De rationibus cordis coram Deo: THE LIMITS OF MICHAEL POLANYI'S EPISTEMOLOGY

by

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To Adriana, Daniel and Rafael

ABSTRACT

Polanyi's epistemological program involved an inversion of what Reformed theology called the *coram deo* nature of man's noetic processes. Though he began with a transcendental thrust, ultimately his tacit basic assumption that knowledge must be seen as a *coram omnibus* affair led him to a transcendental frame of reference that was progressively off center. As his concept of knowledge, therefore, grew in sophistication it also became increasingly abstract as for final meaning and self-referential as to particular meanings.

To uphold the *coram deo* vis-a-vis *coram omnibus* thesis three stages, or movements, in Polanyi's thought are suggested: First, his diagnosis and critique of the modern crisis, which culminates in the prescription of a fiduciary epistemological reformation are seen as one movement. Second, his development of the epistemological prescription through an analysis of the scientific fiduciary framework is another logical movement. Third, the extension of his epistemological program into a comprehensive philosophy of emergent meaning is a final stage in his thought.

Two general presuppositional strands are proposed as underlining his thought: (a) A tacit assumption that human thought requires a transcendent frame of reference akin to that optimally embodied in Christian beliefs. (b) A growing insistence that a transcendent frame of reference, though admittedly metaphysical, must be rooted in the natural level (i.e., intramundane, sans-supernatural).

The following dynamic is broached: (1) In Polanyi's critical work there is a tacit

reliance upon (a) and an adumbration of (b). (2) In the initial development of his epistemological program (a) and (b) vie for dominance. (3) Finally (b) becomes dominant and (a) takes only an ancillary role as Polanyi expands his epistemological insights into a comprehensive philosophy. The argument has at its heart the contention that the incompatibility of the two strands caused Polanyi to abstract what might be generally conceived as Christian transcendence from its native *coram deo* framework, consequently engaging in the chimerical search for the transcendent from the immanent.

The six chapters pursue the argument as follows: One sets out the program and establishes the background. Two provides a reconnoitering of Polanyi's main ideas. Three deals with his diagnosis and his dependence upon universal transcendent presuppositions. Four explores his development of the fiduciary program through the scientific exemplar. Five deals with his logic of emergence, in its ontological/cosmological dimension and in his extension of the logic of emergent meaning into the semantic aspect of tacit knowing. Six seeks to weave together the strands of the critique, suggesting some intrinsic limitations of Polanyi's thought, and seeking to restate the original thesis in light of the present analysis and critique. The chapter ends with a brief rationale for profiting from Polanyi's contribution, granted its intrinsic limits and the need for qualification and substantial adjustment.

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LIST OF ABBREVIATIONS

KB	*Knowing and Being*, Collected Essays by Michael Polanyi
LL	*The Logic of Liberty*, by Michael Polanyi
M	*Meaning*, by Michael Polanyi and Harry Prosch
PK	*Personal Knowledge*, by Michael Polanyi
SEP	*Society, Economics and Philosophy*, Selected Papers by Michael Polanyi
SFS	*Science, Faith and Society*, by Michael Polanyi
STSR	*Scientific Thought and Social Reality*, Essays by Michael Polanyi
TD	*The Tacit Dimension*, by Michael Polanyi
TK	Polanyi's concept of Tacit Knowing

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Secular insight into presuppositional effects ends in chaos not order. Granting the persuasiveness of much that… Polanyi… write[s], the limitations of secular presuppositionalism nevertheless are as striking as the successes. In showing the necessity of the God-ward referent, the biblical view accomplishes three things. First, a biblical view of presuppositions reveals that which unites empiricism and rationalism in the *same* distortion of reality at a deeper level. Second, seeing the common core in secularist thinking, a biblical view of presuppositions explains the inevitability and insolubility of the empiricist-rationalist tension. Third, a biblical view or presuppositions provides a sharply distinct alternative to all forms of secularist thinking.

David Powlison, "Which Presuppositions?"

CHAPTER ONE

INTRODUCTION

> *The healthy eye ought to see all visible things and not to say, I wish for green things; for this is the condition of a diseased eye.*
>
> Marcus Aurelius

For the Stoic Marcus Aurelius distinguishing between the realism of a healthy eye and the visual selectivity of an unhealthy one seemed natural. Despite occasional challenges to the ideal of a "healthy eye" that does not color those things of which it makes itself aware, the dominant mien of post Enlightenment science and philosophy has also been to strive for such a "healthy eye."

Michael Polanyi, however, was deeply suspicious of the modern ideal of detached objectivity, of a "healthy eye." From the beginning of his scientific life he harbored the impression that what was required for epistemological health was exactly an understanding of the process through which the eye and its object inevitably contributed together to compose an image. In the tradition of Augustine, Pascal and others, Polanyi believed that the heart had its reasons, so he wished to understand how the subject is actively involved in noetic processes and to explore the conditions that made knowing possible, while at the same time preserving the possibility of true knowledge and warding off subjectivity and irrationalism.

Throughout his work Polanyi progressed toward an epistemological understanding that substituted the false ideal of detached objectivity with a more comprehensive account of how he believed knowledge was actually achieved. Yet his epistemological concerns were not merely academic: He denounced what he called the moral inversion that resulted from a false ideal of knowledge. He sought to uncover the real conditions which made human knowledge possible not only for intellectual reasons, but because he firmly believed that the moral crisis of modernity demanded, most of all, an epistemological prescription.

As Polanyi advanced in a generally transcendental direction, he created a system that became increasingly rich and intriguing. Furthermore, his reflection about the nature and the processes of knowledge began to parallel several key aspects of a more transcendental thrust among Reformed Christian epistemologists, a fact that made the work of Polanyi attractive to many theologians and philosophers committed to some kind of generally presuppositional perspective–Polanyi seemed to add consistency, currency and a new understanding to the ideas of *"le cour a ses raisons"* and *"credo ut intelligan*."[1]

The Goal

We will seek to show, however, that from our perspective, professedly that of Christian Reformed theology and apologetics, Polanyi's epistemological program also involved an inversion of its own, a reversal of what Reformed theology called the *coram deo* nature of man's noetic processes. Though he began with a transcendental impetus, his tacit

[1] Gelwick attributes this warm reception of Polanyi's work in theological circles to "appreciation for the fiduciary component" and "its kinship with the Augustinian principle" in his work. At the same time, Gelwick highlights the fact that "Polanyi's thought is no comfortable ally for theological concerns despite the favor with which many theologians have treated it." Richard Gelwick, *The Way of Discovery: An Introduction to the Thought of Michael Polanyi* (New York: Oxford University Press, 1977), 132.

basic assumption that knowledge must be seen as a *coram omnibus* affair led him to a transcendental frame of reference that was progressively off center, so that as his concept of knowledge grew in sophistication it also became increasingly abstract with regard to final meaning, and self-referential in terms of particular meanings.[2]

An interesting clue in this general direction was offered by Polanyi himself when he wrote of a transition in his thinking from the early idea that knowledge must somehow presuppose a "belief in a spiritual reality" that justifies the "ever continuing possibility of revealing still hidden truths," to the later opinion that a "belief in the reality of emerging meaning and truth" was a sufficient transcendent basis for human knowledge.[3] To a large extent we will have succeeded if we can truly understand the process behind this transition, and clearly establish the reasons that made it inevitable from the start.

Between those two supposed points of transcendence, however, lies a significant array of ideas that must be explored. This exploration cannot even begin without establishing some ground work, first, as to how we will seek to accomplish our task, and then as to reconnoitering the background so that the task can be cogently fulfilled.

The Strategy

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[2] The Reformers distinguished between *coram deo* and *coram hominibus* in many correlated senses (e.g., Luther's distinction between the righteousness of faith, which is *coram deo*, and the righteousness of good works, which is *coram hominibus*). The epistemological usage of *coram deo* refers to the idea of considering knowledge ultimately in reference to God (as for example Van Til points out that Calvin's covenant theology entailed that "when man faced any fact whatsoever, he would *ipso facto* be face to face with God. It is metaphysically as well as religiously true that man must live and cannot but live *coram deo* always." Cf. Cornelius Van Til, *A Survey of Christian Epistemology* (Phillipsburg: Presbyterian and Reformed Publishing Co., 1977), 97.). I have used the expression *coram omnibus* because Polanyi's ultimate point of epistemological transcendence is neither *coram deo* nor exactly *coram hominibus*, but rather it is in reference to an abstract "whole."

[3] *SFS*, 17.

Harry Prosch, who collaborated with Polanyi on his last book, wrote what may perhaps be called the most competent critical exposition of Polanyi's thought.[4] Prosch chose to structure his book according to Polanyi's own intention of providing an epistemological cure for the malaise of the modern mind, and hence he appropriately chose to look at Polanyi as a physician-philosopher. Though our present purpose is more particular, and despite a natural reluctance in simply borrowing Prosch's arrangement, some similarities seem unavoidable. First because approaching Polanyi's thought from the perspective of its own goals seems truly apropos. Second because the particular character and scope of Polanyi's epistemology only come into focus within that context. Still, third, and most important, an understanding of Polanyi's epistemology not as a mere intellectual exercise, but exactly within the context of the tradition of philosophy as medicine for the mind of man, as opposed to philosophy as a servant of the current interests of man,[5] is in part the condition for the currency of our critique of the limits of Polanyi's epistemology, as defined by our thesis, as well as a satisfactory appreciation of its value.

In order to uphold our *coram deo* vis-a-vis *coram omnibus* thesis in light of the philosopher-physician approach to Polanyi we will suggest three stages, or movements, in his thought: The first starting with his diagnosis and critique of the modern crisis and culminating in the prescription of a fiduciary epistemological reformation. The second being his development of the epistemological prescription through an analysis of the scientific fiduciary framework. The third being the extension of his epistemological program into a

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[4] Harry Prosch, *Michael Polanyi: A Critical Exposition* (Albany: State University of New York Press, 1986).

[5] *Ibid*., 2-3.

comprehensive philosophy of emergent meaning.[6]

Within that perspective we will argue that his thought is underlined by two general presuppositional strands. First, the tacit assumption that human thought requires a transcendent frame of reference of the type optimally embodied in the Christian framework. Second, the growing insistence that such a transcendent frame of reference, though admittedly metaphysical, must be rooted in the natural level, and not simply given 'supernaturally.'

Our contention will be that (1) In his critical work there is a tacit reliance upon the former and mainly an adumbration of the latter, (2) in his early attempt to begin developing an initial epistemological framework both strands vie for dominance, and (3) finally the latter becomes dominant and the former takes only an ancillary role as he seeks to expand his epistemological insights into a comprehensive philosophy. At the heart of our argument will be the claim that the incompatibility of the two strands causes him to abstract what would generally be conceived as Christian transcendence from its native *coram deo* framework and to engage in the chimerical search for the transcendent from the immanent.

Having thus described our general strategy, we may now indicate how each chapter will seek to carry it out: We will begin, in chapter 2, with an introductory reconnoitering of the Polanyian terrain, a sort of bird's-eye view that will establish the context and cover possible gaps so that we may then narrow our focus without missing the general coherence of Polanyi's thought.

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[6] I am referring more to a logical progression than a chronological sequence, for though there is a general progression in his writings that follows this order, the stages and topics overlap quite often. When viewed from his final work it is quite clear that most developments were anticipated from the start.

With a foothold in the general framework of Polanyi's thought, our next step will be to consider Polanyi's analysis of the "pathogenesis"of the modern mind.[7] Our aim will be to establish the following: First, Polanyi's perspective on the "modern crisis" as above all deontological, presupposes that thought, freedom and society must be transcendentally rooted. Second, he tacitly relies on transcendence of the Christian kind, even while claiming that the supposed displacement of the Christian general framework by modernity is irreversible. This, we will argue, creates for him the *problem* of how to continue to uphold such a frame of reference in abstraction from its purely religious meaning context.

In Chapter 4 we will explore how Polanyi initially tackles his problem by taking the scientific enterprise at its best and scientific discovery in particular as paradigmatic of a concept of knowing that does not conform to the avowed scientific ideal of knowledge as detached objectivity, but manifests the very kind of fiduciary character involved in his epistemological prescription. Here we will seek to argue our thesis by showing that his choice of scientific discovery as the exemplar springs from his belief that science offers the clue for how the fiduciary program can be ultimately accounted for strictly within the limits of Plato's third level.[8] We will suggest, however, that some of his tacit presuppositions turn out to be transcendent to Plato's third level. In fact they continue to be loosely borrowed from the general framework of Christian transcendence, as does some of the language he relies on to articulate the fiduciary program. Yet, his efforts at transplanting those

[7] Polanyi often referred to the problem of the modern mind as constituting some kind of "pathology," which he sought to "diagnose." See, for example, Michael Polanyi, *Knowing and Being: Essays by Michael Polanyi*, edited by Marjorie Green (Chicago: The University of Chicago Press, 1969), 18: "Here, then, is my diagnosis of the pathological morality of our time."

[8] Cf. Michael Polanyi, "Beauty, Elegance and Reality in Science," in *Symposium on Science, Observation and Interpretation*, ed. S. Köner (London: Butterworth, 1957), 118f. See also Prosch, *Michael Polanyi*, 295.

presuppositions into a framework of immanence, further increases the tension in his thought, even while it also continues to grant it special cogency.

Chapter 5 will entail an investigation of how Polanyi finally expands his epistemological insights into a comprehensive philosophy of meaning that aims at resolving the growing tension between his transcendental aspirations and his immanentist leitmotif through the development of his logic of emergence. We will argue that in this process Polanyi's reliance upon 'borrowed capital' of Christian transcendence becomes increasingly untenable, giving way to a more purely immanentistic expression of presuppositions involved in his thought from the start. At the same time this makes it increasingly difficult for him to preserve his longing for the transcendent, except by recourse to a modern and modified version of a Neoplatonic great chain of being. Finally, still in chapter 5, we will revisit his logic of tacit integration and discuss how it was developed according to the notion of emergent meaning. This will lead to a consideration of the way in which Polanyi is led to separate between natural and transnatural meanings, a discussion of his "divarication"in light of our analysis, and an anticipation of certain aspects of our final critique and *coram deo* vis-a-vis *coram omnibus* argument.

We will then conclude with chapter 6, by bringing together the several perspectives through which we have argued the points of our thesis and shaping our critique into a coherent entity that explains what we believe are the intrinsic limits of Polanyi's epistemology, from their latency early in his work to their fuller consequences in his thought. While we will allude to how his epistemology might have partially failed to achieve the cogency it seemed to promise even among those who have greatly profited from it exactly

because of its intrinsic limits, we will mainly concentrate on what these limits mean from a frankly theological position, openly characterizing it as follows: An inversion of the *coram deo* nature of knowing and being where the crucial distinction between the Creator and the creature is effaced by the presupposing of knowledge as strictly *coram omnibus*, which is followed by an attempt to safeguard transcendence and resolve its contradictions by ultimately suggesting a *deo coram hominibus* state of affairs.

If these contentions can be established, we will have contributed to the subject matter in three different ways: First, we will have clarified the basic ambivalence in Polanyi's thought concerning religious meaning, which we believe can account for the excitement his philosophy has caused in both secular and religious, particularly Protestant, circles, viz., by seeming to offer on one hand a recognition of the need for a metaphysical transcendent frame of reference, and on the other hand the proposal that such transcendence can be achieved from immanence.[9] Second, we will have contributed to Christian reflection and apologetics by demonstrating that such an attempt is chimerical. One must either begin with the full presupposition of Christian transcendence, which can only be derived from supernatural revelation, or else simply attempt to work from the immanent as autonomous and final. Christian transcendence cannot be transplanted to, or reached from, an immanent

[9] What I refer to as "a basic ambivalence" should become quite clear in the course of our discussion, but it was typically expressed by Polanyi in a personal letter to Lady Drusilla, in which he responds to her inquiry about the obvious Christian religious implications of one of his articles by declaring: "I am of course aiming at the foundation of religious faith. Have been doing so since I started thinking about matters in general twenty-five years ago. But I became increasingly reticent about this as time went on." Drusilla Scott, *Everyman Revived: The Common Sense of Michael Polanyi* (Grand Rapids: W. B. Eerdmans Publishing Co., 1995), 181-182.

framework, which is the chimerical hope of the Polanyian 'natural theology.'[10] Third, and only indirectly, we will have perhaps suggested a way in which the richness of certain aspects of Polanyi's thought which have issued from his borrowed capital can be reclaimed and made profitable by those who frankly accede to the framework of Christian transcendence from the start–hopefully a qualified tribute to Michael Polanyi.[11]

Though the task at hand is easily described, its adequate accomplishment is more difficult. The chapters described above will certainly leave many important gaps in the whole of Polanyi's thought, even if chapter 2 is meant to provide a general picture for the very purpose of keeping such gaps from obscuring the comprehensive perspective. We will be satisfied if we can fulfill our particular goal in a way that also does at least partial justice to the richness of Polanyi's thought. As promised, however, first we must deal briefly with some aspects of the Polanyian background.

The Background

Polanyi the Metaphilosopher

Michael Polanyi the *physical chemist* was widely recognized and respected in the scientific community, his relationships from the period in which he worked as a pure

[10] There is a striking kinship between Polanyi's own statement that we are always "finally committed from the start," Michael Polanyi, *Science, Faith and Society* (Chicago: University of Chicago Press, 1964), 83, and Van Til's assertion that "all reason is circular reasoning. The starting point, the method and the conclusion are always involved in one another," Cornelius Van Til, *The Defense of the Faith* (Phillipsburg: Presbyterian and Reformed Publishing Co., 1967), 101, which strengthens our argument that by not starting ultimately from God, Polanyi has ruled out the possibility of ending with him, regardless of how much he borrows from the Christian transcendent frame of reference. This borrowing will eventually frustrate all who do not start with God. It will, at the same time, be insufficient for those who do.

[11] Cf. John Calvin, *Institutes of the Christian Religion*, 2: 2.12-16.

scientist read like a "Who's Who" of the early twentieth century scientific community. His scientific production, before turning to philosophy, is far greater than most other scientists would have accomplished during a lifetime. Even Polanyi's earliest work on the "Adsorption of Gases"(which earned him the Ph.D. in Physical Chemistry), despite a long and controversial battle was finally confirmed, and remains in use today.[12]

Polanyi the *philosopher*, despite coming to the field as an outsider, also enjoyed his share of recognition. From the 1959 granting of the "LeComte du Noüy Foundation Award" for Polanyi's book *Personal Knowledge*, to the many contemporary conferences and congresses on philosophy of which Polanyi has been one of the subjects, it is fair to say that his philosophical work has been given some measure of attention.[13] If it is true that the reception Polanyi received at first from the philosophical metier was not extremely warm, the philosophical community itself has progressively caught up with Polanyi's ideas in general and his work in particular.[14] Given the content of Polanyi's philosophy, it is also not surprising that his thought received a warm welcome by some in the theological milieu;[15] just as it is no surprise that he would also have been charged with being an irrationalist and

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[12] For a brief description of his accomplishments as a scientist, including his scientific relations and his production ("at least thirty-nine major contributions and discoveries and the publication of over two-hundred scientific papers") see Gelwick, *Way of Discovery*, 31-33, 40.

[13] Two fairly recent examples of the attention given to Polanyi in current philosophical events are the presentations given by the Polanyi Society in the *20th World Congress of Philosophy* (Boston, MA, Aug. 10-16, 1997), and the inclusion of "Michael Polanyi Reconsidered" as one of the special topics in the *39th Boston Colloquium for the Philosophy of Science* (May 3, 1999).

[14] See David Rutledge, et. al, "The Tacit Victory and the Unfinished Agenda" *Tradition and Discovery: The Polanyi Society Periodical*, XVIII: 1, 5-17.

[15] See for example: H. Richard Niebuhr, *Radical Monotheism and Western Culture* (New York: Harper and Brothers, 1960), 131; Thomas Langford, "Michael Polanyi and the Task of Theology," *Journal of Religion*, 46 (January 1966), 45-55; Jerry Gill, *The Possibility of Religious Knowledge* (Grand Rapids: William B. Eerdmans, 1971), 7; Thomas F. Torrance, edt., *Belief in Science and in Christian Life: The Relevance of Michael Polanyi's Thought for Christian Faith and Life* (Edinburgh: The Handsel Press, 1980).

a confused thinker on one hand or a rationalist on the other, by many whose affinities laid closer to either positivistic or modern philosophy, and even existentialism.[16]

That Polanyi's work would trigger opposite reactions from various sides of philosophical reflection is hardly unusual.[17] Yet, the grounds upon which he has been admired, rejected or dismissed as a philosopher all seem to gravitate around the radical or paradigmatic[18] nature of his thought in at least three different dimensions: its depth, its implications, and its break with the dominant philosophical traditions of the time. This radical character in his philosophical work points to Michael Polanyi the *metaphilosopher*, and it is perhaps more in this role than any other that he deserves a salient place in twentieth century thought, as his ambition was not simply to reflect philosophically about knowledge, but rather to propose a reformation of epistemology and philosophy in general that would result in a reformation reaching from the sciences all the way to religion, the arts and social thought. Whether one is "converted" by Polanyi, repulsed or annoyed by him, or simply satisfied with dismissive adjectives such as "novel" or "unusual,"[19] one should never be oblivious to the fact that Polanyi's work aimed at nothing short of a world-view reformation.

Why is it, then, that even a cursory reading of his most important works seems to

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[16] Negative reactions to Polanyi on the part of traditional critical philosophy are illustrated by one reviewer of *Personal Knowledge* who characterized Polanyi as an "irrationalist" whose philosophical work only confirms "the old truth that cobblers should stick to their lasts," May Brodback, *American Sociological Review*, XXV (August 1960), 583.

[17] Phil Mullins, in "Polanyi's Participative Realism," *Polanyiana*, vol. 6, no. 2 (1997) adds an interesting element when he comments on Polanyi having been ignored by many in the philosophical community: "Polanyi did not direct his writing primarily toward philosophers; he did not make it a priority to participate in philosophy's on-going professional conservation as it might be understood by an insider."

[18] Gelwick, *Way of Discovery*, 57.

[19] See Edward MacKinnon, "A Review of *Personal Knowledge*," *Modern Schoolman*, 36 (May 1959), 294-296; William T. Scott, "Polanyi's Theory of Personal Knowledge," *The Massachusetts Review*, 3 (Winter, 1962), 349-368.

leave the reader with the feeling that Polanyi's contribution remains underestimated?[20] Though the answer to this question is not central to the task here, it nevertheless offers the possibility of an interesting clue into the structure of Polanyi's thought: The process through which Polanyi arrives at his account of knowledge, including his path from pure science to epistemology, is a case in point of his epistemological account and a fairly accurate illustration of the very conclusions he reaches. Of course, that means that the rejection of his conclusions impugns the process, just as a validation of the process would imply an acceptance of his proposed reformation; it also suggests that what lies behind the very strengths and flaws in his thought must somehow be observable in that process itself. It is only appropriate, therefore, that we briefly explore his trajectory from pure science to epistemology as a key that opens the way to his thought.

From Pure Science to Epistemology

Born in Hungary (1891), Polanyi was initially trained as a medical doctor, but even during his training his interest for the pure sciences was obvious. During WW I Polanyi served as a physician in the Austro-Hungarian Army, yet managed to do scientific research in his spare time, and even to submit a dissertation to the University of Budapest, written during a medical leave, for which he earned a Ph.D. in Physical Chemistry. His career as a physical chemist began after the war, at the Kaiser Wilhelm Institute of Berlin (1920). His work there was both fruitful and promising, so that when the shadow of Nazism began to emerge in Germany Polanyi had no difficulty finding new employment abroad. He became

[20] Drusilla Scott expresses this feeling in the Preface to her book *Everyman Revived*, vii: "Why don't they read Polanyi? I find myself asking when I read arguments on a range of subjects … No one else talks such convincing wisdom on these and many other subjects as Polanyi."

Professor of Physical Chemistry at the University of Manchester (1933).

In Manchester Polanyi continued his scientific production, but two basic factors also began to lead him in new directions. During the years leading up to WW II Polanyi became increasingly concerned with the connection he identified between philosophical and scientific positivism, nihilism, and "the ruthless political movements of the left and right."[21] At the same time he was becoming increasingly conscious that the positivistic philosophy of science did not correspond at all to the actual state of affairs he experienced in his scientific work. He began to publish his ideas through articles that dealt with economics and society, and his scientific work began to anticipate his philosophical reflection about science itself.

Around this time Polanyi was also prompted by a movement for the planing of science along the lines of social interests to reflect specifically about scientific value and freedom. More and more he was challenged to justify his belief in science in a way that distinguished itself from the positivism and detached objectivism which he believed were destructive of freedom–scientific, intellectual and overall. Harry Prosch describes the situation as follows:

> Popular thought seemed to imply that only scientific theories were capable of verification (i.e., of proof), and that moral or ethical or political or religious ideals and principles were essentially unprovable, mere matters of personal preference. No one seemed to see the extent to which not only the existence of a free society, but also the existence of this presumably verifiable science itself, rested upon freely held beliefs in ideals and principles that not only could not be proved, but could not even be made wholly explicit.[22]

As Polanyi's attention was turned to the current philosophic views of science and

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[21] Prosch, *Michael Polanyi*, 5.

[22] *Ibid*.

knowledge, his reflection began to take a transcendental turn: Taking the existence of scientific discovery and of knowledge as a given, what were the true conditions necessary to account for it? The emerging philosopher sensed early on that his "account of the nature and justification of science" would have to include "the whole life of thought in society."[23] Polanyi the scientist was forced to reflect back upon the conditions that made his work possible, and discovered that they could not be accounted for in the work itself, but were ultimately "based on some intuitive conception of the general nature of things."[24]

Though Polanyi had been thinking and writing about generally philosophical issues for some time, his first attempt to work out his philosophical ideas in any systematic way came with his Riddell Lectures, at the University of Durham, which he published as a small work called *Science, Faith and Society* (1946). In a seminal way this work cast the mold for his whole epistemology and suggested an epistemological corrective analogous to the Church Father's *fides quaerens intellectum*.[25] Polanyi's transition into philosophy was not complete yet. Still, even the University of Manchester recognized that an important change was taking place in his work, so that in 1948 it allowed him to exchange his chair in Physical Chemistry to a professorship in Social Sciences–not so much a stopover but more of a necessary bridge between Polanyi's scientific and philosophical work.

In his Gilford Lectures (Aberdeen, 1951-52) Polanyi expanded his reflection and sought to work out the broad details of his epistemology. This effort eventually resulted in his book *Personal Knowledge: Towards a Post-Critical Philosophy* (1958), a work that

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[23] *SFS*, 9.

[24] *Ibid.*

[25] *Ibid.*, 17, 15; *TD*, x.

finalized his move toward philosophy, structured his epistemological thought and offered a comprehensive and documented treatment of the epistemological reformation that had been "inaugurated" in *Science, Faith and Society*.[26]

Polanyi had long realized the insufficiency of simply opposing the ideal of detached objectivity and by highlighting the role of personal commitment at the root of epistemic processes he had offered a partial alternative. But as he continued to reflect and write articles he increasingly felt the need to respond to the knotty problem posed by Plato in the *Meno*. This he first sought to do in his Terry Lectures (Yale, 1962), eventually presented as the book *The Tacit Dimension* (1966). In this book Polanyi felt that having developed and clarified the structure and relationship between knowledge and its antecedents he had diminished the dependence of his epistemology on the idea of commitment and replied satisfactorily to the *Meno* problem.[27]

His last book, *Meaning* (1975), was published just months before his death, and was written with the assistance of philosopher Harry Prosch.[28] For ten years after the publication of *The Tacit Dimension* Polanyi had continued to write articles and broaden the implications of his previous work, and in *Meaning* he sought to bring his epistemological reflection to bear on the broader issues of intellectual pursuits. He began with a systematic presentation of his critique of Western thought, revisited his proposal of an epistemological reformation and its implications for science, language, art and religion, and finally once again suggested the kind of society that could result from, and was needed for, the

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[26] Gelwick, *Way of Discovery*, 42, 47.

[27] *TD*, ix-x.

[28] Michael Polanyi and Harry Prosch, *Meaning* (Chicago: University of Chicago Press, 1975).

restoration of meaning. The book was received by some as the culmination of Polanyi's work, by other as offering a needed clarification in the distinctions between the relationship of meanings and external facts in science, religion and art, and by others still as containing some sort of betrayal of Polanyi's "own best insights."[29]

Polanyi published other books, most of which brought together the many articles in which he would initially expound his insights. This selective list, nonetheless, provides a sufficient link between his arrival at epistemology as an inevitable pursuit and the content of his epistemological development itself.

In very broad strokes, it is easy to see how the scientist, spurred by his social concerns and by his sense of the inadequacies of the dominant philosophy of science, sought out an account of the scientific activity that would square with the reality he experienced in his scientific enterprise and at the same time be consistent with the values which he was unwilling to abandon. Yet, his inquiry made it clear that a preservation of science, faith and society demanded an epistemological reformation, a new understanding of the very concept of knowledge which took seriously the human character of knowing. His attempt at a comprehensive account of knowledge led him to identify a triadic structure, composed of the object of knowledge, its tacit antecedents, and the person who connected them in the act of knowing. This proposal of a "*from* antecedents *to* focal object" structure of knowing opened up new and promising horizons, which Polanyi regarded as reflecting not only an epistemological structure, but perhaps also an ontological structure, through which the

[29] Marjorie Green, "Tacit Knowing: Grounds for a Revolution in Philosophy," *Journal of the British Society for Phenomenology*, 8 (October 1977).

universe was seen as meaningful, and hence worthy of being valued and known.[30]

Nevertheless, these broad strokes must now, in the next chapter, be infused with at least some substance if we are not to miss the forest while examining the trees.

[30] See *M,* 24, 28-29, 63-64, 178-181, 188 and 215-216.

CHAPTER TWO

AN EPISTEMOLOGICAL WORLD VIEW

> *To admit one's own presuppositions and to point out the presuppositions of others is therefore to maintain that all reasoning is, in the nature of the case, circular reasoning. The starting point, the method, and the conclusions are always involved in one another.*
>
> Cornelius Van Til, *The Defense of the Faith*

The broad strokes which closed our introduction suggested a fourfold movement: (1) From a hunch about the fact that explicit knowledge must rest upon an array of tacit antecedents (2) Polanyi is *drawn* to a heuristic epistemological vision (3) which he believes fulfills the self-set goal of making contact with aspects of reality, or discovering truths, in the discernment of patterns and facts, in the exploration of their meanings, and (4) ultimately toward an ever growing *comprehension* of that which is real and that which bears on eternity. Our present task will be to explore each of these four movements as covering the general outlines of Polanyi's epistemology. Though our particular contentions will be temporarily relegated to the background, such reconnoitering should provide a solid basis from which to pursue our more specific goals.

Knowledge and Its Antecedents

Polanyi's problem with the critical ideal of knowledge reaches back to the very start of his scientific career. It was already intimated back in 1916, when Polanyi presented his

Ph.D. dissertation on the adsorption of gases to the university of Budapest. Polanyi tells:

> The professor of Mathematical Physics, to whom my paper was assigned, had never heard of my subject matter. He studied my work bit by bit and then asked me to explain a curious point; my result seemed correct but its derivation faulty. Admitting my mistake, I said that *surely one first draws one's conclusion and then puts the derivation right*.[1]

It is remarkable that even then Polanyi had difficulties with the notion that knowledge–in this case, his "conclusion"–was strictly the result of an explicit logical derivation from specifiable evidence. Years later, in the opening paragraph of *Science, Faith and Society* Polanyi would bring out this problem with the question: "Given any amount of experience, can scientific propositions be derived from it by the application of some explicit rules of procedure?"[2] The whole book goes on to answer the question in the negative, to suggest that the ideal of establishing "a rich and satisfying doctrine of man and the universe built upon the foundations of critical reason alone," with "self-evident propositions or the testimony of the senses, or else a combination of the two"[3] as its only antecedents, was not only inconsistent with the actual epistemological and scientific state of affairs, but was downright dangerous:

> The method of disbelieving every proposition which cannot be verified by definitely prescribed operations would destroy all belief in natural science. And it would destroy, in fact, belief in truth and in the love of truth itself which is the condition of all free thought. The method leads to complete metaphysical nihilism and thus denies the basis for any universally significant manifestations of the human mind.[4]

But his skepticism about the scientific ideal of detached objectivity really began to

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[1] Michael Polanyi, "Autobiography for Mid-Century Authors, 1966" TMs., box 38:8 in Michael Polanyi Papers, Regenstein Library, University of Chicago.

[2] *SFS*, 21.

[3] *Ibid*., 75.

[4] *Ibid*., 76.

coalesce, according to Polanyi's own account, when as a scientist he first encountered the challenge of Stalinistic Soviet ideology in its denial of justification to the pursuit of pure science. Polanyi had met Bukharin in 1935, when he was still the leading theoretician of the Communist party. When he asked Bukharin about the state of pure science in Soviet Russia he was told that "pure science was a morbid symptom of a class society; under socialism the conception of science pursued for its own sake would disappear, for the interest of the scientists would spontaneously turn to the problems of the current five year plan."[5]

Polanyi was struck by two observations which began to bring together his tacit suspicions about the critical ideal of knowledge: First, the very system which now issued a complete disavowal of independent scientific thought was rooted in a "socialist theory which derived its tremendous persuasive power from its claim to scientific certainty." It was as if the mechanistic model of man and history which issued from the scientific ideals of knowledge had abolished the very roots of its own existence.[6] But this was complemented by a second realization, for this "self-immolation of the mind," as Polanyi called it, seemed to be "actuated by powerful moral motives," embodied in a belief that "the mechanical course of history was to bring about universal justice." The idea that "scientific skepticism would trust only material necessity for achieving universal brotherhood" revealed a "new skeptical fanaticism," a merger between "skepticism and utopianism."[7] Through this double realization Polanyi began to discern a pattern he believed to be broader than merely the context of Soviet Russia or other authoritarian states. He felt that the whole intellectual life

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[5] *TD*, 3.

[6] *Ibid*.

[7] *Ibid*., 4.

of our civilization seemed to be "pervaded by the dissonance of extreme critical lucidity and an intense moral conscience."[8] Modern civilization seemed torn between an abstract ideal of knowledge that lead to the abolition of transcendent values and a moral drive which could only be made to cohere with that state of affairs through some kind of artificial synthesis.[9]

Under the weight of these emerging insights Polanyi took upon himself the quest for a vision of knowledge that was rooted in a "harmonious view of thought and existence," a conception of the nature and justification of knowledge which instead of being hostile to the transcendent aspirations of humanity was capable of embracing them as integral parts from the beginning.[10]

His examination of the roots of the modern intellectual landscape suggested that this critical ideal of knowledge involved two basic problems: First, it established the illusion that knowledge was always developed through an explicit process of logical derivation that rested ultimately on wholly explicit antecedents.[11] Second, it restricted the designation of knowledge to explicitly justifiable beliefs.[12] Despite the danger of anachronism, it seems plausible to see Polanyi's reflection as anticipating some key elements of the identification and critique of foundationalism that emerged from metaepistemological reflection in

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[8] *Ibid*.

[9] See *M,* 3-21. Polanyi's critique of western thought will be explored in chapter 3 below.

[10] *TD*, 4. Cf. *M,* 216; Polanyi, *The Study of Man* (Chicago: University of Chicago Press, 1958), 41-70. See also, e.g., Marjorie Grene, "Tacit Knowing and the Pre-reflective Cogito," in Thomas Langford and William Poteat, *Intellect and Hope* (Durham, NC: Duke University Press, 1968), 56-57.

[11] *SFS*, 22.

[12] *Ibid*., 29-31.

American philosophical circles in the decades following his death.[13] If we may, therefore, use the terms devised in this critique, we can see that Polanyi objected to the *foundationalist* account of *the structure of knowledge*. Even more strongly, he reacted to the restriction of the *nature of knowledge* to explicitly justified true belief. This he did by, among other things, pointing out the inevitability of an *infinite depth of ingression*, which he illustrated in an analogous critique of the ideal of linguistic precision, involved in such epistemology.

The use of descriptive words to communicate a reality, says Polanyi, must always rest upon an "unspecifiable personal coefficient." A word "in itself can mean nothing," for it is only the person behind the words who "means" something and uses the words like tools through which he expresses meaning. In the use of words there remains an "indeterminate residue" of meaning.[14] This indeterminacy can be dealt with through further verbal definitions. Nevertheless, these definitions simply "disclose certain rules of art which we have hitherto practiced tacitly," for they point to, or lead us to "watch ourselves applying the term to be defined in ways we regard as authentic."[15] He continues:

> 'Ostensive definitions' are merely a suitable extension of this watching. They call the listener's attention to examples believed to be particularly clear, supplementing as it were, the explanation of a clever feat by showing how it is done. The formalization of meaning relies therefore *from the start* on the practice of unformalized meaning. It necessarily does so also *in the end*, when we are using the undefined words of the definitions. Finally, the practical interpretation of a definition must rely *all the time* on its undefined understanding of the person relying on it. Definitions only shift the

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[13] Cf. Alvin Plantinga, *God and other Minds* (Ithaca: Cornell University Press, 1968), 156-168; See also, Planting, "Reason and Belief in God," in *Faith and Rationality,* ed. Alvin Plantinga and Nicholas Wolterstorff (Notre Dame: University of Notre Dame Press, 1983), 16-91. The use of the term "anticipating" is not meant to suggest any kind of derivation, since Polanyi's thought is not even mentioned in any of the literature, but only to justify the plausibility of using the terminology in connection to Polanyi.

[14] *PK,* 250.

[15] *Ibid*.

tacit coefficient of meaning; they reduce it but cannot eliminate it.[16]

Polanyi takes his illustration much further. At this point, however, we need not follow the whole argument. This process of shifting the "tacit coefficient of meaning" under the spell of the ideal of exhaustive precision of meaning could clearly go on indefinitely were it not for the fact when we identify the meaning of a word as 'precise' we are in reality simply asserting our being *satisfied* with how the term "appears to match experience." The idea of "precision or imprecision is a property that can be predicated of *a designation* when it is tested by matching it against something which is *not a designation*, but is the situation on which the designation bears." What Polanyi concludes is that "the precision of a word will ultimately always rely, therefore, on a test which is not precise in the same sense as the word is said to be."[17] In fact, says Polanyi, "any definition of a word denoting an external thing must ultimately rely on pointing at such a thing," and giving this "naming-cum-pointing" the philosophical label of "ostensive definition" merely "conceals a gap to be bridged by an intelligent effort by the person to whom we want to tell what the word means," an act that is ultimately unspecifiable.[18]

Just as the meaning of words, regardless of how much definition it is submitted to, must ultimately rely upon a tacit matching of words and the perception of the reality on which they bear, so "every interpretation of nature, whether scientific, non-scientific or anti-scientific, is based upon some intuitive conception of the general nature of things," a tacit coefficient which itself cannot be subjected to explicit logical derivation either from primary

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[16] *Ibid*. (author's emphases)

[17] *Ibid*., 251 (author's emphases)

[18] *TD*, 5-6.

observational data or from a purely formal principle. This means that, to use again the language connected to the critique of foundationalism, there are no truly basic propositions according to the test of *explicit* rationality. The restriction of knowledge to *explicitly* justified true belief is, therefore, an abstraction that turns a blind eye–or 'conceals by shifting'–the whole tacit coefficient inevitably present in any epistemic act.[19]

A proper account of knowledge, and the very definition of knowledge itself, would therefore begin with recognizing that the explicit side of knowledge always involved a vast tacit coefficient, an array of antecedents which might be partly capable of being made explicit, but never exhaustively so. Any explicit statement "can only bear on reality by virtue of the tacit coefficient associated with it."[20] This insight became the foundation of Polanyi's epistemological reflection, and he often referred to it simply through the aphorism: "We can know more than we can tell."[21]

The identification of a tacit component in every epistemic process, however, is neither a novel discovery nor in itself an adequate account of the functional relation between knowledge and its antecedents. Gelwick sounds an important reminder that, from Plato through Aristotle, Hume and even Kant, the tacit aspect of knowledge was repeatedly

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[19] This opens up a whole new area which can only be insinuated here. An area where I sense that Polanyi has perhaps gone deeper than the "Reformed Epistemology" of Plantinga *et al* in its critique of the classical foundationalist structure of knowledge, for it seems that any attempt to resolve the issue of warrant without allowing that it must ultimately rest on a tacit dimension, as for example through the idea of "proper function," runs the risk of being a sleight of hand ultimately directed at hiding the unspecifiable. See, e.g., Alvin Plantinga, *Warrant and Proper Function* (New York: Oxford University Press, 1993). Cf. K. Scott Oliphint, "The Apologetic Implication of Alvin Plantinga's Epistemology" (Ph.D. diss., Westminster Theological Seminary, 1994), 300-307ff.

[20] *SFS*, 10.

[21] *TD.*, 4.

adumbrated.[22] But Polanyi must be credited with emphasizing the ubiquity of the tacit coefficient, and, therefore, with seeking to work out its implications not as one simple element present in the epistemic process that should not be ignored, but rather the key element in an adequate account of knowledge.[23]

Taking the cue from Gestalt psychology's notion of perception, Polanyi substituted its idea of "spontaneous equilibration" of the "particulars impressed on the retina or the brain"[24] for the notion of Gestalt as "the outcome of an active shaping of experience performed in the pursuit of knowledge," where this "shaping or integrating" began to appear as "the great and indispensable tacit power by which all knowledge is discovered, and once discovered, it is held to be true."[25]

Working from that original cue, Polanyi began to discern a certain hierarchy of tacit integrations, from the sophisticated and genial feats of tacit integration that are present in scientific, artistic and other intellectual pursuits, followed by expert "arts" such as diagnosing or the performance of skills, by the use of tools, probes and 'pointers,' with the "denotative use of language as a kind of verbal pointing," and finally arriving at perception as the most basic feat of tacit integration.[26] Taking perception as the archetype of all tacit integrations was very important for Polanyi, since it functioned as the "bridge between the

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[22] Gelwick, *Way of Discovery: An Introduction to the Thought of Michael Polanyi* (New York: Oxford University Press, 1977), 78-79. See also Wolf Mays, "Editorial," *Journal of the British Society for Phenomenology*, 4 (October 1973), 199-200; Harry Prosch, "Polanyi's Tacit Knowing in the 'Classical' Philosophers," *Journal of the British Society for Phenomenology*, 4 (October 1973), 201-215.

[23] Marjorie Grene, "Tacit Knowing: Grounds for a Revolution in Philosophy," *Journal of the British Society for Phenomenology*, 8 (October 1977), 168-169.

[24] *TD*, 6.

[25] *Ibid*.

[26] *Ibid*., 6-7.

higher creative powers of man and the bodily processes."[27]

With the "power exercised in the act of perception" as the archetype for all higher forms of integration,[28] Polanyi began to discern the patterns for a new characterization of the nature of knowledge, and a correlated new account of the structure of knowledge. Rather than characterizing the nature of knowledge as justified true belief as understood in the scientific ideal of detached objectivity, Polanyi affirmed that "knowing consists in discerning *Gestalten* that are aspects of reality"–with 'real' defined as "that which is expected to reveal itself indeterminately in the future"[29] and the "discerning of *Gestalten*" characterized as feats of tacit integration with varying degrees of sophistication.[30] If the nature of knowledge was such, then its structure could only flow from an exploration of the structural relations of these tacit integrations, with the first key feature being the recognition of every epistemic process as a triad between tacit antecedents, the person who achieves the feat of tacit integration, and the object known through such integrations.[31]

Two important components are implied in the mere identification of a triadic structure: First, the substitution of the traditional subject-object relation, which has proved so problematic for philosophy, by the triad of tacit knowing, with a first term *from* which a

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[27] *Ibid*., 7.

[28] *SFS*, 10.

[29] *Ibid*. There are two important presuppositions involved in this concept of reality, made explicit by Polanyi elsewhere: First, this concept of reality involves a belief "that it refers to no chance configuration of things, but to a persistent connection of certain features, a connection which, being real, will yet manifest itself in numberless ways, inexhaustibly." Second, it also involves a belief "that it is there, existing independently of us, and that hence its consequences can never be fully predicted." Michael Polanyi, "The Creative Imagination," *Chemical and Engineering News*, 44 (April 1966), 86.

[30] *SFS*, 29.

[31] *M,* 38.

person achieves an integration *to* a second term, opens a new range of possibilities.[32] It also brings out an obvious addition to the concept of knowing: Tacit knowing always involves an act of personal commitment, an irreducible fiduciary aspect inherent in the integration that bridges "the disjunction between subjectivity and objectivity."[33] This intellectual commitment refers to a basic moral dimension[34] of the act of tacit integration, a fiduciary aspect of "submission to the compelling claims" of contact with an external reality in the "striving to fulfill an obligation within a personal situation for which I am not responsible and which therefore determines my calling."[35] Rather than an objectivism that abstracts knowledge from the knower, or a subjectivism that abstracts that knowledge from its object, tacit knowing is personal knowing, rooting its objectivity through its universal intent and its subjectivity in the participation of the knower in its shaping.[36]

Second, understanding knowledge as always personal might give the impression that the process of tacit knowing is strictly individualistic. That, from the most sophisticated

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[32] See, for example, Marjorie Grene, "Tacit Knowing and the Pre-Reflective Cogito," 34-37, 55-57.

[33] *PK*, 17.

[34] *SFS*, 41.

[35] *PK*, 65.

