *Traditional Theism and Its Modern Alternatives*, Aarhus 1994, p. 14

[20] http://www.stfx.ca/people/wsweet/Giffords.html, p.1, 17-4-2003

[21] Cf. P. Mullins, 'Michael Polanyi and J.H. Oldham. In Praise of Friendship', *Appraisal* 1 (1997), p. 186f. All quotations in the remainder of this paragraph are from Mullins' article, which has numerous references to, and quotes from, the papers of Polanyi (Box 15) held by the Department of Special Collections of the University of Chicago Library.

WWW Polanyi Resources

The Polanyi Society has a World Wide Web site at http://www.mwsc.edu/~polanyi/. In addition to information about Polanyi Society membership and meetings, the site contains the following: (1) the history of Polanyi Society publications, including a listing of issues by date and volume with a table of contents for recent issues of *Tradition and Discovery*; (2) a comprehensive listing of *Tradition and Discovery* authors, reviews and reviewers; (3) information on locating early publications; (4) information on *Appraisal* and *Polanyiana*, two sister journals with special interest in Polanyi's thought; (5) the "Guide to the Papers of Michael Polanyi" which provides an orientation to archival material housed in the Department of Special Collections of the University of Chicago Library; (6) photographs of Michael Polanyi; (7) five essays by Michael Polanyi.

Theological Anthropology and Relationality: A Promising Exploration By LeRon Shults

Paul Lewis

ABSTRACT Key Words: F. LeRon Shults, theological anthropology, relationality, interdisciplinary studies, Reformed Theology, human nature, sin, image of God.
In Reforming Theological Anthropology*, F. LeRon Shults draws from work on relationality in other disciplines to suggest ways in which theological anthropology might profitably be reformulated. While the task is worthwhile, the method promising and the results suggestive, much fine-tuning remains to be done.Paul Lewis review is followed by a brief response from F. LeRon Shults*

F. LeRon Shults. *Reforming Theological Anthropology: After the Philosophical Turn to Relationality*. Grand Rapids, MI: William B. Eerdmans Publishing Company, 2003. Pp. xiv + 264. ISBN: 0-8028-4887-7. $35.00, paper.

In his own words, Shults essays to provide a "programmatic outline" for "reconstructing the doctrines of human nature, sin and the image of God in light of the challenges of late modernity" (xii). The specific challenge of late modernity that occupies Shults' attention is that of the philosophical turn to relationality. Given this shift, Shults contends that "late modern theological anthropology must take into account not only our psychological and social relations to other persons but also the physical and cultural relations that compose the matrices within which our lives are dynamically embedded" (p. 2). Shults rightly hopes that this newfound interest in relationality may help theologians revise existing doctrinal formulations and recover biblical insights that have been obscured by a substance metaphysic.

Shults devotes the first chapter of the book to describing the turn to relationality. He does so by tracing two epochs in philosophical reflection, the first of which begins with Aristotle and ends with Kant, who paves the way for later revision. To make a long story too short, in this period, thinkers define what an object is in terms of its substance or essence rather than by its relationship to other particulars. In the second epoch, which Shults traces from Hegel to Levinas, philosophers, in varying ways to be sure, argue that we cannot understand a thing without understanding it in relation to other things.

After describing recent attention given to relationality, the book proceeds in three steps. The first puts theology in conversation with developmental psychology (Chs. 2 and 3), as well as philosophy and cultural anthropology (Ch. 4). Along the way, Shults makes some important observations about the perils and promises of engaging interdisciplinary interaction. For example, with explicit reference to the work of Michael Polanyi and psychologist Robert Kegan, Shults correctly insists that participants enter the dialog from their own fiduciary structures, that might be traditionalist, modernist or postmodernist (Ch. 2). Further, different disciplines may well understand a term in different ways (e.g., "fear;" see Ch. 3).