[36] Two important caveats are called for at this point. First, it is this general area of commitment, of the fiduciary dimension of knowing, which has made Polanyi so attractive to many in the theological milieu who wished to address the traditional disjunction between faith and knowledge–to them, this aspect of Polanyi's thought tended to be seen as the most valuable. At the same time, Polanyi's claim that his later work on the structure of tacit knowing diminished his dependence on the idea of commitment (TD, x), turned out to be their greatest disappointment. I disagree, however, that the most important contribution of Polanyi is in the area of the fiduciary component of knowing. Yet, the second caveat, is that I also disagree with Polanyi's own claim of having diminished his reliance on the concept of commitment. I believe, instead, that what he thought to be a decreased dependence upon this fiduciary aspect, was in reality a case of what he himself identified, in the case of ostensive definitions, as the "shifting of the tacit coefficient" (*vide supra*). At least in terms of my second caveat, and possibly in relation to both, I have indeed found subsequent support in R. T. Allen, *Transcendence and Immanence in The Philosophy of Michael Polanyi and Christian Theism* (Edinburgh: Rutherford House, 1992), 6, 16 *n*. 9.

feats of tacit integration connected to intellectual and scientific life to its most rudimentary archetype in the act of perception, the person is on his own, having neither external guidance through persons and rules, nor the possibility of relying upon the tacit knowing of other persons. Of course, this would be untenable, and Polanyi actually places great importance on the fact that the act of tacit integration, though ultimately individual, is actually an achievement that demands a greater and greater dependance upon previous feats of integration in direct relation to its place in the hierarchy of integrations. Furthermore, through personal feats of tacit integration one is able to integrate into his own integrations those which have been achieved by others.

It is, in fact, through the fostering of this personal internalization of the epistemic achievements of others, and of the processes through which a person strives actively to integrate his own previous integrations and those of others, that the teaching and transmission of knowledge that does happen can happen. This means that freedom of thought, tradition, authority, and a vast array of other sociological aspects, are integral to the concept of tacit knowing. Polanyi illustrates generally these implications in the context of describing the transmission of the "rules of art" that guide scientific discovery and scientific life in general: "There are rules which give valuable guidance to scientific discovery, but they are rules of art. The application of rules must rely ultimately on acts not determined by rule," and "since an art cannot be precisely defined, it can be transmitted only by examples of the practice which embodies it."[37] He continues:

> To learn an art by example of its practice is to accept an artistic tradition and to become a representative of it. Novices to the scientific profession are trained to share

[37] *SFS*, 13, 14.

> the ground on which their master stand and to claim this ground for establishing their independence from it.[38]

But what are the mechanisms that allow the transmission of knowledge and explain the hierarchy of tacit integrations? How does Tacit Knowing or Personal Knowing[39] actually function? Polanyi's intuition about the nature of knowledge now coalesces into a logic of tacit integration, which is the actual development of his account of the structure of knowledge.

A Heuristic Epistemology

The contours of what Polanyi called the "functional structure of tacit knowing" must now be traced with a sharper focus, which is made easier by the fact that the previous discussion about knowledge and its antecedents already intimated some of the key elements. In the previous heading we alluded to Polanyi's aphorism that "we can know more than we can tell," which led him to see knowledge as always involving two terms plus the person who connects them. By reflecting on the full extent of that epigram's implications he began to grasp a pattern in the *functional relation* between the two terms of TK, which he framed into another aphorism: "We know the first term only by relying on our awareness of it from attending to the second."[40] This new aphorism begins to clarify the meaning of the from-to structure which we have already mentioned as Polanyi's alternative to a traditional subject-object dichotomy and also allows for a clearer nomenclature. Polanyi used three different pairs to designate the terms of TK, one nuanced actively, another spatially and the third

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[38] *Ibid*., 14.

[39] Henceforth I will refer to "Tacit Knowing" as TK and "Personal Knowing" as PK

[40] *TD*, 10.

functionally. Each of these sets is best understood in practical examples.

First we may consider a police detective as he investigates a crime. His work, not unlike the process of scientific discovery, consists in seeking to solve a problem, to uncover a mystery. His clues are the basis upon which he wishes to arrive at a culprit, and from the start he will look at these clues in search of the intimation of a solution to the mystery. The clues can be tacit, as references to a policeman's intuition often suggest, but they may also be explicit. Yet, the clues are meaningless in and of themselves, until these clues, whether tacit or explicit, can be integrated into a "comprehensive entity" that solves the case. The policeman, therefore, "relies on" the clues in order to "attend to" the solving of the mystery. Some of the clues may be specifiable, some are not. The solving of the crime must be so explicable that it has a good chance of achieving a legal conviction "beyond a reasonable doubt." But the integration of the clues into the solving of the crime is an act of TK which can never be fully derived from any explicit rules. A conviction will depend upon another feat of tacit integration in which a judge or a jury will *rely on* the clues, findings, pleads, expert testimonies, etc., in order to *attend to* the matter of guilt according to the law.

The second set of alternative terms has a more spatial nuance, referring to the first term of TK as the *proximal*, and the second as the *distal*. Polanyi's example is that of a blind man who relies on a stick to feel his surroundings. His ability to sense the shapes, objects and obstacles around him depends upon receiving, through his hands, the shocks and sensations caused by the contact of things with the tip of his stick. Those sensations are interpreted by him in a generally tacit way, and they constitute the *proximal* term in his act of becoming cognizant of his environment, while the actual exploration of the surroundings

occurs at the tip of his stick, and constitute therefore the *distal term*. By an act of TK the man is able to integrate the sensations that constitute his proximal term into an awareness of those things which have come into contact with his stick.[41]

Polanyi also offers a good illustration of this structure where the functionally nuanced third set of terms is more appropriate. He recalls the psychological experiments in "subception," where persons were presented with long sequences of nonsense syllables, some of which, unbeknown to the subjects, were always followed by an electric shock. In the experiments the subjects began to anticipate the shock when presented with these "shock syllables." Yet, when asked, they could not identify the shock syllables. Here, Polanyi says that they became "subsidiarily aware" of the shock syllables only in their "focal awareness" of the electric shock. The *subsidiary awareness* remained tacit. We may add that in this particular example, any attempt to make the *subsidiary awareness* explicit would not change the fact that in the *focal awareness* of the electric shock they would remain tacit, though it might actually create greater confusion for the subjects who would be frustrated by trying to shift their focus back and forth between the shock and the shock syllables.[42]

This distinction between "subsidiary awareness" and "focal awareness" proved to be the most often used and fruitful one, especially because this set of terms was plastic enough to cover a wide range of from-to combinations, and because it brought out the fact that it is possible to make one aspect of our subsidiary awareness into the focus, hence changing the way in which that particular is known as well as the appearance of the whole "comprehensive entity." Still, the other two sets of terms are still important, and may be

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[41] *M,* 53.

[42] *KB*, 142-143; *TD*, 7, 8.

called for in some epistemological subtleties.[43]

From Polanyi's reflection about the functional relation between the terms of TK another concept arose which later proved quite crucial in his overall picture. This concept is also illustrated by the second example above. In the act of "seeing" through his stick, the blind man can be seen as "incorporating" the stick as an extension of his body. One which, when operating at optimum, is completely tacit, just as the process through which the man tacitly integrates into a tactile image the sensations of touching a face directly with the hand. Polanyi identified this process through which one extends himself through "tools" as *indwelling*, for by extending oneself the person is also incorporating into himself that through which he has been extended. Extending one's body (the permanent indwelling of all human experience), however, is only a very rudimentary case of indwelling. The other two examples through which we introduced the terminology also involve indwelling: the policeman indwells the clues upon which he relies as he attends to the crime, just as it is by dwelling in the syllables of which they are only subsidiarily aware that the subjects of the experiment in subception attend to their focus, the anticipation of electric shock.[44]

The mere realization of the role of indwelling in his concept of TK lead Polanyi to realize that the first and second terms which are connected in the act of integration enjoy a *particular functional structure*, for it is the subsidiaries–in which one indwells, and from which he attends to his focal awareness–that provide the guidance for the integration into a

[43] In all three examples, the first terms ("relying on," proximal and subsidiary) tend to be more generally tacit, but not exclusively so. This is an important caveat, particularly when the whole concept of TK is expanded to include endless sequences of integrations, as we will explore below. It is important, however, to keep in mind that, even if, one could conceive of situations where most of the first terms were explicit, still the integrations of the first terms into wholes referring to the second terms would be unspecifiable, and the tacit coefficient would remain. Cf. *KB*, 144.

[44] *TD*, 16.

coherent whole.[45] Hence, the concept of indwelling became increasingly important in Polanyi's structure of knowledge, since when TK is connected with indwelling it leads to a whole "shift of emphasis." The identification of the triad and the process of attending from the proximal term to the distal term in a feat of tacit integration of particulars into a comprehensive whole allowed the subsidiaries from which one attended to a focus to be considered, in general, as unspecifiable and tacit.[46] "[B]ut," says Polanyi:

> if we now regard the integration of particulars as an interiorization, it takes on a more positive character. It now becomes a mean of making certain things function as the proximal term of tacit knowing, so that instead of observing them in themselves, we may be aware of them in their bearing upon the comprehensive entity they constitute. It brings home to us that it is not by looking at things, but by dwelling in them, that we understand their joint meaning.[47]

Having now in mind the picture of epistemic acts as feats of tacit integrations of the particulars in which we dwell and that provide us the very guidance for discerning the whole, we can also work out a further inference from examples we discussed above. If we contrast, for example, the passivity of the subjects in the subception experiment and the active effort of the detective in discovering the clues, we can begin to see a type of hierarchy emerging. In the subception experiment the subjects' indwelling was upon clues that were tacitly perceived, and remained tacit throughout even while providing the guidance for their integration. The detective, however, started out performing a large number to separate feats of tacit integration in which he relied on previously unspecified subsidiaries in order to perceive particular clues. Therefore, his discerning of each clue was itself a particular feat

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[45] *KB*, 143-144.

[46] *TD*, 18.

[47] *Ibid*.

of tacit integration, that was, in turn, intentionally made into a set of subsidiaries from which he strived to attend to the comprehension of the crime as a whole.

This comparison brings to light the hierarchical nature of tacit integration, which we already mentioned in passing, and now becomes an important aspect of the structure of TK. We begin to discern a continuum from perception, where one indwells in his tacit bodily processes and integrates them into knowledge of that to which he attends, all the way to sophisticated feats of scientific and intellectual discoveries. This continuum takes on the shape of a hierarchy of subsequent sets of particulars integrated into wholes, which being real are expected to reveal themselves indeterminably in the future, and can, therefore, be integrated as further particulars in new feats of TK that attend to greater wholes. "A mathematical theory," for example, "can be constructed only by relying on *prior* tacit knowing and can function as a theory only within an act of tacit knowing, which consists in our attending from it to the previously established experience on which it bears."[48]

But this vison of a stratified epistemic universe "filled with strata of [noetic activity], joined together meaningfully in pairs of higher and lower strata,"[49] has particular implications of its own, which Polanyi introduced explicitly in his transition from epistemological reflection to ontological speculation, but which are nevertheless sufficiently relevant to be brought out at this juncture. They fall under the general purview of Polanyi's *antireductionism*, and involve three basic ideas: *Dual control*, *irreducibility* and *boundaries*. Polanyi illustrates these ideas, for example, in the production of speech, which has five

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[48] *Ibid.*, 21.

[49] *Ibid.*, 35. I have used the statement in which Polanyi attempts to show a correlation between this epistemic vision and an ontological vision, a subject which will be introduced below, but I have used it still in its epistemic ectype, and hence have substituted his term "reality" for "noetic activity."

different levels, i.e., the production (1) of voice, (2) of words, (3) of sentences, (4) of style, and (5) of literary composition:

> Each of these levels is subject to its own laws as prescribed (1) by phonetics, (2) by lexicography, (3) by grammar, (4) by stylistics, and (5) by literary criticism. These levels form a hierarchy of comprehensive entities, for the principles of each level operate under the control of the next higher level. The voice you produce is shaped into words by a vocabulary; a given word is shaped into sentences in accordance with grammar; and the sentences can be made to fit into a style, which in turn is made to convey the ideas of literary composition. Thus each level is subject to *dual control*; first, by *the laws that apply to its elements in themselves*, and second, by the *laws that control the comprehensive entity* formed by them.[50]

Having identified the principle of *dual control*, Polanyi points out that the "organizing principles" of the higher level can never be accounted for by "the laws governing its isolated particulars," (e.g., a vocabulary cannot be derived from phonetics, grammar cannot be derived from vocabulary, and so forth). This is the *irreducibility* which is always present in TK: The "organizing principles" of higher levels, though being rooted in the laws which govern the lower levels, are not derived from them but rather "added to" them, and can never be, therefore, reduced to them.[51] The organizing principles of the higher levels control the *boundary* conditions of the lower level, and this regulating Polanyi called the principle of *marginal control*.[52]

The activity of giving speech can now begin to be turned into its epistemic equivalent in the reception of speech. A listener must dwell in the speaker's integration of sounds into words, words into sentences, and so forth, in order to know the content affirmed by the speech. This is, in turn, the pre-condition for accepting or rejecting that content in

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[50] *Ibid*., 35-36 (emphases added).

[51] *TD*, 40.

[52] See *M,* 177-178.

relation to the aspect of reality it claims to disclose.

So far we have remained within the ideas and the terminology involved in the functional structure of TK, but in doing so our recourse to expressions such as "whole" or "comprehensive entity" has not been explicitly dealt with. We must, therefore, backtrack slightly and see how Polanyi's concept of the functional structure of TK is complemented by three more aspects which connect the process of epistemic activity with its object, i.e., reality.

Epistemology and Reality

Let us continue the illustration of the speech, but add some elements to it. The speech can now be identified as being given by an official of the Nazi German State in the late 1930s as a call for the elimination of the Jews, to which we listen as Jews. The speech affects us greatly, causing great fear and indignation, but the fear and indignation are the result of the content of the statement, and our disavowal of it is not derived from anything within the different particulars that compose the different strata, but from the "appearance" of the whole. Yet, the whole could have never been discerned by us without our subsidiary awareness of all the particulars in their successive levels, so we may say that we are aware of all the particulars in the appearance of the whole, just as we are naturally aware of the features of a person's physiognomy only in terms of the physiognomy to which we attend. We may then restate the point by saying that when we listen to that speech we are faced with the *phenomenon* of all the subsidiaries of the speech in their joint appearance.[53] Polanyi

[53] If, for example, the speech was part of a play performed in another country with the purpose of shocking us with the horrors of Nazism, the phenomenon of the speech would undergo a change, for our subsidiary awareness of it being a critique of Nazism would then be also part of the subsidiaries whose joint

called this crucial complement to the functional structure of knowledge the *phenomenal aspect* of TK.[54]

Yet, an account of the structural and phenomenal aspects of TK do not cover the whole story, for the fear and indignation with which we meet the phenomenon of the speech can only be accounted in TK by a further aspect which combines the previous two. The speech impacts us in a particular way because its structural and phenomenal aspects combined *signify* something to us. The phenomenon of the speech has a very particular meaning to us, which goes beyond its structural aspect as well as the joint appearance of all its subsidiaries, though never ceasing to be rooted in them. When we hear the speech our knowledge of it as a feat of articulate achievement is secondary, and in this case extremely insignificant for us. What arouses fear and indignation is its meaning, and in a sense we "know" the speech, in its structural and phenomenal aspects, *only* in terms of its meaning to us. This further facet Polanyi called the *semantic aspect* of TK.[55]

The fact that TK now needs to be seen as an integration of subsidiaries into a *meaningful* pattern also has significant epistemological consequences. First, it confirms again the fact that epistemic activity inevitably depends upon a tacit dimension, for in every epistemic activity the focus to which one attends from the subsidiaries is a meaningful pattern. The fact that a phenomenon is known through its meaning to us makes the tacit coefficient undeniable–there can be no uninterpreted facts.[56] A second implication is that

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appearance constitutes the phenomenon. Cf. Gelwick, *Way of Discovery*, 71.

[54] *TD*, 11.

[55] *Ibid.,* 13.

[56] Cf. *PK*, 304.

it also highlights the strength of TK in relation to the objectivist theory of knowledge. By acknowledging that meaning lies in the focal awareness, in the phenomenal aspect, TK prevents the notion of meaning as arbitrary or subjective, and roots it in a comprehensive structure epistemically irreducible to the autonomous activity of the knower. But at the same time, the meaningfulness of the phenomenon can never be reduced to pure facts or purely explicit rationality, since it depends upon the personal integration of the subsidiary elements upon which it relies, accenting the fact that, as Gelwick stated it, "Meaning cannot exist by itself. It requires a person who can integrate clues into coherent patterns that he or she can see as meaningful."[57]

From the starting point of redefining knowledge in a way that takes into account its unescapable tacit coefficient, and having gone through an account of TK that incorporates a functional structure with its phenomenal and semantic aspects, it is easy to see throughout the whole account that TK involves ontological presuppositions. What prevents TK from being "full of sound and fury, signifying nothing" is that what culminates in the *semantic aspect,* already adumbrates, for Polanyi, an *ontological aspect* of TK to which it seeks to refer.[58] One can only attribute meaning, for example, to the antisemitic speech to which we have been attending, *because* he understands it as *staking an ultimate claim* that the whole entity of the speech bears upon *a reality that exists independent of the speaker and of the hearers*. This means the speech has a "universal intent."[59] The fact that we would strongly deny–to say the least–the claims made with universal intent by the speech, only highlights

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[57] Gelwick, *Way of Discovery*, 74.

[58] See *KB*, 133. Cf. *M,* 50, where Polanyi too uses Shakespeare's phrase (*Macbeth*, V: v.).

[59] See *PK*, 311.

the fact that we reject its meaning to us, *because* we reject the claims that the joint meaning of all subsidiaries within it *bear upon an actual reality*–we reject the speech's universal intent because we disavow its truth.[60]

The bearing of TK upon reality, represented by the ontological aspect, is also crucial in Polanyi's thinking, raising three important consequences: First, if TK is a striving to touch upon something real, knowing will always be seen as something in the nature of discovery. Therefore, it presupposes both the existence of a meaningful external reality and the expectation that hitherto hidden aspects of this reality can indeed be discovered.[61] Of course, the mere reference to 'hidden aspects' of reality that can be discovered demands that TK deal with Plato's *Meno* paradox of explaining how one may discover something that is hidden. Polanyi believes that indeed TK offers a substantial solution to it: The paradox of the Meno only exists within the objectivist ideal of explicit knowledge, but in TK every noetic act, starting with perception, involves a tacit integration of unspecifiable clues which themselves intimate hidden aspects of reality, and whose discovery in turn offers up further intimations. So the fact that we do discover new things, that we do come to know things which we did not know before, does not need to be explained by postulating some kind of previous existence or universal knowledge on the part of the knower, it is rather justified by our having a tacit knowledge which is capable of guiding the integration of clues into new discoveries and new pieces of explicit knowledge.[62]

Even in his early work, *Science, Faith and Society*, while reflecting upon discovery

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[60] *TD*, 33.

[61] *Ibid*., 25.

[62] *Ibid*., 21-22, 24. Cf. *KB*, 133; Plato, *Meno*, trans. Benjamin Jowett, in *The Dialogues of Plato* (New York: Bantam Books, 1986), 206.

in the natural sciences, Polanyi anticipates his future reflection upon the *Meno* problem when he suggests that "it may appear perhaps more appropriate to regard discovery in natural sciences as guided not so much by the potentiality of a scientific proposition as by an aspect of nature *seeking realization in our minds*."[63] This suggestion points to the fact that a belief in an external reality that is meaningful and that somehow "reveals" itself as meaningful through the very disclosure of its factuality is an unescapable presupposition for every epistemic act. Indeed, Polanyi goes on to argue that the fiduciary element of every noetic activity consists exactly of a type of commitment, in which the knower, through his indwelling on the proximal terms, ultimately believes to be *guided* toward a vision of a meaningful whole that actually exists, and to which he in turn must submit.[64]

This brings us to a second important correlate. Knowing something real, then, is knowing something that "has independence and power for manifesting itself in yet unthought of ways in the future." It is also understanding a comprehensive entity from its subsidiary particulars to an insight into a real whole. The discerning of coherence is a *sine qua non* that, therefore, must ultimately presuppose "something that accounts for the coherence" of the "comprehensive entity" which is the object of that knowledge.[65]

This can be seen in Polanyi's insightful example of how knowledge of other minds is not simply acquired by "observing the workings of the mind in themselves" but by

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[63] *SFS*, 35 (emphasis added).

[64] See *PK*, 300-316, especially 311: "In a heuristic commitment, affirmation, surrender and legislation are fused into a single thought, bearing on a hidden reality." Cf. *KB*, 133. I have already questioned Polanyi's claim that his clarification of the structure of TK reduced his previous dependence upon the concept of commitment. It is from this perspective that I raise the issue of commitment at this juncture.

[65] *TD*. 32, 30.

dwelling on the workings of the mind as clues "with a presumed bearing on the presence of something they appear to indicate." It is by moving from the discerning of the comprehensive entity of which the workings are but clues that one encounters a mind that accounts for the coherence of that entity.[66] Even in a simple act of perception the knower dwells on visual clues in order to discern an object as a comprehensive entity. Yet, he tacitly knows that this coherence must be accounted for either by the reality of the object or by another explanation such as an optical illusion. Knowing anything in a from-to structure invariably demands something that accounts for the coherence of the comprehensive entity. It presupposes either the reality of that object, or, in the case of something that does not actually exist (e.g., a hologram), something that explains the appearance that the subsidiary clues do compose an actual coherent entity.[67]

The previous paragraph has already indirectly introduced the third important correlate, and that is the question of error. If a claim to know something is a claim to have made contact with an aspect of reality, says Polanyi, it opens the possibility of error in more than one way. Knowledge is true when epistemically it has succeeded in the discerning of a comprehensive entity, and when the comprehensive entity that has thus been discerned is real. Yet, that knowledge might be false due to different reasons: (1) It might be epistemically correct (i.e., an integration of the clues that satisfies normal standards) yet fail to contact something real due to external factors (e.g., an optical illusion). (2) It may simply fulfill subjective standards, so that it might seem rational to the person who holds it but not

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[66] *Ibid*., 31. See also, *M,* 46-48.

[67] *Cf.* Michael Polanyi, *Society, Economics and Philosophy: Special Papers*, edited by R. T. Allen (New Brunswick: Transaction Publishers, 1997), 270. To see how at this point my basic contention about Polanyi's thought, as expressed in the introduction, lingers strongly on the background see also *SFS*, 83-84.

otherwise. (3) It may also be the fruit of mental derangement or something else that causes it to be devoid of reason. (4) Or it may even be an inadequate integration of clues motivated by reasons ranging from a misplaced metaphysical commitment to faulty tacit inference.[68]

Thus, every epistemic act is of the nature of an achievement, involving several indeterminacies, so that the possibility of error *must* always be present. These indeterminacies are not simple human shortcomings, but are, as Harry Prosch stated, "essential parts of the logical structure of knowledge."[69] For Polanyi, it is not just a question of admitting that someone may err in his own noetic processes, but more importantly the fact that the very nature of knowledge dictates that it presupposes beliefs, and these beliefs may be false–hence his idea that one can only have articulate knowledge of that about which he might *conceivably* be wrong.[70] Just as knowledge should never be reduced to subjectivity by disconnecting it with ontological presuppositions, the very fact that it always rests on a substratum of ontological presuppositions which the knower believes to be true makes it impossible to claim that any aspect of human knowledge is absolutely free from error, that it passes the test of critical doubt involved in the ideal of knowledge as pure detached objectivity. The ideal of pure objectivity is not only unattainable, but it is false, "just as the notion that an ideal painting would be one uncontaminated by a style or a mode or a fashion in painting (or even perhaps by canvases, brushes, pigments or even painters) would be a false notion of what an ideal in painting is."[71]

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[68] See *PK*, 315, 362-363,

[69] Harry Prosch, *Michael Polanyi: A Critical Exposition* (Albany: S. U. N. Y. Press, 1986), 115.

[70] *PK*, viii, 314, 315-316; *Cf.* Michael Polanyi, *The Logic of Liberty: Reflections and Rejoinders* (Indianapolis: Liberty Fund, 1998), 26-30.

[71] Prosch, *Michael Polanyi*, 115.

Of course, it should have become apparent, so far, that, by arriving at a vision of knowledge as resting upon presuppositions about the general nature of reality, about what must account for the coherence of reality in its parts and as a whole, and about the pistic nature of truth which is invariably present in human knowing, Polanyi has come back to the very realm of metaphysics which modern objectivistic epistemology has tried so hard to leave behind.[72] Polanyi is certainly not, at this stage, simply calling back into being the *Alt Metaphysik* which the Enlightenment rejected–his thought is post-critical–but he is, nevertheless, staking the claim that an account of knowledge cannot escape dealing with metaphysics. This is true both in the sense that Polanyi's TK is ultimately rooted in metaphysical presuppositions, and also in the sense that Polanyi's TK affirms that every epistemic act *must* involve metaphysical presuppositions–as one Christian scientist once told an audience of secular scientists, Polanyi has reminded us that "we all dabble in metaphysics."[73]

The Metaphysics of Knowledge

We come finally to what might be termed, in Polanyi, the metaphysics of knowledge. To speak of the metaphysics of knowledge at this point conveniently suggests a duplicity of meaning. It brings out the fact that, for Polanyi, just as the ontological aspect of knowing reveals a metaphysical root for epistemology, the epistemology thus rooted

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[72] See, for example, the discussion of Kant's posture of *Seinsmetaphysic* in Richard Kroner, *Von Kant bis Hegel* (Tübingen: J.C.B. Mohr, 1921), vol. I, 164-165.

[73] Edward T. Welch, "A Discussion Among Clergy: Pastoral Counseling Talks With Secular Psychology," *Journal of Biblical Counseling*, vol. 13, no. 2 (Winter 1995), 24. Cf. *TD*, 68, where Polanyi speaks of "the metaphysical grounds that underlie all our knowledge," and 70, where he refers to the fact that science and the general public "hide" the metaphysical beliefs presupposed by their activities.

might also say something about the structure of metaphysics in general and ontology in particular: If we know something, and it seems we do, and if that knowledge has metaphysical and ontological roots, might we not be justified in assuming that the whole structure of knowledge that springs from these roots also reveals something about the structure of ontology and even metaphysics? This is indeed, the point at which Polanyi arrived: Epistemology and ontology are structurally analogous.[74]

The transition is a careful one. First Polanyi appeals to the illustration of a game of chess. Based upon his previous discussion from the phenomenal to the ontological aspects of TK, he states that "the skillful conduct of a game of chess by another person is a real entity, knowable by our tacit act of comprehending it." Our "comprehension of it," he says, "is similar in structure to that which it comprehends." Then he refers back to his notion that the reality of an entity is not simply a question of tangibility, but one of depth: "The kind of comprehensive entities exemplified by skillful human performances are real things; as real as cobblestones and, in view of their far greater independence and power, much *more* real than cobblestones." He continues: "It seems plausible then to *assume in all other instances of tacit knowing the correspondence between the structure of comprehension and the structure of the comprehensive entity which is its object,*" and then he finally states what he believes this analogy means:

> Take two points. (1) Tacit knowing of a coherent entity relies on our awareness of the particulars of the entity for attending to it; and (2) if we switch our attention to the particulars, this function of the particulars is canceled and we lose sight of the entity to which we had attended. The ontological counterpart of this would be (1) that the principles controlling a comprehensive entity would be found to rely for their

[74] This was a critical turning point in Polanyi's thought, controversial even among his strongest philosophical supporters. It will reappear later as very relevant to our argument.

> operations on laws governing the particulars of the entity in themselves; and (2) that at the same time the laws governing the particulars in themselves would never account for the organizing principles of a higher entity which they form … The two terms of tacit knowing, the proximal, which includes the particulars, and the distal, which is their comprehensive meaning, would then be seen as two levels of reality, controlled by distinctive principles. The upper one relies for its operations on the laws governing the elements of the lower one in themselves, but these operations of it are not explicable by the laws of the lower level. And we could say that between two such levels a logical relation holds, which corresponds to the fact that the two levels are the two terms of an act of tacit knowing which jointly comprehends them.[75]

We may recall how Polanyi saw knowledge in a triadic process of from-to tacit integrations. These tacit integrations formed a hierarchy moving, for example, from perception to the more sophisticated integrations of higher intellectual pursuits, with each strata composed of a subsidiary and a focal level. Each higher level would be rooted on the lower by indwelling, but it would be an irreducible comprehensive entity. In this way, Polanyi populated the epistemic universe with a hierarchy of evermore comprehensive entities. Thus, it becomes easy to see how his view of the analogy between epistemological and ontological structuring ushered in (and indeed, *post facto,* seemed to presuppose) a metaphysical understanding of reality as a hierarchical structure, a "picture of the universe filled with strata of realities, joined together meaningfully in pairs of higher and lower strata."[76]

This ontology Polanyi developed under the rubric of *emergence*, a concept which though receiving a particular treatment by Polanyi had a long history. It was especially current in the 19th century debates between vitalism and reductionism in the natural

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[75] *TD*, 33-35 (Polanyi's emphases).

[76] *Ibid*., 35.

sciences.[77] The logic of emergence was developed by Polanyi through his articulation, now in an ontological sense, of the principles of dual control and irreducibility, and the recognition of a presupposed gradient of emerging meaning. He sought to illustrate it and substantiate it through a comprehensive account of, and a nuanced perspective on, evolution, from the emergence of life to man's construction (or discovery) of the "firmament" of his "higher obligations" and of purposes that bear on eternity.[78]

An ontology of emergence would stand opposite, for example, to the Laplacean ideal of absolute knowledge. The latter would have us believe that exhaustive knowledge of the universe–past, present and future–would be conceivable through a complete knowledge of atoms in motion. The former, however, involves the recognition that each ontological level, or comprehensive entity, is subject to a dual control: It is first subject to the "laws that apply to the elements in themselves," but it is also subject to laws that are "peculiar to the entity formed by those elements." So, for example, any type of machine is, in one way, subject to the laws of physics and chemistry that govern its material parts, but simultaneously it is subject to laws of operation which cannot be merely derived from the laws of physics and chemistry, but are rather added to those. Though the laws of physics and chemistry can account for failures in the operation of a machine, they cannot account for its proper functioning, which is only explainable by its higher operational principles. Likewise, just as knowledge is rooted on the subsidiaries, but such subsidiaries are integrated into a whole that possesses characteristics beyond the mere aggregate of subsidiaries, so it would

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[77] See Claus Emmeche et al., "Explaining Emergence:Towards an Ontology of Levels," *Journal for General Philosophy of Science* 28: 83-119 (1997); Nils A. Baas, "Emergence, Hierarchies, and Hyper-structures," in: C. G. Langton, ed., *Alife III, vol.* 17 (Redwood City: Addison-Wesley, 1994), 515-537.

[78] *TD*, 51, 52 and 92.

be with the levels of reality and the entities that populate these levels.[79]

For machines and machine-like entities, says Polanyi, which are identifiable through its operational principles and not through its parts and the physical-chemical laws that govern the parts, we may call the control of the higher laws (i.e., the organizational principles without which its purposive character could never be glanced) the "principle of marginal control." This marginal control can be described as governing the "boundary conditions" added as a kind of "artificial shaping" which is not determined by the laws of nature.[80] The principle of marginal control renders *reductionism* impossible: The laws of the lower levels leave open certain possibilities, but the higher laws determine boundary conditions which "shape" the isolated parts into a new entity that can never be fully exhausted as to the lower level. Now, as Polanyi knew, these ideas are seemingly too obvious in the context of machines and other inanimate entities. However, their radical character emerges when they are applied, for example, to a biotic level–no "biotic operations can be accounted for" only "by the laws of physics and chemistry."[81]

Yet, it would be a mistake to think that this antireductionism should simply lead toward an affirmation that, just as a machine involves an artificial shaping added as a boundary condition by a higher "shaper," (e.g., an engineer), so with biotic levels, the laws of physics and chemistry could only have been given boundary conditions by a conscious

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[79] *Ibid*., 36, 38-39. See especially the illustration in 36: "You cannot derive a vocabulary from phonetics, you cannot derive the grammar of a language from its vocabulary; a correct use of grammar does not account for good style; and a good style does not provide the content of a piece of prose," yet each higher level could not exist if it were not rooted on the lower levels.

[80] *Ibid*., 40.

[81] *Ibid*., 36, 37.

higher "shaper."[82] This is not so for Polanyi, and it is here that the logic of emergence seems quite reminiscent of the vitalistic soil from which it emerged. When emergence is applied, for example, to embryonic development, Polanyi emphasizes the combination of two principles: (1) The embryo's "division into areas of fixed determination" which "lends it a machinelike structure," and (2) "regulative powers which mutually adjust the several areas of fixed potentiality, and which preserve equipotentiality within each area," representing "an organismic principle."[83]

It is from this standpoint that Polanyi begins to take on the challenge of providing a new antireductionist and nondeterministic perspective on evolution: "Inanimate nature," he says, "is self-contained, achieving nothing, relying on nothing, and perhaps unerring," but "a living function has a result which it may achieve or fail to achieve." The very notion of achievement is logically irreducible to a level in which it is totally foreign, and this is the remarkable "innovation achieved by the emergence of life from the inanimate." Polanyi concludes that "a principle not present in the inanimate," but whose possibility is left open by it, "must come into operation when it gives birth to living things." He then continues:

> But the hierarchic structure of the higher forms of life necessitates the assumption of further processes of emergence. If each higher level is to control the boundary conditions left open by the operations of the next lower level, this implies that these boundary conditions are in fact left open by the operations going on at the lower level. In other words, no level can gain control over its own boundary conditions and hence cannot bring into existence a higher level, the operations of which would consist in controlling these boundary conditions. Thus the logical structure of the hierarchy implies that a higher level can comes into existence only through a process not manifest in the lower level, a process which thus qualifies as an emergence.[84]

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[82] As a sophisticated type of Design argument for the existence of God.

[83] *TD*., 43.

[84] *Ibid*., 44.

The mistaken posture, says Polanyi, of reducing the question of evolution to its phylogenetic aspect, is revealed in the fascination with the question of the origin of species instead of the more fundamental issue of *ideogenesis*: "How any single individual of a higher species ever came into existence." Nevertheless, the logic of emergence, he believes, can provide a fresh view of evolution that addresses exactly the question of *ideogenesis*, for it presupposes an immanent, or, as Polanyi would prefer to call it, an emergent, "creative agency." This, says Polanyi, makes it markedly different from the mere dynamic equilibration of forces presupposed in the reductionistic view, yet it does not demand the activity of an external creative agency. It is a notion resembling Bergson's *élan vital*, and its development is along the lines suggested by Samuel Butler and Teilhard de Chardin.[85]

Through this turn, Polanyi's ontology which was historically developed from its analogy to epistemology, appears in turn to reveal the very metaphysical presuppositions in which his epistemology was tacitly rooted to begin with. This circularity, naturally to be expected, and at the same time consistent with his epistemology itself, is hinted at by Polanyi at the heart of his discussion of the rise of man:

> I have surveyed a series of ascending biotic levels and exhibited in terms of these the logic of successive rising achievements. This progression made me realize that biology can be extended by continuous stages into epistemology, and more generally, into the justification of my own fundamental commitments. And so this ultra-biology went on extending further into the acknowledgment of all my obligations. In the course of evolution this series should present itself as a series of successive existential achievements. It should show how in the course of anthropogenesis the descending lines of our ancestors have taken on by stages the full capacities of personhood and have inherited all the hazardous aspirations of humanity.[86]

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[85] *Ibid.*, 47-48, 46. *Cf.* Henri Bergson, *Creative Evolution* (Westport: Greenwood, 1975); Samuel Butler, *Evolution, Old and New* (London: Hardwicke, 1879); Teilhard de Chardin, *Phenomenon of Man* (NY: Harper and Row Publishing, 1975).

[86] *PK*, 387.

This interesting conversion, curiously akin to what in stylistics is called a *chiasmus*, is how Polanyi believes he can reopen the doors for the metaphysics of knowledge without simply falling back into the *Alt Metaphysik*. Yet, the metaphysical belief presupposed by such an interplay of epistemology and ontology no longer has to be that which Polanyi, in his early work, characterized as a straight forward "belief in a spiritual reality" to which the "metaphysical believer"may "strive to convert" those whose false ideal of knowledge has brought to the logical brink of nihilism.[87] It seems that now that converting the would-be nihilist just enough so that he can hold a metaphysical belief in a gradient of emerging meaning would be sufficient.[88] Except that many, he argues, may find it still difficult to abide within this new achievement while encumbered by "our manifest moral shortcomings" and "a society which has such shortcomings fatally involved in its workings." At this point, Polanyi maintains, the "religious solution" which is itself a remarkable achievement within the gradient of emerging meaning and truth, might become "more feasible, once religious faith is released from pressure by an absurd vision of the universe, and so there will open up instead a meaningful world which could resound to religion."[89]

This emerging Polanyian panorama seems distantly reminiscent of the philosophy of the great chain of being. Still, it is scientific according to his epistemology. Polanyi believed it also comprehensive in its scope, capable of becoming the "kind of general views about the nature of things and the nature of knowledge that will not prevent our belief in the reality of those coherences that we do, in fact, see." Even in his mature years, Polanyi

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[87] *SFS*, 81.

[88] *M,* 179-182.

[89] *TD*, 52.

continued to believe that his epistemology would support the kind of thought and society that could allow us to "continue in the direction of richer and fuller meanings, i.e., to expand limitlessly the firmament of values under which we dwell and which alone makes the brief span of our mortal existence truly meaningful for us through our pursuit of all those things that bear upon eternity."[90] Whether his epistemology and the ontology with which it is intertwined can, in any way, fulfill his lofty, early hopes of "reveal[ing] to us God *in* man and society,"[91] or expanding "natural knowing" progressively "into knowledge of the supernatural,"[92] or whether they can at least fulfill the hopes of the elder Polanyi by justifying a metaphysics of emergent meaning as the healing provision for our modern malaise, remains to be seen.

[90] *M,* 67, 216.

[91] *SFS*, 84 (emphasis added).

[92] *STSR*, 129.

CHAPTER THREE

THE PATHOGENESIS

> *I would never change the state of my calamitous fate for your servitude; Hear well, I would never change. Better it is to be the slave of this rock than to serve Father Zeus as a messenger-boy.*
> Aeschylus*, Prometheus Bound*

We closed our previous chapter with comments which suggest that Polanyi was filled from the start with broad 'visions' and hopes. In a sense–more human than philosophical–we may say that Polanyi was an inveterate idealist. He once spoke of being "often asked" the reason for giving up his work on chemistry for social and philosophical interests, and his answer is very telling: "A desire to go back to normal. We all started with being interested in the *whole world*; it's the *only genuine interest* we can have."[1] It is exactly because his hopes were broad and his interests lofty, nevertheless, that Polanyi felt compelled to investigate and explain what he understood as the "fateful" deontological crisis of modernity.[2]

His reflection revealed what he believed to be a 'pathogenesis.' Engaging Polanyi's analysis of that condition is important in establishing our argument for several reasons, some explicitly given in our introduction and some foreshadowed in chapter 2. At least two of these, however, must be reasserted at this point: First, Polanyi's analysis of the modern

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[1] Michael Polanyi, "Acceptance Speech–LeComte du Noüy Foundation Award," *The Christian Scholar*, 43 (March 1960), 58 (emphases added).

[2] *SFS*, 74: "This crisis has become most sharply manifest as a menace to all intellectual freedom based on the acceptance of *a universal obligation to the truth*" (emphasis mine)

crisis, which turns out to be also a critique of modern thought in general, is not only the incidental motivator of his epistemological reflection, but in a special way its tacit *fons et origo*.[3] Second, and most important, it affords us an initial insight into what we contend is at the heart of Polanyi's thought: (1) His presupposition that a transcendent frame of reference is necessary for moral and intellectual life, as we will see that his particular characterization of the modern crisis as deontological suggests, and (2) his deeper presupposition that the necessary transcendence of moral and intellectual ideals must, and somehow can, be reestablished on a basis that is akin to that of Christian transcendence, but that can be reached and upheld from the immanent.[4]

We will examine this critical aspect of Polanyi's thought and build our argument through four main steps: We will first *describe* Polanyi's own identification and diagnosis of the modern crisis. Next, we will *explore* some presuppositional features of his diagnosis, and follow with an *analysis* of three key aspects of what we see as Polanyi's reliance on the transcendence of the Christian framework in his ideogenesis of the modern pathology. Finally, we will briefly *discuss* how Polanyi's prognosis stands in relation to the Christian presuppositions we contend he has borrowed and their underlying framework.

Polanyi and the Diagnosis of the Modern Crisis

Polanyi was often assailed by a sense of the awesome dissonance between the history of the twentieth century and the liberal hopes which preceded it. As late as 1970 he

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[3] See my argument about Polanyi as a physician-philosopher in chapter 1.

[4] Michael Polanyi, "Acceptance of Religion," unpublished lecture TMs. 1969, The Papers of Polanyi, Department of Special Collection, University of Chicago Library, box 40, folder 1.

would still hark back to his awakening to the contrast:

> My remembrance of these September days 60 years ago, when I entered the University of Budapest, shows an almost forgotten past of peace, of bold intellectual and artistic enterprise and of continuous progress towards liberal ideals. And then, after a mere six years of this life full of confidence in the future, I see years of destruction and fear, extending up to this day through the major parts of Europe.[5]

A few years later Polanyi would still characterize the transition into the twentieth century in terms of that disparity: "We entered the twentieth century as on an age of infinite promise," and "few people realized we were walking into a minefield."[6]

There have been a number of prophetic voices decrying the modern crises throughout this century. From the arts to science, politics and religion, the fallout from the undoing of liberal ideals has been a constant backdrop for analysis and attempted reconstruction. Intellectuals often tended to interpret the crises piecemeal, seeking contingent and material reasons for each particular crisis moment and usually concentrating on aspects addressed by their particular disciplines. Others inclined to see it as the dying convulsions of outdated ideological conceptions of the world as it entered postmodernity.[7]

Polanyi was conscious of many such interpretations.[8] Still, he believed that human beings were moved mostly by the ideals they held, so he looked at the modern crisis as primarily a crisis of beliefs, ideas and ideals. In fact, he believed that one was always a servant of one's ideals, unless one disavowed those ideals, in which case one was bound to

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[5] *SEP*, 107.

[6] *M,* 9.

[7] Cf. Jean-François Lyotard, "Réponse à la question: qu'est-ce que le posmoderne?" *Critique, 419* (Avril, 1982); *La Condition Posmoderne: rapport sur le savoir* (Paris: Les Editions de Minuit, 1979); Michel Foucault, *L'Archéologie du Savoir* (Paris: Éditions Gallimard, 1971); or Jürgen Habermas, *Legitimation Crisis* (Boston: Beacon Press, 1975).

[8] Cf. *M,* 4-5; *STSR*, 35, 43ff.; *SEP* 80, 108ff; *KB*, 21-22.

become a slave of lesser substitutes–a dynamic portrayed by Prometheus' statement in our opening epigraph. Polanyi was, therefore, not only disturbed by the dissonance between liberal ideals that seemed to have poised the world for the incredible achievements of the 20th century and the crises, horrors and inconsistencies that permeated it, but he also sensed that the contradictions, as well as the crises, could not but be the outworking of elements present in those very ideals, an abolition of man–to use C. S. Lewis's expression which Polanyi approvingly cites–of man's own doing.[9]

This was the "pathology" which he felt called to diagnose and perhaps treat.[10] We may approach his diagnosis through looking first at its general facies, then at what Polanyi believed gave it its currency and cachet, and finally at how Polanyi believed it achieved its cogency.

A Schizophrenic World-View

Polanyi sensed first of all that the modern mind was largely dominated by a schizophrenic world-view: On the one hand there was an almost complete triumph of a reductionist and deterministic scientific outlook,[11] whose supposed "morally neutral account of all human affairs" had effectively debunked, at least at the level of intellectual validity, "all moral professions as mere deceptions–or at best as self-deceptions." Yet, this had not resulted in the cessation of moral forces. On the contrary, it had been coupled with a concept

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[9] *M,* 28.

[10] *KB*, 18.

[11] Polanyi's notion of a *scientific outlook* refers to a scientificist world view. As Polanyi says, "The main influence of science on modern man has not been, as is often supposed, through the advancement of technology; it has come, rather, through the imaginative effects of science on our world view…." *M,* 104.

of autonomous freedom that transformed self-suspicion and the implementation of the objectivistic ideal of knowledge inherent in the scientific outlook into "destructive forms of moral expression": The coming of age of a naturalistic view of man colluded with moral forces that, disallowed within such a world view, manifested themselves in distorted forms.[12]

So, for example, when Oswald Spengler acclaims Hitler by saying, "Man is a beast of prey…; would be moralists…are only beasts of prey with their teeth broken… ; remember the larger beasts of prey are noble creatures…and without the hypocrisy of human morals due to weakness," or when "Simone de Beauvoir hails the glorification of crime and lust by the Marquis de Sade as great moral pronouncements and then identifies these teachings of crime and lust with the exposure of bourgeois ideologies by historical materialism," what Polanyi sees is a pathology,[13]

> …in which skepticism drives men's moral sentiments underground, whence they emerge, combined with sadism, as a creed of salvation by violence. Fascism thus converted patriotism into a cult of brutality, even as Marx converted utopianism into a science. Our age is racked by the fanaticism of unbelievers.[14]

This very notion of the "fanaticism of unbelievers" suggests a contradiction, complicated, as Polanyi reminds us, by the fact that the naturalistic view of man had not really destroyed the forces of man's moral passions. Indeed, the great advances of the scientific outlook had been spurred, as well as accompanied, by remarkable moral advances. Modernity seemed to have produced not only technological and intellectual benefices, but

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[12] *M*, 23. Cf. *SEP*, 107, 115.

[13] *Ibid*., 28. Cf. Simone de Beauvoir, *The Marquis de Sade* (NY Grove Press, 1953), 55: "Owing to his headstrong sincerity… [Sade] deserves to be hailed as a great moralist."