If the first part of the book is devoted to an exercise in interdisciplinary discussion, the second takes on a more decidedly theological focus in that these chapters (5-7) are devoted to historical theology. In this part of the book, Shults offers careful and sympathetic exposition of how relationality functions in several modern

Reformed theologians, notably Schleiermacher, Barth and Pannenberg. Not content to show that relationality, albeit differently understood by different thinkers, never really disappeared in Christian thought, Shults also makes the case that relationality is central to ancient debates over how best to understand and articulate the relationship between Christ's two natures.

In the final section of the book, Shults turns to (re)constructive theology proper. He suggests how work in biblical studies, philosophy and neurobiology can help us understand human nature is distinct from that of other animals without getting into problems raised by attributing that distinctiveness to either different substances or a unique faculty psychology (Ch. 8). He offers a relational understanding of sin based largely on a historical deconstruction of Augustine's view, supplemented with insights from biblical scholarship, the natural sciences and philosophy (Ch. 9). Shults concludes with a reconstruction of the *imago dei*, again based largely on historical analysis and changing currents in philosophy and theology (Ch. 10).

There is much to commend in the book, not least of which is Shults' recognition that the Christian tradition is a living tradition, rather than a static one. Faithfulness in theology, for Shults, means engaging in the same kind of task today in our context as our predecessors did in theirs, *not* repeating the conclusions and words of earlier generations. Shults thereby provides a counterpoint to those postmodern theologies that simply stress remaining faithful to a community's traditions. Put differently, because remaining faithful to the mission and vision of the community's past generations requires being responsive to present intellectual currents, theology must be interdisciplinary in character. Another strength of the book lies in the ease and clarity with which Shults negotiates complex philosophical and theological discussions, placing them in historical context.

While individual chapters shine, the whole adds up to less than the sum of its parts. The book reads more like a set of collected essays that have a loose thematic connection than a single argument. For example, it is not clear how Part III (the constructive work) builds on and connects with Part I (that discusses, for example, various fiduciary structures), or exactly how Part II advances interdisciplinary work. In addition, if the book is about reforming doctrine faithfully in light of new insights from other disciplines, it would be helpful if Shults was more explicit and effusive about the criteria he uses for determining what insights to appropriate and/or discard from, for example, neurobiology. In addition, I find some surprising gaps in the analyses of different thinkers. For example, in his discussion of reason, will and affections (Chapter 8), Shults ignores the role that one's loves or affections play in Augustine's anthropology, or Thomas' "Treatise on the Passions." I also find it surprising that a work self-consciously set as one in Reformed theology does not draw from Jonathan Edwards' rich discussion of human psychology in *Religious Affections*. While such a criticism may seem a bit unfair, the author does discuss Edwards at other points. It therefore seems odd that Edwards does not appear here (or, for that matter, why Edwards' second dissertation, *The End for Which God Created the World*, is missing from the discussion of God's glory found in chapter 9). Finally, the language of the text is sometimes jarringly jargonistic, as post-modern writing all-too often is.

To say all this is not to minimize the value of the book. There is much to be learned from individual portions. Perhaps most importantly, we can be reminded of how theology works, for here we have an example of someone doing theology in a way that is honest about how theology proceeds and clear on how open it must necessarily be to what we can learn from the perspectives of others. That the work has its flaws perhaps speaks more to the difficulty and complexity of the task as anything else.

Author's Comment

F. LeRon Shults

First, I want to thank Paul Lewis for his kind review of my book *Reforming Theological Anthropolog*y and the editors for the opportunity to respond. Lewis' summary of the book is concise and accurate, and I was pleased to find another colleague who is enthusiastic about reconstructing Christian theology in general, and about engaging late modern culture and the turn to relationality in particular. His review is so positive that I was tempted not to respond at all. However, I would like to make a few brief points. First, the critical comments at the end were not really about material issues or the argument itself, but "book review" criticisms; he is right that it "seems unfair" to criticize a book for not including this or that favorite issue of the reviewer. No book can include everything. Second, he notes critically that the chapters seem to be a set of collected essays; in the preface I explained that in fact most of the early chapters had been previouslypublished and were re-worked for this project as illustrations of interdisciplinary work that takes seriously the theme of relationality in anthropology. He does not give any examples of "jargon," so I am not able to respond to that concern. Finally, I also mentioned in the preface that the Anthropology book has a companion volume which is in process: "Reforming Theology: Late Modern Trajectories in the Doctrine of God." Lewis will be pleased to hear that I treat Edwards in more detail there; I'm sure other gaps will be found, but my hope is that together these books will contribute to the ongoing task of theology, which is indeed both difficult and complex, but also a joy.

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REVIEWS

Niels Henrik Gregersen, editor, *From Complexity to Life: On the Emergence of Life and Meaning*. Oxford/ New York: Oxford University Press, 2003. Pp. 243. Hb £25.50, $35.00. IBSN 0-19-515070-8.

Collections of articles are popular with publishers on the grounds that if they pick an interesting enough topic, and persuade enough academic celebrities to make a contribution, they hook readers hoping not only to read at least one good article, but also to become familiar with some of the questions preoccupying specialists in that field. On these criteria, the above book edited by Niels Henrik Gregersen is a success. The topic is the big one: existence, life, and meaning.

In the first, and best, article, Paul Davies notes that physicists have sought to reduce everything into irreducible entities (such as particles or strings or membranes) and then describe the behaviour of these entities in terms of universal laws. The problem with such an approach is that it fails to acknowledge the reality of complex entities. But how does complexity emerge from the 'uniform soup' from which everything originates? The assumption that simple laws will generate simplicity is undermined by chaos theory. Complexity can also arise spontaneously. For example, when a pan of water heated from below reaches a particular temperature, it forms hexagonal convection cell patterns. In both examples, complexity is a product of non-linear systems driven far from equilibrium by feedback. Helmholtz noted that a study of thermodynamics tells us that entropy increases. In other words, all complexity will eventually degenerate. But the complexity of our universe seems to be increasing, not decreasing. Davies points out that the manifest increase in the complexity of our universe is being funded by its expansion. The conversion of hydrogen into the more stable helium was halted when the universe cooled as it expanded. Gravity clumped matter together into stars. Our planet became covered with living organisms. But life on Earth is largely reliant upon the continuation in our sun of the process by which hydrogen is converted into helium. Although the expansion of the universe increases the gap between actual and potential entropy, the thermodynamic destination remains the same. It has become increasingly clear that if the physical laws of our universe were only slightly different, any form of life would be highly unlikely. Davies concludes that the universe has been structured to generate meaning.

Gregory Chaitin suggests that the failure of our attempt to measure randomness is linked to the Godel incompleteness theorem. To demonstrate the randomness of a series of digits, it is sufficient to find a program, smaller than the series, which is able to generate the series. Because formal systems are finite, and a series of digits may be arbitrarily large, it will always be the case that a number series cannot be proved to be random. This does not undermine formal systems; what it demonstrates is that there will always be new axioms for us to discover.

Stuart Kaufmann speculates about the existence of a law that can explain why the open system 'life' generates increased complexity. Since computers are non-equilibrium systems, and there are computer programs of which no shorter description exists than that which is obtained by running a program, this demonstrates that it is misguided to seek a law that can describe every possible non-equilibrium system. But Kaufmann does not seek to rule out the possibility of discovering a principle that can account for living systems. It was a lecture by Schrodinger called 'What is Life?' which inspired a generation of physicists to attempt to identify the essential characteristics of a living organism. Although his suggestion, that encod-

ing in aperiodic solids is the key to understanding life, was a brilliant anticipation of the discovery of DNA, Kaufmann asserts that it falls short of being an adequate account of autonomous agency. What is the origin of this agency? Darwinian evolution identifies selection of heritable variation as the source of all biological order. But according to Kaufmann, while descent with modification helps to explain changes in form, it does not explain the emergence of radically new forms. Kaufmann argues that Darwinian evolution needs to be supplemented by a 'fitness landscape' that is possibly structured by a principle that generates the purposeful behaviour we associate with living systems.