[14] *Ibid*. Polanyi suggests a number of other illustrations of this antinomian moralism, for other pertinent examples see *KB*, 10, 17-18;

also to have significantly improved the faring of humanity in many ways.[15]

Polanyi also insists that it would be, therefore, a mistake to identify the schizophrenia as *the mere result* of a gap between the two cultures of science and humanism, as C. P. Snow had suggested. Rather, the gap would have to be considered as a pathological result of a tightening dialectic between a scientific outlook that could not sanction moral claims, and moral passions that could never be truly discarded.[16] In short, while the scientific outlook progressively assumed the role of "uncontested intellectual authority,"[17] moral passions, in a process that is precisely the opposite of Freudian sublimation, reasserted themselves either in "scientifically branded wrapping," or at the service of the very scientific outlook that denied them their intrinsic validity.[18]

Naming the Pathology: Moral Inversion

As Polanyi sought to grasp "a condition in which high moral purpose operates only as the hidden force of an openly declared inhumanity," or where "the strength of immanent morality is proved by the violence of manifest immorality,"[19] he searched for a name, or proper terms, that would accurately describe it. The reasons why he eventually settled on the name "moral inversion" may help us understand what, he believed, was the basis of the currency of such condition:[20] One of the occasions for Polanyi's thorough and formal

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[15] Cf. *KB,* 3.

[16] See Michael Polanyi, "The Two Cultures," *Encounter* 13 (March 1959), 61-64.

[17] *KB*, 46.

[18] *PK*, 234.

[19] *KB*, 16, 17.

[20] The concept of "moral inversion" was already present in some of Polanyi's earliest writings on philosophy and sociology. The term itself first appeared in "The Logic of Liberty: Perils of Inconsistency," *Measure*, I (Autumn 1950), 348-362.

development of his concept of moral inversion was in his *Eddington Lectures* (1960). At the very start of the lectures, as he reflected on its statutes, which showed "that the founders were preoccupied with the tardiness of moral improvement as compared to the swift advances of science," he realized that what they had mistaken for moral retardation was in fact the fruit of moral excesses. "The past two centuries," he argued, "have not been an age of moral weakness; but have, on the contrary, seen the outbreak of moral fervour" which "outreached itself by its inordinate aspirations and thus heaped on mankind the disasters that have befallen us."[21]

The problem, as he saw it, was that in the course of the development of modern thought (or, as we might say, in the coming of ultra-modernity), this moral fervor that once had a home–a framework that justified it and established limits for it–became displaced. It was, however, never effaced:

> The traditional forms for holding moral ideals had been shattered and… moral passions diverted into the only channels which a strictly mechanistic conception of man and society left open to them. We may describe this as a process of *moral inversion*. [For] The morally inverted person has not merely performed a philosophic substitution of material purposes for moral aims; he is acting with the whole force of his homeless moral passions within a purely materialistic framework of purposes.[22]

It is only such a notion as moral inversion, thought Polanyi, that could account for a state of affairs where the scientific outlook, by producing unprecedented material and technological advances as well as intellectual prowess and lucidity, became a Procrustean bed for the moral passions that, despite having first survived as secular humanistic ideals side by side with scientific skepticism, became progressively disavowed as independent

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[21] Michael Polanyi, *Beyond Nihilism* (Cambridge: Cambridge University Press, 1960), 1.

[22] *M,* 18.

forces under the aegis of evermore consistent manifestation of the modern scientificist world view.[23] Still, how could the concept account for the cogency that such an inverted and contradictory dynamic seemed to achieve?

The Magic of Dynamo-Object Coupling

Though Polanyi believed he was identifying a comprehensive process with manifold manifestations, he also understood that only by looking at particular and concrete instances of the process could we come to understand it. In his article *The Magic of Marxism* Polanyi analyzes Marxism as a powerful ectype of moral inversion. He locates Marxism's cogency in how it "enables the modern mind, tortured by moral self-doubt, to indulge its moral passions in terms which also satisfy its passion for ruthless objectivity."[24]

It was from the work of Levy Brühl that Polanyi took his cue about how this process actually became established. Brühl had identified, by the concept of "participation," a primitive type of mental operation through which an active principle is *given* an immanent connection with a manifest event, with "the relation between the immanent and the manifest being the same as between a purpose and its fulfillment, except that the connection is here either supernatural or otherwise left undefined." So, for example, a lion tears a villager to pieces, and a neighbor's envy is made to "participate" in that event, or "plagues and fatalities are…endowed with the evil intentions of someone who sent them." The same type of mental operation, Polanyi argues, is involved in Hegelian historicism, when it replaces God by an immanent "historical necessity," which is "credited with the easier (even if more inscrutable)

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[23] For a paradigmatic illustration of moral inversion see, *STSR*, 145.

[24] *PK,* 228. First published as "The Magic of Marxism," *Bulletin of the Atomic Scientists*, XII (June 1956), 211-215, 232, the text was later included in *PK*, 226-248.

role of achieving what is historically fitting."[25]

Marxism in its derivation from historicism, adds two important variations to the type of mental operation described above: (1) All the moral demands which had hitherto been seen as moral ideals (i.e., truth, justice, brotherhood, etc.), and logically should be discredited by the moral skepticism inherent in the scientific outlook, are integrated into a hidden active principle, while, simultaneously, "a strictly 'scientific' verdict is invoked to identify the events which are to realize and fulfill these demands." (2) But this mechanism is "amplified by working in two opposite and yet mutually correlated directions. In a class society it is material interests which are regarded as immanent in moral aspirations: while in a socialist state the opposite holds: morality is immanent in the material interests of the proletariat."[26]

This second added element gives Marxism the ability to branch in a positive and a negative direction at the same time: Its identification of morality as the sublimation of bourgeois class interest gives it a critical edge, while its transformation of its own moral passions into scientific affirmation at once disguises those moral sentiments and also "impregnates material ends with the fervour of moral passions." Polanyi continues:

> One can now see that both branches of Marxism operate by denying to morality any intrinsic force of its own and that they yet both appeal in this very act to moral passions. In the first case we are presented with an analysis of bourgeois ideals in terms of immanent bourgeois interest, and because the hidden motivation of this analysis is a condemnation of capitalism, the analysis turns into an *unmasking* of bourgeois hypocrisy. Since this analysis of moral claims in terms of material interests applies quite generally, it might be thought to discredit also the moral motives of those who do the unmasking. But these motives are safe against unmasking, since they remain undeclared. Indeed, acting through the unmasking of bourgeois ideologies,

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[25] *Ibid*., 228-229.

[26] *Ibid*., 229.

> they arouse powerful moral passions in others–without ever pronouncing any moral judgment. Their propagandistic effect is achieved precisely by enunciating the unmasking in purely scientific terms, which are thus immune against suspicion of a moralizing purpose.[27]

This "magic"involves a "*self-confirmatory reverberation* between the *theory* of bourgeois ideologies and the concealed *motives* which underlie it," and it reveals a more universal process through which, in many variations, other ideologies and modern systems (political or otherwise) also achieve their cogency.[28] This process, Polanyi called a dynamo-objective coupling, where "alleged scientific assertions, which are accepted as such because they satisfy moral passions, will excite these passions further, and thus lend increased convincing power" to those very scientific affirmations. Criticism of its "scientific" nature is handled by its underlying moral passions, while moral attacks are fended off by its claim to scientific certainty. "Each of the two components, the dynamic and the objective, take it in turn to draw attention away from the other when it is under attack."[29]

Most of our work in dealing with Polanyi's diagnosis has been thus far of a more descriptive nature. Yet, having provided a picture of what Polanyi believed was involved in the modern crisis, we must now proceed to our second, more exploratory step, where we will seek to grasp some presuppositional elements of Polanyi's pathogenesis of the modern condition.

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[27] *Ibid*., 230 (Polanyi's emphasis).

[28] *Ibid*. (Polanyi's emphases). For a few other examples or ectypes suggested by Polanyi see also *PK*, 142 and 233. A particularly current example that seems to be explainable within this framework is the recent "psychologization" of our culture. Cf., Robert Coles, *Harvard Diary* (New York: Crossroads, 1989), 92ff.; Phillip Rieff, *The Feeling Intellect* (Chicago: University of Chicago Press, 1990); Richard Keyes, "The Idol Factory," in Os Guinness and John Seel, *No God But God* (Chicago: Moody Press, 1992), 29-48.

[29] *PK*, 230.

Polanyi's Deontological Presuppositions

We have suggested that Polanyi was a moral idealist, Prosch has actually insisted he was an "incurable moralist."[30] His concept of moral inversion presupposed the existence of two elements: Moral passions of a pervasive and universal character and intellectual pressures that forced these passions into hiding. The actual tracing of what Polanyi saw as the sources of these elements will be examined later, while arguing our case for Polanyi's tacit reliance on presuppositions of Christian transcendence. Still, for now, we must concentrate on exploring the deeper unifying presuppositions that allow Polanyi to make his case for moral inversion, and they involve the fact that his whole argument hinges on some kind of presupposed deontological universality and transcendence,[31] and at the same time his insistence that morality and deontology in general should not be characterized as simply an epiphenomenon of religion.[32]

We will do so in an indirect way, by taking as fulcra two basic criticisms levied against Polanyi's analysis, not by his critics, but by writers who generally saw themselves laboring in his camp: The first issue revolves around a charge of "ethnocentric absolutism," and the second around his supposed neglect of contingent factors in the upheavals of the twentieth century. By responding to these criticisms, and, in a sense, vindicating Polanyi's position in face of that criticism, we will, simultaneously, provide a critical bridge between our description of Polanyi's diagnosis and the analysis and discussion through which we will

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[30] Harry Prosch, *Michael Polanyi: A Critical Exposition* (Albany: S. U. N. Y. Press, 1986), 197.

[31] *SFS*, 79-80: "A society refusing to be dedicated to transcendent ideals chooses to be subjected to servitude." See also *LL*, 134: "many who recognize the transcendent obligations…"

[32] Cf. Prosch, *Michael Polanyi*, 196-197.

go on to stake our claim that Polanyi's *critical cogency* relies on elements of the Christian framework.

In an essay called *'Moral Inversion'–Or Moral Revaluation?*, Zdislaw Nadjer argues that Polanyi's analysis suffered from "ethnocentric absolutism," and that this attitude makes him into a moral "reformist."[33] Nadjer's argument boils down to the following specifics: First, Polanyi labors in a moral "antirelativism" mode by assuming the universality of a moral sense,[34] which Nadjer believes is a sort of idealistic cachet that "has to be upheld on some other grounds," and ultimately can only make sense "if we accept the existence of God and supernatural forces."[35] Nadjer goes on to admit that the grounds upon which Polanyi upholds a deontological universality are latent in his work. They consist, he says, in the metaphysical foundations that Polanyi repeatedly alluded to. Yet, argues Nadjer, Polanyi never duly justified or explained these in relation to their religious or philosophic identity.[36]

Second, Nadjer charges that by presupposing a universal moral standard which is dependent on a personal commitment and on a free society, but is also the standard of a free society (i.e., a free society is a moral society), Polanyi "involves us in a vicious circle," for

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[33] Zdzislaw Nadjer, "'Moral Inversion'–Or Moral Revaluation?" Thomas A. Langford and William H. Poteat, edts., *Intellect and Hope: Essays in the Thought of Michael Polanyi* (Durham, NC: Duke University Press, 1968), 374.

[34] A significant observation is that, despite obvious differences, there exists a certain parallel between the function of Polanyi's notion of a moral sense, or energy, that is universally present in man, and that drives him, whether negatively or positively, and the function in Reformed theology of what John Calvin referred to as *Divinitatis sensum*. Cf. John Calvin, *Institutes of the Christian Religion*, 1: 3. 1.

[35] Nadjer, "'Moral Inversion'–Or Moral Revaluation?" 370.

[36] *Ibid*., 371: Nadjer finds further support in Polanyi's assertion that one was always "finally committed from the start" through one's "accepting uncritically a large number of traditional premises of a particular kind." Cf. *SFS*, 83.

the moral standard becomes the standard of its own universality. This he deems a "conceptual knot," which supposedly causes Polanyi to project what Polanyi believes to be a universal moral sense, as well as an intellectual framework that processes ideals from this moral sense, into a global panorama which, Nadjer argues, might not be motivated at all by this particularly "Christian" moral sense.[37] Nadjer finally proposes that the "conceptual knot" must be disentangled through relativism, by distinguishing between the "language of a given moral system" and a "metalanguage of moral philosophy," which is supposed to be descriptive and not prescriptive. This would change Polanyi's notion of a single universal moral sense as analytical referent, to the idea that the modern crises have to be seen as mere shifts "from one system to another," therefore "moral revaluations."[38]

The tenor of Nadjer's criticism can be illustrated by the following question: When Polanyi says that, "Since no society can live up to Christian precepts, any society professing Christian precepts must be afflicted by internal contradiction," and then continues to look at the crises of modernity as a whole in terms correlative with such contradictions, does he not betray his assumption that "Christian precepts" are somehow the standards by which every society should, and indeed longs to, be judged?[39]

The second issue is correlated to the first one, and it involves a charge by Nadjer, and in a much attenuated way by Harry Prosch, that Polanyi was biased (perhaps by his "ethnocentric absolutism"?) so as to neglect "non-ideational factors" involved in the crises

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[37] *Ibid*., 371.

[38] *Ibid*., 371-373.

[39] *Ibid*. Cf. *KB*, 5.

of modernity.[40] Prosch himself partly furnishes a counter critique when he admits that "Polanyi was not trying to write a history of the time." Still, in a deeper sense, the issues involved in this criticism and the ones involved in the previous one, coalesce as a general charge that Polanyi's diagnosis was first of all biased by the very beliefs that it would eventually offer up as a cure, and second, it inevitably led to a disregard of factors that might have contributed to the condition but cannot be neatly made to fit the pathology suggested by the diagnosis. Such criticism, it seems, misses the point in quite a radical way, but it also allows us to see a very important presupposition for the whole of Polanyi's thought.

Nadjer is right in pointing out that Polanyi's historical bias flows from a metaphysically born moral antirelativism, and maybe even in suggesting that Polanyi has been somewhat noncommittal (quite ironic given Polanyi's insistence on the ubiquitous role of commitment) about the genus of his presupposition. However, he is wrong first in assuming that simply identifying Polanyi's presupposed universality of a moral sense as being metaphysically born necessarily impugns it. Second, his inference that Polanyi's circularity creates a "conceptual knot" that impedes or diminishes the validity of his historical analysis and of his moral antirelativism is insufficient, at least as it stands. Yet, it seems that perhaps Nadjer has touched upon something quite basic to our critique of Polanyi. Let us first respond to Nadjer.

Polanyi readily admitted the circularity of any interpretative framework.[41]

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[40] See Prosch, *Michael Polanyi*, 278, and especially Nadjer, "'Moral Inversion'–Or Moral Revaluation," 378, where he basically argues that Polanyi's "ethnocentric absolutism" generated an inevitable neglect of social, economic and socio-historical factors.

[41] See, for example, *PK*, 289: "The circularity of the theory of the universe embodied in any particular language is manifested in an elementary fashion by the existence of a dictionary of the language…"

Therefore, he would have no problem agreeing that his starting point was the very kind of universal moral standard that his analysis, and his thought overall, wished to endorse. If Nadjer presupposes moral relativism, he will, of course, characterize Polanyi as a "reformist." He will then go on to deconstruct Polanyi's analysis as some kind of nostalgia for moral and intellectual ideals he 'mistakenly' thought to be universal[42]–that would actually make Polanyi a revisionist, something which, we will later see, he severely criticized.

The fact that Polanyi presupposed a universal moral sense and a universal human longing for transcendent ideals such as truth, justice, beauty and other things that "bear upon eternity"[43] cannot be simply dismissed as a culturally contingent attitude. He believed that these ideals were *sine qua non* for all intellectual and social life, and it is precarious, to say the least, to charge that this necessarily means a backhanded return to those ideals as previously formulated by one single culture. Even his supposedly idyllic portrayal of liberal life at the end of the nineteenth century should be seen as merely a celebration of the fact that the universal ideals that his metaphysics presupposed had, for a time, managed to flourish even where they had been mistakenly understood. It is only by accepting the transcendental thrust of Polanyi's analysis, by recognizing that its transcendental frame of reference is exactly the belief that the ills of the human soul are moral and intellectual, that one can effectively engage his analysis.[44]

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[42] Cf. Nadjer, "'Moral Inversion'–Or Moral revaluation," 379.

[43] *M,* 216.

[44] See, for example, *PK*, 234, where Polanyi characterizes "moral forces as primary motives of man;" or *M,* 66: "Man lives in the meanings he is able to discern. He extends himself into that which he finds coherent and is at home there," and 180: "We are addresses by nature to the attainment of meaning;" or even *SEP*, 86: "But do ideas actually make history? …Ideas certainly provide the shape, or at least the

Of course, one can criticize and disavow Polanyi's point of transcendence. He is then left, however, with the double task of showing why it is insufficient and providing, explicitly or tacitly, a better one. Yet simply to dismiss it because it does depend upon a metaphysical frame of reference or because it fails to incorporate in its central thrust particulars that are only incidental to its inherent framework seems at best shallow, and at worse dishonest–it is to set up a false confrontation between two positions which simply bypass each other. This is as far as we need to take the defense of Polanyi's position.

It is important, however, and as we have just suggested also quite fitting, to inquire as to the adequacy of Polanyi's assumption that deontology could provide, in and of itself, a sufficiently transcendent point of reference. In characterizing Polanyi's moralism, Prosch appropriately suggested that while Polanyi did argue that the transcendent framework of the Christian faith provided the "fullest integration" of the incompatibilities involved in the demands of the universal moral sense vis-a-vis the moral and intellectual limitations of our actual existence, and even the antidote for destructive moral perfectionism, "he did not believe religion was the source of all our moral duties nor of all the other duties entailed by the noospheric firmament of obligations," which for Polanyi had to be understood as humanly self-set.[45] This idea of "noospheric obligations" is a later development in Polanyi, which we will discuss in chapter 5 as part of his attempt to argue for a framework in which the transcendent may be reached from the immanent–actually his attempt to solve some of the problems we are presently raising in this chapter. For now, however, we may leave aside the fuller question of how Polanyi accounts for 'noospheric obligations,' and simply

possible shapes, of historic transformations."

[45] Prosch, *Michael Polanyi*, 197.

concentrate in raising what we see as the *problem* with his presuppositions.

If Prosch's observation is correct, and we contend that at least in terms of Polanyi's avowed intentions it is, then we should expect that Polanyi's attempt to trace the pathogenesis of modernity would keep the supposed heuristic strength of the framework of Christian transcendence separate from the universal moral sense. That would be consistent with his latent desire to uphold what Prosch called the 'noospheric duties of man' as an immanently rooted deontology. If this were the case, it would also follow that Polanyi would have in fact taken a contingent ideal of deontology and made it universal. It would also mean that Nadjer's contention of vicious circularity would actually proceed: deontology is the basis of a free society and deontology is the product of a free society.

This, we believe, is not exactly what happened. Our analysis of his ideogenesis of our deontological crisis will have as its backdrop the contention that Polanyi *de facto* ends up simply borrowing from the Christian framework his whole notion of a universal moral sense, except that he purges it from the Christian distinction between the Creator and the creature, from the concept of sin and from any connection with revelation. In this way, he establishes the needed deontological universality and avoids vicious circularity by tacitly relying on Christian transcendence (the *coram deo* mode), while also avoiding the full implications of the Christian framework by assuming that morality can be accounted for without religion, as immanent in the emerging noosphere (the *coram omnibus* motif).[46]

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[46] Admittedly, this means that my account of Polanyi's pathogenesis will be a biased reading, which intentionally seeks to show not the affinity of Polanyi's critique of modern thought with a Christian critique of autonomous thought but rather its reliance upon the same kind of transcendent frame of reference which the latter would demand, despite his claim that deontology, and indeed even the Christian religion itself, are the result of the emergence of the noosphere. Cf. Polanyi, "Science and Faith," *Question*, 5 (Winter 1952), 45; *PK*, 109, 404. On Polanyi and the question of the possibility of revelation see Prosch, Michael Polanyi, 255f.; and on how Polanyi would characterize the ideal of sin see, for example, *PK*, 324,

Of course, the fact that Polanyi's thought flows from the identification of knowledge as having an intrinsic moral dimension, and that therefore he begins his critique of thought from its moral implications, brings him close to the heart of similar contentions which must be upheld from a Christian theological standpoint.[47] This, as we have already suggested, we take as the major source of the cogency of Polanyi's critique of modern thought. However, it should also become increasingly clear that his tacit reliance on Christian transcendence as the source of deontological universality will eventually have to be reconciled with his insistence that deontology must be accounted for as a high achievement from the immanent, which will necessarily purge the Christian idea of human responsibility from key concepts that are integral to the framework within which it achieves its rather special cachet. This, we believe, will eventually leave Polanyi with the chimerical task of justifying deontological transcendence through some kind of 'secular' natural theology.[48]

Let us then move from our discussion of Polanyi's deontological presuppositions and undertake to test our suggestions by analyzing how Polanyi effectively traces the dynamics necessary to bring about moral inversion. We will start with a summary overview of his ideogenesis, and then proceed to investigate what we believe are three aspects of

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387, 389. See also Terence Kennedy, *The Morality of Knowledge* (Rome: Pontifica Universitas Lateranensis, 1979), 138-194.

[47] Curiously, it is in his critique of modern thought, through a critique of Enlightenment ideals and even further back, that Polanyi comes closest to the transcendental critiques put forth by such writers as Herman Dooyeweerd, Cornelius Van Til, and even by Francis Schaeffer. I will touch on aspects of this affinity throughout this chapter, though its true meaning will be further established later on, when I begin to formally articulate what I have called the "limits of Polanyi's epistemology."

[48] For a discussion of Polanyi and natural theology, which I believe, despite opposite goals, supports my basic point, see R. T. Allen, *Transcendence and Immanence*, 51-64. As an illustration of central concepts without which Christian transcendence loses its special cachet see the discussion of sin in Reinhold Niebuhr, *The Nature and Destiny of Man* (New York: Scribner's, 1941), 263f.

Polanyi's tacit "borrowing" from Christian transcendence.

Three Key Aspects of Borrowing in Polanyi's Ideogenesis

As we have already said, to justify the two dynamic elements necessary for a process/state of moral inversion, Polanyi had to trace the roots and development of transcendent moral passions that had become so universally established as to be impossible to eradicate, and at the same time the roots and development of an intellectual outlook that caused such passions to become "homeless."[49] He did so in many of his writings, and quite extensively. In fact, a large portion of his nonscientific literature consists in different formulations and applications of what amounted to his critique of modern thought as the interplay of scientific rationalism and Christian moral passions.[50] We may avoid a needlessly extensive account of the intellectual history he developed by trying to summarize the gist of his argument.

Moral passions had their root in Judeo-Christianity, making their first recorded appearance in "the sermons of the Hebrew prophets,"[51] but arising more definitely with the Christian message and the demands of the Kingdom, which spurred moral passions and the relentless pursuit of truth and righteousness, and couched them in the transcendent message of the Gospel, thus giving such passions a universal character.[52] This Christian framework and its moral passions arrived in a period where Greek rationalism was occupied in using

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[49] *M,* 18.

[50] Polanyi's own developments of this material can be seen, for example, in: *Ibid*., 3-21; *LL*, 115-135; *SFS*, 78ff.; *PK*, 7-9, 231-235 and *passim*; *SEP*, 79-115; *STSR*, 34-42, 116-149; *TD*, 57-60.

[51] *KB*, 4.

[52] *M,* 20-21.

reason "for eroding and replacing traditional beliefs," and a conflict was inevitable.[53] St. Augustine, however, had brought to a close not only the conflict, but also, in a sense, "the history of Greek philosophy," by subordinating reason to faith through a synthesis that lasted generally through the end of the Middle Ages.[54]

By the 16th and 17th centuries, after a significant change in the understanding of the relation between faith and reason, and after the progressive weakening of the Church's authority,[55] the currents of Greek rationalism and empiricism reasserted themselves in the rise of science by reestablishing an antiauthoritarian ideal of freedom and an objectivistic ideal of knowledge.[56] The antiauthoritarianism and objectivism of modern science became a driving force of secularization, displacing Christian moral passions from their religious setting, and transforming them into the secular progressive ideals of the Enlightenment. These ideals tacitly relied upon the dynamism of Christian moral passions, but ostensibly were supposed to be strictly grounded in 'reason.'[57] Such Christian moral passions in secular garb propelled the modern mind toward unprecedented scientific and human progress,[58] but the continuous outworking of the antiauthoritarian and objectivistic intellectual ideals eventually manifested the fact that the universal standards of reason and behavior presupposed by Enlightenment rationalism were themselves exposed to the same skepticism and doubt through which modern science and rationalism had emancipated themselves from

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[53] *SEP*, 330.

[54] *PK*, 266.

[55] *SEP*, 330-331; *SFS*, 74.

[56] *M,* 7; *KB*, 5.

[57] *SFS*, 75-76.

[58] *STSR*, 132-133. Cf. Michael Polanyi, "Science and Man," *Proceeding of the Royal Society of Medicine*, 63 (Sep. 1970), 969-970.

religious authority.[59]

It was toward the 19th and 20th centuries, just as human moral and intellectual progress appeared to reach its peak, that several developments carried the proto-nihilistic implications of the views generated by modern science and philosophy to their logical consequences. At this point, when the humanistic ideals that had given expression to the Christian moral passions became intellectually disavowed, and nihilism began to be seriously contemplated, the forces of moral passions reasserted themselves in and through the very philosophies which had made them homeless, and hence, in inverted ways.[60] Polanyi's own summary conclusion is as follows:

> Modern thought is a mixture of Christian beliefs and Greek doubts. Christian beliefs and Greek doubts are logically incompatible; and if the conflict between the two has kept Western thought alive and creative beyond precedent, it has also made it unstable.[61]

As Polanyi developed these ideas more extensively, he felt compelled to elaborate on a series of historical explanations and distinctions concerning: (1) The relationship between Greek thought and Christianity, (2) the nature of the Medieval synthesis, (3) some different aspects of the relationship between the empiricist and rationalist lines and their collusion in what he thought was the establishment of the modern false ideals of knowledge and freedom, and (4) a distinction between how the final phase toward nihilism and beyond developed differently in the Continental and Anglo American contexts.[62] Instead of

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[59] *LL*, 123.

[60] *STSR*, 39-40. Cf. *M,* 15-17.

[61] *M*, 20-21.

[62] For Polanyi's own development of these points, see: *SEP* 329-341; *PK*, 266, 269-272; *STSR*, 37, 116-118; *TD*, 61-62; *M,* 7-18; *KB*, 5, 11-12; *SFS,* 74-77

describing Polanyi's own development of these elements, however, our purpose will be better served by looking at some of them indirectly, as we seek to argue how they reveal at least three important aspects in which Polanyi has borrowed his deontological universality and point of transcendence from the Christian framework while at the same time evidencing his growing dissatisfaction with a traditional understanding of that framework.[63]

The Genetic Aspect: "The Legacy of Christ"

Polanyi often spoke of "the legacy of Christ" as something that our civilization "carries in its blood," and that prevents us from simply acquiescing to the fact that our critical powers fail to establish a final meaning for existence and so settling "down in the Stoic manner of antiquity."[64] It is a mute point that Polanyi sees Christianity as the source of the energy (i.e., moral passions) which he believes has propelled modern civilization, as he clearly states:

> The past four or five centuries… have enriched us mentally and morally to an extent unrivaled by any period of similar duration. But its incandescence had fed on the combustion of the Christian heritage in the oxygen of Greek rationalism, and when this fuel was exhausted the critical framework itself burned away.[65]

However, the critical issue is whether Polanyi simply sees Christianity as the contingent source from which moral passions of a universal nature emerged, which would cohere with his eventual claim that the Christian framework itself, and its inherent moral

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[63] See my opening discussion in this chapter, as well as the discussions of Polanyi's deontological presuppositions.

[64] *KB*, 6; *M,* 20.

[65] *PK*, 265-266.

passions, could be seen as a high achievement within the immanent,[66] or whether he effectively relies on the transcendence of the Christian faith as the source of the universality of moral passions and normative deontology. We may seek to establish what we have termed the genetic aspect of Polanyi's reliance on Christian transcendence by trying to answer *from* Polanyi's material three basic questions. The answers, we believe, will provide progressive warrant for our claim that the transcendent nature of the Christian message itself functions tacitly as the *Arche* for Polanyi's presupposition about the transcendence of moral passions.

The first question is as follows: *What kind of deontology does Polanyi recognize prior to, or apart from, the universality of Christian moral passions?* Polanyi argues that in Greek thought, as well as in China and India, the "great spiritual elevation of the fifth century B.C." had established "a picture of moral man achieving serenity by curbing his passions," and this passive view of morality was the only kind of deontology congruent with the main lines of Greek rationalism. In fact, he believed that the influence of the "idea that morality consists [simply] in imposing on ourselves the curb of moral commands" remained current in much of today's formal discussion on ethics and morals, causing a certain blindness to the crucial role of actual moral passions.[67] The backdrop of his argument is Polanyi's belief that Greek thought, in emancipating "the human mind from a mythological and magical interpretation of the universe" had been unable to achieve more than a *passive*

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[66] Cf. *M*, 213. I have alluded to this idea and provided, so far, just enough explanation as is necessary for the purposes of the present chapter. I will provide a fuller exploration of this idea and what I believe lies behind it in chapter 5.

[67] *KB*, 4. Polanyi acknowledges that Greek thinkers did discuss "to what extent moral happiness might be flavored by a calm enjoyment of the senses," and in this sense, did envision a certain aspect of positive passion involved in deontology. But his basic idea, about the lack of a basis for a positive deontology in Greek thought, is supported by other authors. See, for example, W. T. Jones, *The Classical Mind*, vol. I of "A History of Western Philosophy" (Fort Worth: Harcourt Brace Jovanovich College Publishers, 1969), 352-353.

deontology incapable of supporting not only significant moral progress, but even constructive intellectual advance.[68]

This leads us to our second question: *What is the substantial difference between the passive deontology outside of Christian Moral passions and the latter?* We may pursue this question in a sort of roundabout way–though by no means uncertain–if we look at how Polanyi answers another question of his own: Greek thought relied greatly on freedom of speculation, and yet, it was itself inherently skeptical about positive deontological ideals, among which we would have to include the issue of freedom itself.[69] "Why did the contradiction between liberty and skepticism never plunge the ancient world into a totalitarian revolution like that of the twentieth century?" Polanyi suggests that there were some such crises, or at least one, during the reign of the Thirty Tyrants, with the philosophically engendered nihilism of "men like Charmides and Critias." He argues, however, that the crises of this period "were never so fierce and far-reaching" as the modern ones. The reason being that they lacked the element of moral passion, the dynamic drive, which Christianity provided by instilling the "ever-unquenched hunger and thirst after righteousness which our civilization carries in its blood."[70]

For Polanyi, Christianity "shattered the framework of Greek rationalism"[71] because

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[68] *M,* 6. Cf. *STSR*, 116-117, 129; *PK*, 181. Again, see Jones, *The Classical Mind*, 353: "The underlying value system of Scepticism supports the generalizations that have already been made about late classical culture–that this was a tired and discouraged society in which peace of mind, relief from the struggle, had replaced such positive goods as social progress and self-improvement. Now, peace of mind can conceivably be won by natural means–by science or, alternatively, by suspension of judgment."

[69] Cf. *LL*, 115.

[70] *M,* 20. For a discussion of a similar crisis in the Roman period, see Francis Schaeffer, *How Should We Then Live*, in vol. 5, "The Complete Works" (Wheaton: Crossway Books, 1993), 83-89.

[71] *STSR*, 129.

it substituted the latter's deontological passivity with "hopes and obligations far beyond the horizon of the here and now."[72] Yet, at the same time it couched the demands for moral and spiritual perfection in the good news of "Redemption and of the power and grace of God that is to be dispensed to us as needed." In the message of the Gospel, says Polanyi, the demands of service to the "perfect law" which we could never expect to fulfil were not a cause for despair, for they were framed by faith and hope, and these two had an object: "We dwell in the hope that we may, by the grace of God, be able, somewhere, somehow, to do that which we must, but which we can at this moment see no way to do–or else trust, if we should never receive that grace, that it is best that we do not do it." Such a message called man at once to relentless action in the pursuit of the Kingdom. Still, it also proclaimed the peace of being "humbled before God in the recognition of [his] utter dependence upon him for the ultimate victory through Christ."[73]

To speak of the message of the Gospel as the source of moral dynamism, however, already anticipates our third question: *Why does Polanyi believe these moral passions which "shattered the framework of Greek rationalism" had such a potential for universality as to become a permanent driving force in our civilization?* Part of the answer relates to the transcendent faith and hope which we mentioned above. However, Polanyi is in fact much clearer about what seems to be the ultimate source of transcendence in Christianity, the point of contact between the contingent and the eternal. While arguing how Greek thought had positively "extended the I-It relations into a philosophic interpretation of things," but had

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[72] *SEP*, 342.

[73] *M,* 157. I should note that the context of these statements about the Christian faith casts Redemption as having to do only with intrinsically human metaphysical limitations. Cf. *PK*, 280ff.

also lost its connection with the dynamism of I-Thou relations, Polanyi says:

> The Christian message exploded into the scene as an outrage to rationalism. It restored the I-Thou relation to the very center of everything. It proclaimed that a man put to death a few years before in a remote provincial capital was the Son of the Almighty God ruling the universe, and he, this man, had atoned by his death for the sins of mankind. It taught that it was the Christian's duty to believe in this epochal event and to be totally absorbed by its implications.[74]

It was this epochal event, Polanyi says, "whether historic or mythical," that gave Christianity a kind of transcendence that would forever challenge human complacency and fuel the hopes of humanity far beyond the limits of its natural existence. This is so because the transcendent character of Christian moral passions was due to the very fact that the Christian message provided a point of contact between the contingent and the transcendent.[75]

Of course, by mentioning Polanyi's addendum "whether historic or mythical" in reference to the 'epochal events' of the incarnation and death of Christ we have already signaled that there is more involved in his conception of the transcendence of Christianity. The seemingly positive light in which we have portrayed his answers to our three questions must then be complemented by recognizing the fact that his idea of moral passions as grounded in Christian transcendence is accompanied by many statements that disavow the need of presupposing the literal reality of the Christian framework.[76]

The *problem* that begins to emerge may be put as a question: Can Polanyi justifiably go on to argue somehow that these moral passions are part of an immanently

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[74] *STSR*, 117.

[75] Cf. *SEP*, 342.

[76] *Ibid*. Cf. *M,* 157. For example, his assertion that in Pauline Christianity faith and hope have an effective transcendent object, is followed by the statement "none of these beliefs make any literal sense;" his argument that the universality of Christian moral passions rests on the transcendent character of the God-man's death and victory, is couched in the affirmation that the "redemption" provided by Christ is actually "a vision of a man set free from" the "bondage" of finiteness in face of transcendent ideals.

grounded achievement when his whole argument for their *origin* and *universality* has hinged on the fact that they were rooted in Christian transcendence? Rather than attempting to answer this question, let us turn to what we believe is another way in which Polanyi has relied on elements of the Christian presuppositional framework.

The Transcendental Aspect: "The Only Adequate Conception"

In his essay on *Faith and Reason* (1961) Polanyi follows his discussion of how the message of the gospel challenged the framework of Greek rationalism by establishing a basis for a transcendent deontology with the claim that "the only adequate conception" for the true process of knowing is "the Pauline scheme of faith, works and grace," which roots the active aspect of knowledge in belief, and directs it toward a transcendentally oriented hope.[77] It is this idea of "the only adequate conception" that we wish to explore at this juncture. Yet, rather than dealing abstractly with its epistemological significance and meaning,[78] we will seek a more concrete approach, trying to show how it plays itself out in two key moments of Polanyi's account of the pathogenesis of the modern mind, viz., a moment when he believes "the only adequate conception" was upheld, and a moment when it was abandoned with disastrous consequences. Our backdrop is the suggestion that, correlated to Polanyi's assumption that deontology derives its transcendent character from Christian roots, this idea of the "only adequate conception" manifests a stronger sense in which Polanyi has relied

[77] *STSR*, 129-130. I will return to this connection in the next chapter, as Polanyi relates the Pauline scheme to scientific discovery, for now it suffices to state Polanyi's idea that all knowledge must spring from faith, involve an active element, and ultimately rely on 'grace.'

[78] A theoretical discussion of how Polanyi feels the efficacy of this scheme resides in its capacity to frame knowledge with the necessary *arche* and point of transcendence could be very fruitful. Cf. Marjorie Grene, "Tacit Knowing and the Pre-Reflective Cogito," 51-52. Grene's contrast of the "to-and-fro" of existentialism and Polanyi's "from-to" conception illustrates a theoretical discussion of this point, though from quite a different perspective. See also, *PK*, 315, 324.

upon a Christian presuppositional framework, a transcendental reliance, in the epistemological meaning of the word.

For Polanyi the high mark of epistemological development had hitherto been with St. Augustine. His epistemological reformation, Polanyi claims, "inaugurated for the first time a post-critical philosophy" when it turned philosophical speculation upside down by considering all knowledge as "a gift of grace, for which we must strive under the guidance of antecedent belief: *nisi credideritis, non intelligittis*."[79] By rooting the very idea of knowledge in antecedent faith of a transcendent character, argues Polanyi, Augustine had established the needed transcendental framework for dynamic moral and intellectual activism. With Augustine "reason was declared ancillary to faith, supporting it to the point where revelation took over, after which in its turn faith opened up new paths to reason," and the general impact of this synthesis, Polanyi believes, extended for at least "a thousand years."[80]

Quite clearly, the genius of the Augustinian synthesis was, for Polanyi, the fact that it effectively incorporated epistemology into the paradigm of faith, works, and grace. Through making his faith the antecedent of every epistemic activity, and upholding a faith that relied on transcendent hopes and on the expectation of being aided by God's grace, Augustine had displaced the abstract and passive view of Greek rationalism and established that knowledge could not be conceived of as neutral, as pure detached rationality, for at the very heart of knowledge lay an element–rooted in transcendental presuppositions–that was fiduciary, moral, and passionate. Moral passions were, therefore, not an incidental element

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[79] *PK*, 266. He cites St. Augustine, *De libero arbitrio*, I.4. (Isaiah 7:9, in the Vulgate).

[80] *SEP*, 330.

added to a rationalistic view of knowledge, but within the transcendent framework of faith, knowledge itself was directional and dynamic.[81]

That Polanyi considered the Augustinian concept of knowledge as a quintessential manifestation of "the only adequate conception" is especially pertinent because he openly professed his response to the deontological crisis of modernity would be exactly to follow the example of St. Augustine and "recognize belief once more as the source of all knowledge." This, he added, "is the condition for having any knowledge," or at least for upholding an epistemology that does not go on to destroy all values including knowledge itself.[82] Nevertheless, as we will discuss later, Polanyi recoils often at the idea that this also necessitates a reaffirmation of the *literal* content of the Christian transcendent framework upon which Augustine based his fiduciary program. Though this is not the primary issue at present–since we are exactly arguing his reliance on presuppositions of the Christian framework despite such recoils–it is still important to note they signal what we consider the emerging *problem* for Polanyi.[83]

At this point, however, we should inquire whether it is possible that Polanyi was

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[81] See *PK*, 266-267, 324. Cf. *M,* 23. Polanyi seemed quite conscious that Augustine's synthesis was indeed so powerful and long lasting *not only because it recognized belief as the antecedent of knowledge, but also because the framework of his faith was such that intellectual and moral life–which for Polanyi were inseparable–were kept active, and at the same time directed toward transcendence*. In fact, he argues that the "repeated messianic rebellions which occurred in Central Europe from the eleventh to the sixteenth centuries," whose "initial impetus," he says "was given by the great moral reforms of Gregory VII," had anticipated a kind of "inversion of moral passions into nihilism" (which is to be identified by the ruthlessness and "immorality" with which those moral passions often manifested themselves) because they involved an abstraction of Christian moral passions from the framework of the Christian transcendent faith and an attempt at establishing temporal "Messianic rule" through human rebellion. See KB, 4-5. Cf. Norman Cohn, *The Pursuit of the Millennium* (Fairlawn, NJ: Essential Books, 1957).

[82] *PK*, 266-267. Cf. *SEP*, 331.

[83] Cf. *Ibid*. I will later discuss the context in which the sentences quoted above are couched, and the way in which they already involved a disavowal of the Christian framework.

arguing simply for the fiduciary structure of knowledge, and that this was a mere formal reliance, as distinct from a kind of 'substantial' borrowing. We may do so by looking at Polanyi's critique of the antiauthoritarianism and detached objectivism involved in the modern ideal of knowledge in contrast to "the only adequate conception." Yet, we will allow Polanyi himself to suggest the standard for stating one's fundamental beliefs, especially while critiquing a different position:

> A logically consistent exposition of fundamental beliefs is St. Augustine's *Confessions*. Its first ten books contain an account of the period before his conversion and of his struggle for the faith that was yet lacking. Yet the whole of this process is interpreted by him from the point of view which he reached after his conversion. *He seems to acknowledge that you cannot expose an error by interpreting it from the premisses which lead to it, but only from the premisses believed to be true*.[84]

Given this crucial aspect Polanyi has identified as involved in the fiduciary program, we will trust that by observing Polanyi's critique of the false ideals of intellectual freedom and knowledge we will also encounter again Polanyi's own beliefs about what the "only adequate conception" involves. Perhaps then we can show that despite some statements of a more agnostic mien his own fiduciary program relies more than just formally on the transcendental strength of Christian presuppositions.[85]

Polanyi sees the twin modern concepts of knowledge and freedom arising after the "long rule of Christian theology and of the Church of Rome over all departments of thought" had sufficiently declined, and began to suffer serious and fatal blows at the hands of the rising modern science and of critical philosophy.[86] He argues that the "antiauthoritarian

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[84] *PK*, 267 (emphasis added).

[85] Cf. *TD*, 62.

[86] *M,* 6. Cf. *SFS*, 74f. See also *SEP*, 235, 330ff.

formula of liberty" had arisen as a profound misunderstanding. It conceived of intellectual freedom in relation to dogmatic authority, and it presumed that freedom meant simply an "absence of external restraint." This was "an individualistic, self-assertive conception of freedom."[87] It was ostensibly compatible with empiric skepticism as well as rationalism. However, it was also ultimately a chimera, since the "light of reason" alone, or the experience of the senses can neither account for this freedom, nor provide it with a transcendent framework within which it is to be exercised.[88]

Those, he says, who in their euphonic liberation from ecclesiastical dogma, conceived of freedom in autonomous terms never realized the strictly limited inherent nature of the intellectual freedom they celebrated.[89] The antiauthoritarian formula of freedom "held that if any limits whatever were set to doubt, there would be no way of restraining intolerance and avoiding obscurantism," and those who held it,

> Did not recognize that freedom cannot be conceived except in terms of particular obligations of conscience, the pursuit of which it permits and prescribes. They thought that freedom cannot mean the acceptance of any particular obligations and it is in fact incompatible with a prescription of its own limits. Freedom of thought in particular meant in their view the rejection of any kind of traditional beliefs.[90]

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[87] *Ibid*.

[88] *SFS*, 76.

[89] *Ibid*., 74. Polanyi also says in page 65: "Just as person cannot be obliged in general, so also he cannot be free in general, but only in respect to grounds of conscience."

[90] *Ibid.* See also *M,* 201-202: Polanyi contrasted the modern antiauthoritarian concept of freedom with what he believed was a consistent expression of one aspect of freedom as it had been traditionally understood within the Christian framework:

> When Martin Luther faced the Diet of Worms and declared, "Here I stand and cannot do otherwise," he was not asserting his lack of freedom to do otherwise. He was maintaining that his acknowledgment of a moral demand gave him a freedom from the pursuit of merely personal ends (such as the protection of his own life) as well as, in this case, a freedom from having to obey the authorities in religious matters.

The kind of freedom expressed by Luther is, in one sense, freedom from external compulsion, but it is not autonomous freedom, for it is grounded upon a responsibility of a more transcendent character.

Why was the limited nature of freedom not recognized? Polanyi argues that from empiricism and rationalism on, a correlated notion of the nature of knowledge as strict detached objectivity had crystalized to the point of quasi-complete dominance. Empiricism, with its mechanistic conception of the universe, as well as the critical philosophy of rationalism, had assumed that knowledge had to be absolutely uncontaminated by voluntary belief.[91] Hence it had to reject as spurious any beliefs, traditional or otherwise, which could not be 'rationally', i.e., autonomously, asserted:

> Cartesian doubt and Locke's empiricism became then the two powerful levers of further liberation from established authority. These philosophies and those of their disciples had the purpose of demonstrating that truth could be established and a rich and satisfying doctrine of man and the universe built up on the foundations of critical reason alone. Self-evident propositions or the testimony of the senses, or else a combination of the two, would suffice.[92]

The twin ideals of autonomous freedom and autonomous knowledge were not truly original, for they harkened back to Greek philosophy, of which they were but the consistent development. The novelty, for Polanyi, was that now they could be sustained by a tacit set of transcendent presuppositions inherent in Christian moral passions, which though disavowed in their religious setting, could, nevertheless, even when secularized, furnish a hidden framework that prevented these ideals from simply following their course to

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Polanyi acknowledged that such a concept of freedom as "liberation from personal ends by submission to impersonal obligations" is liable to turn into a justification for totalitarianism if the deontology which underlies it is not transcendent. In the same connection, he also acknowledges a real place for the idea of a limited autonomy in individual freedom. But the problem is that the antiauthoritarian formula was radicalized so as to eventually disavow any deontology, and without a deontological framework both aspects of freedom were bound to turn on themselves.

[91] See *SEP*, 215-216, 222; *STSR*, 67.

[92] *SFS*, 75. See, for example, John Locke, *An Essay Concerning Human Understanding*, IV. 17: 24, in Sterling P. Lamprecht, edt., *Locke: Selections* (New York: Charles Scribner's Sons, 1928), 312-313.

consistent nihilism.[93] Polanyi's argument can be summarized as follows:

> It was the attack of [scientific] skepticism on the Christian churches that released the moral ideals of Christianity from a striving for individual salvation and directed our moral conscience instead to the betterment of human society. The imagination of the new rationalism was soon to be aflame with aspirations for a higher condition of man and society.… Scientific skepticism smoothly cooperated at first with the new passion for social betterment. Battling for freedom of thought against established authority, skepticism cleared the way for political freedom and humanitarian reforms. Scientific rationalism brought social and moral progress that has improved almost every human relationship in Western civilization.[94]

In this process, the consequent "betterment of human society" and relentless pursuit of true, objective and unprejudiced knowledge appealed to the "hunger" for truth and righteousness, to transcendent Christian passions and ideals that both rationalism and empiricism could not account for, but which nevertheless remained operative even abstracted from their religious framework. So, those who held to the ideals of autonomous freedom and knowledge "remained firm in their conviction that… the truth of science and the canons of fairness, decency, and freedom" could and should be established, as have remained many of their modern heirs.[95]

By identifying the genesis of our modern deontological crisis in the false ideals of knowledge and freedom Polanyi has obviously not only put his finger on a crucial problem with modern thought, but has also revealed why, to a large extent, he must think of his philosophy as "post-critical," and may claim to seek in Augustine his inspiration for an epistemological reformation. He is quite right in asserting that these ideals are self-contradictory and proto-nihilistic, lacking an adequate point of transcendence and therefore

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[93] Polanyi's argument is that though they maintained epistemological deontology to be simply a question of 'rational duties,' they relied on the tacit assumption that such duties were ultimately to the truth.

[94] *STSR*, 132-133

[95] *SFS*, 75.

drawing their currency from a tacit reliance upon the very Christian presuppositions they must ultimately disavow–doubtlessly a "state of suspended logic" that cannot be expected to last forever or to survive where and when it is allowed to run its course.[96]

Yet, again, understanding to what extent the framework of Christianity functions as the point of transcendence is crucial. Polanyi's general contention appears to suggest that what he understood as the basic error and the source of destructiveness in the twin false ideals involved mainly their underlying assumption that freedom and knowledge could be conceived in the abstract, without a framework that included tradition and belief. That in reacting to ecclesiastical tradition and dogma modernity had engaged in the chimerical search for knowledge that is absolutely free from authority and tradition, and had, therefore, failed to see that without authority and tradition, without antecedent belief, there can be no deontology, and hence no reason to seek knowledge and freedom. In this sense Polanyi's critique would be transcendental in the epistemological sense. It would also have borrowed from the Christian framework its emphasis on the necessity of framing knowledge within a structure of tradition and antecedent belief. Yet, this borrowing could still be conceived as mainly formal. This is in fact what transpires in the following passage from which we have previously cited only fragments:

> We must now recognize belief once more as the source of all knowledge. Tacit assent and intellectual passions, the sharing of an idiom and of a cultural heritage, affiliation to a like-minded community: such are the impulses which shape our vision of the nature of things. No intelligence, however critical or original can operate outside such a fiduciary framework. While our acceptance of this framework is the condition for having any knowledge, this matrix can claim no self evidence.[97]

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[96] *Ibid*., 77

[97] *PK*, 266-267.

But at the same time there are several passages in which it becomes quite clear that Polanyi was not satisfied that just any kind of tradition or framework would suffice. In *Science, Faith and Society*, for example, he is quite clear: "The coherence of all men's conscience's in the grounds of the same universal tradition is an integral part of my position," to which he then adds the suggestion "that the whole purpose of society [as tradition] lies in its enabling its members to pursue their transcendent obligations; particularly to truth, justice and charity."[98] Elsewhere, while speaking again of his program as basically an Augustinian effort at "reconsidering the conception of knowledge and restoring thereby the harmony between faith and reason," and after describing his evolutionary theory and how he sees man achieving his moral "state," he continues:

> Such is the necessary condition of a morally responsible being, grafted on a bestiality through which alone it can exercise its powers. Such is the inescapable predicament of man which theology has called his fallen nature. Our vision of redemption is the converse of this predicament. It is the vision of a man set free from this bondage. Such a man would be God incarnate; he would suffer and die as a man and by this very act prove himself divinely free from evil.[99]

There is enough evidence, we believe, to suggest that in critiquing the modern false ideals and in his underlying vision of an Augustinian type epistemological reform, Polanyi has done more than simply rely on Christianity as one possible tradition with a transcendental edge, or as a framework that could be formally reproduced without concern over its content. His transcendental frame of reference was dependent, in a loose sense, upon Christian presuppositions, and he had to presuppose, as he himself once stated regarding some cardinal doctrines of the Christian faith, that "if not this story exactly, then

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[98] *SFS*, 83, 84.

[99] *SEP*, 342.

something like this is somehow true."[100] Yet, as the statements above also show, we meet again the growing *problem*. His conception of how that framework was to be understood was quite particular, involving a basic assumption that the framework had to be expanded and purged from a concept of faith "cast into excessively rigid and detailed formulae, presenting intractable and sometimes even absurd problems to the reasoning mind." In fact, he held that the framework had to be purged from a priori supernatural claims, despite his continuing reliance on presupposed obligations that are endemically *coram deo*.[101]

Before dealing with the 'problem' we have thrice referred to, however, our discussion of the genetic and transcendental aspects may now be complemented by one more component. This is a third possible aspect in which Polanyi's argument relies on the presuppositions of the Christian framework.

The Heuristic Aspect: "The Ever-unquenched Hunger and Thirst"

In speaking of a 'heuristic aspect' what we have in mind is Polanyi's assumption that moral passions consist of a 'force,' or *deontological dynamic thrust, that can move in heuristic or destructive directions*, and that *the direction in which such moral passions would be manifested has been determined in relation to the heritage of the Christian framework of beliefs*. This relationship between the deontological dynamism which is the tacit "legacy of Christ" and the heritage of the Christian framework in which such dynamism can be heuristically expressed has been foreshadowed in our previous discussion. Still, now we will seek to clarify it by looking first at why Polanyi believes a general state of moral inversion

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[100] *M,* 159, 160.

[101] *STSR*, 130. Polanyi comes closest to recognizing this as a need for 'revelation' in *SFS*, 83-84.

failed to be realized in the Anglo-American context, and second at why he believes it did develop in the European continent.[102]

Of course, as we have already said, there is no doubt that Polanyi's whole argument hinges on the assumption that the universal moral passions bequeathed by Christianity have been the propellents of modern civilization. It is also quite clear that for Polanyi the modern skeptical scientific outlook is the source of the "homelessness" of those passions, even as it is itself dependent upon them.[103] However, it is quite curious, as Polanyi himself acknowledged, that the major impetus toward the establishment of the modern outlook was provided in the Anglo-American context. Yet, in such context that outlook never quite brought about the complete inversion of moral passions.[104]

It was in England that the antiauthoritarian formula of liberty and the principle of philosophic doubt had found a particularly cogent expression at the hands of John Locke.[105] It was in England also that even earlier Thomas Hobbes had followed "to its utmost logical implications the conception of a state base on purely secular foundations" and arrived at his quasi-nihilistic totalitarian theory of the state.[106] It was there also that David Hume had first carried the inherent skepticism of empiricism to the point where it questioned the underlying assumptions of science itself.[107] Polanyi recognizes the important role of Rousseau, Voltaire, Kant, Hegel, Comte, Ernst Mach and other Continental thinkers in shaping modern thought.

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[102] *M,* 9.

[103] *Ibid*., 20, 18. Cf. Michael Polanyi, "Science and Man," 969-970.

[104] *STSR*, 42.

[105] *LL*, 117, 120.

[106] *STSR*, 36-37. Cf. Herman Dooyeweerd, *Encyclopaedie der rechtswetenschap* (Amsterdam: D.A.V.I.D.), vol. I, 184ff.

[107] *LL*, 18-19; *STSR*, 105-106. Cf. *PK*, 304.

Still, he believes they generally carried out the consistent implications of traditions that received their initial impetus from British thinkers, whose work, in their own country, nonetheless, "remained pretty much on paper."[108]

Polanyi's whole analysis hinges, at this point, in the preservation of the Christian tradition in the Anglo-American context vis-a-vis the more consistent secularization in the Continent, "where liberalism was based on the French Enlightenment."[109]

First, says Polanyi, the secularization of Christian moral passions in the Anglo-American context was never as consistent as in the Continent. In much of the seventeenth century, while in the Continent the intelligentsia, spurred by the scientific revolution, reacted to religious conflicts and strife by a progressive abandonment of religious fervor, England experienced a revival of Protestant religion that brought about dynamic social and political reform, and whose influence would last through much of the eighteenth century and beyond.[110] Liberalism itself, in England, had a distinctively religious character, and even where this religious character was ostensibly refused, its impact was so powerful and fresh that skepticism was kept "on a short leash."[111] In short, says Polanyi, what kept a true moral inversion from taking place in the Anglo-American tradition of liberty was a "speculative

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[108] *STSR*, 37, 38. Cf. *PK*, 9, 270; *KB*, 7. See also *M,* 9, 10.

[109] *M,* 11.

[110] *STSR*, 37.

[111] *M,* 7, 9-11; KB, 11-12. Polanyi points out that even Locke's argument for philosophical doubt was intended to promote religious tolerance, and if it is true that his argument, when logically followed, should lead to the denial of freedom itself, it is also true that Locke would have been reluctant to follow its premises to ultimate conclusions. Locke himself, says Polanyi, suggested one way of avoiding moral nihilism when he sought to find a scientific basis for ethics in identifying good and evil with pain and pleasure. But Utilitarianism, Pragmatism and other characteristically Anglo-American philosophies were mainly "pseudo-substitutions" of utilitarian purposes for moral principles. From Hobbes through Hume, to Bentham, J. S. Mill, and most of 19th century Anglo-American thought, moral scruples prevented practical and political nihilism from ever materializing, even while its theoretical inevitability was contemplated.

restraint, amounting to a veritable suspension of logic within the British empiricist philosophy."[112]

A second correlate that distinguished the Anglo-American cycle was "the establishment of democratic institutions at a time when religious belief was still strong." From the English through the American Revolutions, a Christian heritage had buttressed civic tradition, and institutions were created powerful enough to outlast even the erosion of the very beliefs that inspired them. As Polanyi states it, "The tradition of democracy embodied in these institutions was strong enough to uphold in practice the moral standards of a free society against any critique that would question their validity."[113] Furthermore, the heritage of religious and civic traditions where moral passions were tacitly directed toward transcendent ideals, allowed a double separation: On one hand, dynamic political action could take place in "piecemeal" and individualized forms, without the kind of overarching ideological guidance required in the absence of a traditionally upheld deontology. On the other hand, if dynamic political action was already taking place, philosophical speculation developed less constrained, without the responsibility of providing ideological guidance, and hence without becoming immediate social or institutional threats.[114]

John Morley, says Polanyi, in his book *On Compromise*, "deplores the fact that England's civic genius had restrained the adventures of speculative thought so as to keep them politically innocuous." What Morley fails to see, however, is that this was in fact one of the saving graces in the Anglo-American context. "Had he lived to see our own day,"

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[112] *LL*, 121-122.

[113] *M,* 11.

[114] *KB*, 11-12.

Polanyi speculates, "Morley might have felt that England had remained backward only on the road to disaster": A Christian heritage preserved traditions and institutions from being destroyed by nihilistic philosophical speculations, and as society was progressively "humanized" the appeal of philosophically bred dynamic ideologies remained merely intellectual,[115] producing mostly the kind of pathology that Polanyi called "spurious forms of moral inversion."[116]

For Polanyi, however, this state of affairs was precarious. Secularization, for him, was irreversible, and the heuristic edge provided by the Christian heritage unstable, because ideals held only tacitly, but supposed to have no explicit theoretical justification, cannot always withstand when their continued existence implies great sacrifice or cost. At this point, pseudo-substitution might easily give way to a real substitution of ideals for material ends, pseudo-nihilism might readily become true nihilism and spurious forms of moral inversion may fast become the real thing.[117]

That is why, Polanyi believed, the story in Continental thought was quite different. Secularization was more comprehensive, and the "antireligious" character of Enlightenment rationalism thoroughly uprooted deontological ideals from their religious framework. Though moral passions could still find fulfillment in the secular ideals of the Enlightenment,

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[115] *Ibid.*, 13. Cf. John Morley, *On Compromise* (London: Watts and Co., 1946).

[116] *PK*, 233-234. This is a situation, says Polanyi, where moral judgements are left "quite generally without theoretical protection," but through one device or another (e.g., the disguising of distinctively moral aspirations in scientific language) are not only given protection against destruction by the consistent application of the modern ideals of knowledge and freedom, but are also allowed to "operate effectively by stealth."

[117] *Ibid.,* 234: "It is dangerous to rely on it that men will continue indefinitely to pursue their moral ideals within a system of thought which denies reality to them. Not because they might lose their ideals–which is rare, and usually without any serious public consequence–but because they might slip into the logically stabler state of complete moral inversion. For the objectivistic masquerade can go on only so long as the moral convictions whose internal instability it bolsters up, remain comparatively peaceable."

these ideals were still dependent upon the tacit presupposition of universal standards of reason and morality. Yet, "from the middle of the eighteenth century, Continental thought faced up seriously the fact" that these ideals "could not be philosophically justified."[118] Polanyi frames the situation as follows:

> In the course of the nineteenth century the humanitarian ideals which had found an outlet in the French Revolution went on spreading peacefully and gradually transformed the whole of Western civilization… But the axe had been laid to the tree of liberalism from the very beginning of the nineteenth century. On the Continent of Europe scientific materialism was now vigorously advancing once more. But, having destroyed religious beliefs among the leaders of progress, materialism was now beginning to undermine its own belief in the reality of human ideals. A new, entirely naturalistic, conception of man and of human society was becoming generally accepted by the progressive intelligentsia on the Continent.[119]

Though Polanyi spent a good deal of time discussing the main attempts, in the Continent, to substitute the "standards" which had "fallen into philosophic disrepute" by standards consonant with critical presuppositions about knowledge and freedom, we may try to summarize it as follows: (1) Scientificism, especially as epitomized in the positivism of the Vienna school, carried skeptic empiricism through to a consistent materialistic vision of the world as ultimately "meaningless, pointless and absurd."[120] (2) Historicism, as developed by Hegel's idea of reason as immanent in history, was later "turned right side up" by Marx's and Engels's materialistic interpretation which not only completed the "disestablishment of reason," but also upheld the implications of historical determinism and the ultimacy of

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[118] *M,* 11-12.

[119] *STSR*, 39.

[120] *M,* 181. Cf. *STSR*, 72-72, 138. Cf. *LL*, 10-11, 34-35; *M,* 7, 105; *KB*, 12. See also, in *PK*, 238, Polanyi's suggestion of how dominant is the idea disseminated since Comte, that "all human thought" is still "engaged in a humble pilgrimage toward scientific perfection;" as well as the discussion of the dominance of a K-K view of knowing in Prosch, *Michael Polanyi*, 30-31; and Frederick Suppe, "Afterward," *The Structure of Scientific Theories* (Urbana: University of Illinois Press, 1977), 717-723.

power struggles.[121] And (3) Romanticism, which grew from its origins in Rousseau, eventually gave rise to the visions of individual romantic immoralism, romantic nationalism, and finally, in collusion with scientific materialism, to the movement of nihilism itself.[122]

Yet, says Polanyi, the final stage was right around the turn of the century, as many thought that the liberal ideals would somehow lead us naturally into a time of peace, prosperity and renewed enlightenment: When nihilists and discontents, who thought they had taken their modern materialistic philosophies to their ultimate consequences, found the types of political and social projects within which they could give expression to their displaced moral passions. Marxism provided a scientific sociology that attacked the immorality of existing society and called for its destruction while claiming that its revolutionary program involved no moral restraints–the process was historically inevitable and such restraints were meaningless "epiphenomena of class interest" in light of the new order.[123] Nationalistic Romanticism, and later Nazism and Fascism also appealed to the nihilist on similar grounds: The "personal immoralist bohemian converts his anti-bourgeois protest readily into social action by becoming an 'armed bohemian' and thus supporting absolute violence as the only honest mode of political action."[124]

Clearly, for Polanyi the key unifying factor in how scientificism, historicism and romanticism were able to become established–both individually and in different combinations–in ways that transcended the realm of objective theory and turned into

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[121] *Ibid.*, 12-13. Cf. *LL*, 124; *SEP*, 81, 133-134.

[122] *M,* 15-16; *KB*, 13, 15; *SEP*, 87; *LL*, 124-126.

[123] *KB*, 15-16.

[124] *Ibid.*, 17. Cf. *SEP*, 113.

passionate and dynamic activism, is again the fact that they all covertly drew on a deep reservoir of displaced Christian moral passions. What Polanyi says about Marxism applies quite broadly:

> It would be a mistake to accept at its face value [the] description that Marxism gives of itself. The image of a mechanical process of history leading to the establishment of socialism could never inspire revolutionary passion. But Marxism does inspire powerful passions. The secret of this contradiction lies in the fact that the Marxist conception of history does not eliminate–as it pretends to do–the moral ideals of progress, but absorbs them into its vision of this process. The mechanical machinery of history is in fact seen and felt as the embodiment of all the moral aspirations of man, which, being thus embodied, are assured of inevitable victory by the mechanical laws of history.[125]

It is needless to offer myriad possible illustrations or to extend our discussion, for we have now followed Polanyi back to when we first introduced his concept of moral inversion. Yet, it must be patent by now that *if Polanyi's argument depends on the presupposition that Christian moral passions are universal, it also involves the assumption that where the Christian framework has been somehow preserved, these passions could still manifest themselves in heuristic ways.* He has unquestionably suggested that nihilistic or quasi-nihilistic philosophies could not in and of themselves invert these passions in historically significant ways so long as remained a substantial heritage of tacit Christian values and traditions. For Polanyi it is only where the heritage of the Christian faith was consistently effaced (and not its moral passions, which are never erased anyhow, but the actual tacit remnants of Christian tradition and beliefs) that true moral inversion effectively

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[125] *Ibid.*, 81-82. See also some examples given by Polanyi in: *PK*, 297, where he discusses a statement by Bertrand Russell; *KB*, 13, 14: "Messianic violence [transformed] from a mean to an end into an aim in itself," 17; and *LL*, 130-131.

took place.[126]

Of course, for Polanyi, the fact that the modern world has not simply degenerated into utter totalitarianism or complete fragmentation, that moral inversion has not become ubiquitous, and that hopeful and meaningful signs can be identified all around,[127] just reinforces his assertion that nihilism is ultimately a chimera, just as the scientific outlook and the philosophies that have brought it about were ultimately based in an illusory concept of knowledge and of freedom.[128] Yet, Polanyi insists, "the modern mind must continue to work its own destruction, and to work it most vigorously when it is at its most incisive and most generous, so long as it fails to reach a vision of itself–and of the universe around itself–within which the unlimited demands of the modern mind can be seen to require their own framework of intrinsic limitations."[129] Where is such a framework to be found? We have argued that in his critique Polanyi has actually borrowed significantly from what we believe is the only such possible framework, i.e., the Christian framework of Creation, Fall and Redemption. Though we have not yet said it in so many words, it is very likely that Polanyi would not object to our argument about his presuppositions–except perhaps to our "literalistic"interpretation of those presuppositions. Still, we have also suggested that there

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[126] Cf. STSR, 38, 40. See also: Michael Polanyi, "The English and the Continent," *Political Quarterly*, 14 (Oct.–Dec. 1943), 381.

[127] Cf. *SEP*, 102: "The process of inversion I have described has not taken place everywhere." He continues: "The predominant trend of human thought in the last ten years has been a retreat from the most extreme forms of inversion." See also *STSR,* 42, where Polanyi connects this recognition with the fact that religious faith continues to be alive and well in many places. Had Polanyi lived to see the collapse of the Soviet Block, the apparent democratization of large parts of what used to be called the Third World and the apparent drift toward peaceful globalization, he might have felt this trend confirmed. But as I shall discuss below, Polanyi did not necessarily view this recoil optimistically, for he thought that it was mainly a type of revisionism which never really solved the impasse of modern thought, but rather simply sought to fall back into the very antecedents which had brought it about.

[128] *SFS*, 78, 80. Cf. *PK*, 233.

[129] *SEP*, 93.

is more to the story.[130]

Given our analysis so far, we might expect that he would anticipate the question of whether deontology in general could only find an adequate point of transcendence in the Christian faith.[131] We might even expect that he could simply answer with another question: "Is the dogmatic declaration of self-sufficiency of human… thinking a more reliable statement?"[132] That these expectations are frustrated, and that in fact, he ultimately feels he must also profess somehow his faith in the self-sufficiency of human thinking is the *problem* we have been leading up to, and will become evident as we conclude with a brief discussion of his prognosis.

Polanyi's Prognosis and the Christian Framework

Polanyi's prescription is, to a large extent, the subject of our next two chapters, so what is necessary at this point is not to deal directly with his prescription, but rather to, first, examine the conditions Polanyi sees as necessary in order to deal with the pathology of modern thought, and, second, to actually begin to engage him with regards to what he claims to believe as a sufficient basis for an epistemological, or at this point mainly a deontological, reformation–his "framework of intrinsic limitations"–in light of our underlying contention that the cogency of his critique has been maintained on the basis of a tacit reliance on a Christian transcendent frame of reference. The first task will rely mainly on Polanyi's

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[130] See, for example, Michael Polanyi, "What to Believe," *Credere Aude*, I (Dec. 1947), 9-10. Cf. *M,* 157, 159.

[131] See Polanyi, "Science and Faith," 45: Indeed, he does anticipate a similar question: "In answer to the question: Would you agree that a religious attitude is the only antidote to the predominantly scientific attitude? I would answer: no…" His answer then continues to explain why the reestablishment of deontology must precede that of religion, since religion *sans-revelation* depends itself on deontology.

[132] Dooyeweerd, *New Critique of Theoretical Thought*, vol. II (Philadelphia: P&R, 1955), 562.

argument with regards to the inefficacy of simply recoiling from nihilism and moral inversion by a project of revisionism.[133] This will bode his disavowal of the revealed Christian framework. The second task will simply question, in that light, his reliance, which we have suggested as genetic, transcendental and heuristic, on that same framework.

As we have mentioned above, Polanyi acknowledged a general tendency of retreating from the more nihilistic implications of consistently upholding modern ideals of autonomous knowledge and freedom.[134] He believed that this was due, in a lesser sense, to a gradual change, not in the intellectual outlook, but in the moral mood, a "general decline of social zeal" of the 'Messianic' kind, and its substitution by reduced moral and social aspirations, of a more parochial, concrete and fragmented type.[135] Still, for Polanyi, the most significant manifestations of such retreats were in the form of "revisionism,"[136] where in one way or another there was an endeavor to "redeem the ideals of the nineteenth century" or

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[133] *KB*, 21: "The Hungarian Revolution is the paradigm of an intellectual movement which, in less dramatic forms, has spread all through the area of receding dynamism [of moral inversion]… The Soviet Government has condemned its manifestation," said Polanyi back in 1960, "as revisionism, and I think the name 'revisionism' may be applied to the different forms of this movement everywhere." Cf. *M,* 23.

[134] *SEP*, 102.

[135] *KB*, 22-23, 45. Polanyi's argument may be stated as follows: Since moral inversion depends not only on the modern intellectual outlook, but on moral passions, which this outlook then processes and inverts, if such moral passions are effectively reduced, the process might be slowed or even stalled, in which case the crisis fails to materialize and hence the frailty of its theoretical roots (i.e., the false ideal of autonomous knowledge and freedom) may not surface. Of course, the problem is not the circumscription of moral passions–that is actually an important part of the "framework of intrinsic limitations" solution. Furthermore, as Polanyi himself recognizes, the circumscription of "Messianic zeal" is actually an important part of the Christian understanding of the Kingdom of God, expressed in theology as the "now but not yet" eschatological principle. The real problem is the ensuing preservation of self-contradictory presuppositions by the dampening of both, the moral passions, and also their incompatibility with the said presuppositions. The result is that: (1) The relaxation of moral passions and expectations is not, in this case, accompanied by a similar relaxation of the ideals of knowledge and freedom presupposed by the dominant world view, for even if there is a relaxation of the zeal with which those presuppositions are practically employed, they remain, nevertheless, as the ultimate intellectual ideals, and (2) such state will be promptly reversed if historical contingencies, unexpected crises or social disturbances reawaken moral passions and Messianic zeal.Cf. *M,* 22-23, 213-214; *KB*, 18, 22-23; and *STSR*, 147.

[136] *SEP*, 93.

even of a premodern framework, i.e., attempts simply to fall back on more austere forms of the very ideals of knowledge and freedom that have engendered the modern crises.[137] Polanyi suggests the "tendency to reinterpret the masters who had impelled the exploration of nihilism in a purely idealistic sense"as typical of this movement. This he illustrates by commenting on Erich Fromm's widely read book *The Sane Society*:

> Fromm is led by a discussion of Freud and Marx to conclude that the mentally healthy person is the person who lives by love, reason, and faith, who respects life, his own and that of his fellow man–a condition which is said to produce a Humanistic Communitarian Socialism.[138]

The problem, however, says Polanyi, is that "revisionism recoils from a negation," and not necessarily from the sources of such negation. Once the antecedents of the negation are identified, it becomes clear that "revision cannot succeed by merely returning to ideas that have already proved unstable."[139] Polanyi spoke of the difference between "changing" the spectacles through which we view the world and "smashing" them: For him, scientificism and Enlightenment rationalism did not simply replace the spectacles of Christian rationalism, rather, they shattered its lenses, just as they have been shattering their own lenses whenever they have been carried to their ultimate consequences–neither the glasses of Christian rationalism, nor those of pre-nihilistic scientificism and rationalism, can

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[137] *M,* 23, 24. On Polanyi's discussions of different types of "revisionisms" See: *KB*, 21-22, 30-31, 36, 45; and especially *SEP*, 103, where the characterization of revisionist tendencies by Polanyi includes illustrations of a few different variants: "This movement took on many forms because any convictions that acknowledged the power of thought in its own right could equally express it. The beliefs to which the modern mind turns beyond nihilism, comprise all the main ideas which prevailed before the descent into nihilism… I gave a list of three, each defined by its historic past: nationalism, religion and skeptical enlightenment. Today I would add two more, namely, romantic enlightenment and its descendent, modern existentialism. But the list is inexhaustible."

[138] *KB*, 45. Cf. Erich Fromm, *The Sane Society* (New York: Rinehart, 1955), 275.

[139] *Ibid*., 22.

be simply recovered.[140] Although "like a man who has broken out of prison might be found in any place to which he had access before he was imprisoned" we might also be tempted to fall back into what seemed to work for a time,[141] nonetheless, says Polanyi,

> The rule of a dogmatic authority is no more acceptable today than it was in the days of Voltaire. We shall not go back on the scientific revolution which has secularized extensive domains of knowledge. We shall not go back either on the hopes of Christianity and become as calmly indifferent to social wrongs as secularized antiquity had been. And national feeling has proved in the past no safeguard against the descent of dynamism into moral inversion. In fact, *all the logical antecedents of inversion are present today just as they were before*. Can the very channels which had previously led into moral inversion now offer a retreat from it?[142]

Polanyi truly did not believe we could consistently continue to live and think beyond nihilism by any kind of 'backward step.' Liberated from ecclesiastical dogma, says Polanyi, we had gone on and "plucked from the Tree a second apple which has forever imperilled our knowledge of Good and Evil." We were thus "driven out of another garden which was, at any rate, a Fool's Paradise." A return to this "Fool's Paradise" of rationalistic objectivism is as impossible as a return to the rule of theology, he continues. Our only alternative is to "learn to know" Good and Evil, Truth and Justice, "in the blinding light of our new analytical powers."[143] He was quite clear about this:

> I admit that my reaffirmation of traditionalism might have a bearing on religious thought, but I want to set this aside here. Modern man's critical incisiveness must be reconciled with his unlimited moral demands, first of all, on secular grounds. *The enfeebled authority of revealed religion cannot achieve this reconciliation*; it may rather hope to be revived by its achievement.[144]

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[140] Cf. *Ibid*., 30-31, 36; *PK*, 286.

[141] *SEP*, 103.

[142] *KB*, 22.

[143] *PK*, 268.

[144] *TD*, 62 (emphasis added).

"The healer's art," Polanyi says, "must rely ultimately on the patient's natural powers for recovery."[145] We cannot continue to live and think without an adequate transcendent deontology, he clearly argues, but neither can we accept a point of transcendence that cannot somehow be accounted for within the givenness of created reality: If our crisis is deontological, our malady relates to an epistemology that cannot be harmonized with our metaphysical limitations, with our "fallen" nature.[146] We must, follow the example of St. Augustine, and recognize once more the fiduciary root of all knowledge. Nevertheless, we must do so through a new understanding of knowing and being in which those values and ideals without which we cannot live may be upheld "ultimately on the basis of the patient's natural powers."[147]

As we close this chapter we cannot help but appreciate the incisiveness of Polanyi's critique of modern thought. Yet, we are also puzzled by the lack of reflexivity involved in Polanyi's prognosis: On the one hand his reliance on the transcendent framework of Christian deontology allows him to get close to the heart of the modern pathology. On the other hand he refuses to accept that framework in its full transcendence as the starting point of his prescription.[148] Perhaps we may refer to our epigraph and note that while Polanyi does

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[145] *KB*, 18.

[146] *PK*, 324: "Fallen Man is equated to the historically given and subjective condition of our mind."

[147] *TD*, 4; *KB*, 18.

[148] Cf. Nadjer, "Moral Inversion," 371-372. Maybe, despite coming from an opposite direction, we may profit from Nadjer's point: "Polanyi's claim of a universal validity of moral standards has to be upheld on some other grounds… How frequently we read about 'spiritual reality,' 'transcendent obligation' to truth, justice and charity, about 'truth' and 'justice' in an absolute, openly idealistic sense… All these concepts have to rest on certain ontological assumptions, and Polanyi's remarks on God and religion reveal these metaphysical foundations. Of course, if we accept the existence of God and supernatural forces, we shall be provided with adequate grounds for claiming that the values to which we are committing ourselves are indeed absolute. The trouble is, however, that Polanyi tucks away these fundamental ontological premises and opens his whole axiological structure to accusations of inconsistency and arbitrariness.

not, like Prometheus, think it better to be a "slave of this rock" than to "serve Father Zeus as a messenger-boy," he does incline to hold that somehow the 'service of Father Zeus' must be ultimately a service of our own creation, even while tacitly it continues to serve as the condition for our knowing and being.[149]

We must recognize, however, a curious dynamic entailed by our own contentions: By claiming that Polanyi's critique of modern thought has tacitly relied on Christian presuppositions, which, in a way, challenges his own claims about deontology, we have, in fact, provided a kind of endorsement at least for the critical or 'deconstructive' aspect of his reflection. At the same time, by adumbrating what we believe is the chimerical task he has set up for himself, we have anticipated the basis upon which we will go on to argue that his epistemology is severely limited, from the start, by some of his presuppositions. As he seeks to work constructively toward his epistemological reformation and the fulfillment of his lofty goals, he is bound to run into serious difficulties that can only be resolved by giving up that which has made his initial efforts so promising: Christian presuppositions and the transcendent hopes and beliefs they entail can only make sense *coram deo*! But lest we get ahead of ourselves, we must now turn to our next chapter and examine what we have suggested as the emerging *problem* for Polanyi, this time in the transitional context of his analysis of the heuristics of modern science, which serves as the bridge in his thought between the critical and the constructive sides of his endeavor.[150]

Worse still, his mentions of God and religion are confoundingly vague: we do not know what concept of God and what kind of religion he has in mind." See SFS, 65, 76-79, 83; LL, 102; TD, 62.

[149] Of course, I have just anticipated here a key part of my *coram deo* inversion thesis, viz., the *deo coram hominibus* aspect stated in chapter 1.

[150] For his own summary of the what I called the 'transitional program' see *STSR*, 148-149

CHAPTER FOUR

THE SCIENTIFIC EXEMPLAR

> *"Lest anyone think a man truly blessed when he is credited with possessing great power to comprehend truth under the elements of this world, we should at once add that all this capacity to understand, with the understanding that follows upon it, is an unstable and transitory thing in God's sight, when a solid foundation of truth does not underlie it."*
>
> John Calvin, *Institutes*

We have said early on that Polanyi's initial motivation to reflect about social and philosophical issues had been his desire to defend the pursuit of pure science in the face of a growing movement which sought to subordinate scientific activity to social directives.[1] These concerns had led him to reflect about the causes of the modern crisis, and from his identification of the pathogenesis he felt compelled to argue for an epistemological reformation as the necessary cure. The fact that he turned back to an analysis of the scientific enterprise as the exemplar from which he would seek the clues for his fiduciary epistemological program is quite important, and must be understood beyond the obvious fact that science was his original metier.

Tacitly, our whole argument in this chapter will revolve around the very reason why Polanyi would have naturally taken the scientific enterprise as the paradigm from which to look for a cure that relied "ultimately on the patient's natural powers for recovery."[2] Yet, by

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[1] Q.v., pp. 13, 20 above.

[2] *KB*, 18.

explicitly stating from the start why we believe he could not have done otherwise we may justify our turning to this aspect of his thought, as well as clarify why we have suggested it as a transitional aspect at the close of our previous chapter. Perhaps the reason may best be gleaned from a statement in which Polanyi expresses post facto what he was after from the start: "A novel idea of human knowledge from which a harmonious view of thought and existence, *rooted in the universe*, seems to emerge."[3]

This brief statement reflects Polanyi's assumption that the disharmony between our "existence" and our way of thinking was the root of our problems–his analysis of moral inversion is *the* case in point.[4] It also expresses his conviction that his "novel idea of knowledge," viz., the Augustinian inspired restoration of belief at the root of epistemology, would ease the tension between our need for transcendence and our metaphysical limitations.[5] Still, most important, it establishes that, for Polanyi, this fiduciary program had to be "rooted in the universe,"[6] and could not have as its starting point a transcendent framework that presupposed revelation.[7] This is exactly where, we believe, science comes in for Polanyi as the ideal exemplar.

Polanyi's first attempts to work out the fiduciary program was, in this sense, a reflexive one: It consisted in analyzing the actual practice of science, accenting the disparity

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[3] *TD*, 4 (emphasis added).

[4] Q.v., p. 58 above. Cf. PK, 380.

[5] Q.v., pp. 85-86 above. Cf. *TD*, 60; *PK*, 324.

[6] Cf. *SM*, 89, 96-97.

[7] Cf. *SFS*, 61. It is important to keep in mind that Polanyi did claim a religious motive behind his entire work, q.v., p. 8 n. above. See also Harry Prosch, *Michael Polanyi: A Critical Exposition* (Albany: State University of New York Press, 1986), 255. Prosch tells how he repeatedly discussed with Polanyi the fact that religion seemed to require a notion of revelation, but he says that Polanyi "really had a difficult time understanding a belief in the factual reality of the supernatural [revelation] in religion as anything much more than magic or superstition."

between this actual practice and its avowed ontology and epistemology, and uncovering his 'reformed' vison of knowing and being through an appraisal of the true conditions and presuppositions that make the scientific enterprise successful despite the inescapable contradictions of its self-account.[8] No doubt he was highly critical of the false ideals of the scientificist outlook and its consequences on the modern world view–we have discussed this quite extensively in the previous chapter. That criticism notwithstanding, he remained openly committed to a naturalistic world view,[9] believing however that it had to be corrected, or 'reformed,' by recognition and validation of its fiduciary roots.[10] Having said that much, it is therefore crucial to keep in mind that Polanyi's reflection on the scientific enterprise is intended here to be seen as paradigmatic of knowledge in general, and not as restricted to the philosophy of science.[11]

Exploring some crucial aspects of this effort as a way to comprehend the Polanyian medicine will be part of our task in this chapter. In so doing, however, our underlying goal will be to suggest that in his attempt to find in the scientific enterprise the exemplar for a fiduciary epistemology that remained within Plato's first three levels[12] Polanyi continued to

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[8] See *PK*, 3-6 and 63-65. Cf. Thomas Kuhn, *Postscript* (1969), *The Structure of Scientific Revolutions* (Chicago: University of Chicago Press, 1970), 207-208.

[9] See *M,* 105. Cf. "Cultural Significance of Science," (letter) *Nature*, 157 (Jan. 25, 1941), 19.

[10] *SFS*, 10-11.

[11] Cf. *M*, 184; *PK*, vii-viii.

[12] The following analogy might be helpful–and should prove particularly useful later–especially given my references to Plato's third level (in Chapter 1 and below) and Polanyi's own qualified admission of a certain Platonic element in his thought: Like Plato, Polanyi also had to resolve the Heraclitus-Parmenides problem and bridge the disjointed reality revealed by our critical powers with the kind of transcendent meaning he could not but discern as part of reality. Also, like Plato, he believed this bridging had to be *from below*. But unlike Plato, Polanyi placed belief as the basis for knowledge in all three levels, and also could not accept abstract and transcendent Ideas "laid up somewhere," whether that meant pure idealism or, as he seemed to think, as also implied in the idea of an a priori revelation of a transcendent God. The fiduciary program would have to remain strictly within Plato's first three levels even if its

rely on examples, analogies and concepts whose meanings are *peculiar* to Christian theology, and ultimately ended up suggesting again a quasi-theological root for final transcendence. This, we will argue, only accentuates his *problem*, and will eventually force him to try to resolve the growing tension by other means.[13] We may take our starting point with Polanyi's discussion about the nature of scientific knowing, and then follow some key aspects of his reflection as they relate to our underlying argument.

The Fiduciary Nature of Scientific Knowing

While we touched on Polanyi's critique of the objectivistic ideal of science in our previous chapter in connection with its destructive effects as to deontology and the disavowal of moral passions, we must now briefly return to that subject, but from Polanyi's perspective of the actual untenability of the scientific ideal of detached objective knowledge. This will set the stage for considering two aspects of Polanyi's argument for the fiduciary nature of science through which we may begin to build our case.

Polanyi contra Objectivism

We may start quite generally, by simply allowing Polanyi to describe what he, as a practicing scientist, understood to be the supposed "ideal goals of science":

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bearing had to be transcendent. Cf. Polanyi, "Beauty, Elegance and Reality in Science," 117-119; Plato, *The Republic of Plato*, trans. F. M. Cornford (Oxford: Oxford University Press, 1945), III: 28, pp. 509ff. See also Prosch, *Michael Polanyi*, 295. Commenting on Polanyi's statement admitting a certain Platonic strain but refusing the concept of Plato's Ideal Forms "laid up somewhere," Prosch says: "It is not clear just what sort of Platonist this could be, other than that of *a mind incorrigibly contemporary, but with an incurable longing for the transcendent*. Polanyi's stubborn refusal to give up either of these created somewhat of a *problem* for him, of course" (emphasis added).

[13] Since I will close this present chapter exactly with the suggestion of what these "other means" would be, and since the next chapter will be an exploration of how they became the leitmotif of Polanyi's mature thought, I will refrain from giving my whole argument up-front.

> Current biology is based on the assumption that you can explain the processes of life in terms of physics and chemistry; and of course, physics and chemistry are both to be represented ultimately in terms of the forces acting between atomic particles. So all life, all human beings, and all the works of man, including Shakespeare's sonnets and Kant's *Critique of Pure Reason*, are also to be so represented. The ideal of science remains what it was in the time of Laplace: to replace all human knowledge by a complete knowledge of atoms in motion. In spite of much that is said to the contrary, quantum mechanics makes no difference in this respect. A quantum-mechanical theory of the universe is just as empty of meaning as a Laplacean mechanical theory.[14]

That Laplacean mechanics as such had long been "fully exposed to critical view" was immaterial for Polanyi.[15] He believed that most contemporary fields of science, from quantum mechanics to biology and genetics, remained *analogous* to the Laplacean ideal: "The heart of the matter" was their shared "mechanical reductionism," which posited that ultimate reality boiled down to atoms in motion, the behavior of subatomic particles, the chemistry of molecules and cells, genetic code, etc.[16] This "mechanical reductionism," Polanyi said, "is the origin of the whole system of scientific obscurantism under which we are suffering today," and reduces man "either to an insentient automaton or to a bundle of appetites." It also explains why, he continues, "science has become the greatest source of dangerous fallacies today."[17] But where does the mechanical reductionism come from?

The ideal, says Polanyi, of scientific objective knowledge as explicitly derived from empirical observation–usually construed through a claim of building solely "on a foundation of hard facts"–continues to be assumed as the distinguishing characteristic of scientific knowing.[18] Implied in this notion, however, is the ultimacy of brute facts and the denial of

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[14] *M,* 25.

[15] *STSR*, 79.

[16] *M,* 25. See also *PK*, 140, especially n2. Q.v., pp. 46f. above.

[17] *M,* 25.

[18] *SEP*, 216.

any intrinsic rationality in the facts of nature–rationality is simply superimposed upon such ultimate brute facts by scientific observation. This is coupled with a desire of purging the knowledge of the facts, if it is to be truly "objective" knowledge, from any personal coefficient. Hence, the quantum physicist sees his 'empirical knowledge' as logically derived from his observation of subatomic particles. Likewise, the biologist sees his theories as strictly derived from his observations of cells and his understanding of their physics and chemistry, and so forth. Neither their participation in their 'knowing,' nor the fact that their objects cannot be simply *reduced* to a function of constituent basic elements, is acknowledged.[19]

However, the ideal of knowledge as a function explicitly derived from the observation of brute facts and its correlated mechanical reductionism (the avowed ontology and epistemology of science) are, for Polanyi, nonsensical and contrary to the actual state of affairs in science.[20] These underlying assumptions, says Polanyi, gloss over a very serious problem suggested long ago by David Hume:

> The argument can be stated without any verbal ambiguities in simple mathematical terms. Suppose the evidence on which a scientific proposition is to be based consists of a number of measurements made at various observed times or in coincidence with some other measurable parameters. Let us in other words have pairs of two measured variables V_1 and V_2. Can we decide from a series of points V_1 plotted against V_2 whether there is a function $V_1 = f(V_2)$ and if so, what it is? Clearly we can do nothing of the kind. Any set of pairs of V_1 and V_2 variables is compatible with an infinite number of functional relations between which there is nothing to choose from the point of view of the underlying data. To choose any of the infinite possible functions and give it the distinction of a scientific proposition is so far without any justification. The measured data are insufficient for the construction of a definite function $V_1 = f(V_2)$ in exactly the same sense as two elements of a triangle are insufficient to determine

[19] Cf. *STSR*, 85-85, 112-113.

[20] See *PK*, 15-16. Cf. *M*, 25-26 and 29-30.

a definite triangle.[21]

This inherent impossibility of deriving scientific propositions as an explicit function of empirical observations has radical implications. We need not even consider the further complications added by "introducing the element of scientific predictions." Even successful predictions cannot be made to justify scientific propositions, for they simply add further observations (the fulfilled predictions) to the series of variables.[22] Yet, there is something more basic: It should not be difficult to grasp, argues Polanyi, the fact that "the principles of *post hoc ergo propter hoc* and *juxta hoc ergo propter hoc*" are not simply characteristic of primitive or mythical thinking, as the modern scientific mind might be tempted to contend. They are actually "the proper guides of all empirical thinking, as even David Hume himself pointed out."[23]

In reality, what distinguishes the modern scientific application of these principles from an "archaic" one, is only the difference in judgement of "whether certain observed temporal or spatial contiguities should be deemed coincidental or causal." This judgement can have no other frame of reference than the *beliefs* one holds about "the general nature of things."[24] If the modern scientific application of the principles of causation seems more adequate, Polanyi continues, it is only because we do *believe* that the scientific view of the general nature of reality is a more correct view than a mystical or mythological one.[25] It was, in fact, to buttress this argument, says Polanyi, that he "became for many years a scandal-

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[21] *SEP,* 216.

[22] *Ibid*.

[23] *M,* 135. Q.v., p. 89 above.

[24] Cf. *SFS*, 28.

[25] *M,* 135.

monger, collecting cases where to most generally accepted rules of scientific procedure had been flaunted and flaunted to the advantage of science."[26]

Science, Belief and Reality

In *Science, Faith and Society* Polanyi suggests a simple illustration that introduces the basic elements he believed were actually involved in scientific inquiry, but which could never be accounted for by supposing scientific knowledge as explicitly derived from empirical observation of brute facts: "Suppose we wake up at night to the sound of a noise as of rummaging in a neighboring unoccupied room," says Polanyi. "Is it the wind? A burglar? A rat?... We try to guess. Was that a foot-fall? That means a burglar! Convinced, we pluck up courage, rise, and proceed to verify our assumption."[27]

He then goes on to identify two features in the analogy of the burglar with direct bearing on the nature of scientific discovery: First, "The theory of the burglar–which represents our discovery–does not involve any definite relation of observational data from which further new observations can be definitely predicted. It is consistent with an infinite number of possible future observations. Yet the theory of the burglar is substantial and definite enough; it may even be capable of proof beyond any reasonable doubt in a court of law." What makes the theory substantial and definite, however, is not its derivation, but the fact that it assumes the discovery, or identification, of a *real* entity–the burglar, and the truth

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[26] *SEP*, 276. Cf. *SFS*, 28-29. Polanyi's many "cases" can be seen in *LL*, 15-25; *STSR*, 70, 80-81; as well as his discussions of their implications in "Creative Imagination," 85-93; and "Genius in Science," *Boston Studies in the Philosophy of Science*, vol. XIV (1972), 57-71. The classic general example for Polanyi was the history of the development and the acceptance of Einstein's theories of relativity, for which see especially *PK*, 9-16.

[27] *SFS*, 22-23.

of the theory will, likewise, be determined by the reality of the burglar.[28]

Second, the process by which the discovery of the burglar was made, the derivation, was not a simple act of logical inference. It consisted in the apprehension of several clues, which were tacitly integrated, and led to the entertaining of certain possibilities assumed to be plausible, with one final clue satisfactorily establishing one of the theories. "The process," said Polanyi, "starts with the very moment when, certain impressions being felt to be unusual and suggestive, a 'problem' is presenting itself to the mind; it continues with the collection of clues with an eye to a definite line of solving the problem; and it culminates in the guess of a definite solution."[29]

These two elements are easily translated into the framework of scientific inquiry. Yet, it is also important to recognize that the 'burglar' illustration selects as the solution to the problem created by the unusual clues "a known element of reality." Scientific inquiry, however, as "the vast growth of science in the last 300 years proves massively," is actually postulating entirely new aspects of reality not known by us before. "Whence can we *guess* the presence of a real relationship between observed data, if its existence has never before been known?"[30]

Polanyi suggests "we go back to the simple process by which we usually first establish the reality of certain things around us." For example, when we assume the identification of a coherent outline as the major clue to the reality of an object upon which we focus our eyes. He continues: "Take, for example, a ball or an egg: we can see their

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[28] *Ibid*., 23.