Harold Morovitz defines reductionism as the quest to comprehend structure or process at one level of reality in terms of the next lower level in an emergent hierarchy. Emergence takes place when the parts that make up a level of reality do not in themselves wholly account for it; i.e., the whole is more than the sum of its parts. Morovitz identifies 28 such levels in our universe, culminating in what he describes as spirit.

Arthur Peacocke tries to make sense of what it is to be a level of reality by citing the way in which Polanyi refers to boundary conditions. This is neither a geometrical term, nor a set of initial conditions; it specifies the structural parameters of a process. A strand of DNA, for example, is the product of chemical bonding and genetic encoding. That which determines its sequence is under dual control. We apply to a hierarchy of organisation the concepts that are distinctive to each level. Each level has its own causality. The 'bottom-up' biochemical view of a strand of DNA has to be supplemented with a 'top-down' analysis of the circumstances of its formation. The reason why an individual has a specific DNA sequence is not simply explicable in terms of the laws of chemistry. Peacocke notes that this way of understanding reality has implications for our understanding of what it is to be a mind. Within an emergent monism, what it is to be a mental event is the joint product of more than one level of existence. The recognition of the existence of emergent levels of reality not only undermines reductive physicalism, it also undermines Cartesian dualism.

Niels Gregersen draws the collection he has edited to a close by noting that 'Complexity Studies' seeks to understand the principles by which structures organise themselves in the absence of any directing consciousness. Whereas 'Intelligent Design' (which is advocated in this collection by William Dembski) relies upon supernatural interventions by a transcendent God, theistic naturalism derives the emergent complexity of the universe from an immanent God. Perhaps these different conceptions can be reconciled by viewing God as a reality that exercises an emergent causal power in the minds of all reflective beings. This however leaves us with the puzzle of why the physical laws of our universe are such that it generates reflective beings. The claim that there are an infinite number of universes, each with its own physical laws, seems a rather desperate attempt to avoid having to conclude that the order of our universe is not accidental. However we conceive God, it does seem clear that the more we contemplate the universe, the more absurd seems the observation by the Nobel Prize winning physicist Stephen Weinberg that 'the more we comprehend the universe the more it seems pointless.'

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Harold J. Morowitz, *The Emergence of Everything: How the World Became Complex.* Oxford, New York: Oxford University Press, 2002. Pp. viii+209. Hardback ISBN 019513513X. $28 £18.99.

This book looks promising. The appealing title is hubristic, but what is the point of trees being cut down for books that lack ambition? Morowitz, former editor of the journal *Complexity* and co-chair of the science board of the Santa Fe Institute, is a leading figure in emergence studies. His views, at least on some interpretations, fit hand in glove with Polanyi. According to Morowitz, when faced with the chal-

lenge of discussing emergence, it would be better if we discussed the world around us instead of using computer models. A monist, he identifies three key emergent layers of existence: the physical, the biological, and the spiritual. To bridge the ontological gaps between these emergents, he breaks them down into 28 different levels.

At this point, you might expect to be given some theoretical account of what is meant by emergence, but you will be disappointed. What you are given, and this claim is repeated throughout the book, is that selection or pruning laws impose limitations upon what is possible. The universe grows in complexity in accordance with selection principles. There then follows a series of short chapters, the first few of which describe the first phases of the universe. From a hot, dense beginning, our universe expanded and cooled, and got progressively lumpier. In accordance with the Schrodinger equation and the Pauli exclusion principle, the number of possible atomic configurations is limited, and within successive generations of stars various heavier elements are generated. The material from one of these stars, as it drifts around what becomes our Sun, coalesces into our planet, on the surface of which water vapour is transformed into seas. This is interesting enough, but it can be found in any standard textbook of cosmology.