[29] *Ibid*.

[30] *Ibid*., 24 (emphasis added).

shapes at a glance. Yet, suppose that instead of the impression made on our eyes by an aggregate of white points forming the surface of an egg, we were presented with another, logically equivalent, presentation of these points as given by a list of their spacial co-ordinate values." The integration of these values into an adequate vision of the shape of an egg would be an incredible feat. It would be "rather similar in nature and measure of intellectual achievement to the discovery of the Copernican system."[31] Yet, it would still consist on the tacit integration of clues toward guessing a coherent pattern presupposed to be real, which is exactly what Polanyi suggests is the nature of scientific inquiry. He concludes:

> We can say, therefore, that the capacity of scientists to guess the presence of shapes as tokens of reality differs from the capacity of our ordinary perception, only by the fact that it can integrate shapes presented to it in terms which the perception of ordinary people cannot readily handle. The scientist's intuition can integrate widely dispersed data, camouflaged by sundry irrelevant connexions and indeed seek out such data by experiments guided by a dim foreknowledge of the possibilities which lie ahead.[32]

The possibility of error is always present, in the same way as "the shape of a camouflaged body may be erroneously perceived in everyday life." However, says Polanyi, the crucial fact is that "some of the characteristic features of the propositions of science exclude the possibility of deriving these by definite operations applied to primary observations." Invariably, "the process of their discovery must involve an *intuitive* perception of the *real structure of natural phenomena*."[33]

Furthermore, says Polanyi, "the part played by new observations and experiment

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[31] *Ibid*.

[32] *Ibid*.

[33] *Ibid*., 25 (emphases added).

in the process of discovery in science is usually over-estimated." The detached objectivity of scientific inquiry is usually defended by arguing that scientists entertain their guesses as mere hypothesis, which are later confirmed, or merely falsified, according to Karl Popper' addendum, solely on the basis of observation.[34] But in fact, just as the process of *scientific discovery* involves an intuition, rooted in the premisses and presuppositions of science and guided by the clues of observation, so it is with the process of *verification*, where "the apprehension of reality" involved in discovery becomes itself the source of clues to future observations:

> In both processes there is involved an *intuition of the relation between observation and reality*: a faculty which can range over all grades of sagacity, from the highest level present in the inspired guesses of scientific genius, down to a minimum required for ordinary perception. Verification, even though usually more subject to rules than discovery, rest ultimately on mental powers which go beyond the application of any definite rules.[35]

This, for Polanyi, began to indubitably establish the fiduciary nature of the scientific enterprise. It also began to show that if science was at all different from other competing belief systems, this difference would not be the presence of voluntary beliefs, but merely the nature of the beliefs held by scientists: "the beliefs of scientists regarding the essence of nature are held by them on their own responsibility, underlying their methods of discovery and determining their readiness to accept a certain type of evidence or to reject it as the case may be."[36]

Of course, implied in the recognition that science is a skillful application of

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[34] *Ibid*., 28 Cf. *M,* 27.

[35] *Ibid*., 28-29 (emphasis added).

[36] Cf. *SEP*, 215-223.

antecedent beliefs about reality that aims at discerning further aspects of this reality, is the realization that objective experience alone does not compel a decision between one view of reality over another (e.g., "between the magical and the naturalistic interpretation of daily life or between the scientific and the theological interpretations of nature"). Though "it may favour one or the other," the final decision will be between "alternative forms of mental satisfaction," and not between logical and empirical necessity or voluntary belief.[37] This calls for a discussion of the connection between belief and truth in the scientific enterprise.

Science, Belief and Truth

By disregarding the fact, says Polanyi, that scientific knowledge is a 'relying on' a whole framework of antecedent beliefs 'in order to attend to' reality and uncover ever new aspects of it that will be incorporated back into that framework, "objectivism has totally falsified our conception of truth… it has overlooked the a-critical choices which determine the whole being of our minds and has rendered us incapable of acknowledging these vital choices. "[38] Polanyi cuts to the chase and goes down to the most basic level in which all knowledge operates within an interpretative conceptual framework:

> Our most deeply ingrained convictions are determined by the idiom in which we interpret our experience and in terms of which we erect our articulate systems. Our formally declared beliefs can be held to be true in the last resort only because of our logically anterior acceptance of a particular set of terms, from which all our reference to reality are construed.[39]

Philosophers of science have often sought to argue a general "coherence theory of

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[37] *SFS*, 25, 28. Cf. *STSR*, 98-115; *SEP*, 330-331.

[38] *PK*, 286. See also my discussion of "relying on" and "attending to" in p. 30 above.

[39] *Ibid*., 286-287.

truth," or more specifically, as illustrated by Bertrand Russell, a "correspondence theory of truth," viz., he "defines truth as a coincidence between one's subjective belief and the actual facts."[40] Nevertheless, the idea that coherence serves as the criterion of truth glosses over what Polanyi called the "objectivist dilemma." Let us then turn to Polanyi's argument that "correspondence"is actually inherent in *any* stable fiduciary system, and hence cannot be the criterion of truth. Then we may look at the "objectivist dilemma" itself and Polanyi's answer, which will finally lead us to a discussion of how we believe it is that Polanyi has been able supposedly to eliminate the "paradox of self-set standards" and universal validity.[41]

Polanyi asserted that the whole framework of scientific beliefs, tacit and explicit, which underlie the scientific tradition, is 'highly stabilized," but it is not very different from the way in which the stability of belief systems in general is maintained. He takes as an example Evans-Pritchard's account of the belief system of the Azande, and identifies three key elements that make its conceptual framework highly stable, and capable of maintaining its coherence: First, it is a circular interpretative framework, in which "the interpretation of any particular new topic… is based on past applications of the same framework to a great number of other topics not now under consideration."[42] Second, it also possesses an "epicyclical character," a "self-expanding capacity" manifested by the fact that "it readily supplies elaborations of the system which will cover almost any conceivable eventuality,

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[40] *Ibid*., 304.

[41] *PK*, 95-96, 104, 315.

[42] *PK*, 288-289. Cf. E. E. Evans-Pritchard, *Witchcraft, Oracles and Magic Among the Azande* (Oxford: Oxford University Press, 1937), 319. "Let the reader consider," says Evans-Pritchard "any argument that would utterly demolish all Zande claims for the power of the oracle. If it were translated into Zande modes of thought it would serve to support their entire structure of belief."

however embarrassing this may appear at first sight."[43] Third, in the Zande framework rival conceptual frameworks are denied the grounds in which they might be established, i.e., by dealing with objections one by one and by expanding itself as needed it never allows the accumulation of enough contrary evidence to call the whole structure into question–this is a function of its circularity and self-expanding capacity. Polanyi termed it "the principle of suppressed nucleation."[44]

The fiduciary framework underlying science, says Polanyi, "rests on the same logical structure," for "any contradiction between a particular scientific notion and the facts of experience will be explained by other scientific notions" so that "any conceivable event" can be explained by "a ready reserve of possible scientific hypotheses." Polanyi continues: "Secured by its circularity and defended further by its epicyclical reserves, science may deny, or at least cast aside as of no scientific interest, whole ranges of experiences" that would otherwise be deemed meaningful.[45] He then concludes:

> What earlier philosophers have alluded to by speaking of coherence as the criterion of truth is only a criterion of *stability*. It may equally stabilize an erroneous or a true view of the universe. The attribution of truth to any particular stable alternative is a fiduciary act which cannot be analyzed in non-committal terms… there exists no principle of doubt the operation of which will discover for us which of two systems of implicit beliefs is true–except in the sense that we will admit decisive evidence against the one we do not believe to be true, and not against the other.[46]

The "objectivist dilemma" thus begins to emerge as the "insoluble conflict between a demand for an impersonality [i.e., objectivity] which would discredit all commitment and

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[43] *PK*, 291.

[44] *Ibid*.

[45] *Ibid*., 292.

[46] *Ibid*., 294.

an urge to make up his mind which drives him to recommit himself." Polanyi's answer, however, is at once radical and simple: "The 'actual facts'" to which the objectivist wishes to compare his "subjective beliefs" are simply "accredited facts, as seen within the commitment situation," while the "subjective beliefs" are merely "the convictions accrediting these facts as seen non-committally."[47] He continues:

> But if we regard the beliefs in question non-committally, as a mere state of mind, we cannot speak confidently, without self-contradiction, of the facts to which these beliefs refer. *For it is self-contradictory to secede from the commitment situation as regards the beliefs held within it, but to remain committed to the same beliefs in acknowledging their factual content as true*.[48]

In this sense, the truth of beliefs can be said to depend upon self-set standards,[49] but must this simply mean a descent to subjectivity? Polanyi's whole effort had been exactly to argue that this is not the case. That "commitment is a personal choice, seeking, and eventually accepting, something believed to be… impersonally given, while the subjective is altogether in the nature of a condition to which the person in question is subject."[50] Still, how then will he resolve the paradox of self-set standards and universal validity? In short, the answer is simply to accredit commitment. To say that it expresses a basic drive or purposiveness inherent in man, indeed, perhaps a "magnified form of universal biological adaptivity,"[51] where he is always moving from his subjectivity to a higher, more universal, plain.[52] How Polanyi believes that commitment solves the problem can be gleaned from the

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[47] *Ibid*., 304.

[48] *Ibid*. (Polanyi's emphasis)

[49] Cf. *Ibid*., 256.

[50] *Ibid*., 302.

[51] *Ibid*., 124.

[52] Cf. *TD*, 58-63.

following statement:

> We observe here a mutual correlation between the personal and the universal within the commitment situation. The scientist pursuing an enquiry ascribes impersonal status to his standards and his claims, because he regards them as impersonally established by science. But his submission to scientific standards for the appraisal and guidance of his efforts is the only sense in which these standards can be said to pre-exist, or even to exist at all for him. No one knows universal intellectual standards except by acknowledging their jurisdiction over himself as part of the terms on which he holds himself responsible for the pursuit of his mental efforts. I can speak of facts, knowledge, proof, reality, etc., within my commitment situation, for it is constituted by my search for facts, knowledge, proof, reality, etc., as binding on me. These are proper designations for commitment targets which apply so long as I am committed to them; but they cannot be referred to non-committally. You cannot speak without self-contradiction of knowledge you do not believe, or of a reality which does not exist. I may deny validity to some particular knowledge, or some particular facts, but then to me these are only allegations of knowledge or of facts, and should be denoted as 'knowledge' and as 'facts', to which I am not committed. Commitment is in this sense the only path for approaching the universally valid.[53]

We will return later to the question of commitment itself. For now our main concern is with establishing *how* and *why* we believe Polanyi has been able to claim that the fiduciary mode supposedly solves the paradox between self-set standards and universality, as well as the objectivist dilemma. This relates primarily to his "redefinition of truth."[54] We suggest he has done so in what might be the only way possible if one is determined to develop a fiduciary program that is strictly "rooted in the universe"(in the sense of Plato's third level) but transcendentally oriented, and that is by simply redefining truth as a process, a complex and tight dialectic between a completely activistic principle and an absolutely abstract universal. Of course, this statement must be unpacked and supported, after which we may proceed with our exploration.

In one sense, Polanyi's fiduciary program has radicalized the subjectivity of

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[53] *PK*, 302-303.

[54] *Ibid*., 70-71, 104, 112, 254-255.

scientific belief by affirming that truth in science cannot be more than that which the scientist believes that is true when he relies on it to make contact with an externally existing reality–a reality which itself is, and can only be, colored by the lenses of the very framework of beliefs in which the scientist has relied.[55] That is why he says "science or scholarship can never be more than an affirmation of the things we believe in." Despite its universal intent and the fact that it must be held responsibly and "in due consideration of the evidence and of the fallibility of all beliefs," there comes a point when, "to all further critical scruples we must… finally reply: For I believe so."[56]

However, in another sense, he has also affirmed that the commitment situation saves us from total subjectivity *because* it points to a transcendent, though merely formal and abstract, universal standard of truth. This can be introduced as follows: He has affirmed that though every epistemic act is dependent upon self-set standards, it is, by its very fiduciary nature, also an expression of ultimate commitment to a transcendent ideal of truth, i.e., to say 'p is true' or 'I believe p is true,' is, regardless of whether 'p is true' or not, to say 'truth exists.'[57] Let us briefly see how Polanyi develops this general idea in at least three different directions:

First, says Polanyi, "though every person may believe something different to be true," they all must in turn insist, "there is only one truth." That is to say their belief is held with exclusive, particular and universal intent,[58] which presupposes the existence of a

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[55] *Ibid.*, 303. Cf. *SFS*, 82.

[56] *STSR*, 66.

[57] *Ibid.*, 315-316.

[58] *PK*, 315, 316.

transcendent universally valid truth, even if only in the sense of striving for it.[59] Second, each time beliefs are held with universal intent they assert a truth about external reality which is expected to reveal itself, to the one holding the beliefs and to others, not only as a permanent feature of reality, but also as a clue to an evermore comprehensive view of reality. That is to say, they are supposed to open up new vistas and further discoveries of even more aspects of reality.[60] Third, in the idea that, though "objective experience cannot compel a decision" between different fiduciary frameworks, this decision is nevertheless possible if it is recast as a decision between different kinds of "mental satisfaction" that can be "weighted in the balance," there is invariably the presupposition of some kind of standard, of a point of transcendence, that serves as the "foundations of such decisions."[61]

This return to a point of transcendence, to an ultimate standard is inevitable, if the fiduciary root, the final "for I believe so," is not to be completely arbitrary. Polanyi is quite clear in his belief that no articulate framework of belief can ultimately avoid self-destruction without finally referring to deontological and transcendent ideals: The "conviction that truth is real and cannot fail to be recognized by all who sincerely seek it," and that therefore, we have an "inherent obligation to the truth." These are the metaphysical beliefs that in his early work he characterized as a faith directed toward an ultimate "spiritual reality."[62]

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[59] Cf. *KB*, 133.

[60] *SEP*, 225-226; *SFS*, 26. Polanyi illustrates this in the following example: Human death, in a mythological world view, might be given a special meaning, e.g., as the consequence of a neighbor's envy, a curse, the gods, etc., while, "the naturalistic view of a man's death, say by a rail accident, robs human fate of some of its proper meaning; tending to reduce it to 'a tale told by an idiot, signifying nothing'. But at the same time the naturalistic view opens up such a noble vista of the natural order of things which are inaccessible to the magical view, and establishes so much more decent and responsible relationships between human beings, that we must not hesitate to accept it as the truer of the two."

[61] *Ibid*., 28.

[62] *Ibid*., 73, 78, 80. I have discussed this issue at some length in the previous chapter.

We may now seek to bring our argument into a sharper focus by distinguishing between what we called the activistic and the abstract poles of the dialectic within which Polanyi redefines truth in order to escape the objectivistic dilemma and solve the paradox of self-set standards and universality: On the one hand, the requirement that the fiduciary program be "rooted in the universe" demands a concept of truth as never final, as always a striving, a movement of belief from true to truer,[63] or perhaps, as he also characterizes the "heuristic vision" he believes Christian worship sustains, "an eternal, never to be consummated hunch."[64]

On the other hand, this activistic concept of truth as 'the beliefs one finds himself holding,' though "rooted in the universe," supposedly points, by the very fact that it is a striving and a movement, to a transcendent truth that is its bearing and ultimate justification, but must always remain in the abstract.[65] As a matter of fact, his very argument for the impossibility of denying transcendent truth, viz., "it is logically false to deny the existence of truth since the very statement asserting this is based on the assumption that truth can be established," is quite Platonic. It reveals an abstract and formal idea of absolute truth that can hardly be seen as remaining within Plato's first three levels, and which ends up being even more abstract, for Plato at least had the transcendent forms "laid up somewhere."[66]

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[63] Cf. *PK*, 110-112, where this idea is developed in the context of 'articulation.'

[64] *PK*, 199.

[65] Cf. *M*, 203-204, where Polanyi clearly contrasts "devotion to the spiritual objectives, such as truth, justice, beauty" as the universal and transcendent ideals that must always remain in the abstract, as merely formal, and the fact that "what these really are, *in concreto*, is simply what all members of each relevant group are striving together to delineate. Truth, for instance, is given specific form only as the community of scientists is free to work out what its form is–and this task is never finished."

[66] *SFS*, 78. It is important to note that this, of course, also precludes the idea that the truth content of beliefs can be simply upheld, in the concrete, as final and absolute on the basis of their supernatural origin, i.e., as revelation. This implication is not simply logical, but seems to be actually expressed by

It seems, therefore, that we have here a situation somewhat analogous to Plato's attempt to synthesize Heraclitus' flux with Parmenides' continuity:[67] The activistic concept of truth keeps it rooted in the universe, and makes it into something that can even be ultimately claimed to be a "magnified form of universal biological adaptability."[68] At the same time the ideal of a transcendent universal truth keeps the activistic principle from simply disintegrating into pure factual contingency. Yet, since it is merely abstract, it allows him to claim the "coherence of all men's consciences in the grounds of the same universal tradition"[69] without demanding that the transcendent be externally given from the start. The difference is only that by making the transcendent always abstract, while also making it always a correlate 'back of' the world of change, he has avoided the need to have it "laid up somewhere." The objectivist dilemma was between objectivity and subjectivity, but his solution ends up being simply a tighter synthesis that shifts the emphasis from the tension to the correlation. Truth, and the object of belief, then become a 'concrete faith in itself' and in its original framework, correlated with a merely formal faith that the process and the framework are in fact transcendentally oriented: *from* Plato's third level *to* that which "bears on eternity."[70]

This is as far as our comments should go at this point. We are now ready to move from Polanyi's reflection about the general fiduciary nature of science to his argument about

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Polanyi when makes his argument for why we may accord competence to the opinions of science, law and liberal protestant religion, but probably not to "the fundamentalist's belief in the letter of the Bible." See *Ibid*., 56-60, 61.

[67] Q.v., p. 105n. above.

[68] *PK*, 124.

[69] *SFS*, 82.

[70] Cf. *TD*, 56, 92.

its presuppositions and what makes that fiduciary framework different, for example, from that of the Azande and the astrologist, or the "fundamentalist's belief in the letter of the Bible."[71]

Scientific Beliefs and the "Programme of Self-Identification"

The fiduciary program demands that scientific activity be always an expression of commitment to a given fiduciary framework, to a community of faith that upholds and embodies certain metaphysical presuppositions and a set of axioms and premises about how scientists may fulfill their common obligation to the truth from within their own given starting point.[72] Nevertheless, for Polanyi, it is also crucial to realize that ultimately the activity of scientists, and, in fact, every epistemic activity, must be understood as a "programme of self-identification." Let us see how Polanyi arrives at this conclusion:

> This then is our liberation from objectivism: to realize that we can voice our ultimate convictions only from within our convictions–from within the whole system of acceptances that are logically prior to any particular assertion of our own, prior to the holding of any particular piece of knowledge. If an ultimate logical level is to be attained and made explicit, this must be a declaration of my personal beliefs. I believe that the function of philosophic reflection consists in bringing to light, and affirming as my own, the beliefs implied in such of my thoughts and practices as I believe to be valid; that I must aim at discovering what I truly believe in and at formulating the convictions which I find myself holding; that I must conquer my self doubt, so as to retain a firm hold on this *programme of self-identification*.[73]

Let us then examine briefly what Polanyi sees as some general components, or aspects, of the scientific framework that make it, in his opinion, an adequate framework for the program of self-identification, and so, a worthy object of faith. We may select three

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[71] *SFS*, 61.

[72] *Ibid*., 71, 73.

[73] *PK*, 267 (emphasis added).

crucial dimensions, viz., the tacit, the dynamic and the formal. These should set the stage for commenting on what we believe are the preconditions for Polanyi's concept that the fiduciary program must be a program of self-identification. From there, we will continue to work toward comprehending what we have been calling Polanyi's growing *problem*.

The Tacit Component

For Polanyi, the most easily identifiable tacit component without which no scientific effort could ever be justified, is an act of double accreditation. This accrediting necessarily precedes not only scientific propositions and investigations, but even every single aspect of "guessing." Polanyi says:

> In science the process of guessing starts when the novice feels first attracted to science and is then attracted further towards a certain field of problems. This guesswork involves the assessment of the young person's own yet largely, undisclosed abilities, and of a scientific material, yet uncollected or even unobserved, to which he may later successfully apply his abilities. It involves the sensing of hidden gifts in himself and of hidden facts in nature, from which two, in combination, will spring one day his ideas that are to guide him to discovery.[74]

Polanyi's description reveals that before a scientific problem is even entertained, the scientist presupposes, and accredits, on the one hand, the possibility of knowing, of guessing correctly, certain aspects of reality. On the other hand he also presupposes and accredits the existence of 'hidden facts in nature' which can be known and are *real*.[75] It is important to realize, however, that what we refer to as "presupposing" and as "accrediting" must be understood, for Polanyi, as present even in a pre-articulate plane.[76] Elsewhere,

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[74] *SFS*, 32.

[75] Cf. *PK*, 48, 130.

[76] See *SM*, 25.

Polanyi illustrates this double accrediting at the animal level through certain psychological experiments on animal problem solving: "A rat in a discrimination box is made to realize that there is food hidden in one of two compartments, both of which are accessible, and only if it has grasped this will it start searching for something which discriminates the door or screen with food behind it," in the same way, "animals will not start solving a maze unless they are made aware of the fact that there exists a path through it, with some reward at its outlet," and "A chimpanzee in a cage within sight of a bunch of bananas out of its reach neither makes any futile effort to get hold of it by sheer force, nor abandons its desire of acquiring the prize. It settles down instead to an unusual calm, while its eyes survey the situation all around the target; it has recognized the situation as problematical and is searching for a solution."[77]

"There is a purposive tension," says Polanyi, "from which no fully awake animal is free. It consists in a readiness to perceive and to act, or more generally speaking, to make sense of its own situation, both intellectually and practically." This purposive tension, which Polanyi also speaks of as a heuristic tension, makes every intellectual effort, from perception to cognition, discovery and all other aspects of "making sense of our situation," as something in the nature of problem-solving. It represents a drive somehow to cross a logical-gap, which can be as small as that involved in the visual integration of "an aggregate of white points" which reveals to perception the shape of an egg, or as large as the logical gap crossed when scientific genius discovers a significant aspect of reality hitherto unknown.[78]

It is important, says Polanyi, to realize that the recognition of an unaccountable,

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[77] *PK*, 120, 121.

[78] *Ibid*., 123.

almost mysterious, purposive element underlying scientific discovery and knowledge in general is not something new. "Even a writer like Kant," says Polanyi, "so powerfully bent on strictly determining the rules of pure reason," spoke of an element indispensable to the application of any scientific and rational rules, and even to any act of simple identification of an object:

> Kant says that no system of rules can prescribe the procedure by which the rules themselves are to be applied. There is an ultimate agency which, unfettered by any explicit rules, decides on the subsumption of a particular instance under any general rule or a general concept. And of this agency Kant says only that it "is what constitutes our so-called mother-wit."... Indeed, at another point he declares that this faculty, indispensable to the exercise of any judgment, is quite inscrutable. He says that the way our intelligence forms and applies the schema of a class to particulars "is a skill so deeply hidden in the human soul that we shall hardly guess the secret trick that Nature here employs."[79]

That Kant could simply accept "the operations of such a powerful mental agency" without analysis and critique, and make only "a few scattered references to it," and that "generations of scholars have left such an ultimate submission of reason to unaccountable decisions unchallenged," says Polanyi, seems to have been an instinctive preference to "let such sleeping monsters lie, for fear that, once awakened they might destroy their fundamental conception of knowledge." Nevertheless, without presupposing such a faculty, accounting for any act of scientific discovery or even cognition would be logically impossible.[80]

The unspecifiability of that which is presupposed by any effort at scientific discovery is aggravated by the fact that a scientist does not simply start off with the assumption that knowledge is possible both in terms of its object and its subject. Throughout

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[79] *KB*, 105-106. The citations are from Immanuel Kant, *Critique of Pure Reason*, A.133, A.141.

[80] *KB*, 106.

the whole process of crossing a logical gap, whether large or so small as to be insignificant, his guesses must be constantly guided by "an intimation of approaching nearer to a solution." Yet, the final justification of the guesses and the steps leading up to the solution, is totally dependent upon that final solution.[81] While animals may be prompted to seek out solutions to the problem of a maze because "they are made aware that there exists a path through it, with some reward at its outlet," and while an artist creates his work of art "firmly guided by a fundamental vision of the final whole," in scientific discovery the vision of the final whole is neither freely imagined, as with the work of art, nor given beforehand, even indirectly, as in the maze. Rather, the scientist "must give a true picture of a hidden pattern of the outer world," but because his final vision is still hidden, he finds himself, as George Polya has described, trying to build an arch "where every stone depends for its stability on the presence of the others," while, paradoxically, "the stones are in fact put in one at a time."[82]

Polanyi argues therefore that "the conditions in which scientific discovery usually occurs and the general way of it happening certainly show it in fact to be a process of emergence rather than a feat of operative action." There are certainly skills, methods, rules, techniques and a number of other ways in which "routine progress–such as the production of good maps and charts of all kinds–can be made." Still, the rules of innovative research and scientific discovery can never be "usefully codified at all," for they are "embodied in practice alone," and fraught with unspecifiable elements. There is a popular belief, says Polanyi, "that a procedure of empirical discovery has been revealed and established by

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[81] *SFS*, 32.

[82] *Ibid*. Cf. George Polya, *How to Solve It: A New Aspect of Mathematical Method* (Princeton: Princeton University Press, 1945).

Francis Bacon. But actually his prescription of making discoveries by collecting all the facts and passing them through an automatic mill was a travesty of research." In reality, says Polanyi,

> Potential discovery may be thought to attract the mind which will reveal it–inflaming the scientist with creative desire and imparting to him a foreknowledge of itself; guiding him from clue to clue and from surmise to surmise. The testing hand, the straining eye, the ransacked brain, may be thought to be all laboring under the common spell of a potential discovery striving to emerge into actuality.[83]

It is important to note, at this point, that the idea of a tacit and quite universal striving and purposiveness that moves *from* clues *to* an attempt to comprehend aspects of reality, coupled with the notion of "a potential discovery striving to emerge into actuality," is a general application of the idea of knowledge as belief striving *from* true *to* truer and oriented toward universality. This is what we have identified as the dialectic between an activistic and an abstract concept of truth. This should become clearer as we go on, and it helps us move forward toward establishing why Polanyi believes science to be exemplary of a happy dwelling place for the program of self-identification.[84]

Belief, Nature and the Creative Rhythm

It is in the examination of certain aspects of mathematical problem-solving, or heuristics, especially the work of Poincaré and Polya, that Polanyi finds a general outline of discovery that he believes accurately accounts for some basic steps involved in "a wide field of other creative activities of the mind." Polya's contribution is, for Polanyi, mainly the realization that discovery "far from representing a definite mental operation, is an extremely

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[83] *SFS*, 33.

[84] Q.v., p. 121 above. Cf. *PK*, 286.

personal art which can be but little assisted by any formulated precepts." Yet Poincaré, says Polanyi, has identified four phases in every heuristic process that clearly reveal the underlying unspecifiable intuitive and "purposive"element involved throughout the process: He suggested a general "creative rhythm" that moved from Preparation to Incubation, Illumination and finally Verification, and at each of these steps intuitive impulses, the creative imagination and the clues provided by observations past and present interacted with each other moving the discoverer toward his final goal of making contact with a previously hidden aspect of reality.[85] Polanyi concludes:

> The solution of riddles, the invention of practical devices, the recognition of indistinct shapes, the diagnosis of an illness, the identification of a rare species, and many other forms of guessing right seem to conform to the same pattern. Among these I would include also the prayerful search for God. The report of St. Augustine of his long labours to achieve faith in Christianity, abruptly culminating in his conversion, which he immediately recognized as final and followed up by the lifelong vindication of the suddenly acquired faith, certainly reveals all the characteristic stages of the creative rhythm.[86]

For Polanyi, it seemed that what all these different manifestations of discovery had in common, was not simply the presupposition that reality exists and can be known, for this is only the specifiable and articulate aspect of the presupposition. Rather, they appear to be "guided by the urge to make contact with a reality which is felt to be there already to start with, *wanting to be apprehended*." Thus, a great discovery can be said to touch upon "something obvious; a presence staring us in the face, waiting until we open our eyes." At this point, Polanyi is willing to go even further and suggest that "it may appear perhaps more appropriate to regard discovery in natural sciences as guided not so much by the potentiality

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[85] *PK*, 121; *SFS*, 34. Cf. G. Wallas, *The Art of Thought* (London, 1946), 40ff.

[86] *SFS*, 34-35.

of a scientific proposition as by an aspect of nature *seeking realization* in our minds," hence an emergence that spurs and guides the scientist to discovery, and does so by inspiring in him a faith, an ultimately unspecifiable urge to move from his belief to the hopes they inspire.[87] As we will see later, this idea of emergence will play an increasingly crucial role as Polanyi moves toward making the transcendent less abstract by placing it within the immanent. We will suggest that it actually becomes a pseudo-substitute for what is in fact a lingering and vague notion of revelation.[88] However, we must postpone this discussion and turn to the issue of formalization of the scientific fiduciary framework.

Maxims, Skills and Indwelling

The elements which we have accompanied Polanyi in identifying, so far, relate to the faith of the scientist as an inherent and unspecifiable accrediting of the *knower* and the reality which is *known*. However, the faculty of being able to "guess" features of reality in a *pas de deux* with a possible emergent aspect of reality itself, are not altogether indeterminate for Polanyi. Their operation is dependent upon, though not fully reducible to, the more specific presuppositions and premisses within which they operate. Such presuppositions and premisses might be partly specifiable, though they will inherently contain elements that are not.[89]

This relationship is not difficult to grasp if we consider a great discovery, for example: For quite a long time, men in antiquity had observed and recorded celestial

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[87] *Ibid*., 35 (emphases added). Cf. *PK*, 267.

[88] Q.v., pp. 134f. below.

[89] *KB*, 117, 119. Cf. "Logic and Psychology," *American Psychologist*, XII (Jan. 1968), 27-43.

phenomena, and each observation revealed a true feature of reality when it was the product of rightly 'guessing,' under the guidance of the clues offered up by nature. Each time darkness occurred during a period when the sun's light should have been present was recognized and subsumed under the concept of an eclipse, and recorded as such. It was Thales of Miletus, however, who first discovered a regularity in such celestial phenomena, and crossing a much larger logical gap, integrated not only the immediate clues offered up by nature to himself, but also the previously recorded observations. His discovery still involved an unspecifiable feat. Yet, it took place within a broader spectrum of clues upon which he dwelt, many of which had been specified, and other which had been tacitly transmitted to him through generations of observers and observations. His own discovery, however, also became part of the clues upon which future discoveries would be made, and not only the explicit aspect of his discovery, but also the tacit coefficient involved therein.[90]

What the example given above shows is that each discovery involves not only the guidance and accreditation of the discoverer's ability and of the clues offered up by nature to him, but it also takes place within the context of an aggregate of previous discoveries that are themselves either accredited or rejected as valid clues within which the discoverer dwells as he seeks to discover ever more comprehensive features of reality.[91] Scientific discovery may be, at times, solitary, and the scientist may feel as if he is relying on nothing else but his own intuitive impulses aroused and guided by the clues offered up to him by nature. Yet in fact, every discovery involves also the clues, whether of simple previous observations, of unspecifiable presuppositions, or of explicit premisses, to which the discoverer is committed

[90] Cf. *Ibid*. 116-119.

[91] *SFS*, 45.

from the start, and within which he dwells. These previous clues, or antecedents, become incorporated to the other objects of the scientist's faith. They also suggest why, like the tacit components we previously discussed but even more so, that faith "can be upheld only within a community."[92]

Seeing the premisses and presuppositions of science in this way also modifies our perspective on scientific laws, methods, rules, and whatever else becomes part of the framework within which the creative rhythm takes place. They take on the character of maxims and skills. We see them as something akin to rules of art, "the correct application of which is part of the art which they govern."[93] Therefore, says Polanyi,

> Rules of art can be useful, but they do not determine the practice of an art; they are maxims, which can serve as a guide to an art only if they can be integrated into the practical knowledge of the art. They cannot replace that knowledge.[94]

That this is the case, Polanyi suggests, can be undeniably ascertained, even at a most rudimentary level, by the mere fact that the process whereby scientific discoveries are articulated is dependent upon a language, which is itself a rudimentary form of world-view. It limits and guides the activities that take place within its framework, even while it is also transformed by the discoveries that take place within itself.[95] Yet, this appeal to language as a most rudimentary framework of presuppositions and premisses also highlights another fact. Whether in language or in the framework of scientific inquiry, these premisses and presuppositions are never antecedents of the kind one can explicitly choose prior to their

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[92] *Ibid*., 73. Cf. *M,* 63, 96-97; *TD*, 23-24.

[93] *PK*, 31, 50, 162, 115; *TD*, 20. Cf. *SM*, 24-25.

[94] *PK*, 50.

[95] See *PK*, 111-113.

embodiment in the practice that they underlie. Their existence is never in abstraction from their embodiment in the "stream of life" (to borrow Wittgenstein's term), in the actual indwelling of scientific life. Like the rules of language, scientific premisses, skills and maxim are quite often articulated and formalized, but their meaning and their application is only understood in the practice of the art which they guide. Thus, says Polanyi,

> *Nobody has ever affirmed the presuppositions of science by themselves*. The discoveries of science have been achieved by the passionately sustained efforts of succeeding generations of great men, who overwhelmed the whole of modern humanity by the power of their convictions. Thus has our scientific outlook been moulded, of which *these logical rules give a highly attenuated summary*… Science is a system of beliefs to which we are committed. Such a system cannot be accounted for either from experience as seen within a different system, or by reason without any experience.… Yet this does not signify that we are free to take it or leave it, but simply reflects the fact that it is a system of beliefs to which we are committed and which therefore cannot be represented in non-committal terms… the logical analysis of science decisively reveals its own limitations and points beyond itself in the direction of a fiduciary formulation of science.[96]

Excursus

This brings us to a point of transition appropriate, perhaps, for a brief digression aimed at bringing to the fore some aspects of our argument that have remained mainly in the background. We have previously discussed how we believe Polanyi's "process of re-defining the meaning of truth"[97] involves a dialectic between an activistic and an abstract principle. We also followed the lines whereby Polanyi affirms that: (1) "The final grounds on which the scientist holds his premisses and bases the decisions of his conscience, and on which he, and also others who believe in science, accept the decisions of scientists as competent and their views as on the whole valid," is only the fact that they accept "science

[96] *Ibid*., 171 (emphases added).

[97] *PK*, 112.

itself as valid."[98] Yet, (2) by accepting their starting point, accrediting their tacit capacity to believe and guess aspects of a reality that is itself "seeking realization in [their] minds"[99] and by committing to the framework they have accepted as valid, scientists are engaged in a program of self-discovery where by upholding with universal intent beliefs that may be conceivably wrong they are "place[d]… in a transcendent perspective."[100] Throughout our argument, we kept in the background, but anticipated at least once or twice, our belief that Polanyi might actually have been tacitly relying on something external to his avowed framework–his argument might not be as *completely* circular as he seems to think.[101]

First we may develop our contention analogically. How would these ideas function if one presupposed the Christian concept of revelation? The dialectic between the activistic and the abstract principles of truth would be substituted by the analogical relationship between the Creator's pre-interpretation of every fact of reality and man's striving to "follow God's thoughts after Him." This would make man's ectypal knowledge always incomplete, but it would justify it with reference to God's archetypal knowledge. General revelation would then justify the accrediting of our tacit ability to make contact with reality. The *Divinitatis sensum* and the *testimonium Spiritus Sancti* would be the ultimate roots of Polanyi's "intuition" or Kant's "mother-wit." Nature would also be accredited with a 'revelatory' character that justified from the start our reliance upon the clues it offers us.[102]

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[98] *SFS*, 73.

[99] *Ibid*., 35.

[100] *PK*, 324.

[101] See *Ibid*., 299.

[102] Cf. Calvin, *Institutes*, 1:3.1; Cornelius Van Til, "Nature and Scripture" in Paul Woolley, edt., *The Infallible Word* (Philadelphia: P&R Publishing Co., 1946), 262-301; Van Til, *Christianity and Idealism* (Philadelphia: P&R, 1955), 9-10; and Oliphint, "The Apologetic Implication of Alvin Plantinga's

Special revelation, on the other hand, would provide a concrete justification for the transcendental bearing of contingent knowledge and also furnish an adequate final object for the fiduciary program, as well as for countless other subsidiary fiduciary frameworks developed in the interpretation of sundry aspects of creation.[103] To the extent that man would be seen as immersed in the knowledge of God within and outside himself, we could still speak of knowledge as a program of self-discovery, but it would then also be ultimately a program of 'God-discovery.'[104] Furthermore, the understanding of the meaning and consequences of sin would replace the idea of metaphysical limitations and contingency as the reason for man's epistemic and moral difficulties.[105] In the revealed plan of redemption "faith and hope" would have and object capable of preventing complacency by maintaining man's "obligation to 'the law'" and eradicating despair by "recognition of our utter dependence upon [God] for the ultimate victory through Christ."[106]

Second, we must question how specious it would be to suggest that Polanyi's attempt to establish his fiduciary program has involved derivation and distortion of the Christian framework. Would it be just an illustration of the "circularity," the "epicyclical character" and the "principle of suppressed nucleation" through which we stabilize our own Christian fiduciary framework? If we are to trust certain key assertions involved in Polanyi's thought, this argument seems authorized. He is quite clear that he took his

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Epistemology," 344-354, especially n.616 on 354. I have left out the crucial issue of the fall, which inverts the direction of the tacit knowledge rooted on these grounds. This will be reintroduced in my conclusion.

[103] *Ibid*.

[104] Cf. Calvin, *Institutes*, 1:1.1-3.

[105] Cf. *PK*, 324.

[106] *M*, 157.

inspiration from St. Augustine–whose fiduciary reformation was strictly within that framework. He has also confessed, quite unambiguously, a basic religious motive: "I am of course aiming at the foundation of religious faith. Have been doing so since I started thinking about matters in general twenty-five years ago."[107] He seems to authorize this line of reasoning also when he recognizes that every argument involves an element of *ad hominem*.[108]

Most of all, however, this is exactly the kind of argument that Polanyi approvingly cites as the way in which, instead of trying to "convince," one should "strive to convert" by conveying an "intimation of a mental satisfaction" that might be lacking in a given framework, and ultimately in the grounds of conscience.[109] There are other reasons, which we deem sufficient, to believe that this is not really a specious suggestion, but perhaps we need not insist on them at this point.[110]

Of course, Polanyi's whole argument has consistently avoided and disavowed the idea of revelation as conceived in the Christian framework: He has insisted that transcendent truth be conceived in the abstract, and has effectively ruled out the possibility of special revelation. He has also insisted on a fiduciary framework that is "rooted in the universe"in a way where it would be difficult to allow the idea of general revelation *through* the universe–indeed this is where the idea of emergence becomes a growing leitmotif.

This is not the point, however. What we are suggesting is that, despite all of this,

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[107] Scott, *Everyman Revived*, 181-182. Q.v., p. 8 n. above.

[108] Cf. *PK*, 267.

[109] *SFS*, 81-82.

[110] See, for example, the structure of Polanyi's argument for turning from his epistemology to his ontology through a sort of "chiasmus," which is quite similar to my turn here. Q.v., pp. 44ff. above.

the cogency of his argument that belief is the basis of an actual contact with reality and truth has somehow covertly relied on an equivalent of general revelation. Yet, given his disavowal of the possibility of special revelation, he will eventually become increasingly hesitant to speak even loosely about presupposing a sort of universal contact with a "spiritual reality." Therefore, he must go on simply to complete the inversion and make truth inherent in the immanent. We will return to this discussion, still tentatively, when we conclude this chapter, and then, after having covered his more comprehensive philosophy of emergent meaning we will be able to make this argument again on a more solid basis. For now this is as far as we can take the discussion before turning to some of the elements Polanyi uses in his discussion of the role of the personal conscience of the community of faith.

Scientific Belief and Conscience: A Personal Faith

We have referred to Polanyi's idea that the scientist's conscience is somehow the point of convergence and, in a sense, the point of contact between the contingent aspect of belief and its transcendental bearing.[111] In fact we have even suggested that there might be there a pseudo-substitution of what theology would consider internal aspects of general revelation.[112] It is now important to grasp how Polanyi sees this 'conscience' operating, and also to pay close attention to the language and the concepts he uses to establish the personal framework for its operation.

First let us follow Polanyi as he brings out the question of conscience in *Science, Faith and Society*. He suggests that there are "two different personal elements which enter

[111] Q.v., p. 122, above.

[112] Q.v., p. 130 above. Cf. *PK*, 16-17.

into every scientific judgement": On one hand, "intuitive impulses keep arising" in the scientist's mind, which are "stimulated by some of the evidence." But on the other hand, as his impulses are "conflicting with other parts" of the evidence, another part of his mind keeps rejecting them. Clearly, "unfettered intuitive speculation would lead to extravagant wishful conclusions," but at the same time, "rigorous fulfillment of any set of critical rules would completely paralyze discovery." The arbitration of this dilemma presupposes "a third party standing above the contestants," an aspect of "the scientist's mind which *transcends both his creative impulses and his critical caution*." What Polanyi identifies as a 'scientific conscience' is easily recognized "in the tone of personal responsibility in which the scientist declares his ultimate claims." It reveals to us the presence of an underlying "moral element in the foundations of science."[113]

Second, we must remember that for Polanyi, science is the practice of an art, which has maxims, rules, procedures, etc., but which is never reduced simply to its articulate framework. Therefore, it must be seen to "rely on our personal confidence that we possess some degree of personal skill and personal judgement for establishing a valid correspondence with–or a real deviation from–the facts of experience."[114] Yet what keeps science from being *mere* opinion, is the fact that just as the practice of any art takes place within a given framework that furnishes its material and opens its possibilities, so scientific activity is grounded within a framework limited, on one side, by the striving and passions that motivate it, and on the other side by that which is given–the limitations and conditions which constitute the environment of the scientist's calling. *These two poles serve as limiting*

[113] *SFS*, 40-41(emphases added).

[114] *M,* 31.

concepts, and they are connected, in scientific inquiry, by acts of personal commitment which are the expression and self assertion of the scientist's conscience.[115]

Hence, to recognize scientific inquiry as the practice of an art is not only to accredit the premisses and presuppositions of science as well as our powers to correctly guess aspects of reality. It is also an accrediting of the scientific conscience that must ultimately govern in an unspecifiable way the application of the premisses, skills and connoisseurship embodied in the practice of science in the face of the clues offered up by reality.[116]

We may avoid a needlessly lengthy discussion of much that is entailed, according to Polanyi, in the personal dimension of the scientist's faith and his conscience (which actually constitutes the bulk of his argument for personal knowledge) by using a *particular* framework for bringing out pertinent elements regarding their operation, and concentrating on the one analogy which, as we have already mentioned, Polanyi claimed to be the paradigm and "only adequate conception" of knowing, both scientific and in general:[117]

> [Scientific discovery] is a passionate pursuit of a hidden meaning, guided by an intensely personal foreknowledge of this hidden reality. The intrinsic hazards of such efforts are of its essence; discovery is defined as an advancement of knowledge that cannot be achieved by any application of explicit modes of inference, however diligent. Yet, the discoverer must labour night and day. For though no labour can make a discovery, no discovery can be made without intense, absorbing, devoted labour [where all rules, laws and traditions must not be disregarded]. Here we have, in paradigm, the Pauline scheme of faith, works and grace. The discoverer works in the belief that his labours will prepare his mind for receiving a truth from sources over which he has no control. I regard the Pauline scheme, therefore, as the only adequate conception of scientific discovery.[118]

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[115] Cf. *PK*, 65.

[116] See *PK*, 63-65. Cf. *M,* 33.

[117] Q.v., pp. 78-82 above.

[118] *SEP*, 343.

In this analogy to the paradigm of faith, works and grace we can identify the personal character of the pursuit of scientific inquiry as involving a calling, a commitment and a hope. These take place within the limits of two poles, that which is externally given and that which is inherently internal and mediated by conscience.[119] What is implied by Polanyi can be more clearly understood by examining each of the three basic points in turn.

First, the activity of a scientist always entails the recognition of a personal calling, not only in the restrictive sense of professional calling, but in a more general bearing. This bearing can be grasped, indirectly, from Polanyi's discussion about man's responsibility to search the truth, to know and discover, although he recognizes his own contingency and limitations, or, as Marjorie Grene states it, borrowing from the language of existentialism, the tension between his *transcendence* and his *facticity*.[120] Polanyi says:

> The megalomaniac rejects his frailties, the opportunist rejects his obligations, and the suicide rejects his hopes. The sane man, we say, holds all these incompatible factors together in a sort of permanent tension, hoping that somehow he may be given the power to do what he knows he must, but living in the meantime humbly within the limits of his capacities–within his "calling"in the broadest sense of this word. As a matter of fact, this is the sort of faith and hope that a *scientist* has when he faces a problem he does not know how to resolve but which he tackles anyway.[121]

We may expand and clarify the concept by first noting that, as Grene puts it, for Polanyi scientific inquiry, knowing in general, and indeed all of life, consist basically in orientation. "The organism's placing of itself in its environment," says Grene, "the dinoflagellate in the plankton, the salmon in its stream, or the fox in its lair, prefigures the process by which we both shape and are shaped by our world, reaching out from what we

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[119] See *PK*, 313, 379, 396, 397. *TD*, 87.

[120] Cf. Marjorie Greene introduction, in *KB*, x.

[121] *M,* 156 (Polanyi's emphasis).

have assimilated to what we seek."[122] But the difference is that the calling of the scientist is not *simply* orientation. The existence of man as a sentient and articulate being makes him responsible to search for the truth, to know, and to orient himself in a way that transcends the kind of orientation involved in lower forms of life and is governed by his conscience. For the scientist, his call is to make contact with the reality of nature responsibly and truly, and in this sense it is not at all different from the calling of every man, which "bids us to make up our minds about the whole range of matters with which man is properly concerned."[123]

Yet, man's calling, and particularly the calling of the scientist, also has a pole that is externally given, ranging from the limits of innate capabilities, to the "accidents of personal existence," the presuppositions and premises involved in every aspect of scientific belief, all the way to the limits of perception and bodily existence and of the aspects of reality which are accessible in each historical moment. All these contingencies are also part of the scientist's calling, and it is his commitment that bridges the gap between that which he 'must' strive for, and that which is given to him in order to achieve his purpose.[124] When the scientist fulfills his personal calling and makes his guesses, "he must make the utmost effort to guess right," and when he believes that his discovery reveals a hidden reality, he will "expect it to be recognized equally by others" despite "the limitations imposed" by the particular opportunities within which he must exercise his powers–such opportunities are

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[122] Marjorie Greene, "Tacit Knowing and the Pre-Reflective Cogito," *Intellect and Hope*, 35.

[123] *PK*, 324.

[124] *Ibid*., 322-323.

then integrated into his "calling–the calling which determines his responsibilities."[125]

Second, as we have already suggested, there is a kind of commitment, or proto-commitment, involved even at the level of "life pursuing its self-centered primitive urges." Yet, with "man's momentous acts of responsible commitment made by accepting his own starting-point in space and time, as the condition of his own calling," we meet a situation in which "the mind is warranted to exercise much ampler powers than those by which it is supposed to operate under objectivism; but by the very fact of assuming this new freedom it submits to a higher power to which it had hitherto refused recognition."[126] While "objectivism seeks to relieve us from all responsibility for the holding of our beliefs" by making them necessary, the very recognition that our subjectivity is part of our calling, but that so are the "higher allegiances" which must guide our integration of all that is given as part of "the assignment of our particular problem," makes us at once free to hold our beliefs and yet fully responsible for them. "Our personhood," says Polanyi, "is assured by our simultaneous contact with universal aspirations which place us in a transcendent perspective."[127] Polanyi continues with another Christian analogy:

> The stage on which we thus resume our full intellectual powers is borrowed from the Christian scheme of Fall and Redemption. Fallen Man is equated to the historically given and subjective condition of our mind, from which we may be saved by the grace of the spirit. The technique of our redemption is to *loose ourselves in the performance of an obligation which we accept*, in spite of its appearing on reflection impossible of achievement. We undertake the task of attaining the universal in spite of our admitted infirmity, which should render the task hopeless, because we hope to be visited by powers for which we cannot account in terms of our specific capabilities.[128]

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[125] *SM*, 36.

[126] *PK*, 323.

[127] *Ibid*., 324. Q.v., p. 100 above.

[128] *Ibid.* (emphasis added).

Third, however, as this analogy suggests, the only reason the scientist's calling and his commitment are not abstract and self-contained is that they presuppose, for their operation, a transcendent thrust. If, for Polanyi, "it is the act of commitment that saves personal knowledge from being merely subjective," and if the scientist's "commitment is a responsible decision, in submission to the compelling claims of what in good conscience" he conceives "to be true," it appears that his responsibility, his "striving to fulfill an obligation within a personal situation for which" he is not responsible, and "which therefore determines his calling," must be grounded in "an act of hope," a faith and trust that points beyond the limits of his calling.[129] Hence, says Polanyi,

> The art of doing and knowing, the valuations and the understanding of meanings, are thus seen to be only different aspects of the act of extending our person into the subsidiary awareness of particulars which compose a whole. The inherent structure of this fundamental act of personal knowing makes us both participate in its shaping and acknowledge its results with universal intent. This is the prototype of intellectual commitment.[130]

It is only on this basis that Polanyi can insist that the knowledge which science pursues at its best–the actual knowledge that science is concerned with, and not the objectivistic ideal of knowledge which it claims–is neither subjective, nor absolutely objective, but is rather personal. That is why every aspect of that knowledge, the parts which constitute the scientist's calling, his commitments, and his faith, are always held with universal intent, and always involve a deep moral element of responsibility. At the same time, though this kind of personal knowledge must entail a transcendental thrust or intent, it can never be taken as *completely* transcendent. On one hand the calling, the faith and the

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[129] *Ibid*., 65.

[130] *Ibid*.

hope of the scientist, as well as the objects of his knowing and his 'labors', are never realities which the scientist himself can observe from the outside, with a "God-like" perspective before committing to them. On the other hand they must also be upheld independently from any presupposition of such a God-like perspective being actually revealed from the outside as a starting point:[131] "There is nothing definite to which we can hold fast in such an act. It is a free commitment."[132]

The scientist indwells his calling, his commitment, and the clues offered up by reality, in the same way that we invariably dwell in our bodies and on the tools through which we extent our selves, with the hope that he will perceive more and more of the reality of which he himself is a part.[133] Though by his very existence he is called to make sense of the world, to "make up his mind," there is, for Polanyi, no concrete transcendent referent for the transcendental thrust of his conscience–the scientist, or the man on the street, can only count with what is given to him in created nature, i.e., sans supernatural.[134] However, adds Polanyi, he is not completely alone: "There is something imponderable for us to rely on. We have around us great truths embodied in works born of the very freedom which we hesitate [because of our objectivistic ideals] to enter."[135] We turn then to some of the central aspects

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[131] See *SEP*, 220-223; *PK*, 170-171 and especially *M*, 156 and n. 1, where Polanyi discusses the inherently "blind faith" of the scientist as a "religious attitude," following Dewey. Cf. John Dewey, *A Common Faith* (New Haven: Yale University Press, 1934), 52-54.

[132] *STSR*, 149.

[133] Cf. *M,* 37-45.

[134] At this point the question arises whether the moral responsibility and the hope of fulfilling it and being aided by "powers" we cannot account for are immanent or transcendent in origin. If the latter, than indeed they presuppose something like revelation, if the former, then they cannot but be merely formal, "activistic" (as I have argued), but without 'content.' Of course, as I have already indicated, I think Polanyi is actually wavering between the two, and emergence is the adumbration of how he will resolve this tension.

[135] *STSR*, 149.

of how Polanyi believes the scientific community of faith can be the source and the embodiment of the "great truths" which the scientist, and the knower in general, need in order to continue to fulfill their calling and uphold the validity of their beliefs.

Tradition and Authority: The Scientific Community of faith

The framework within which the calling, the commitments, and the hope of the scientist are exercised, and therefore the "validation of science" itself, says Polanyi, springs from beliefs that are: "(1) partly instilled in us by general tradition and held implicitly by all modern man; (2) partly accepted by scientists as an element of the scientific tradition; and (3) partly nurtured as individual hunches; or else (4) affirmed as the dictates of our personal consciences." Thus, "science is based on experience selected and interpreted in the light of certain traditional, intuitive and conscientious beliefs."[136] While the two latter aspects of beliefs have been our main concern so far, it is important to realize that they require and intimate the former aspect, and furthermore show that scientific activity relies for its very existence upon a kind of community of faith, "a community of consciences jointly rooted in the same ideals recognized by all," which "becomes an embodiment of these ideals and a living demonstration of their reality."[137]

As Polanyi develops this idea, he suggests that the kind of commitment involved in the scientist's engagement in the art of scientific inquiry, and indeed, even the intellectual milieu that constitutes the 'given' part of his calling (transmitted to him from his language

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[136] *SEP*, 221.

[137] *SFS*, 56, 73: "Thus to accord validity to science–or to any other of the great domains of the mind–is to express a faith which can be upheld only within a community. We realize here the connexion between *Science, Faith and Society*."

to the general world view underlying his earliest education), demand a "recognition of the authority of that which he is going to learn and of those from whom he is going to learn it." To ignore this crucial point, is to assume a kind of autonomous freedom that would destroy the basis of all knowledge.[138] Polanyi continues:

> It is the same attitude as that of the child listening to its mother's voice and absorbing the meaning of speech. Both are based on an implicit belief in the significance and truth of the context which the learner is trying to master. A child could never learn to speak if it assumed that the words which are used in its hearing are meaningless; or even if it assumed that five out of ten words so used are meaningless. And similarly no one can become a scientist unless he presumes that the scientific doctrine and method are fundamentally sound and that their ultimate premisses can be unquestioningly accepted. We have here an instance of the process described epigrammatically by the Christian Church Fathers in the words: *fides quaerens intellectum*, faith in search of understanding.[139]

This means that when the scientist, or the man in the street, accepts science as valid, when the practitioner seeks to acquire the skills and connoisseurship that will allow him to integrate the clues of reality within his given presuppositional framework and within the small areas of scientific enquiry over which he labors, he is, in fact, submitting to the authority of science. He is also submitting to the scientific activity of his predecessors and of his colleagues, for even while he may disagree with their particular opinions held concerning certain aspects of observation, he does so, nevertheless, from the standpoint of a common ground: a common commitment to the ideals and practices embodied in the scientific tradition.[140]

It is this tradition that sets the limits of scientific validity, establishes the plausibility

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[138] *Ibid*., 45.

[139] *Ibid*.

[140] *Ibid*., 55-56, 61.

or implausibility of diverse visions of phenomena and reality, and, furthermore, administers, through its institutions, both the distribution of resources, as well as the preservation of its probity and the personification of authority in those whose contributions have most significantly preserved, expanded or altered the tradition.[141] It is not only the scientific discoverer, but "all institutions serving the advancement and dissemination of science," says Polanyi, that must "rely on the supposition that a field of potential systematic progress exists, ready to be revealed by the independent initiative of individual scientists." Without presupposing such state of affairs, the particular scientific institutions, and the institution of modern science as an entity itself, "would soon lose their *raison d'être* and degenerate into special-interest factions."[142]

Though Polanyi discusses many important aspects of the life of the scientific community in its peculiar *raison d'être*, three insights on the manner in which the scientific community conducts its authority are especially important for him in justifying the scientific tradition as an exemplar. They distinguish, for Polanyi, the kind of "General Authority"required by his fiduciary program (i.e., an open-ended tradition compatible with the activistic and abstract principles) and the "Specific Authority" which he believes to be inadequate.[143] Let us begin with Polanyi's own sketch of what constitutes the community of science, or as he calls it here, the "Republic of Science," after which we can briefly look at each of the three key elements separately:

The Republic of Science shows us an association of independent initiatives, combined

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[141] See *TD*, 63, 64, 66-68. Cf. *KB*, 94, especially Polanyi's refutation of Bertrand Russell's claim that, "The triumphs of science are due to the substitution of observation and inference for authority…"

[142] *M,* 190-191.

[143] *SFS*, 56-61.

> toward an indeterminate achievement. It is disciplined and motivated by serving a traditional authority, but this authority is dynamic; its continued existence depends on its constant self-renewal through the originality of its followers.[144]

The first striking characteristic of the scientific community as a whole is its polycentricity and the overall unity and coordination that takes place within itself and accounts for science progressing as an entity. "The consensus prevailing in modern science is certainly remarkable." Especially when we consider the fact that "each scientist follows his own personal judgement" and responds ultimately to his own scientific conscience. This is true in terms of the premisses and claims he accepts, the problems he tackles, and the particular way in which he will respond to each new discovery, whether peripheral or radical. "And yet," Polanyi continues, "in spite of such extreme individualism acting in so many disparate branches, and in spite of the general flux in which they are involved, we see scientists continuing to agree on most points of science." Seldom does controversy cease to exist on many levels, but still a consensus eventually makes its appearance.[145] Polanyi has suggested this pattern as a "spontaneous coordination of independent initiatives" akin to the solving of a large puzzle by a group of individuals, where each one, "in sight of the others," works on his own initiative, but is constantly observing and considering the possibilities, potentials and clues that emerge from the process as a whole.[146]

The second aspect flows from the previous one. In one sense the "scientific conscience continues to be the "normative principle" governing the individual work of the scientist and the many relationships that occur in the community (i.e., master and pupil,

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[144] *KB*, 70.

[145] *SFS*, 50.

[146] *KB*, 50.

collegiality, etc.). Yet, as the "scientific community organizes the conscience of its members through the joint cultivation of its ideals," its premises become "not only a guide to intuition, but also a guide to conscience." Participation in the community, therefore, involves a range of "surrenders" to the community itself, and therefore to its authority.[147] This authority, however, is never centralized. It is rather a 'general tradition' that embodies the commonly held ideals and establishes an open framework for how they are to be pursued. Polanyi continues,

> The art of scientific work is so extensive and manifold that it can be passed on from one generation to the next only by a large number of specialists, each of whom fosters one particular branch of it. Therefore, science can exist and continue to exist only because its premises can be embodied in a tradition which can be held in common by a community.[148]

The third aspect, however, is that while in one sense the exercise of authority and the growth of the tradition necessarily involve a "protective and regulative" function that assures the probity of scientific activity and prevents the waste of resources, both human and material,[149] by enforcing a certain degree of "conformity," in another sense, the very values and ideals embodied in the tradition call for originality, and this "encourages dissent."[150] This dynamic is what, Polanyi believed, allows the scientific tradition, at its best, to constantly renew and modify itself. It is ultimately and tacitly directed not only at the application of its rules and the vindication of its authority, but at a deepening "insight into the nature of reality." Polanyi summarizes it as follows:

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[147] *SFS*, 55.

[148] *Ibid*., 56.

[149] *Ibid*., 50.

[150] *KB*, 54.

> While science imposes an immense range of authoritative pronouncements, it not merely tolerates dissent in some particulars, but grants its highest encouragement to creative dissent. While the machinery of scientific institutions severely suppresses suggested contributions, because they contradict the currently accepted view about the nature of things, the same scientific authorities pay their highest homage to ideas which sharply modify these accepted views.[151]

These three ideas are but some of the most general formulation Polanyi offered about the scientific community of faith, and his analysis and argument present a wealth of details and intricacies that goes beyond the limits of our present inquiry. Nevertheless, these three general lines are sufficient to establish what distinguishes, for Polanyi, the general authority compatible with his fiduciary program from the specific kind of authority that Polanyi saw as ultimately destructive of the dynamic vision of knowing and being he wished to propose. It is this kind of general authority and tradition, says Polanyi, that becomes a "happy dwelling place" for the commitment and hope of those who strive to uphold their beliefs in search of the truth, and he adds,

> Considering how weak we all are at times in resisting temptation to untruthfulness and how imperfect our love of truth is at the best, it is the more surprising that there should exist communities in which mutual confidence in the sincerity of all should be upheld to the extent shown by their practice of objectivity and tolerance among themselves.[152]

A tradition that exercises its authority too specifically would be, for Polanyi, a closed tradition, incapable of dynamic self-renewal. It would also be destructive of the necessary dynamic in which the movement from true to truer can take place ultimately on the grounds of the conscience of the individual.[153] He illustrates this in the scientific tradition by saying that, if the authority of the scientific tradition was exercised too

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[151] *TD*, 68.

[152] *SFS*, 71. Cf., *PK*, 280.

[153] *Ibid*., 56.

specifically (e.g., as that embodied in the teachings of the Roman Catholic Church or affirmed in the "fundamentalist's belief in the letter of the Bible"), "all progress would stop."[154] Polanyi is quite right in assuming that only this kind of authority is compatible with his "programme of self-identification" and his "redefinition of truth." It is the only way in which the 'process' can be made the object of faith because it points beyond itself and "aspires to eternal meaning."[155]

For Polanyi, the general authority of the scientific tradition was an exemplar for society at large. In fact, it was also an ectype of how the "entire intellectual life of society" was itself part of a "same universal tradition" on whose grounds he affirmed the "coherence of all men's consciences."[156] It is this last presupposition, however, that must be examined as we conclude this chapter.

Polanyian Justification and Transcendence in Science

We have been developing our argument in mainly indirect ways, and though we have been more explicit at some points, we have yet to bring together the different ways in which we have been suggesting that Polanyi's fiduciary program relies on concepts and presuppositions that transcend the limits he has set for himself. We will try briefly to do so at this point. Our starting point will be how Polanyi seeks to justify his belief that men's consciences cohere in a universal tradition, supposedly furnishing a point of contact between that which is "given" and "rooted in the universe" and that which "bears on eternity."[157]

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[154] *Ibid*., 53.

[155] *PK*, 389. See also pp. 118, 124 above.

[156] *SFS*, 62, 82.

[157] *Ibid*. Cf. *SM*, 96-99; *PK*, 389.

A crucial passage in Polanyi's early work where that idea is expressed, and to which we have previously referred only in fragments, is found in the closing of his *Science, Faith and Society*, the "inaugural address" of his philosophy.[158] It consists of his effort to justify his fiduciary program and respond to the "metaphysical nihilist." We will quote the bulk of the argument because it is, perhaps, the clearest expression, in his early work, of the increasing tension between his desire somehow to bring God in as the final reference point and yet avoid making Him the necessary starting point. In this sense, we believe, it already anticipates an inevitable inversion:

> (1) I wholly accept the impossibility… of verifying any of the universal statements commonly held by men… (2) I do not assert that eternal truths are automatically upheld by men… Belief in them can… be upheld now only in the form of an explicit profession of faith. In my view this would be quite impracticable but for the existence of traditions which embody such professions and can be embraced by men… (3) I accept it moreover as inevitable that each of us must start his intellectual development by accepting uncritically a large number of traditional premisses of a particular kind… To this extent, I think, we are finally committed from the start; and I believe that this should make us feel responsible for cultivating to the best of our ability the particular strain of tradition to which we happen to be born… I believe to have shown that the continued pursuit of a major intellectual process by men requires a state of social dedication and also that only in a dedicated society can men live an intellectually and morally acceptable life. This cannot fail to suggest that the whole purpose of society lies in enabling its members to pursue their transcendent obligations; particularly to truth, justice, and charity… The advancement of well-being therefore seems not to be the real purpose of society but rather a secondary task given to it as an opportunity to fulfil its true aims in the spiritual field Such an interpretation of society would seem to call for an extension in the direction towards God. If the intellectual and moral tasks of society rest in the last resort on the free consciences of every generation, and these are continually making essentially new additions to our spiritual heritage, we may well assume that they are in continuous communication with the same source which first gave men their society-forming knowledge of abiding things.[159]

Most of the different elements we have been discussing are clearly expressed in this

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[158] Richard Gelwick, *The Way of Discovery* (New York: Oxford University Press, 1977), 42.

[159] *SFS*, 82-84.

statement. Especially the fact that Polanyi's ultimate ground for affirming the validity of the fiduciary program in the connection between science, faith and society is, finally, the expectation that perhaps the whole circle ultimately rests on some kind of vague contact with a God who stands somewhere 'within' the whole process.[160] Repeating here our argument that this is effectively a substitute for a concept of general revelation should not be necessary. Instead, it will be sufficient to state that even a substitute for revelation cannot ultimately be upheld in such abstract terms, and it will either have to be given up, or it will become an inversion. Moreover, if one decides to posit a contact with God at all, no matter how vague that be, one *should* naturally be ready to accept also that contact in the broader terms that God Himself establishes. Polanyi seems to recognize, in part, such a dynamic: "We are addressed by nature to the attainment of meaning, and what genuinely seems to us to open the doors to greater meaning is what we can only verbally refuse to believe. As Santayana also said, should we ever 'hear the summons of a liturgical religion calling to us: *Sursum corda*, Lift up your hearts, we might sincerely answer, *habemus ad Dominum*, our hearts by nature are addressed to the Lord.'"[161]

Yet, has Polanyi not established from the start the preconditions upon which he would hear a "summons," the moment he expressed his belief that his epistemological prescription would be strictly "rooted in the universe"? Perhaps we could hardly find a stronger statement of our argument than John Calvin's following words:

> Here, however, the foul ungratefulness of men is disclosed. They have within themselves a workshop graced with God's unnumbered works and, at the same time, a storehouse overflowing with inestimable riches. They ought, then, to break forth

[160] Cf. *PK*, 198: "We see things then not focally, but as part of a cosmos, as features of God."

[161] *M*, 180.

> into praise of him but are actually puffed up and swollen with all the more pride. They feel in many wonderful ways that God works in them; they are also taught, by the very use of these things, what a great variety of gifts they possess from his liberality. They are compelled to know–whether they will or not–that these are signs of divinity; yet they conceal them within. *Indeed, there is no need to go outside themselves, provided they do not, by claiming for themselves what has been given them from heaven, bury in the earth that which enlightens their minds to see God clearly*… How detestable, I ask you, is this madness: that man, finding God in his body and soul a hundred times… set[s] God aside, the while using "nature"… as a cloak.[162]

We may finalize our discussion in this chapter by briefly expanding into three correlated points. First, Polanyi insisted throughout his work (at times more explicitly and at times hesitantly) that he was offering us different 'clues' to God. He suggested this procedure was "directed toward unstopping our ears so that we may hear a liturgical summons should one ever come our way." He was quite right in saying that, "as Saint Augustine viewed it," a true faith capable of responding to the "summons" of a God revealing himself could not be achieved by human initiative, for "it is a gift of God and may remain inexplicably denied to some of us."[163] However, had he not already heard the "summons" from the start when he reveled and profited from that within him which revealed clearly the gifts of God? His ears were not "stopped" simply by the objectivism and reductionism that reduced the universe to logical meaninglessness–that was part of the problem, and he ably tackled it. Still, there were other, deeper, "stoppages." His naturalism, his demand that we find our clues to the transcendent strictly within Plato's first three levels–which is not really a new idea, but has, overall, been the traditional hope of natural theology–had committed him from the start to overlook the Creator-creature distinction. Hence, it prevented him from "unstopping" his ears by acknowledging that he could not

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[162] Calvin, *Institutes*, 1:5.4.

[163] *M*, 180.

speak of knowing and being in univocal terms.[164]

Second, it is important to notice the correlation of change and continuity in how Polanyi continued to try to answer the problem of man's contingency and his hunger for eternity "on the basis of the patient's own powers for recovery." In one sense, his answer changed, or evolved, over the course of his philosophical reflection. Early on he repeatedly spoke simply of the need to presuppose a "spiritual reality" as justification of transcendent ideals. Yet even then, when he spoke of how nature in a sense revealed itself, he wavered between speaking of an emergent character of nature, or speculating about extrasensory perception. He seemed unable simply to see nature pointing to its Author outside itself and separate from it.[165] Later, the idea of emergence was coupled with an emphasis on personal commitment. He uttered "an invitation" to "dogmatic orthodoxy," aimed at holding and sustaining the transcendent ideals without which knowledge would degenerate into meaninglessness. Yet, it would consist ultimately in a personal declaration of ultimate beliefs, a final commitment to self-set standards. At the most, a tacit "hope to be visited by powers for which we cannot account" would justify its transcendental thrust.[166] Later still, and more consistently, Polanyi extended the idea of an emergent character in nature into a whole vision of a comprehensive metaphysic of emergence, where the transcendent ideals became part of the process of emergence through which the *noosphere* came into being.[167]

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[164] See Prosch, *Michael Polanyi*, 249.

[165] Cf. *SFS*, 17, 67. 73-74, 79-80, 83-84.

[166] Cf. *PK*, 268, 324.

[167] Cf. *TD*, 90-92; *M,* 182; *SM*, 60. See also *PK* 388-389, 404: Polanyi borrowed from Teilhard de Chardin the concept of Noosphere, as well as the term Noogenesis, in reference to the framework of man's articulate and cultural life as a new level of existence in an overall evolutionary continuum.

And at this stage, he accredited the Christian faith as, perhaps, the most effective way of achieving an integration, "in a wholly inexplicable and transnatural way," of the transcendental ideals that 'emerged with the noosphere' and our inherent imperfections which made it difficult to live under that 'firmament of obligations'.[168] Still, his reticence is ever the more noticeable:

> Those of us who cannot in this way, through religion, sublimate our dissatisfaction with our own moral shortcomings–and with those of our societies–have a more difficult job. We must learn to suffer patiently the anguish these imperfect fulfillments cause us. A steady recognition that the evils which prevent the fullness of moral development are precisely the elements which are also the source of the power that gives existence to whatever moral accomplishments we see about us may eventually lead us to a tolerance of these lower elements similar to the tolerance we grant to the internal-combustion engine: it is noisy and smelly, and occasionally it refuses to start, but it is what gets us to wherever it is we get.[169]

It seems quite clear that the underlying thread of unity was his insistence on immanence as a final principle, correlated with the struggle to find a clue to God, an opening for religious belief and some kind of transcendence from his contingent starting point. No matter how much respect he had for the 'Christian solution,' its supernaturalism had to go, and our movement would have to be from the natural to the "transnatural." He was "finally committed from the start" to the belief that the concretely "given" was strictly the immanent.[170]

Third, a point that might seem minor, except for Polanyi's own insistence of the

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[168] *M,* 215.

[169] *Ibid*., 215-216. It is important to note that "moral shortcomings" is used here in an all inclusive way, since, as we have previously discussed, Polanyi was quite insistent in identifying a moral dimension basic to scientific enterprise, knowledge and the whole of man's intellectual life.

[170] Cf. *SFS*, 83.

crucial role played by language in our conceptual fiduciary frameworks,[171] is that much of the vocabulary, analogies and notions he uses to develop his argument are terms borrowed straight from the vocabulary and framework of the Christian faith. The very centrality of the concept of faith in his system, the constant references to the Pauline scheme, and a number of other references which we have sought to include in our argument, are simply abstracted from their original meaning-context and used in abstract and merely formal ways where they support the cogency of the arguments, but are given quite different meanings. Just to take one central idea, as C. B. Daly has suggested, "Faith in the religious and above all the Christian sense has a specific meaning, to be learnt only from Christian theological vocabulary, Christian tradition and experience." The same applies quite broadly to the many concepts Polanyi has incorporated from the Christian framework.[172] Polanyi would likely agree with Daly's statement, and we must, therefore, ask what would be the result, perhaps analogous to the dynamic Polanyi described as moral inversion,[173] of transplanting those basic Christian concepts into foreign soil?

Again, as it occurred once before at the end of chapter 3, we find ourselves agreeing with several aspects of Polanyi's analysis and his argument for a fiduciary epistemology. Our reasons, though, are quite distinct, and spring from the very fact that we insist in starting by presupposing God's self-disclosure in nature, within man, and in his Word.[174] Nevertheless, this is a discussion that must be postponed. We have begun to move toward

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[171] *PK*, 116, 253.

[172] C. B. Daly, "Polanyi and Wittgenstein," *Intellect and Hope*, 165.

[173] *M*, 21: "A heritage of [Christian] moral passions in a framework of modern materialistic purposes"

[174] Cf. Calvin, *Institutes*, 2:2.16.

what we see as the limits of Polanyi's epistemology, and at the same time we have suggested what we believe is the source of the cogency Polanyi was in fact able to achieve. No doubt Polanyi has, to a large extent, laid bare the conditions that make the scientific outlook possible. In doing so he has provided for a much clearer picture of the scientific enterprise, and consequently of human knowing in general. Yet, if we have made our point at all, the idea should be emerging that Polanyi's thought has been indeed plagued by the tension we have been suggesting. This is not simply a matter of "some loose ends tucked away out of sight," as Polanyi acknowledges every system of thought has,[175] but something much more central. We must now explore the final turn in his thought, where the expansion of his program into a comprehensive philosophy of emergent meaning seeks to establish consistently a panorama of gradation and continuity from the immanent and contingent to eternity, and hence, the final stage in which he consummates his quest by eventually making God completely immanent in the process. The process itself becomes, therefore, one that moves toward eternity and the transcendent.

[175] *PK*, 18.

CHAPTER FIVE

EMERGENT MEANING

> *L'sprit croit naturellement, et la volonté aime naturellement; de sorte que, faute de vrais objets, il faut qu'ils s'attachent aux faux.*
>
> Pascal

A double dynamic should come into focus as we now consider the final, more comprehensive, aspect of Polanyi's thought. His movement toward increasing consistency is also, necessarily, the abandonment of certain emphases and presuppositions that had contributed to the cogency of his thought but created an inherent tension. It is, furthermore, a correlated concentration and further development, a sort of dovetailing, of those aspects that were more consistent with what we suggested as his growing immanentistic leitmotif.[1]

The general outline provided in chapter 2 should provide a sufficient framework so that we may at present develop our analysis selectively, according to our underlying argument. Likewise, the exploration of the pathogenesis and of the fiduciary program in the two previous chapters has brought us to the position where we can appropriately examine how Polanyi's "novel ideal of human knowledge… rooted in the universe" is supposed to emerge as a "harmonious view of thought and existence," of knowing and being.[2]

If we have accurately identified, so far, the tension in Polanyi's thought as the

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[1] Cf. Carl P. Mullins, "Hermeneutical and Aesthetic Applications of the Thought of Michael Polanyi," Ph.D. Diss. (Berkeley: Graduate Theological Union, 1976), 400-402, 403-404.

[2] *TD*, 4. Q.v., p. 104 above.

desire to remain rooted in the world of sense experience, but validate and justify his longing for the transcendent and the presupposition that all men indeed "need a purpose which bears on eternity," we have anticipated *why* his "from-to" noetic structure[3] demanded, and in fact tacitly presupposed, a correlated ontology that could justify a general *from-to* cosmic movement, a movement from pure contingency toward meaning.[4] The following statement from the final part of Polanyi's *Personal Knowledge* bears this out, albeit in a seminal way:

> Having decided that I must understand the world from my point of view, as a person claiming originality and exercising his personal judgement responsibly with universal intent, I must now develop a conceptual framework which both recognizes the existence of other such persons and envisages the fact that they have come into existence by evolution from primordial inanimate beginnings.[5]

However, things are seldom as simple as they seem, and this should become transparent as we investigate Polanyi's extension of his epistemological insights into a comprehensive philosophy of meaning that would (1) extend the *from-to* relations to the whole cosmos, and (2) account for a meaningful universe without an outside point of transcendence.[6] We shall argue, in line with what we have so far tried to show, that at this point much of (what we consider) the 'borrowed capital' in his thought has been either abandoned or severely redefined, with the significant exception that he still wishes ultimately to contend for a meaningful universe. But having ruled out the presupposition of revelation and ignored the Creator-creature distinction, he must make 'meaning' an immanent fruit of a natural process, expanding the activistic and abstract principles so that

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[3] Q.v., pp. 30-32 above.

[4] Cf. *M*, 161-162.

[5] *PK*, 327.

[6] Cf. Polanyi, "Transcendence and Self-Transcendence," *Soundings*, 53: 1 (Spring, 1970), 91, 93.

the whole cosmos is seen as a hierarchy of integrations from formless matter to ever increasing meaning–with God's ultimate reality being perhaps represented, as Prosch suggests, merely by the gradient of emerging meaning underlying the cosmos.[7]

Our argument will begin with Polanyi's development of the logic of emergence, an extension of the ontological aspect of tacit knowing.[8] Yet, we must then in turn examine how Polanyi also had to extend the semantic aspect of tacit knowing[9] so that it could account not only for the meanings discovered by man in nature, but also those which he creates in the emerging noosphere. At this point we will discuss Polanyi's 'divarication,' a disappointment for some of his supporters, but something we believe was unavoidable, given his determination to avoid populating "the universe with ghostly beings."[10] We will then frame the question of his divarication within our argument, which will lead us naturally to discuss whether his theory of emergent meaning has supplied the necessary point of transcendence to justify the longing for things that bear on eternity.[11]

The Logic of Emergence: From Insentience to Noogenesis

To understand Polanyi's logic of emergence, backtracking to a very illuminating comment made in the development of his fiduciary program will be helpful. He begins with the following statement:

Our tacit powers decide our adherence to a particular culture and sustain our

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[7] Harry Prosch, *Michael Polanyi: A Critical Exposition* (Albany: S. U. N. Y. Press, 1986), 249.

[8] Q.v., p. 44 above.

[9] Q.v., pp. 37-38 above.

[10] Cf. Prosch, *Michael Polanyi*, 257.

[11] Q.v., pp. 153f. above.

> intellectual, artistic, civic and religious deployment within its framework. 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. But though our thinking has contrived these artifices, yet they have power to control our own thoughts. They speak to us and convince us, and it is precisely in their power over our own minds that we recognize their justification and their claim to universal acceptance.[12]

Yet, he then raises a most crucial question: "Who convinces whom here? If man died, his undeciphered script would convey nothing," for, "seen in the round, man stands at the beginning and the end, as begetter and child of his own thought." Polanyi then acknowledges that, in the past, when many accepted revelation and made all their noetic and cultural activities a combination of listening to God, worshiping him, and responding to him, they were neither speaking just to themselves, nor listening only to themselves.[13] "Later," he says, "when the supernatural authority of laws, churches and sacred texts had waned or collapsed," modern man sought to establish over himself simply the authority of his own "experience and reason." However, the problem is that "modern scientism fetters thought as cruelly as ever the churches had done." It destroys "our most vital beliefs"or worse yet it disguises them in "farcically inadequate terms" which enlist "man's highest aspirations in the service of soul-destroying tyrannies."[14] In this manner, he says, man is "left behind meaningless to himself."[15] Polanyi concludes his train of thought as follows:

> What then can we do? I believe to make the challenge is to answer it. For it voices our self-reliance in rejecting the credentials of both medieval dogmatism and modern positivism, and it asks our own intellectual powers, lacking any fixed external criteria, to say on what grounds truth can be asserted in the absence of such criteria. *To the*

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[12] *PK*, 264-265.

[13] *Ibid*., 265.

[14] *Ibid*.

[15] *Ibid*., 380.

> *question, 'Who convinces whom here?' it answers simply, 'I am trying to convince myself*.'[16]

The problem however, is that after working out how he believes this is to be done–which we have already discussed at some length in the previous chapter–Polanyi still comes back to the fact that unless he can show why one should presuppose that the universe is *ultimately* meaningful, the effort of "trying to convince myself" would collapse into not more than a ridiculous "symbol of defiance against the meaninglessness of the universe."[17] Yet, it is also impossible, he insisted, to hold that the universe is *ultimately* meaningful, "unless the *organization of its parts* is meaningful," unless we see it as "*more* than the conglomeration of physical and chemical interactions issuing, to no purpose whatsoever, in whatever ephemeral globs the equilibration of forces renders necessary or probable."[18] This, says Polanyi, demands "a view of the world in which the universe, per se, is not 'value free'," but is underlined by "intelligible directional lines."[19] In fact, he continues,

> We do not hold that the world is absurd because we think the elements in it are not orderly in their relations to one another. We *do* suppose that they are indeed orderly. We think that the world is absurd because it seems to us that there is not point to what transpires in it, i.e., that there is no end or aim or purpose to the whole business. It seems to us that there is no meaning to the universe–except possibly the subjective meanings that man tries to import into it. But in the end, the universe cancels these out. Man thus sees himself to be like a little boy who continuously repairs and rebuilds his sand castles at the edge of the sea, only to see the waves continually washing them away. Such fruitless activity is quite acceptable to boys, but man, finally recognizing that the sea sets no store by sand castles, usually suppress their desire to build them–or at least their desire to take their constructions very seriously.[20]

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[16] *Ibid.*, 265 (emphasis added).

[17] *M.*, 162.

[18] *Ibid*., 161(emphasis added).

[19] *Ibid*.

[20] *Ibid*., 161-162 (Polanyi's emphasis).

Still, says Polanyi, the triumph of a scientificist outlook has "made any sort of teleological view of the cosmos seem unscientific and woolgathering," and "recent rise of philosophical (and popular) opposition to science" has also not included a return to a sense of cosmic purpose, but has, in fact, taken its starting point in the ultimate meaninglessness of the universe. He argues, however, that such wholesale rejection of teleology springs from the fact that modern man has mistaken the whole idea of teleology for the particular kind of transcendental teleology embodied in theological and religious dogmatism, where a God outside the world has predetermined the purposes, goals and processes of the cosmos.[21]

This kind of teleology, which he deems as the idea of "an overriding cosmic purpose necessitating all the structures and occurrences of the universe in order to accomplish itself," is, he says, "indeed a form of determinism–perhaps even a tighter form of determinism than is provided for by a materialistic, mechanistic atomism." For Polanyi, therefore, its rejection is justified:[22] It is inconsistent with the program of self-identification and with his dialectic of the activistic and abstract principles.

We may disregard, for now, the fact that we believe these contentions manifest not only Polanyi's rejection, but also his lack of understanding, of what, we would argue, is the only true basis for any kind of teleology.[23] The crucial point for Polanyi is this: We must find a view of teleology that "would make it possible for us to suppose that some sort of intelligible directional tendencies may be operative in the world without our having to suppose that they *determine* all things," and we must show that science itself not only allows

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[21] *Ibid*., 162. Cf. *PK*, 265.

[22] *Ibid*., 161.

[23] Cf. *SEP*, 349-343.

such perspective, but it even requires it.[24] This, he believed, would breach the gap between science and the humanities, and open the way for valuing equally the meanings that can be achieved in every human intellectual and practical activity, for it would make meaning immanent in the universe, and therefore it would make the whole universe meaningful.[25]

Let us then briefly consider how meaning, for Polanyi, is to be seen as immanent in the universe, and then explore more fully how this becomes a general logic of emergence, which will lead us naturally to our more critical discussion.

Immanent Meaning

Polanyi was quite clear in his belief that without some kind of principle akin to vitalism, accounting for the meaningfulness and orientation of the universe would ultimately be impossible. In *The Tacit Dimension* he explains how this principle is both presupposed and supported by his own epistemology of tacit integrations:

> My analysis of consecutive operational levels necessitates the assumption of a principle which works in the manner of an innovation achieved by tacit integration.… this process is evoked by the accessibility of the higher levels of stable meaning which it eventually achieves… The tension generated by such a higher potentiality might then be triggered into action either by accident or by the operation of first causes.[26]

Such an understanding, he argues, is "consonant with the conceptual framework of quantum mechanics on the one hand and of problem-solving on the other hand." It assumes "that these creative releases are controlled, and yet never fully determined, by their potentialities," allowing therefore for both indeterminacy and teleology. [27] Earlier in the

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[24] *M*, 162.

[25] *Ibid*., 182.

[26] *TD*, 90.

[27] *Ibid.*

same work Polanyi was quite specific about the family of this vitalism. He connects it with the ideas of equipotentiality in Gestalt psychology, as surmised from Driesch's study of the sea urchin embryo, and more specifically, as we have mentioned earlier, with Bergson's *élan vital* and Teilhard de Chardin's evolutionary theology.[28] In *Personal Knowledge* Chardin's concept of *noogenesis*, or the evolutionary achievement of a noosphere, becomes an important element in Polanyi's final reflections.[29]

Still, it is in *Meaning* that Polanyi places this vitalism in a broader philosophical framework, when he states that the teleological views of Charles Pierce, William James and Whitehead are exactly the kind of "first-rate teleological alternatives to the choice between mechanical necessity and total freedom."[30] What is precious for him in their teleology is that, "rather than substituting a determinism of purpose for one of forces," they proposed that the world manifests a "*tendency* toward achievement of more meaningful or orderly or regular relations," but also insisted that the "principle operative in that direction was *immanent* in all things."[31] We would again argue that the two key words here are 'tendency' and 'immanent,' the first because it refers back to a teleology that is able to embrace both indeterminacy and an inherent guiding directional potential, and the second because any kind of transcendental teleological principle, in his view, would seem to be some kind of metaphysical determinism that would render the whole cosmic history closed from the start so that man and the whole universe would not be meaningful in and of themselves, but only

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[28] *Ibid*., 46. Q.v., p. 49 above. Cf. *SEP*, 327.

[29] *PK*, 388-389, 393, 395, 404.

[30] *M*, 163.

[31] *Ibid*. (emphasis added).

perhaps as pawns of someone else's "overriding cosmic purposes."[32]

It is only within such a "looser view of teleology," to use Polanyi's own words,[33] that he can satisfactorily uphold his firm belief that, though "as man we appear, unlike all other animals, to need a purpose that bears on eternity," still:

> We had called into existence the whole firmament of values that make up the cultural level of life in which we dwell. These works of the imagination are like a tremendous burst of glory. Yet they are rooted ultimately in the lower physiological level of man, where he is a mere animal among animals. Indeed, much of this burst of glory is due to the purely physiological structure that make speech possible for us. But these works of the imagination *ascend from these lowly structures… to levels of autonomous meaning of ever greater comprehensiveness*.[34]

Extending our inquiry into *how* Polanyi believes he can rely on an immanent teleology as the force behind evolution and emergence is unnecessary at this point, and perhaps unwise, at least before we have addressed how he believes it actually *functions* in the process of emergence. Yet, two points should be considered before we proceed: First, it is important to remember that Polanyi's insistence on meaning as immanent in the cosmos is not an addition to his epistemology, but simply a logical development of the implications of that epistemology into its necessary ontological correlate.[35] We have already discussed the main points of this correlation in chapter 2, and this should make a restatement of the full argument unnecessary at present.[36] It may, nevertheless, be helpful to cite an example of how Polanyi connects the idea of emergent meaning with knowledge, in this case scientific knowledge:

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[32] *M*, 161. Cf. *PK*, 397; Prosch, *Michael Polanyi*, 248.

[33] *M*, 162.

[34] *Ibid.*, 214 (emphasis added).

[35] *PK*, 264.

[36] Q.v., pp. 45, 50-51above.

> We find that progress in science is explicable… as *a development evoked by a gradient of meaning operative in a field of potential meanings and problems*… We are thus able to know (in some anticipatory, intuitive sense) enough of what we do not know as yet in any explicit sense (because we have not yet discovered it) to enable us to locate a good problem and to begin to take groping but effective steps toward its solution. We can now understand scientific inquiry to be a thrust of our mind toward a more and more meaningful integration of clues. We have seen that this is also what perception is. We have… shown that living things, individually and in general, are also oriented toward meaning.[37]

Second, we do well to note that when Polanyi speaks of a teleology which allows for immanent meaning, and hence for his concept of emergence, he is quite clear that this meaning is *not* simply operational *through* the universe. Rather, it is an emergent feature *of the universe itself*, just as an act of tacit knowing is not an integration *through* clues *to* a focal object, but is an integration *from* clues *to* the comprehensive entity that is its focus.[38] The importance of this subtlety is that it completely rules out the possibility of seeing emergence as drawing upon something external or prior to the universe. At the same time it anticipates what may be a significant inconsistency in Polanyi's argument. Yet, we shall postpone our discussion of this problem until we have explored his actual argument, and, for now, simply illustrate this point in the following passage:

> Looking back… We see primordial inanimate matter… We see its particles settling down into orderly configurations… This universe is still dead, but it already has the capacity of coming to life. Can we see then all the works of the human mind invisibly inscribed already in the configurations of primeval incandescent gases? *No, we cannot*; for *the capacity for coming to life is due to the power of a field to consolidate centres of first causes*. Each such centre bears a *possibility* of achievement which, however limited, uncertain, and unspecifiable in its outcome, characterizes this centre as an essentially new and autonomous *prime mover*. The centres of individual beings are short lived but the centre of phylogenetic fields of which individuals are offshoots go on operating through millions of years… the phylogenetic centres which formed our own primeval ancestry have now produced… a life of the mind which claims to be

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[37] *M*, 178.

[38] Cf. *KB*, 235-239.

> guided by universal standards. By this act a prime cause emergent in time has directed itself at aims that are timeless.[39]

Emergence and the Ontological Hierarchies

Polanyi's vision of emergence and of the stratified universe was expounded in *The Tacit Dimension* as an extension of TK,[40] and in *Meaning* it was adapted as the grounding for his proposed restoration of meaning.[41] Though we have previously outlined the general framework (and some key ideas) of Polanyi's theory of emergence,[42] it will be important at this point to concentrate on, and fully engage, one key passage where Polanyi, in his final chapter of *Personal Knowledge*, projects his logic of emergence into a cosmological panorama. In this passage, we believe, (1) his ontology and (2) the source of his idea of cosmic emergent meaning–which turns out to underlay most of his epistemology–are articulated, and (3), as we will suggest, his 'theology' is adumbrated.[43]

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[39] *PK*, 404-405.

[40] *TD*, 29-52, 87-92.

[41] *M*, 161-182.

[42] Q.v., pp. 46-49 above.

[43] I believe this section of Polanyi's work to be quite central, but it is also the source of much disagreement within the circles of Polanyian discussion. Prosch suggests that the ontological hierarchies, of which emergence is the logic, are a "key point" in Polanyi's thought (Prosch, *Michael Polanyi*, 208). Other writers generally appreciative of Polanyi see it as quite problematic, and others still, have seen this as Polanyi's Achilles's heel (e.g., A. Olding, "Polanyi's Notion of Hierarchy," *Religious Studies*, 16 (March 1980), 97-102). Gulick refers to this section as follows: "Part Four of *Personal Knowledge* has tended to be the most neglected part of Polanyi's *magnum opus*. (Of course, exceptions can be found: according to Andy Sanders, the late Professor Van Peursen of the Free University of Amsterdam emphasized Part Four in his graduate courses.) Marjorie Grene, despite her role in counseling Polanyi as he wrote *Personal Knowledge*, distanced herself from this portion of his work… Yet the perspective developed by Polanyi in this concluding section of his work is most helpful to one seeking a plausible account of what can be known of reality." (Walter Gulick, "The Meaningful and the Real in Polanyian Perspective," unpublished paper presented at the 1999 (Boston) Polanyi Society Meeting.). I would add, of course, that because it is, in one sense, Polanyi's vision of ultimate reality, as Gulick has rightly identified, it must be also seen as central to his whole thought, and cannot be separated from his epistemology, as implied by S. R. Jha, who seeks to resolve the duly identified problems with Polanyi's ontology by suggesting simply the recognition that "his strength in epistemology was not matched in his ontology" (Stefania Ruzsits Jha, "Polanyi's Problematic 'Man in Thought'," unpublished paper also presented at the 1999 P. S. M..). These comments are meant

The text in question is especially helpful because in it are included certain parameters Polanyi sets for himself: (1) He wishes to provide an account of cosmic emergence that does not require "a new creative agent that enters the emergent system at every new stage," and (2) he also wishes to avoid regarding the "process… as predetermined from the start" or as resulting "from the continuous intensification of a creative agency."[44] A development of the main points of his argument will allow us to examine whether he has met these requirements, and has, therefore, succeeded in suggesting a cosmology of emergence that actually functions in complete immanence and yet accounts for the rise of a noosphere directed to the transcendent.[45]

We will first set out to describe his argument, which is itself a difficult task given its complexity and its many technical aspects (perhaps this is why it "has tended to be the most neglected part of Polanyi's *magnum opus*"!). Once we have done so, we will discuss three basic problems with his argument and his goal of a "wholly intramundane explanation"[46] of the rise of man. Our final discussion will concern the theological import of Polanyi's ontology, especially since his own account in this passage ends on a theological note, but we will carry out this discussion under a separate heading, as part of our broader critique of the logic of emergence. Let us begin by setting the stage and the necessary preliminaries for understanding his argument.