Morowitz then turns to his own field: the chemical processes associated with life. He claims that just as physicists have identified laws that serve to determine the order of the periodic table, so selection rules will be identified that will enable us to comprehend why the core metabolic processes that underlie life on our planet occurred. No such principles have yet been identified. Morowitz then sets out an evolutionary history in which self-replicating cells combine into a variety of different forms, which due to selective pressure become ever more complex. This is fascinating stuff, but it is also described in numerous other works. The nature of evolution is far from a settled issue, but its difficulties are not discussed, nor is any attempt to supply solutions offered.

Morowitz, having outlined the first billion years of life, then draws our attention to the significance of the emergence of the neuron. A neural net generates a variety of different animal behaviours that are subject to an evolutionary selection process. Along the evolutionary pathway from fish, to amphibians, to reptiles, to mammals, there is a continuous growth in the complexity of the central nervous system. Then, about 70 million years ago, primates evolved, and as a shift in the climate transformed some forests into savannahs, human-looking primates began to evolve. Again, there are numerous other books that on the basis of surviving fossil remains and contemporary genetic evidence, seek to trace out the lineage of modern humans.

Our extended childhood means that genetic transfers of information are augmented by a transmission of learned information. The development of tool making, language, and agriculture renders cultural evolution possible, and this leads to innovations such as cities, temples, and the invention of writing. According to Morowitz, the pruning rules that underlie these processes are unknown. The book ends with the claim that emergence has a divine aspect – it is the process by which 'the word becomes flesh'. Twelve billion years of emergence leads to the emergence of a creature with the ability to ask – what does it all mean? Morowitz claims that emergence supplies us with a new foundation for religion – one that enables the natural sciences to supply a foundation for spiritual realities. The volitional mind of man is the transcendent emergence of an immanent God, who is knowable to us via our actions. Maybe this view is correct. I certainly believe that emergence enables us to comprehend how acting in accordance with the pursuit of transcendent ideals is possible. But if you are hoping that this book will illuminate such a claim, rather than simply asserting it, then you will find this book disappointing. The view that the universe is no more than an arrangement of atoms, or that what it is to be alive is simply a set of biochemical pathways, has had a devastating effect upon the spiritual life of our times. Morowitz is right about the potential significance of emergence in validating the life of the spirit, but

although he points you in the right direction, he is not much help for the journey.

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Jim Kanaris, *Bernard Lonergan's Philosophy of Religion: From Philosophy of God to Philosophy of Religious Studies.* Albany, NY: State University of New York Press, 2002. Pp. Xii+200. ISBN 0-7914-5466-5. $18.95.

This book addresses a technical question in Lonergan studies, but it should be of interest to Polanyians who are interested in comparing the thought of Lonergan and Polanyi as well as to specialists in religious studies.

In the first of four chapters, Kanaris describes a *Kehre* or "turning" in Lonergan's treatment of religious experience. He argues that Lonergan's basic notion of religious experience did not change, but that late in the third decade of his career, he began to make religious experience much more central to his writing. He suggests that Lonergan might have delayed this fuller treatment of religious experience for political reasons, in order to avoid being censured as a "modernist." The second chapter is a detailed exposition of the concept of experience in Lonergan, with illuminating comparisons to Kant, Hegel, Ricoeur, and the contemporary David J. Chalmers. The third chapter focuses upon specifically religious experience, and the final chapter explains the significance of experience for Lonergan's theology and philosophy of religion.

Kanaris distinguishes between Lonergan's specific and general meaning of experience. For both kinds of experience, there are correlative contents. We are quite familiar with the idea that acts of what Lonergan calls "specific experience" have their proper correlative contents. Acts of seeing are *of* light, and acts of hearing are *of* sound. Less familiar, and much more controversial, is Lonergan's assertion that different "levels" of "general experience" also have correlative contents. In this context, the *level* of experience includes all the sensory acts Lonergan includes within the category of "specific experience." The general content of all conscious acts at this level is "potency." The next level of general experience is insight or understanding, and the correlative content is "form." And at the third level is "judgment," of which the correlative content is "act."

This correlation between cognitive acts and contents forms part of the argument for a controversial feature of Lonergan's ontology — that there is an "isomorphism" between the structure of knowing and the structure of the known. This is quite similar to Polanyi's controversial assertion that there is an ontological counterpart to the "from-to" structure of knowing. Kanaris does not refer to Polanyi, but Polanyians who seek to explore the implications of Polanyi's "ontological equation" should find much that is interesting in Kanaris's discussion of the correlative contents of acts of knowing in Lonergan's thought.

Another important similarity between Lonergan and Polanyi is that they both stress what Lonergan calls "self-appropriation." In Lonergan, this involves both reflecting upon the dynamic structure of knowing and self-consciously affirming that one is indeed a knower. In Polanyi, this involves moving from a tacit acceptance of the tacit dimension of knowing to a self-conscious recognition that even criticism of something held in focal awareness implies the tacit affirmation of a vast background of knowledge and belief. What might appeal to some Polanyians is the idea that this self-appropriation of the dynamic structure of our knowing is at the heart of what Lonergan means by *method.* Self-appropriation is a grasp of the method we *are*, not a technical tool we can pick up or discard at will.

In addition to *levels*, Lonergan also distinguishes *patterns* of experience — biological, practical, aesthetic, dramatic, intellectual, moral, and religious. The intellectual pattern of experience is dominated by the pure desire to know, and one of its fruits is the self-appropriation described above. At the

heart of religious experience is the sense of being loved, and of responding in love. In spite of his turn towards religious experience in the middle of his career, Lonergan remained profoundly intellectual in orientation. Being loving and being loved does not replace the pure desire to know but complements and enhances it. Theology and the philosophy of religious studies must be conducted from within the intellectual pattern of experience. Following Thomas Aquinas, Lonergan insists upon the importance of bringing the intellectual pattern to bear upon the religious pattern of experience, and upon the faith by which one can recognize that, even here, there is a correlative content to religious experience.

Polanyians should not be driven away by the characterization of Lonergan's philosophy as "critical realism," for what Lonergan advocates is a very "personal knowledge." As Kanaris puts it: "As has become only too clear, Lonergan's 'philosophy of' is all about the personal equation, the view that our particular outlook and experience influences our reflective or so-called objective undertakings" (p. 124).

The answer to the technical question mentioned in the beginning is that Lonergan does not really have a "philosophy of religion," in the usual sense. He has, rather, a two-part foundation consisting of religious experience — the "infrastructure," and a model of religion — "the suprastructure." This model of religion incorporates both religious experience and the "method" that is the self-appropriation of the dynamic structure of conscious experience. Upon this foundation, rest two "philosophies of" — the philosophy of God, and the philosophy of religious studies. Neither taken separately nor together do these correspond precisely to what is usually meant by the "philosophy of religion."

Although not meant to be an introduction, this book would be accessible to interested Polanyians who are unfamiliar with Lonergan.

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POLANYI SOCIETY
FINANCIAL STATEMENT

September 1, 2002 – August 31, 2003

Beginning Bal. Checking	1634.89
Income	
From Interest	6.73
From membership dues & gifts	3000.
Total Balance + Income	4641.62
Expenses	
Moleski – AAR, 2002	200.
TAD 28:3	741.37
Gulick – Goodenough	75.
Lewis – Goodenough	14.04
Mullins – Goodenough	13.68
Transport – Goodenough	136.45
TAD 29:1	1136.16
TAD 29:2	1011.
TAD 29:3 (print only+misc)	635.75
Moleski – AAR, 2003	250.
Checking Reorder	6.03
Total Expenses	4219.48
Year End Checking	422.14

Beginning Bal. Savings	2049.91
Interest Income	20.91
Other Income	-0-
Year End Savings	2070.82

Richard Gelwick,
Treasurer