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simply to justify my concentration on this passage and its rather detailed development.

[44] *Ibid*., 393, 395.

[45] I should note that, though I had arrived independently at most of the observations I am presently making, I later discovered that my argument is quite analogous, despite some differences in emphasis, to the discussion of the same topic in Allen, *Transcendence and Immanence*, 118-124.

[46] Allen, *Transcendence and Immanence*, 118.

Polanyi's account of the rise of man comes only after he has sought to shore his proposal that an extrapolation from biology and life-sciences leads to an "ultra-biology," a "point of confluence" with "philosophical self-accrediting."[47] In this process he suggested that human beings must be understood through the "logic of achievement," which he sums up as follows:

> (1) Living beings can be known only in terms of success or failure.… ascending levels of successful existing and behaving. (2) We can know a successful system only by understanding it as a whole, while being subsidiarily aware of its particulars… (3)… Systems that can succeed or fail are properly characterized by operational principles, or more generally, by certain rules of rightness; and our knowledge… disappears when we attempt to define it in terms that are neutral to this rightness. (4) … Lower levels do not lack a bearing on higher levels; *they define the conditions of their success and account for their failures, but they cannot account for their success, for they cannot even define it.*[48]

His effort to "confront the vision of a stratified world with the facts of evolution" and "emergence" becomes, then, an effort to identify "inherently unformalizable processes at a variety of levels" which are to be accounted for as a series of evolutionary achievements leading to higher levels of existence and of knowing. The key points for Polanyi are that (1) "We must face the fact that life has actually arisen from inanimate matter," and (2) although evolutionary theory "regards evolution as the sum total of successive accidental… changes" supposedly leading from inanimate matter to the rise of man, this proves inadequate. Only a "conception of evolution as a process of fundamental *innovations* tending to produce ever higher biotic achievements" can account for the rise of man. This process, argues Polanyi, is analogous to the process of tacit knowing, whereby we tacitly integrate clues into a

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[47] *PK*, 379-380.

[48] *Ibid*., 381-382.

meaning that transcends its subsidiary elements.[49]

The first step to justify his argument consists in showing how a reductionistic theory of evolution, such as Neo-Darwinianism, "tends to conceal its inadequacy" through an inherent "vagueness" with respect to the fact that living beings are "instances of morphological types and of operational principles subordinated to a center of individuality," and that we cannot explain these characteristics in terms of physics and chemistry. This, he says, "leads obviously back to the coming into being of life itself from inanimate origins," yet, he continues,

> It is clear that for such an event to take place two things must be assured: (1) Living beings must be possible, i.e., there must exist rational principles, the operation of which can sustain their carries indefinitely; and (2) favourable conditions must arise for initiating these operations and sustaining them. In this sense I shall acknowledge that the *ordering principle* which *originated* life is the *potentiality* of a stable open system; while the inanimate matter on which life feeds is merely a condition which sustains life, and the accidental configurations of matter from which life had started had merely *released* the operation of life. And evolution, like life itself, will then be said to have been *originated* by the *action* of an ordering principle, an action *released* by random fluctuations and *sustained* by fortunate environmental conditions.[50]

As Polanyi seeks to elaborate this idea of an underlying "orderly innovative principle" he concentrates specifically on the process of anthropogenesis, and in light of the self-set preconditions described above he wishes to establish two claims: First, that without "the operations of an orderly innovating principle" no amount of contingent factors could ever account for the rise of individual life, and especially sentience.[51] Second, that if an underlying "ordering principle" is recognized, it becomes possible to see the process as one

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[49] *Ibid*., 382 (emphasis added).

[50] *Ibid*., 383-384 (Polanyi's emphases).

[51] *Ibid*., 386-387.

in which the first major achievement, that is, the appearance of individual life, proceeds, by steps, to ever continuing higher integrations and eventually reaches a second crucial stage, a "second major rebellion against meaningless inanimate being."[52]

This "second rebellion," says Polanyi, would be the 'moment' when, "in little more than 500 centuries," evolution climaxes in the "achievement" of "personhood" and of the "mental life" of man, who rose "from mute beasthood" and by "forming societies, invented language and created by it a lasting articulate framework of thought."[53] Polanyi refers to this "ultimate evolutionary step" as Teilhard de Chardin's noogenesis, and sums up this new "life" as follows:

> While the first rise of living individuals overcame the meaninglessness of the universe by establishing in it centres of subjective interests, the rise of human thought in its turn overcame these subjective interests by its universal intent. The first revolution was incomplete, for a self-centered life ending in death has no meaning. The second revolution aspires to eternal meaning, but owing to the finitude of man's condition it too remains blatantly incomplete. Yet, the precarious foothold gained by man in the realm of ideas lends sufficient meaning to his brief existence; the inherent stability of man seems to me adequately supported and certified by his submission to ideals which I believe to be universal.[54]

There is no doubt that the statement above is packed with concepts worthy of further analysis. It also betrays some problematic assumptions (e.g., if individuality is central, and is always rooted in the self-centered subsidiary aspects of life supposed to create the possibility of higher meanings, can a "brief existence" ever be truly meaningful?). Yet, rather than deal with these aspects, which at this point are subsidiary to our main argument, let us simply proceed to look at how Polanyi brings his argument together. His account, so

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[52] *Ibid*., 389.

[53] *Ibid*., 388.

[54] *Ibid*., 389.

far, has depended upon the existence of an underlying innovative, organizing, or creative principle, which seizes the possibilities left open by lower levels of existence and integrates them in higher levels with their own peculiar operational principles. Thus, says Polanyi,

> If this be vitalism, then vitalism is mere common sense, which can be ignored only by a truculent bigoted mechanistic outlook. And *so long as we can form no idea of the way a material system may become a conscious, responsible person*, it is an empty pretense to suggest we have an explanation for the descent of man.[55]

It is at this point, however, that Polanyi's argument reaches a critical point. If his "organizing principle" is found to be a "creative agent" that either "enters the emerging system at every new stage," or whose "external" action is intensified continuously to guide the system, then he has made the whole process dependent upon such an external, separate and necessarily preexistent creative agent. That would make the whole effort to show how "a material system becomes a conscious person" redundant, and perhaps unnecessarily complicated. Therefore, to sustain the claim that this is effectively a process of emergence, and that his vitalism is not some kind of secretly deistic evolutionism, Polanyi must try to show that neither the interference nor the intensification of an external creative activity is necessary, for he believes this is the only way to avoid seeing emergence as somehow determined either "*a fonte*"or "*a tergo*."[56]

He seeks partially to dispose of the difficulty by suggesting that "novel forms of existence take control of the system by a process of [gradual] *maturation*," under which the continuous character of phylogenetic emergence allows "higher principles governing the emergent forms of evolution" to "presumably gain control *gradually* of the evolving beings

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[55] *Ibid*., 390 (emphasis added). Polanyi adds in a footnote the reiteration that "contrary to a widespread opinion, …quantum mechanics makes no difference to this argument."

[56] *Ibid*., 393, 395.

in the same way as they *gradually* become more pronounced and predominant in the course of man's embryonic and infantile development." Yet, Polanyi recognizes that making maturation gradual will still leave him with "an unresolved conflict between continuity and essential progress," and thus he proposes to resolve it in two ways, each dealing with one pole of "determinism" to be avoided.[57]

First, Polanyi suggests an analogy between "anthropogenetic emergence" and "ontogenetic emergence of human intelligence, as described by Piaget." This analogy, he argues, shows how just as an "appetitive, motoric, perceptive child is transformed into an intelligent person, reasoning with universal intent," so can we understand the process of phylogenetic maturation "leading from the self-centered individuality of the animal to the responsible personhood of thoughtful man: in fact, the emergence of the noosphere."[58] Of course, says Polanyi, since we must then see emergence in a framework similar to that of commitment, where the drive to fulfill self-seeking and self-set standards progressively becomes a drive to uphold them with universal intent, i.e., a drive to self-transcendence, then it will "appear completely determined if we too accept the same standards as real and valid; but it is also seen to be quite indeterminate, for it is achieved by a supreme intensification of uniquely personal intimations."[59]

Second, he acknowledges the other deterministic threat, which is to "regard the innovator [at any level of phylogenetic achievement] as a material system, *controlled* by the laws of physics and chemistry," which would then mean "Shakespeare's sonnets" could

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[57] *Ibid*., 395 (emphasis added).

[58] *Ibid*.

[59] *Ibid*., 396.

somehow be traced back to "a pattern inscribed in the primordial incandescent gases in which our universe originated." This, Polanyi argues, would, in fact, be the very "Laplacean idea of a universe determined from the start for all times."[60] What is then the answer?

Well, says Polanyi, just as epistemologically he must "accredit" the knower's capacity to comprehend entities that "are not specifiable in terms of their particulars," he must also "accredit" the fact that in contemplating the rise of human consciousness, and in "admitting that no process governed by the laws of physics and chemistry as know today can be accompanied by consciousness," he is recognizing the "unspecifiable" possibility that "some enlarged laws of nature may make possible the realization of operational principles acting by consciousness."[61] At this point, Polanyi's argument is increasingly speculative, and perhaps even arcane, thus, we may simply quote it at length:

> It would be unwarranted to retain then for structures operating on such principles the conception of automatic functioning derived from our *present* physics and chemistry. Since action and reaction usually arise together in nature, it would seem reasonable, on the contrary, that the new laws of nature, which would allow for the rise of consciousness in material processes, should also allow for the *reverse* action, that is, of conscious processes acting on their material substrate. Such laws of nature would not comprise psychology, which is a convivial study of mental operations, but their assumptions would make it conceivable that material structures should offer conditions for the occurrence of mental operations and should account for their occasional failure. This assumption would enable us to envisage the rise from inanimate matter of sentient, motoric, perceptive individuals, and, at a higher stage, of thinking responsible persons. And it would allow us also to bring this process of emergence with continuous alignment with the heuristic strivings of innovators.[62]

From his argument for the analogy between phylogenetic maturation and ontogenetic maturation of the individual human as described by Piaget, and from his

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[60] *Ibid*., 396 (emphasis added).

[61] *Ibid*., 397.

[62] *Ibid*.

argument that emerging laws in nature take control over the previously existing principles governing lower levels of being–using opportunities left open by them–Polanyi believes he has explained an open but autonomous process by which emergence becomes the progression of a "series of centres whose a-critical decisions account ultimately for every action of sentient individuality," each of these retaining "its autonomy everywhere, exercising its calling within a material milieu which conditions but never fully determines its actions."[63] So, the whole process of emergence becomes but a cosmic extension of the "program of self-identification."[64]

Before we can go on to an analysis of Polanyi's theory of emergence, however, a final descriptive step remains, and that is to look at how Polanyi brings it all together in his argument for a "generalized field." It is this "field"which in his later writings becomes the "gradient of emerging meaning," the source of an underlying cosmic teleology. His argument rests on (1) an analogy with a "generalization of the field concept in a strictly biological sense, purified of any *arrière-pensée* of physico-chemical equilibration," and (2) the correlation between the "finalistic character" of a "field of biological striving" and the fact that "biological achievements are those of an active centre" at whatever level of being they occur.[65] The argument is complex and technical, and yet, unpacking it is important, for it leads finally to Polanyi's extrapolation into a culminating theological reference, which, we believe, justifies our frankly theological critique.

Polanyi's idea of a 'field' refers to the identification of "morphogenetic

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[63] *Ibid*.

[64] See Polanyi, "Transcendence and Self-Transcendence," 93-95. Cf. *TD*, 90-91; *PK*, 380.

[65] *PK*., 398, 402, 404.

equipotentiality" in biological sciences, which recognized in living organisms a "spontaneous adaptative reorganization by which a determined end is achieved under profoundly modified conditions" (e.g., mutilated rats contriving a way to navigate mazes that had been navigated before mutilation, insects adapting "their mode of locomotion" instantly after amputation of limbs, Renoir's ability to continue his paintings for twenty years without the use of his hands and fingers, etc.). It is more specifically related to the work of Driesch and other scientists in showing the capacity of a "germ [a cell or combination of cells from the embryo of certain living organisms] to build up a normal embryo in spite of several amputations."[66]

Polanyi connects it specifically with Hans Speamann's work, which has suggested that these fields of equipotentiality are analogous to mental processes: "The suitable reaction of a germ fragment, endowed with the most diverse potencies, in an embryonic 'field,' its behavior in a definite 'situation,' is not a common chemical reaction… these processes of development, like all vital processes, are comparable, in the way they are connected, to nothing we know in such a degree as those vital processes of which we have the most intimate knowledge, viz., the mental [Ger., '*seelich*'] ones."[67] Polanyi then applies the idea of a "morphogenetic field" to epistemology and biological achievement as follows:

> All the operations of the "tacit component"… will be subsumed under this field conception. All mental unease that seeks appeasement of itself will be regarded as a line of force in such a field. Just as mechanical forces are the gradients of a potential energy, so this field of forces would also be the gradient of a potentiality: a gradient arising from the proximity of a possible achievement. Our sense of approaching the unknown solution of a problem, and the urge to pursue it, are manifestly responses to

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[66] *Ibid.*, 338.

[67] *Ibid*., 339n. Cf. Hans Speamann, *Embryonic Development and Induction* (New Haven: Yale University Press, 1933), 371.

> a gradient of potential achievement; and when we identify a morphogenetic field, we see in it in fact a set of events coordinated by a common gradient of achievement.[68]

"The conception of such a field," says Polanyi, "attributes to certain achievements… the power to promote their own realization." They are supposed to operate biologically in "three stages of originality, of which phylogenetic emergence is the highest":

> (1) There is the originality of a resourcefulness manifested in achieving something clearly foreseeable… (2) The ontogenetic maturation by which infants develop the faculty of logical thinking… [which involves] a series of achievements, each producing a new field by which the next higher achievement will be performed… (3) Phylogenetic emergence exceeds this degree of originality by producing operational principles that are altogether unprecedented.[69]

The turning point for Polanyi is that just as "this fully developed emergence" could only be understood "by forming a continuous transition from ontogenetic maturation to heuristic achievement," it is also because of this analogy, he says, that it becomes feasible to "apply to the process of ontogenesis a field theory based on the gradient of achievement." The complexity with this framework, says Polanyi, is not simply explanatory, for it is "phylogenetic emergence itself that is so astounding," because it implies not simply maturation such as in ontogenesis, but a "maturation of the potentialities of ontogenesis."[70] He continues:

> If contemplating the process of anthropogenesis, we are clearly convinced–as I am–that this is in fact so, we are *driven* to assume that the maturation of the germ plasm is *guided* by the potentialities that are open to it through its possible germination into new individuals. We are actually facing then the operations of a phylogenetic field guiding anthropogenetic maturation along the gradient of phylogenetic achievement–as clearly as the embryologist faces morphogenetic fields derived from

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[68] *Ibid*., 398.

[69] *Ibid*., 399.

[70] *Ibid*. 400. "This homology," says Polanyi, "was suggested long ago by Samuel Butler and was elaborated by Henri Bergson."

the gradient of ontogenetic achievement.[71]

Polanyi suggests this notion of a gradient of achievement, or of potentiality, is analogous, both in its "ontogenetic maturation" sense and "phylogenetic," to two different internal experiences common to human beings: The former is similar to the attempt to recollect a lost memory–it "re-produces things already achieved before"–and the latter is similar to discovery, where "the search for entirely novel achievement is guided by intimations of their growing proximity, even as the possibility of unprecedented achievements guides the maturation of the germ plasm to ever higher evolutionary stages."[72]

There is a difficulty, he acknowledges, that arises from this account: The fact that "an anthropogenesis induced by random mutations," regardless of the existence of a "field as agent of biotic performances," would have "dynamic properties analogous to those of pathways along which the potential energy of a system decreases." Yet, he answers, "we must remember here the decisive fact that biotic achievements are those of an active centre," within a hierarchy of individuality structures, and at the "upper levels" these active centers "are called upon to make responsible choices–and continuity demands that we should take this active component into account likewise down to the lowest level."[73] What this means for Polanyi, is that "the emergence of man and of the thoughts of man" must then be seen as the culmination, so far, of the "gradual rise of autonomous centres of decision." With man's noetic activities, "the lines of force in a heuristic field should stand for *an access to an opportunity, and for the obligation and the resolve to make good of this opportunity, in*

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[71] *Ibid*. (Polanyi's emphases)

[72] *Ibid*.

[73] *Ibid*., 402-403.

spite of its inherent uncertainties."[74]

These active centers, therefore, of which man is the culmination, operate in "finalistic" fields of opportunity through a 'striving' that seeks to make best of the opportunity, and so, such active centers cumulatively increase the limits and spans of the opportunities–they anticipate a kind of self-transcendence: "At all levels of life it is these centres which take the risk of living and believing. And it is still such centres which, at the highest stage of development, actuate those men who seek the truth and declare it to all corners–at any costs."[75]

This, says Polanyi, is where we see the extrapolation toward "ultra-biology," in which "the theory of evolution finally bursts through the bounds of natural science and becomes entirely an affirmation of man's ultimate aims." It is here, he continues that we see that the "emerging noosphere is wholly determined as that which we believe to be true and right; it is the external pole of our commitments, the service of which is our freedom. It defines a free society as a fellowship fostering truth and respecting the right. *It comprises everything in which we may be totally mistaken*."[76] Polanyi then brings his cosmology of emergence to a close by making a final theological connection:

> So far as we know, the tiny fragments of the universe embodied in man are the only centres of thought and responsibility in the visible world. If that be so, the appearance of the human mind has been so far the ultimate stage in the awakening of the world; and all that has gone before, the strivings of myriad centres that have taken the risks of living and believing, seem to have all been pursuing, along rival lines, the aim now achieved by us up to this point. They are all akin to us. For all the centres… may be seen engaged in the same endeavour toward ultimate liberation. We may envisage

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[74] *Ibid*., 403.

[75] *Ibid*., 404.

[76] *Ibid*. (emphasis added).

> then a *cosmic field which called forth all these centres* by offering them a short-lived, limited, hazardous opportunity for making some *progress of their own towards an unthinkable consummation*. *And this is also, I believe, how a Christian is placed when worshiping God*.[77]

We have followed Polanyi's account at length, and though we should not underestimate the importance of his cosmology and his notion of emergence to the whole of his thought, our main concern has been actually to establish the framework for discussing some basic points that touch on the heart of our argument throughout this work. We shall ignore, for now, a plethora of possible contentions concerning Polanyi's account of emergence, and instead, we will, as promised, raise some critical points concerning whether Polanyi has fulfilled his aim of providing a truly intramundane account, and then proceed to our theological discussion in a separate heading.

We will avoid discussing the overall validity of searching for an evolutionary cosmology for the following reason: First, we fully agree with Polanyi that neo-Darwinian theories of evolution prove inadequate to account for the rise of life and of man. Second, if Polanyi's account proves to fail in disposing of the external activity of a creative agency (whether it be through intensification or repeated interference), and turns out covertly to rely on any kind of theistic or deistic presupposition, we will simply consider it as rationalized from the start, and would simply respond to it by saying that (a) if the whole process must ultimately be traced to an external and previously existing creative agency, (b) and this agency must be personal–since Polanyi has clearly expressed that personality is a higher level of integration (epistemic or ontic) and so any higher level would have to be personal or more than personal, but never less than personal–then (c) the issue of evolution becomes,

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[77] *Ibid*., 405 (emphases added).

as far as we are concerned, a mute point. In that case, no strictly intramundane cosmology could ever account for man or the created universe.[78]

Having said that much, we will suggest that the first problem with Polanyi's account concerns the fact that none of the analogies to which he resorted actually do what he asks of them, but rather they suggest the contrary of what he tries to show. His first central analogy is that of ontogenetic maturation, by which phylogenetic emergence is proposed as a "maturation of the potentialities of ontogenesis."[79] Ontogenetic maturation, however, is always understood in connection with the development of an embryo along preexistent lines and biological structures present in the mature individual of a species, in the "parents," and this is the "field" within which there may exist equipotentiality. R. T. Allen states this problem as follows:

> The idea of a chance event releasing the self-sustaining operational principles of a novel form of existence (life, sentience, intelligence) seems to presuppose that the previous state of the universe already contained, in a potential and non-active state, those operational principles, just as the kinetic energy of a friction-locked system is released by a chance event. So then, if they are released, how did they get there in the first place? Yet this does not make sense, if we really hold to the emergence of genuine novelty, unless we do appeal to an extra-mundane agency, itself on a higher level of existence, which put those latent principles into the structure of things so that fortuitous events could later release them.[80]

We meet similar difficulties when Polanyi seeks to solve part of this problem by analogy to Piaget's account of the "ontogenesis of human intelligence": The human child described by Piaget begins her development with the maturation of her "appetitive, motoric, perceptive" potentials, but this occurs within a field preexistent in the parents. When the

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[78] This is as much as I can say here if I wish to avoid veering off into a discussion of creationism, which would, obviously, takes me far afield from my subject matter at present.

[79] *Ibid*. 400.

[80] Allen, *Transcendence and Immanence*, 119.

child proceeds to mature intellectually toward "an intelligent person, reasoning with universal intent" she is also not creating anew the noosphere, but in actuality, merely maturing within a preexistent "field," a preexistent noosphere, within which she learns to dwell, to trust, and to integrate herself. [81] Again, Allen states it quite well:

> Polanyi, with his correct emphasis upon conviviality, man's location in a historical and social world, and tacit learning from accredited masters, should have recognized these facts of human development. Maturation cannot be the whole story for human beings emerge only in the company of existing human beings. If there is an analogy between ontogenesis and phylogenesis it points the other way: mankind could only have emerged in an already existing noosphere.[82]

The fact that Polanyi insists on the gradualness of ontogenetic and phylogenetic maturation does not seem radically to alter the equation. Furthermore, the "assumption" that "new [emergent] laws of nature" are at play, but that these are not yet specifiable according to our present understanding, besides being like drawing on a check against the future, is also suggested by Polanyi as a needed assumption only "so long as we can form no idea of the way a material system may become a conscious, responsible person." In this sense it cannot be taken as more than a heuristic device at best.[83]

Yet, it is in Polanyi's extrapolation of the "field" concept into a "cosmic field" that these difficulties are aggravated. First, because "the mere possibility of unprecedented achievement is said to guide the germ plasm in the process of phylogenesis. But, surely,

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[81] *PK*, 395.

[82] Allen, *Transcendence and Immanence*, 120.

[83] *PK*, 397, 390. I am reminded here of when, as a child, after repeatedly asking my parents about how one thing or another "worked," I finally concluded out loud: "I guess it is the explanation that really makes things work." Kant has warned us about taking a heuristic explanation as corresponding with the actual content of what is explained! See Immanuel Kant, *The Critique of Judgement*, Part II, [411], trans. James C. Meredith (Oxford: Clarendon Press 1952), 69. Cf. Jha, "Polanyi's Problematic 'Man in Thought'."

only the actual can act." Again, the analogies of a lost memory or of discovery both fail, for in the former the memory is preexistent, and in the latter, it is exactly human intelligence, which can "innovate by *envisaging* or sensing a possibility to be realized" that is at play, and therefore seeing it as analogous to a process by which that very capacity emerged seems difficult. "Potentialities do not realize themselves," says Allen. It seems that just as in the argument for maturation, the notion of a cosmic field cannot account for the guidance provided to phylogenetic emergence unless it is conceived as "controlled from without by a mind envisaging the potentialities of the germ plasm and moulding it accordingly. Our only experience of the emergence of novelty is our own acts of discovery and invention, and this would suggest the control of emergence by a cosmic or super-cosmic intelligence."[84]

It seems fairly clear that Polanyi has not effectively disposed of the need for a creative agency, but has simply insisted on reducing it to the level of a mere field of emerging potentiality, all the while reasoning as if it exercised the powers only a preexisting external creative agency could. Despite Polanyi's references to consecutive "autonomous centres of decision" which are directed gradually toward growing levels of groping and self-transcending, it is still the "cosmic field" that must ultimately account for the successive levels of achievements that populate the emerging universe and culminate in the emerging noosphere.[85] We should, however, be somewhat reticent about such a reading of Polanyi, were it not for the fact that, in the end, he not only writes explicitly of a "cosmic field" whose "power" is to "consolidate centres of first causes," but goes on to say that this

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[84] Allen, *Transcendence and Immanence*, 122. Allen suggests this would then turn out to be something like an "Argument from Design" in modern terms.

[85] *PK*, 403-404.

"cosmic field" has "called forth all these centres" and offered them a "short-lived, hazardous opportunity" of moving collectively and sequentially "towards an unthinkable consummation." All our hesitancy, nevertheless, seems to be dispelled when his final analogy suggests that this is "how a Christian is placed when worshiping God."[86] But this we will, as promised, explore under the next heading.

Emergent Meaning and the Great Chain of Being

How should Polanyi's argument for emergence relate to God? To see his final statement as merely a metaphorical or rhetorical device, some kind of Polanyian idiosyncrasy due to his religious longings, would be to ignore the coherence and continuity of his thought. Throughout *Personal Knowledge*, Polanyi has made repeated reference to God, and has, furthermore, suggested quite clearly that the epistemology/ontology he is attempting to develop, his comprehensive "programme of self-identification," should somehow be taken as providing a "clue to God."[87] How is the conclusion of his argument for emergence a "clue to God"? Allen suggests Polanyi to mean the following: "As pre-human forms of existence stand to the rise of man, which is their unthinkable consummation, so the Christian is placed when he worships God."[88]

If this is what Polanyi means, then there is a crucial contradiction between his account and his effort to uphold a teleology that does not postulate "an overriding cosmic purpose necessitating all the structures and occurrences of the universe in order to accom-

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[86] *Ibid*., 405.

[87] *Ibid*., 197-199, 279-286, 324, 380, especially 384: "This… is a clue to God, which I shall trace further in my last chapter by reflecting on the course of evolution."

[88] Allen, *Transcendence and Immanence*, 123.

plish itself."[89] If all "myriad centres" which have supposedly emerged before man are to be seen as making progress toward man, "the only centres of thought and responsibility in the visible world," as their "unthinkable consummation," then is the worshiping Christian standing before God as a similar unthinkable consummation of which he is, perhaps part of the means?[90] In the closing of *The Tacit Dimension*, we find the following words:

> I have tried to affiliate our creative endeavors to the organic evolution from which we have arisen. This cosmic emergence of meaning is inspiring. But its products were mainly plants and animals that could be satisfied with a brief existence. Men need a purpose which bears on eternity. Truth does that; our ideals do it; and this might be enough, if we could ever be satisfied with our manifest moral shortcomings… Perhaps this problem cannot be resolved on secular grounds alone. But its religious solution should become more feasible once religious faith is released from pressure by an absurd vision of the universe, and so there will open up instead a meaningful world which could resound to religion.[91]

But is the "meaningful world," Polanyi ultimately wishes to show us, one in which the emergent meaning must finally be an emerging God? We must remember that Polanyi's analogy between the standing of pre-human forms of being before man and man's standing before God precludes the idea that this God would actually pre-exist independently of the lower forms of being from whence he emerges–just as man, in the analogy, stands as the higher integration and "consummation" of the lower forms which have made his emergence possible, and so never ceases to be dependent upon its lower aspects for proper functionality.[92] "In that case," suggests Allen, "the result would be a theology of an emergent God who comes into existence supervening upon human life and self-

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[89] *M*, 162.

[90] Cf. *PK*, 405.

[91] *TD*, 92.

[92] Cf. *PK*, 388-389.

consciousness, as apparently proposed by Hegel and more explicitly by others since him such as Scheler and Alexander."[93]

Or maybe Polanyi's final theological analogy simply proposes that the Christian stands before God as all the centers of individuality throughout emergence stand before the cosmic field. But would that really change the final theological outcome? If God is the cosmic field, He is neither separate from the universe nor independent from it, but emerges from the universe as the potentiality for further emergence. The result is the same emerging God, enmeshed with the cosmos and dependent upon it for self-actuation. Allen wishes to propose a third option. That is God as the "organizer" of the cosmic field, who therefore "transcends the universe and calls it into being and guides it in its process of evolution."[94]

Yet, we would argue that this would amount to radically reinterpreting all the claims and conditions Polanyi has indeed established for his account, and it would, furthermore, require also a radical alteration of the Polanyian epistemological correlate. It would, perhaps, suggest the actual tacit presuppositions that have undergirded Polanyi's argument, but it would contradict what Polanyi has explicitly upheld. Of course, we have already hinted at this when we argued that Polanyi has covertly relied on the actual exercise of an external creative agency, and we believe that indeed if his thought should maintain any cogency at all it could not do otherwise. Nevertheless, that is not the point, for the 'theology' that Polanyi takes from his account of emergence is not derived from the disavowed presuppositions upon which he has relied only secretly, but from the actual

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[93] Allen, *Transcendence and Immanence*, 123. Cf. M. Scheler, *Man's Place in Nature*, trans. H. Meyerhoff (Boston: Beacon Press, 1961); S. Alexander, *Space, Time and Deity* (London: Macmillan Press, 1927).

[94] Allen, *Transcendence and Immanence*, 123.

explicit theology he believes to have identified, and that seems to be the notion of an emerging God, viz., "a non-existent something–Hegel's idea–sets in motion a process whereby it first realises[*sic*] other beings and then and through them itself."[95]

Allen wishes to uphold his alternative reading of Polanyi because he claims that "whether or not God is the cosmic field, and if so, whether or not he is immanent and perhaps emergent in the universe, or whether he transcends it and employs the cosmic field as his mode of operation, cannot be decided [merely] on the basis of Polanyi's summary statement [at the end of *Personal Knowledge*]."[96] The problem with this assertion, however, is that it risks ignoring the broader context of Polanyi's epistemology of tacit knowing, which is seen by Polanyi as corresponding to the essence of ontological structures.[97] Because we believe that in fact the epistemological correlate does not leave open the possibility of God as the transcendent source and guide of the cosmic field (and without even mentioning again the many ways in which Polanyi has openly disavowed such interpretation), it might be important to broaden the discussion at this point, even if only briefly, and actually to address the question of which kind of God is possible within the framework of TK as developed by Polanyi.[98]

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[95] Cf. *Ibid*., 123-124.

[96] *Ibid*., 124.

[97] *TD*, 33-34.

[98] I do not believe Allen is oblivious to this impossibility, and indeed, he discusses in his dissertation the fact that Polanyi's "epistemology of tacit integration is not unambiguously theistic." Yet, what is surprising to me is that he insists on arguing that it can, indeed, be interpreted in a theistic sense. Of course, as I have repeatedly suggested, the only reason that it may be so interpreted is because there is, on Polanyi's part, an inevitable reliance upon presuppositions of a Christian character–this is his 'borrowing'–but if one wishes to recover such material in Polanyi, this must be done through an intentional critique, a transcendental critique, of his avowed presuppositions, and not simply by some kind of accommodation that finds in Polanyi's inconsistencies the leverage to argue a 'Polanyian' position which departs from his professed opinions. Since I will return to this line of thought later on, I will presently limit my comments to the above. Cf. Allen, *Transcendence and Immanence*, 111f.

We may begin by recalling how Polanyi established the analogical relation between TK and the Ontological Hierarchies:

> Take two points. (1) Tacit knowing of a coherent entity relies on our awareness of the particulars of the entity for attending to it; and (2) if we switch our attention to the particulars, this function of the particulars is canceled and we lose sight of the entity to which we had attended. The ontological counterpart of this would be (1) that the principles controlling a comprehensive entity would be found to rely for their operations on laws governing the particulars of the entity in themselves; and (2) that at the same time the laws governing the particulars in themselves would never account for the organizing principles of a higher entity which they form.… The two terms of tacit knowing, the proximal, which includes the particulars, and the distal, which is their comprehensive meaning, would then be seen as two levels of reality, controlled by distinctive principles. The upper one relies for its operations on the laws governing the elements of the lower one in themselves, but these operations of are not explicable by the laws of the lower level.[99]

This analogy, says Polanyi, translates the "way we interiorize bits of the universe, and thus populate it with comprehensive entities" into a "picture of the universe filled with strata of realities, joined together in pairs of higher and lower strata," and which "link up into a series forming a hierarchy."[100] Each pair in the hierarchy is subject to dual control, "first by the laws that apply to its elements in themselves, and second, by the laws that control the comprehensive entities formed by them."[101] This means that reducing the functioning of a higher level to the laws governing its lower constituent parts is impossible, but it also means that "lower levels do not lack a bearing on higher levels; *they defined the conditions of their success and account for their failures*."[102] Even Allen recognizes, so far, the implications: "The highest level of all would therefore depend upon all the lower levels and upon the

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[99] *TD*, 34.

[100] *Ibid*., 35.

[101] Polanyi, "Transcendence and Self-Transcendence," 90.

[102] *PK*, 382 (Polanyi's emphasis).

boundary conditions left open by each successive lower level, until the lowest level of them all."[103]

If we consider man, as a comprehensive entity, we see that he operates by laws that transcend those of physics and chemistry–the laws governing his constituent parts–but we also realize he is never free or independent from those lower laws, just as he is not free or independent from his constituent parts. Furthermore, says Polanyi, "at each consecutive level there is a state which can be said to be less tangible than the one below it," and it also appears, therefore, that "the more intangible the matter in the range of these hierarchies, the more meaningful it is [i.e., sentience is more meaningful than matter, man is more meaningful than animals and the noosphere is more meaningful than a single consciousness]."[104] Indeed, says Polanyi, "as these more intangible levels are understood a steadily deeper understanding of life and man is gained. These understandings constitute transcendence in the world," which we can only experience as we "manifestly transcend our embodiment by acts of indwelling and extension into more subtle and intangible realms of being, where we meet our ultimate ends."[105]

Now, nowhere in Polanyi's writings have we been able to find a basis for thinking that the same logic should not be extended infinitely and univocally, in fact, he explicitly referred to the mystic experience of the *via negativa* in Christian mysticism as an attempt to stop looking focally at the objects and ideas in the universe and instead seeing them "as part

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[103] Allen, *Transcendence and Immanence*, 113.

[104] Polanyi, "Transcendence and Self-Transcendence," 90.

[105] *Ibid*., 91, 93-94.

of a cosmos, as features of God."[106] Elsewhere, Polanyi is even more explicit:

> It is therefore only through participation in acts of worship–through dwelling in these–that we see God. God is thus not a being whose existence can be established in some logical, scientific, or rational way before we engage in our worship of him. God is a commitment involved in our rites and myths. Through our integrative, imaginative efforts we see him as the focal point to fuse into meaning all the incompatibles involved in the practice of religion. But, as in art–only in a more whole and complete way–God also becomes the integration of all the incompatibles in our own lives.[107]

It should be clear, therefore, that if God is to be included in Polanyi's epistemology/ontology (and as we have seen he has insisted that this somehow be so), either he is the highest level of integration of the cosmos, or perhaps himself an even higher level of integration of which the cosmos as a comprehensive entity is a constituent part. This is not simply the implication of his account of emergence, but it is also implied and required by his epistemological/ontological correlation.[108] And we should be clear about the fact that though many of his references to God, such as the two we just cited, are in the context of the worshiper standing before Him, there is no reason to suspect that Polanyi is simply using a religious analogy–he, in fact, clearly intends these statements to be supportive of religious meaning, and hence they should be taken as positive assertions and not mere metaphors.[109]

Why is the theological question important in understanding Polanyi's thought? Because as Polanyi fully realized, his epistemology and correlated ontology, his whole notion of knowing and being, in the end, had to be concerned above all with justifying how man, as a contingent and material being, is at the same time a being that "longs for that

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[106] *PK*, 197-198.

[107] *M*, 156.

[108] Cf. Jha, "Polanyi's Problematic 'Man in Thought'"; Prosch, *Michael Polanyi*, 231-233.

[109] Cf. *M*, 159-160, 180-181.

which bears on eternity." Certainly one can limit the scope through which he approaches Polanyi's thought, and concentrate on those aspects of it which do not transcend the mundane and bear on its religious implications.[110] However, this is not how Polanyi thought. For him it was important to see his philosophy as a comprehensive approach that included a continuity between the lowest levels of existence and of knowing and the highest and most intangible levels.[111] In doing so, God becomes a crucial underlying part of the equation, and since the only way in which God can fit into the Polanyian equation is either as an immanent being who is emerging into something greater by becoming an even higher integration of which the cosmos is a part, or as a being who actually emerges as the higher integration of the cosmos, it becomes inevitable that He be conceived as strictly immanent in his rooting, though striving, perhaps not unlike man, toward ever greater transcendence.[112] We have previously alluded to Polanyi's reference to a strain of Platonism in his thought, and this is, perhaps, a place where quoting his full reference might be helpful:

> There is an element of the Platonic view included [in my philosophy], but with the intention of avoiding the possibility of having Platonic ideas laid up somewhere and looking at them in a detached manner. For these "Platonic ideas" of mine exist only in our acceptance of them.[113]

Though saying exactly what Polanyi meant by this statement is quite difficult, would it be possible to take it as an opening for a helpful analogy concerning Polanyi's thought? Lovejoy has described the "Great Chain of Being" which, from its Platonic and

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[110] See, for example, John Puddefoot, "Resonance Realism," *Tradition and Discovery* 20:3 (Fall 1993), 29-39; Phil Mullins, "Polanyi's Participative Realism," *Polanyiana* 6:2 (Winter 1997), 5-21.

[111] *STSR*, 129.

[112] Cf. Polanyi, "Transcendence and Self-Transcendence," 90-94.

[113] Polanyi, "Beauty, Elegance, and Reality in Science," 118.

Neoplatonic origins came to inform and influence much of medieval theology and beyond. This ontology suggested a universe "composed of an… infinite number of links ranking in hierarchical order from the meagerest kind of existents, which barely escape non-existence, through 'every possible' grade up to the *ens perfectissimum*."[114] One of its foremost formulators was Plotinus, and in the following passage he describes its cosmogony:

> Something besides a unity there must be or all would be indiscernibly buried, shapeless within that unbroken whole: none of the real beings [of the Intellectual Kosmos] would exist if that unity remained at halt within itself: the plurality of these beings, offspring of the unity, could not exist without their own nexts taking the outward path; these are the beings holding the rank of souls. In the same way the outgoing process could not end with the souls, their issue stifled: every Kind must produce its next; it must unfold from some concentrated central principle as from a seed, and so advance to its term in the varied forms of sense. The prior in its being will remain unalterably in the native seat; but there is the lower phase, begotten to it by an ineffable faculty of its being… To this power we cannot impute any halt… it must move for ever outward until the universe stands accomplished to the ultimate possibility.… There is, besides, no principle that can prevent anything from partaking, to the extent of its own individual receptivity in the Nature of Good. If therefore Matter has always existed, that existence is enough to ensure its participation in the being… if on the contrary, Matter has come into being as a necessary sequence of the causes preceding it, that origin would similarly prevent it standing apart from the scheme as though it were out of reach of the principle to whose grace it owes its existence. [115]

The "Great Chain of Being," however, is only partially analogous to Polanyi's concept of emergence, for there is a significant difference: While the idea of a Great Chain of Being emphasized Absolute being as the source from which the world emanated downward actuating its potentiality until it reached to the lowest realm, that of non-being,[116] for Polanyi the equation seems to be reversed. It is from the lowest levels (not of non-being

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[114] Arthur Lovejoy, *The Great Chain of Being: A Study of the History of an Idea* (Cambridge, MA: Harvard University Press, 1942), 59.

[115] Plotinus, *Enneads*, 4:8.6.

[116] Lovejoy, *The Great Chain of Being*, 50-54.

but of meaninglessness) that universe emerges in a perhaps endless progression toward ever higher levels of meaning, ever higher integrations, guided by a cosmic field of pure potentiality or possibility. Furthermore, it seems inevitable that Polanyi's 'Great Chain' be seen as moving along the same poles we have previously suggested, viz., the activistic and abstract principles. He is quite clear that the from-to movement in his hierarchy of beings is from the concrete, contingent and meaningless to the abstract, intangible and meaningful.[117]

At this point, however, our comments run the risk of trespassing into the territory we wish to reserve for our concluding chapter. The present discussion must, therefore, be brought to a close. Still, a few more important considerations are needed in order to bring together as a provisional summary what we have been getting at thus far. Aside from his development of the theory of ontological hierarchies and from his more comprehensive cosmology in the final part of *Personal Knowledge* which we have discussed, Polanyi did not expand his ontology into its greater cosmological and theological implications. Rather, he simply applied the underlying ideas in manifold articles and different subjects. Given this fact, it is important to recognize that in quite a few points our argument has necessarily involved some extrapolation, or rather, to use a Polanyian-accredited notion, *surmising*. It seems, nonetheless, quite plausible and consistent to uphold the claim that Polanyi's ontology and epistemology suggest an emergent God, together with an emergent universe.[118]

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[117] Polanyi, "Transcendence and Self-Transcendence," 90.

[118] Allen alternatively suggests that Polanyi's epistemology and ontology may simply imply the notion of God as a "World-Soul." I will not discuss this contention separately because it would not be significantly different from that of an emergent God. Furthermore, Polanyi's reliance on a gradient of emergent meaning in his further development of his epistemology (which we will discuss below) seems confirmation enough that the concept of an emergent God is probably the most accurate description of Polanyi's theology at this point. Cf. Allen, *Transcendence and Immanence*, 111-118.

As we began our discussion of emergence in Polanyi, we referred to his desire to uphold an immanentistic teleology. This is a point we have been arguing not only at present, but also, in less explicit ways, even in the previous chapter. We have also cited Polanyi's own statement that he saw in Whitehead a "first rate teleological" alternative, and perhaps, after a rather lengthy exploration of the ontology and the 'theology' that inform Polanyi's notion of teleology, it may have become clear that indeed the affinity to Whitehead may be even greater than simply teleological.[119]

Our contention is that emergence has ultimately been intended to comprehend or correlate his activistic and abstract principles, or poles, but that this correlation does not completely dispose of the ultimate need for theistic presuppositions. Rather, it simply transforms the concept of God so as to fit his framework. When it does so, however, it no longer resolves the problem he wishes to resolve.[120] Again, if Polanyi's ontology, like his epistemology, is ultimately part of the program of self-identification, a program of self-transcendence, emergence will not serve as its underlying authorization. Yet, if Polanyi's argument retains its cogency, and actually provides some positive contribution, it is only because, despite his claims, he has continued to rely on some traditional theistic presuppositions, albeit distorted by his pseudo-substitution of them by the logic of emergence. But of course, the conclusions he brings out of his ontology and then reapplies to his epistemology in the form of a theory of emerging meaning are the actual explicit ones, and not the redeeming tacit assumptions.[121]

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[119] See, for example, Alfred North Whitehead, *Religion in the Making* (New York: new American Library, 1974), 65ff.

[120] See, for example, *SFS*, 83-84. Cf. *PK*, 284-285, 396.

[121] Cf. PK, 348; B. Haddox, "Questioning Polanyi's Meaning," *Zygon* 17:1 (March 1982), 23-24.

For now, however, we must stop at this, and go on to see how his epistemology, his logic of tacit integration, becomes an epistemology of tacit meaning. In the process of doing so, we should also have a chance to show how the question of religious meanings continues to play an explicitly important role for Polanyi. Yet, given the radical difficulties he has, we believe, created for himself, it ends up being the source of much trouble for those who have sought to interpret, follow or apply his thought.

The Logic of Tacit Integration Revisited

We have suggested previously how Polanyi's notion of an emergent cosmos, with an emergent noosphere and a gradient of emergent meaning, is the inseparable ontological correlate of his concept of tacit knowing. Yet, as Polanyi moved toward a more comprehensive application of his philosophy, the logic of tacit integration was itself, in turn, expanded according to the conclusions reached by upholding the gradient of emergent meaning as the justification and teleology for human striving. "All I have spoken," says Polanyi, "presents a single, fairly simple vision," and the translation of this vision from emergence back to epistemology he expresses as follows:

> [The] universe… filled with a field of potentialities which evoke action… in inanimate matter [this action] is rather poor, perhaps quite meaningless. But dead matter… takes on meaning by originating living things... The field of new potential meanings was so rich that this enterprise, once started, swept on toward an infinite range of higher meanings, unceasingly pouring them into existence… Almost from the start, this evolutionary response to potential meaning had its counterpart in the behavior of the living things it brought forth… In the last few thousand years human beings have enormously increased the range of comprehension by equipping our tacit powers with a cultural machinery… Immersed in this cultural milieu, we now respond to a much increased range of potential thought. It is the image of humanity immersed in potential thought that I find revealing… It rids us of the absurdity of absolute self–determination, yet offers each of us the chance of creative originality… It provides us with the metaphysical grounds and the organizing principle of a Society

of Explorers.[122]

In one sense, Polanyi believed that this vision should provide a unity for every field of intellectual pursuit, and indeed broaden the scope of human epistemic activity so that the purpose of society and humanity in general could be seen as that of a "society of explorers" jointly "called upon to search for the truth and state [their] findings."[123] It was, however, in this final turn of his philosophical reflection that Polanyi was lead to what has been called his supposed "divarication," and so bequeathed to those who would follow him, and seek to interpret his thought, a complex and difficult dilemma. We shall follow his attempt to, as Gelwick puts it, illuminate "the distinctive heuristic roles of various fields of study," and hence provide a more comprehensive application of the theory of tacit integrations.[124] After having described the distinctions he was led to draw, we may address the so-called divarication and perhaps suggest a possible solution in light of the interpretation we have been suggesting of Polanyi's thought.

It is in *Meaning*, after presenting again his theory of tacit integrations and suggesting its application to some crucial scientific and philosophical problems, that Polanyi states how his theory should bridge the gap between the supposed objectivity of scientific inquiry and the so-called subjectivity of the humanities, but that in doing so, it would also have to recognize the "distinction" which "there must surely be between these two sorts of meanings":

Let us therefore make a fresh analysis of the various sorts of humanistic meanings in

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[122] *TD*, 90-91.

[123] *PK*, 299.

[124] Gelwick, *Way of Discovery*, 101.

> terms of the triad we have seen to be at work in the meanings achieved in ordinary perception and in science. The real distinction between scientific and humanistic meanings must surely come to light in such an analysis. More important than the perception of this difference, however, must be the possibility of our becoming cognizant of the realities established in the world by the humanistic meanings that such an analysis may open up for us, as we come to the grounds for the validity of such meanings and the vast importance they possess for us through the significance they are able to create in our lives.[125]

In one sense, his theme is still the same antireductionism that permeated his analysis of science from the beginning, but his interests now are more explicit. Because "man lives in the meanings he is able to discern," and it is there that he "extends himself" and finds his "home," and because "we must adopt the kind of general views about the nature of things and the nature of knowledge that will not prevent our belief in the reality of those coherences that we do, in fact, see," says Polanyi, we must somehow enlarge our views and accredit not only the meanings of those coherences we call "natural," but also those commonly called "artificial."[126] The problem is stated by Polanyi as follows: All our knowledge springs from a fiduciary framework, and our tacit reliance and submission to this framework is the ground upon which we interpret the universe, so,

> Many of the coherences that we see around us we may not believe in, therefore, if our theories tell us they are not real. We may believe that they are only appearances, illusions, created by the chance interactions of many separate causes. Religious meanings may be reduced by us in this way to peculiar congeries of psychological needs and historical causes; ethical meanings to congeries of historically influenced economic needs; and aesthetic meanings to congeries of biological–or sometimes psychological–needs.[127]

Yet, says Polanyi, this is an unacceptable situation, not only because it would

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[125] *M*, 65.

[126] *Ibid*., 67.

[127] *Ibid*., 66.

ultimately demand the abdication of all meaning, but especially because it is not true to the state of affairs recognized by all men, who in one way or another must live within the meanings they indeed recognize, and to which they submit themselves. Still, in order to do so, it is necessary to extend the program of self-definition and "explain" why and how the "coherences" which give meaning to life and manifest our transcendent thrust are "no less real than the perceptual and scientific coherences" modern man "so readily accepts." For it is only when our "obvious personal involvement with these meanings is seen as part and parcel of the reality they actually have," he continues, that we will discover that such "is not at all a reason to regard them as mere subjective fantasies,"[128] but rather, that we can uphold the validity of these meanings with intellectual honesty, and find in them "happy dwelling places for the human mind."[129]

Polanyi proposes, therefore, to begin understanding and distinguishing between different kinds of meanings by seeing how the logic of tacit integration functions differently in our use of language, particularly in the difference between the denotative use of words and "the kind of coherence and power to move us that exists in a metaphor." Polanyi begins with a discussion of the difficulties involved in an "associationist" explanation of language. This kind of explanation implies the idea that word and object are equal partners in an association. It totally disregards the fact that the word ultimately functions as "pointing" to an object or a meaning beyond itself. Therefore, a word has a function and an intrinsic interest radically different from the meaning upon which it bears.[130]

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[128] *Ibid*., 66-67.

[129] *PK*, 280.

[130] *M*, 69.

This has been, says Polanyi, well elaborated by Edward Sapir, Bertrand Russell, Erwin Strauss, Susanne Langer and others.[131] When words are understood in this way, he continues, it becomes easy to see that they follow a *from-to* pattern, i.e., they "function as indicators pointing in a subsidiary way to the focal integrations upon which they bear."[132] Furthermore, when words function simply as signs pointing to a focus beyond itself, their intrinsic interest diminishes, and the intrinsic interest is placed on that to which they point. Polanyi proposes the following diagrammatic representation:

$$\overset{-ii}{S} \longrightarrow \overset{+ii}{F}$$

In the diagram we see a subsidiary (S) bearing on (→) its focal meaning (F), and the intrinsic interest (ii) resides on the focus, and not on the subsidiary. These types of integration Polanyi called "self-centered," because "they are made from the self as a center (which includes all the subsidiary clues in which we dwell) to the object of our focal attention." The pattern described above, said Polanyi, should cover most kinds of so-called "natural" integrations. He lists twelve examples, ranging from "sensory clues fused to perception," through scientific discovery based on the clues of nature, the practice of skills, the use of tools, and finally the "use of a name to designate an object."[133]

Yet, many of the coherences we see come to us in such ways where it is not only the focal object that has intrinsic interest for us, but the subsidiaries which are evoked by that

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[131] Cf. E. Sapir, *Culture, Language and Personality* (Berkeley, CA: Univ. of California Press, 1956), 8-15; B. Russell, *An Inquiry into Meaning and Truth* (New York: W. W. Norton and Co., 1940), 84; S. K. Langer, *Philosophy in a New Key* (Cambridge, MA: Harvard University Press, 1942), 58-59; E. Strauss, *Phenomenological Psychology* (New York: Basic Books, 1966), 84-85.

[132] *M*, 70.

[133] *Ibid*., 71.

of which we are focally aware. These, says Polanyi, are integrations in whose meanings we are "carried away." In these cases, "our persons are involved in a way quite different from the way they are involved in self-centered integrations." The "bearing upon" and the "intrinsic interest" in such cases is radically changed, and much more complex. Polanyi suggests the kind of *self-giving* integration that goes on in the *from-to* relations inherent in the use of symbols as an easy way to begin understanding the difference: "Flags and tombstones *denote* a country or a great man but they do not bear upon them as words bear upon their objects; they rather stand for such interesting objects, which is to say they *symbolize* them."[134] In such cases, the relationship between the subsidiaries and the focus is still somewhat similar to the one holding for self-centered integrations, but the intrinsic interest changes from the object of which we are focally aware to the subsidiaries. Perhaps, says Polanyi, the diagram might look like this:[135]

$$S \overset{+ii}{\longrightarrow} F \overset{-ii}{}$$

The inversion of the "ii" signs, however, is still not an adequate enough distinction. The reason a symbol has a meaning, for us, that carries us away is only *because* we surrender to it our own subsidiary meanings, made up of a whole universe of diffuse experiences. In this sense, they "not only bear upon the [symbol] as other subsidiary clues bear upon their focal objects, but they also, in our surrender to the [symbol], become *embodied* in it." He proposes, therefore, also to substitute the "bearing upon" sign in the diagram for a loop, to

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[134] *Ibid*., 72.

[135] *Ibid*.: "The focal object in symbolization, in contrast to the focal object in indication, is of interest to us only because of the symbolic connection with the subsidiary clues through which iy became a focal object. What bears upon a flag (the object of our focal attention) is what it is because we have put our whole existence into it. We have surrendered ourselves to that 'piece of cloth' (which would be all that the flag could be perceived to be were we to try to view it in the *indication* way of recognizing meaning)."

represent the complexity involved in this type of from-to relation. It will suggest how the focal object also "carries us back toward" the subsidiaries we have invested in the symbol:[136]

However, the integrations considered so far, viz., indication and symbolization, are still somewhat simple types of "semantic meanings." They are useful as illustrations, says Polanyi, because they begin to reveal how the relationship of the self to the whole process is the main distinctive feature. Hence they provide the justification for stating the distinction in terms of *self-centered* vis-a-vis *self-giving integrations*. Nonetheless, the complexity of the relation of the self to different kinds of integrations, says Polanyi, is illustrated even better by another kind of semantic meanings. In *metaphors* we can begin to see how in certain kinds of "self-giving" integrations the intrinsic interest and the connection of the self to subsidiaries and the focus may be simultaneous. This requires a more complex representation.[137]

We may avoid dealing with all the details of Polanyi's discussion of a metaphor. It will suffice to note that metaphors have long been recognized by the power they have to "move us so greatly," but that power has often not been clearly understood.[138] Polanyi suggests then that the "'secret' of the metaphor" is the fact that it is itself a tacit integration of a tenor (t) and a vehicle (v) which is, in turn, tacitly integrated with the subsidiary experiences, feelings and meanings of the person who hears it or reads it. Furthermore, says Polanyi, the tenor and the vehicle of a metaphor are both invested with intrinsic interest,

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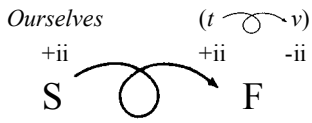
[136] *Ibid*., 73.

[137] *Ibid*., 75-78.

[138] Cf. Max Black, *Models and Metaphors* (Ithaca, NY: Cornell University Press, 1962), 38-46.

which is made even more powerful by the fact that a metaphor will normally integrate a tenor and a vehicle that are *seemingly incompatible*. That integration becomes a meaning that *transcends the meanings of the tenor and the vehicle*. In that sense, the meaning of a metaphor is a creation of a tacit meaning by one person, which is tacitly recreated or 'solved' by another person who then shares on the deeper meaning revealed, and is carried away by it. Polanyi seeks to show the more complex relationships in the integration of a metaphor as follows:[139]



For Polanyi, it is this more complex and comprehensive structure represented by a metaphor that also holds from the kinds of self-giving meanings that range from the arts through rituals, myths and religious meanings. His suggestion is that these form a progression of 'integrations of incompatibles' through which deeper and more significant meanings are created. Artistic meanings, however, offer a good illustration of how these higher meanings include another element not as discernible in semantic meanings. That is the fact that in artistic meanings rather than a tenor and a vehicle being integrated in the creation of a meaning, it is a 'frame,' in its broader sense (ranging from the actual frame of a painting to the rhythm, rhyme, sound, etc., in a poem, the stage, props, etc. in a play, and so forth) that is integrated with a 'story.'[140]

But because the 'frame' of these complex types of self-giving integrations is taken, in one way or another, from the sensible world of nature, but also detaches the 'story' from

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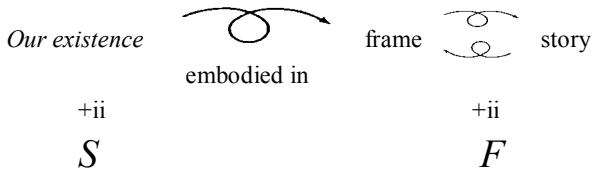
[139] *M*, 76-79.

[140] *Ibid*., 81-84.

the natural realm and allows it freedom to become an imaginative recreation of the experiences of natural meanings, the kinds of coherences produced in a work of art begin to assume a "*transnatural*" character. The transnatural meanings of a work of art, however, are always dependent not only on the imaginative fusion of frame and story by the artist, but upon his ability to create such a fusion in a way that it is capable of being imaginatively recreated by the artist's public.[141] This distinction is made clearer, says Polanyi, if we consider the fact that though a scientific discovery or invention, just as a work of art, must be seen as a *from-to* tacit integration of which imagination is an integral part, we can usually rely on a scientific discovery or a technological innovation–previously achieved by a scientist or engineer–with "little effort of [our own] imagination." Once the scientist or engineer has created a new coherence, that coherence can usually be seen to stand alone naturally. "*This is not the case in the arts*," says Polanyi, where the imaginative vision of the artist has to be recreated by the public in order to discern the meanings achieved.[142] Let us see how Polanyi illustrates the integration of artistic meanings diagrammatically, and from then we can go on briefly to discuss the extension of the same framework to rituals, myths and religious meanings:



Polanyi describes the complexity of such integrations using a poetry as an illustration:

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[141] *Ibid*., 85.

[142] *Ibid*., 84-85 (Polanyi's emphasis).

> Something more than the integration of its frame and its story therefore occurs in our grasp of the reality of a poem. The poem takes us out of the diffuse existence of our ordinary life into something clearly beyond this and draws from the great store of our inchoate emotional experiences a circumscribed entity of passionate feelings. First the artist produces from his own diffuse existence a shape circumscribed in a brief space in a short time–a shape wholly incommensurable with the substance of its origins. Then we respond to this shape by surrendering from our own diffuse memories of moving events a gift of purely resonant feelings. The total experience is of a wholly novel entity, an imaginative integration of incompatible on all sides.[143]

Yet, it is when Polanyi goes on to show how rituals, myths and religious meanings supposedly have a similar structure, that the significance of the distinction between self-centered and self-giving integrations takes on its full character. For it becomes clear that all strictly noospheric meanings differ from scientific meanings, perception and other self-centered integrations for some very important reasons: (1) while in the latter the imagination is also involved, the issue of plausibility is determined in reference to observation, but (2) in the former types of meanings, plausibility is not connected to observation or verification, rather it is directly linked to the ability to be carried away by them. Therefore, says Polanyi, we may speak of self-giving meanings in terms of "acceptance," while it is still possible to consider self-centered meanings as capable of verification.[144] Let us jump over a significant part of Polanyi's argument and turn to the following passage in which Polanyi brings the import of this distinction to light:

> The integration of incompatibles accomplished for us by the creative powers of the imagination are as evident in religious thought as they were in the arts. For the idea of agencies existing outside the world and before its existence, but nevertheless

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[143] *Ibid*., 88.

[144] *PK*, 201: "The bearing of natural sciences on facts of experience is much more specific than that of mathematics, religion or the various arts. It is justifiable, therefore, to speak of verification of science by experience in a sense which would not apply to other articulate systems. The process by which other systems than science are tested and finally accepted may be called, by contrast, a process of *validation*" (Polanyi's emphasis). Cf. *M*, 149.

> operative on and therefore *in* the world, combines patent incompatibles; if it is conceivable at all, it is conceivable only by a feat of the imagination–as was the case also for the combination of depth and flatness in a painting, murders and nonmurders on the stage, etc. The creation of hitherto inconceivable conceptions by the combination of hitherto incompatible features is not, of course, restricted to art, poetry, and religious myth. It is a commonplace in mathematics and modern physics as well. But the imaginary entities created by means of the integration of incompatibles in art and myth go beyond those imaginary entities created from incompatibles in mathematics and physics. The latter are acceptable as *natural* integrations; the former, by contrast, must be called *trans*natural.[145]

The difference, for Polanyi, is not so much the fact that transnatural integrations are integrations of incompatibles. It is rather that the incompatibles involved in physics of mathematics, for example, "required considerable and obvious imaginative power to bring their parts together" mainly "at the time of their discovery," but afterwards, "once we have become accustomed to working with them in the ordinary day-to-day world of our practical concerns," they take on an increasingly natural character, for "they 'work' in our mundane world." Yet, he continues, "the integrations of art, poetry, and myth" cannot "enter in a practical way into our ordinary lives." Rather they remain "detached from our daily lives," just as "their incompatibles *remain* incompatible."[146]

Participation and validation in such transnatural integrations are what allow such incompatibles to be "joined together by a new act of our imagination every time we contemplate them." It is, therefore, only on this basis that they continue to "appear to us to be meaningful and coherent but nevertheless to have meanings that go quite beyond the 'natural.'"[147] Polanyi then continues:

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[145] *M*, 125.

[146] *Ibid*.

[147] *Ibid*.

> Religious conceptions like the myth of creation are, however, different in significant ways from the transnatural achievements of poetry and art. The way these religious conceptions speak of the entire universe and of our destiny as human beings within these boundless perspectives makes them mystical by contrast with the concepts of poetry and art; it also makes them sacred… Eliade writes: "one 'lives' the myth, in the sense that one is seized by the sacred, exalting power of the events recollected." In this a myth reenables a great work of art. But it differs from it in two other, interconnected points. First, a myth speaks of events *recollected* instead of events *represented*–because the events of creation are believed to be true; second, the rapture of a myth's being sacred is deemed to surpass the rapture of art. Eliade and Cassirer before him both speak of the contrast between myth and ordinary life as a contrast between the sacred and the profane.[148]

From these considerations, Polanyi carries his inquiry into an attempt to show how myths, when viewed within this expanded structure of tacit integrations, may be capable of tacitly communicating deeper meanings, where the transnatural integration of what would be naturally incompatible turns out to point to realities that themselves make the natural integrations meaningful.[149] It is this realization that leads him to a whole chapter on the "Acceptance of Religion" as a high form of integration that includes myths, rituals and practices in a framework that detaches them from the world of everyday experience and allows the participant to be carried away into the "Great Time," outside our world of contingency, and to see in it the highest levels of possible integrations.[150] Polanyi describes this experience as follows:

> It is therefore only through participation in acts of worship–through dwelling in these–that we see God. God is thus not a being whose existence can be established in some logical, scientific, or rational way before we engage in our worship of him. *God is a commitment involved in our rites and myths. Through our integrative, imaginative efforts we see him as the focal point to fuses into meaning all the incompatibles involved in the practice of religion. But, as an art–only in a more whole and complete*

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[148] *Ibid*., 126.

[149] *Ibid*., 147.

[150] *Ibid*., 149-160.

> *way–God also becomes the integration of all the incompatibles in our own lives*… 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.[151]

It is important, however, to set Polanyi's reflection about self-giving integrations in the context of his motivation, and to understand that his underlying reason for making the distinction between self-centered and self-giving integrations was the desire to preserve the latter and to provide a basis for their justification. We have cited before Polanyi's contention that when a sane man learns to live within the limits of his obligations, his limitations, and his calling, he is, like a scientist, striving to work within a faith and hope.[152] In the paragraph that follows that statement, all of which is couched in Polanyi's argument for the acceptance of religious meanings, Polanyi continues:

> Such faith and hope are necessarily blind, however, and difficult to maintain under pressure. In the absence of a recognition of the legitimacy of the kinds of imaginative fusions we have been calling "acceptances"–when, in other words, only the observations and the hardheadedness of a scientism or of a "pure" reason are recognized as valid forms of knowledge–it is easy for such faith and hope to be supplanted by the supreme arrogance of a Marxism, which forgets or denies human limitations, or by the freedom of a Sartre, which forgets the obligations we find in our position, or by the despair of a Camus, which abandons all hope as objectively groundless.[153]

And it is, furthermore, in this same context that Polanyi offers some of his most powerful reaffirmations of how the Christian faith offers the object necessary for such faith

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[151] *Ibid*., 156 (emphasis added).

[152] Q.v., p. 141 above.

[153] *M*, 156-157.

and hope. Still, it is also here that Polanyi goes on to state that the doctrines of Christianity that can be such a powerful object for the faith and hope necessary for a meaningful life,[154] cannot make any literal sense. They "can be destroyed just as easily as the actuality of Polonius' death upon the stage, should anyone try to defend their reality in the world of facts," for "both are works of the imagination, accepted by us as meaningful integrations of quite incompatible clues that move us deeply and help us to pull the scattered droplets of our lives together into a single sea of sublime meaning."[155]

Polanyi therefore, quite consistently, holds that what is more important about self-giving meanings is that by indwelling them and being carried away by them, we are able to discern a deeper meaning and coherence for the universe. By seeing the universe as ultimately meaningful, even in a totally transnatural way, we feel it possible to be at home in it and to trust that every meaning, from those discovered in the natural universe below us, to those of the noosphere we have created above us, is valid and important. It is ultimately an integral part of our program of self-identification as beings "rooted in the universe" but longing for "that which bears on eternity."[156]

We have hardly covered all the intricacies and details of Polanyi's reflection as he sought to move from self-centered to self-giving integrations. Our description, however, should provide a sufficient framework for bringing together our argument as we now discuss how this new division between self-centered and self-giving integrations coheres with Polanyi's idea of emergent meaning as the final justification and validation for his proposed

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[154] Cf. *PK*, 284-285, where Polanyi insists on the heuristic value of the Christian faith

[155] *M*, 157.

[156] Cf. *Ibid*., 182.

epistemological reformation. As we start to bring this chapter to a close, we may begin by first discussing how and why this was considered Polanyi's divarication by some, and was also defended by others, and how it became a somewhat constant theme of discussion in Polanyian studies. We will then suggest what we believe to be a plausible conditional resolution for this ongoing argument. This suggestion, though tentative, will again seek to place Polanyi's thought within the interpretative framework we have been proposing throughout our work. Finally, we will close with a few comments that anticipate and pave the way for our concluding chapter.[157]

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[157] Given the limits of time and space, I will not discuss extensively the issues involved in the ongoing debate about the ontological status of religious realities in Polanyi's thought, but will provide only the minimum required to establish the context for the discussion of his supposed divarication. I speak of an ongoing debate because the different opinions and interpretations of the status of religious meanings for Polanyi has been an issue of disagreement since the late seventies, and though most recently it has become framed as a debate about the nature, extent and implications of Polanyi's 'realism,' I believe many of the issues remain basically the same. A whole issue of *Zygon*, the *Journal of Religion and Science*, was dedicated to this discussion, and Phil Mullins, in his introduction provides an excellent account of the background and contours of the debates:

> Since the mid-seventies the American Academy of Religion has sponsored at its annual meetings discussions of Polanyi's philosophical thought and its implications. Although Polanyi's work has especially seemed to interest scholars in religion, these sessions also have attracted scientists, physicians, philosophers and others in the humanities on a regular basis. Always the discussions have had a double-edged character: most of the papers presented have focused either on criticism of Polanyi's ideas or on applications of Polanyian modes of thought to philosophical and theological issues on which Polanyi had not written. Such criticisms and extensions of Polanyi's perspective have elicited lively discussion. They have, in fact, uncovered some fundamental ambiguities in Polanyi's work. Although Polanyi writes lucidly, the implications and relative significance of the diverse themes composing his overall perspective have been widely debated. At the 1979 annual meeting session a particular opportunity that happily combined the two-fold interest in interpretation and application emerged. Harry Prosch, Polanyi's collaborator on Meaning, agreed to participate in the sessions and help with a discussion of that book and of the broader applications of Polanyi's ideas.

It was out of that initial meeting, and the discussions on the following year, that a profound disagreement about the religious implications and applications of Polanyi's thought became obvious. For more on the debates see Karl E. Peters, ed., *Zygon* 17:1 (March 1982). Some of the titles of the papers presented at the November 1999 meeting of the Polanyi Society (Boston) also suggest the continuity of the general debate: Walter Gulick, "The Meaningful and the Real in a Polanyian Perspective"; Dale Cannon, "Some Aspects of Polanyi's Version of Realism"; John Puddefoot, "The Trust Relationship," Stefania Jha, "Polanyi's Problematic 'Man in Thought;'" Esther Meek, "Recalled to Life: Contact With Reality"; Andy Sanders, "Science, Religion and Polanyian Realism"; and Phil Mullins, "The Real as Meaningful." All these papers, either explicitly or implicitly, relate to the question of religious meanings in Polanyi. They are scheduled to be published soon in a special issue of *Tradition and Discovery,* the *Polanyian Society Periodical.*

Polanyi's "Divarication"?

For simplicity's sake, we may frame the question of Polanyi's supposed divarication, and some key persons involved in this debate, as follows: (1) Thomas Torrance, a theologian and long time promoter of Polanyi's contribution has interpreted Polanyi's thought as supportive of his own theological interests. Or perhaps, as Kennedy suggests, Torrance has realized the "agnostic"tendency of Polanyi's thought concerning myths and religious meanings and "made justifiable adjustments."[158] This interpretation of Polanyi has continued to be carried out by Richard Gelwick and others whose main interest is theological.[159] (2) Marjorie Grene, who was Polanyi's assistant when he was writing *Personal Knowledge*, considered his proposal of a *from-to* epistemological structure his greatest contribution. While she was already "distantly cool"(to use Prosch's words) toward Polanyi's development of the ontology of emergence, she considered his final turn in *Meaning* "tragically misguided, a betrayal, in its separation of art and science, of his own best insights."[160] (3) Harry Prosch has been critical of the supposed reinterpretation of Polanyi's thought by Gelwick and others, and suggests that in fact Torrance's interpretation of Polanyi consists of a kind of indirect critique of certain aspects of Polanyi's thought. Prosch has insisted, as has Marjorie Grene, that Polanyi did separate between the meanings found in science and those of religion and art, but whereas this distinction disturbed Grene,

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[158] Kennedy, *The Morality of Knowledge* (Rome: Pont. Univ. Lateranensis, 1979) 171-172, 139n.

[159] Cf. Thomas Torrence, ed., *Belief in Science and In Christian Life*, xiii-xvii, 1-25; Richard Gelwick, "Science and Reality, Religion and God: A Reply to Harry Prosch," *Zygon* 17:1 (March 1982), 25-39; "Michael Polanyi–Modern Reformer," *Religion in Life* 34, no. 2 (Spring 1965): 224-234; John V. Apczynski, *Doers of the Word: Toward a Foundational Theology based on the Thought of Michael Polanyi* (Missoula: Scholars Press, 1977).

[160] Grene, "Tacit Knowing, Grounds for a Revolution," 168. Cf. Prosch, *Michael Polanyi*, 221.

Prosch believes it was consistent with Polanyi's development, and overall quite adequate and necessary.[161]

Could it be that each of these interpretations is partly correct but also somewhat partial? We have been building our argument from the contention, in chapter three, that Polanyi indeed started with a transcendental impetus, and that his concern for a transcendent deontological basis was quite central in the early development of his social and philosophic reflection. At the same time we have critiqued the fact that he insisted in establishing transcendence from below. As we explored the development of his fiduciary program, we began to suggest his *from-to* structure–in its anthropocentric interpretation–couched the program of philosophic self-identification within a dialectic, or correlation, of an activistic and an abstract principle.

In the present chapter we have argued that the attempt to establish a teleological basis for the program of self-identification led Polanyi to develop his concept of emergence, by which the whole cosmos was interpreted from within the *from-to* structure as emerging from meaningless and activistic roots to a constant progression of ever higher and meaningful, but simultaneously more abstract and intangible, integrations. In this framework, meaning could be seen as emerging within something akin to an inverted Great Chain of Being, where being was substituted for meaning–we suggested his cosmology also implied an emergent God. Let us see if these contentions might actually help clarify the issue of Polanyi's divarication, which may be a test of their plausibility.

First, we suggest that Torrance, Gelwick and other theologically minded writers

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[161] Harry Prosch, "Polanyi's View of Religion in Personal Knowledge: A response to Richard Gelwick," *Zygon* 17:1 (March 1982), 41-47; *Michael Polanyi*, 255, 257, 270-271.

have in fact been correct in interpreting some implications of Polanyi's insights concerning the fiduciary roots of all epistemic activity, as well in perceiving that Polanyi's *from-to* structure and his tacit triad, together with the heuristic emphasis, may be compatible with a theological perspective if placed within an adequate transcendent frame of reference.[162] Perhaps they have also sensed how much of Polanyi's thought relies tacitly on presuppositions that find their full and consistent support only within the Christian Faith.[163] Nevertheless, while all of this seems plausible, to interpret the whole of Polanyi's thought from this perspective would require turning a blind eye toward much of what Polanyi has explicitly affirmed, and also to what seems to be the general direction in which his thought actually progressed.[164] As Kennedy suggests, this would require an increased emphasis on the "transcendent in preference to the immanent" and it would move in the opposite direction of how we have argued Polanyi's thought did.[165]

Second, we suggest that Grene, in her resistance to Polanyi's theory of emergent meaning and to his separation between self-centered and self-giving integrations, was sensing the emergence of a real problem. Though her objections were not religious, but sprung mainly from a concern over Polanyi's reintroduction of elements of Cartesian dualism she believed his *from-to* epistemology had displaced, she was quite right in sensing that Polanyi was, in a way, betraying some of his best insights. Yet, she failed to realize that

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[162] Though I will not attempt, in this present work, to develop in full what this would mean, I will suggest in my conclusion a tentative rationale for how I might wish to develop it at later time.

[163] See, for example: Torrance, "The Framework of Belief," in *Belief in Science and in Christian Life*, 24-25; "The Integration of Forms in Natural and Theological Sciences," in Peter McEwen, ed., *Science, Medicine and Man* (Oxford: Oxford University Press, 1973), 143-169.

[164] Cf. Harry Prosch, "Polanyi's View of Religion," 42-48.

[165] Kennedy, *The Morality of Knowledge*, 172, 193.

his epistemology indeed required the ontological correlate. The only way his *from-to* structure could be maintained without recourse to a transcendent starting point was by developing an ontology that could justify the *from-to* structure as a dialectic, within the knower, of his "facticity" and "transcendence."[166]

Third, Prosch seems to have most clearly understood the continuity and consistency of Polanyi's development. He has accurately emphasized the importance of Polanyi's ontology for the coherence of his thought. Indeed, Prosch seems to have understood not only Polanyi's thought as a whole, but also the dilemma that Polanyi sought to solve.[167] Yet, it seems that Prosch finds quite adequate Polanyi's resolution of the tension between man "rooted in the universe" but longing for the transcendent, especially if, as he puts it, we wish to "remain staunchly non-Platonic."[168] We suggest, however, that Prosch might have missed, or at least underestimated, the extent to which much of Polanyi's thought could not stand on its own, i.e., without tacit reliance on presuppositions that were ultimately to prove incompatible with the general direction of his thought.[169] Of course, this would mean Prosch would have the more consistent position overall, while Grene would have a valid point in her concern over Polanyi's ontology, and Torrance, Gelwick *et al* would have grasped what

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[166] Grene, Editor's "Introduction" to *KB*, x. Cf. "Tacit Knowing and the Pre-Reflective Cogito," 35-40, 50-57.

[167] See, for example, John Apczynski, "Truth in Religion: A Polanyian Appraisal of Wolfhart Pannenberg's Theological Program," *Zygon* 17:1 (March 1982), 51. I particularly agree with Apczynski that "Prosch's interpretation of the place of religion in Polanyi's thought may have been close to Polanyi's beliefs." Cf. *M*, 215-216.

[168] Prosch, *Michael Polanyi*, 295.

[169] Cf. *Ibid*., 296: "Polanyi, while remaining in the contemporary mode of empirical, third-level thinking, has managed to do so in such a way as to leave some room for the disclosure of things which 'bear upon eternity.' But he has not, like a magician, merely tricked us into thinking he has brought these rabbits out of his hat. It appears that he has actually produced them." In keeping with his metaphor I would respond that, perhaps, it is Prosch who has failed to realize, as maybe Polanyi also did, that whatever such "rabbits" might actually have been produced could not have ultimately come out of Polanyi's hat at all.

is best in Polanyi.

Let us finally suggest why and how we believe Polanyi's divarication was inevitable and consistent with the development of his philosophy, although it was also a betrayal of his own best insights. A statement, with which Grene follows her discussion about Polanyi's *from-to* structure, touches close to the central issue here. After highlighting how Polanyi's notion of personal knowing springs, in part, from the denial of the ideal of explicit objectivity, i.e., from the emphasis on the fiduciary roots of all knowing, she continues:

> We are dealing, again, with a from-to structure, not with 'pure inwardness.'… It is indeed quite true… that pure objectivity, pure exteriority, is impotent to account for the existence of conscious life, or, indeed, of any life at all.… The point here is that pure activity, like pure potency, is equally and illusion. The assimilation of the world into total inwardness would be as self-contradictory, as annihilating, as the collapse of the active centre into the pure exteriority of atomism. But that is not our situation.… For what we have here is not an all-or-none affirmation or denial, but a *polarity*… a tension between a Faustean energy and *Hingabe*, 'das *ewig Weibliche*'.[170]

Grene believed Polanyi's *from-to* structure had proven able to transcend, or as she puts it, 'sternly face and pass between the horns of' the inevitable "post-Cartesian dilemma: nature *or* spirit, body *or* mind."[171] With this we agree only in part. Yet, her recognition that Polanyi's *from-to* structure did so *by* embracing the polarity–which she framed in Goethean terms (and we have alternatively stated through the activistic and the abstract principles)–should have been a clue for why Polanyi could not but divaricate as to natural meanings and those created by man in the noosphere. The problem is that if Polanyi's *from-to* structure places man as the point of conversion, or of integration, between contingency

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[170] Grene, ed., "Introduction," *KB*, xi-xii (Grene's emphases).

[171] Grene, "Tacit Knowing and the Pre-Reflective Cogito," 19 (Grene's emphases).

and transcendence–as Grene seems to have not only adequately grasped but also approved–then it could only make sense to separate between the integrations man makes from that which is lower in the hierarchy (i.e., the natural realm) and those that strive to integrate toward the transcendent. This, in fact, seems to fit well with her *Hingabe* and Faustean energy.[172]

All which man integrates *from* below converges in man and his noospheric frameworks–the highest integrations in the visible world so far. Therefore it must be distinguished from those integrations in which man seeks to extend himself toward comprehensive levels above himself–the latter go beyond simple indwelling, they are part of man's thrust for self-transcendence, and are directed to more abstract, more intangible, and more transcendent meanings.[173]

The issue of "reality" as normally conceived appears then subsidiary, for the reality 'below' will inevitably be seen as more concrete, even if only because man sees it from above, while the realities he is creating above himself cannot be seen as concrete since they are emerging, indeterminate and totally open. They could only be seen as true comprehensive entities if one could stand above them.[174] This would show that for those who have sought to argue that Polanyi attributed the status of reality to religious meanings, they are partly right, except that they are considering reality as a univocal concept. For Polanyi, while the *from-to* structure was taken to be univocal, the notion of reality, in turn, had to be conceived of in terms of the ontological gradation, and so it would change for each

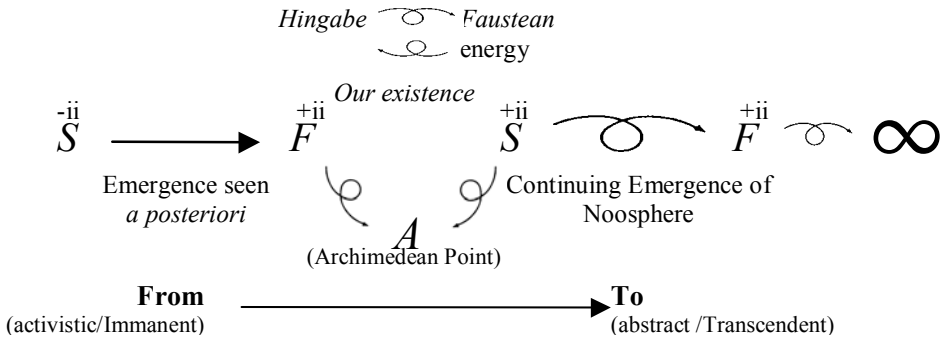
[172] Cf. PK, 396: "Action and submission are totally blended in a heuristic communion… determinism and spontaneity mutually require each other…"

[173] Cf. *PK*, 347-348, 377; *M*, 193-194;

[174] Cf. *SM*, 65-66, 71. Grene, *The Knower and the Known* (London: Faber and Faber, 1966), 245.

higher level. For those who have sought to interpret Polanyi in strictly naturalistic sense, and therefore would take his "divarication" as valid, it should show that he is, in fact, not denying the reality of higher levels. He is really not remaining within Plato's 3rd level, rather, he is just making sure that whatever is above is yet open and indeterminate.[175]

This may be a resolution that, though tentative, is quite compatible with the fact that the unity of Polanyi's thought, at least as we have contended, is the "programme of self identification," and therefore the *Archimedean* point is the human knower.[176] Perhaps we can try to follow Polanyi's example and provide a diagrammatic representation:



The problem, however, is that with man as the Archimedean point, which seems unavoidable given the "programme of self-identification" and the absence of a concrete transcendent starting point,[177] Polanyi is left with the task of showing why and how the idea of a completely open and abstract transcendental bearing should provide a sufficient basis for true hope for human existence, a justification for the direction of the striving. It will not do simply to recognize that man has a *desiderium aeternitatis*, although we agree that he

[175] *M*, 203, 204, 214; *PK*, 404

[176] *PK*, 267.

[177] *STSR*, 129-130.

does.[178] It will also not do simply to show how human knowledge always proceeds from its tacit fiduciary roots and from the fact that we indeed 'know more than we can tell.'[179]

For if the logic of tacit integrations, just as the logic of emergent meaning, recognizes that human knowing is always *from-to*, it completely fails to establish a concrete reference point that establishes the parameters and the framework within which we can see the from-to progression as meaningful. Therefore, from its exclusively anthropocentric perspective man is the only *a posteriori* reference point for natural integrations, and the only *a priori* reference point for the so-called transnatural integrations. The question becomes then the following: Given the brief existence each man has, and the fact that man is an individual consciousness–and this for Polanyi was very important–why continue to long in vain for that which bears on eternity? Why should an unthinkable consummation yet indeterminate and in the process of emerging be a source of hope for accrediting, and submitting to, the emergent noosphere and the obligations involved therein?[180]

Polanyi was quite insistent that the Pauline paradigm of faith, works and hope is the "only adequate conception" of knowing, and in a sense, of being. However, whereas for Paul his faith had a concrete object, his hope was based on explicit premisses of participating personally in the "unthinkable consummation." Therefore, the striving and the working in submission to the law and in the context of a real calling, were justified and offered a concrete reward. But what Polanyi might be finally left with is a faith that is merely its own object, a hope conceived as a "never to be consummated hunch," and a calling that is also

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[178] Cf. Herman Bavinck, *Our Reasonable Faith* (Grand Rapids: Baker Book House, 1977), 19.

[179] *Ibid*., 42-43. Cf. *TD*, 4.

[180] Cf. *PK*, 389.

a fate.[181] Kennedy, who in many ways seems to share both our appreciation of many aspects of Polanyi's thought and also some of our concerns, suggests that Polanyi should have grounded his values and his ideals on a concrete transcendental frame of reference, ultimately in the being and revelation of a transcendent God.[182] Still, could Polanyi have done so when that was not his starting point?

We may bring this chapter to a close with a statement whose corroboration will be postponed for our conclusion. Still, first let us set up the background: W. T. Scott tells us of an unpublished paper of Polanyi, called "Forms of Atheism," and written for *The Moot* (1948). There, Polanyi writes of religious beliefs, and states the following: "My beliefs are surrenders, accepted to avoid further delay which I believe unjustifiable… I cannot hope that they carry report of more than one aspect of reality and would fully expect that this may appear flatly to contradict other true reports on different aspects." He goes on to criticize fundamentalism and dogmatism, especially in connection with issues of infallibility, and then he speaks of his own belief in transcendent values as follows: "I hold it to be fully consistent with my belief in the transcendent origin of my beliefs that I should be ever prepared for new intimations of doubts in respect to them."[183] Earlier that same year, Polanyi had written Joseph Oldham, the organizer of *The Moot*, and in his letter he wrote: "Our meetings leave me increasingly with the feeling that I have no right to describe myself as a

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[181] *STSR*, 129-130; *PK*, 199, 405; *M*, 157.

[182] Kennedy, *Morality of Knowledge*, 193-194.

[183] Michael Polanyi, "Forms of Atheism, Notes for December Meeting," unpublished paper dated October 8, 1948, Collected Papers, University of Chicago Library, box 32:2. Cf. William T. Scott, "The Question of Religious Reality: Commentary on the Polanyi Papers," *Zygon* 17:2 (March 1982), 84. Scott describes the Moot as "A group of theologians philosophers and educators gathered by J. H. Oldham in 1939 to carry out intellectual, Christian-oriented exercise on the first principles of our civilization." Polanyi was actively involved with this group between 1944 and 1948.

Christian." Though this statement was in a specific and circumscribed context (relating particularly to some political issues) it does seem to reveal a growing tension in Polanyi's own heart about religion. [184]

We have previously argued for Polanyi's tacit reliance on Christian presuppositions, trying to show also how he believed to be opening the way, or perhaps contributing, for the restoration of religious transcendent values. What we wish to propose now is that indeed Polanyi had a keen insight that recognized how knowledge and life could ultimately be meaningful only if seen in reference to a transcendental framework, that is, he recognized the "*coram*" nature of human life. Nevertheless, due to his own doubts, to other competing presuppositions or whatever other reasons which are now truly unspecifiable for us, he progressively shifted from a tacit and vague perception of what we would consider the *coram deo* nature of knowledge to an inverted framework that maintained some of the original structural elements logically inherent in the former, but which, nevertheless substituted the referent by an anthropocentric, and finally an immanentistic one. Thus, knowing and being became primarily a *coram hominibus*, or perhaps more accurately a *coram omnibus*, affair, to which was finally added a *deo coram hominibus* dimension in which religious meanings were to be accredited and encouraged.

We shall close the present chapter at this point, and go on to our concluding one, where we may bring together the some main strands of our argument, and provide at least some justification for this interpretation as we seek to delineate what we believe to be the general limits of Polanyi's epistemology. It is our hope, also, that we may be able at least

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[184] Michael Polanyi, letter to J. H. Oldham, dated May 31, 1948. Collected Papers, university of Chicago Library, box 15:4. See also Scott, *Everyman Revived*, 181-182.

to suggest that, despite what has been overall a critical approach to Polanyi on our part, we still believe that his thought can, and perhaps should, be profitably used–given appropriate modifications and a recognition of its intrinsic limits–by those who labor toward a consistently Christian epistemological understanding and strive to remain, from start to finish, in a *coram deo* mode.

CHAPTER SIX

POLANYI AND "BOGGS MONEY"

> *Et sensi, expertus sum non esse mirum, quod palato non sano poena est et panis, qui sano suavis est, et oculis aegris odiosa lux, quae puris amabilis*
>
> Augustine

As we arrive at the place where, as promised, our argument has to be consolidated and our present investigation brought to a close, it is difficult to avert the feeling that there is more we could explore in Polanyi's thought that would have a bearing on our general focus. Yet, to suppose we could presently cover all the different aspects and nuances of Polanyi's thought in any complete or final way even within our own narrow focus would be presumptuous–there is much more work we wish to do on Polanyi, but not here. We must, therefore, even while recognizing the limits of our own analysis, seek to bring its different strands together so that they may coalesce into a restatement of our *coram deo* vis-a-vis *coram hominibus* thesis, a discussion of how we believe it suggests the limits of Polanyi's epistemology, and finally some brief comments on a rationale, within the scope of our analysis, for profiting from Polanyi's philosophy.[1]

The Polanyian Inversion

Our argumentation has moved from the analysis of Polanyi's perspective on the

[1] Of course, all of this hinges on taking seriously his avowed religious motive; q.v., p. 8n. above

modern malady as a deontological crisis, where we have suggested his notion of the universality and transcendence of a moral sense and of a universal thrust toward transcendent values was tacitly borrowed from Christian presuppositions, to his development of the fiduciary program as a program of philosophical self-accreditation through the scientific exemplar. Finally we have explored his logic of emergence and its consequences on his theory of tacit integrations. This last part of our argument has involved the suggestion that Polanyi's divarication concerning the so-called self-centered and self-giving integrations was inevitable. This is so, we have contended, because in the hierarchy envisioned by his ontology man stands as the Archimedean point of all knowing. While suggesting this, we have anticipated how it relates to our central thesis.

The problem we have sought to bring to light can be stated quite simply: Presuppositional awareness is a double-edged sword, for when we have disclosed the fact that all human knowledge flows ultimately from faith commitments made a-critically (and that it is from these fiduciary roots that we attend to every object of which we are aware) we are faced with the ultimate problem of the accounting for what these commitments are in reference to.[2] In a biblical fiduciary framework the problem is simply solved, but its resolution makes it more complex than Polanyi has understood. While it establishes in the sense of deity, the inner work of the Spirit, common grace, and overall in God's general revelation, a basis for presupposing something like Polanyi's idea of the "coherence of all man's consciences on the grounds of the same universal tradition,"[3] it involves two other

[2] Cf. *PK*, 265. See also David Powlison, "Which Presuppositions? Secular Psychology and the Categories of Biblical Thought," *Journal of Psychology and Theology* 12, no. 4 (1984): 270-271.

[3] *SFS*, 82.

presuppositions that radically alter the meaning of this universality, and we must, therefore, briefly discuss them.

First, it establishes that the basis for the interpretation of the more immanent roots of tacit meaning cannot be intramundane, i.e., the point of reference from which we can adequately interpret this immanent knowledge has to be external to human knowledge itself. It is given to man by God as special revelation–the interpretative matrix for the knowledge of self and the world, and therefore of God, that flows from its immanent and intramundane aspects.[4] Second, it also establishes that both the internal and the external tacit roots of knowledge, which represent the coherence of human consciences on the same universal tradition, are not only God-referent, or transcendent bearing, as Polanyi would put it, but are actually *negatively* God-referent. The point in which the consciences of every fallen man cohere on a same universal tradition is the very fact that the knowledge they have of God is a rebellious and autonomy-seeking knowledge.[5]

Still in terms of a biblical framework, the only kind of epistemological cure possible for the moral and intellectual crisis, not only of modernity but of all humanity, is the one provided by God in the redemption accomplished through Christ. Polanyi does not shy away from using this as a metaphor incorporated in his own fiduciary framework, but in doing so greatly distorts its true meaning. Redemption in its original biblical meaning is not something that functions simply by establishing a point of contact between human contingency and man's *desiderium aeternitatis* (i.e., it is not primarily a cure for a metaphysical problem). It is rather the process whereby God actually turns man from his

[4] See Calvin, *Institutes*, I:6.1.

[5] Rom. 1: 19-23, 28.

negatively God-referent posture to one of submission and receptivity.[6]

Within the framework of Creation, Fall, and Redemption, we need not deem the tacit dimension so opaque. The drawing out of basic presuppositions becomes the drawing out of the reasons of the heart–something not only possible but necessary.[7] It does not deny the fact that the ultimate tacit roots of our beliefs are inherently unspecifiable from the perspective of our subjectivity. We acknowledge them as the natural "spectacles" from which we a-critically attend to every focal object of our knowledge. Yet, the Christian framework makes these 'humanly unspecifiable but tacitly operative beliefs' part of what is given from the outside.[8] God's special revelation identifies the tacit reasons of the heart. It gives a new set of spectacles, from which we can attend to the meaning of creaturely existence and to our fallen condition and its negatively God-referent character. From these revealed spectacles we may effectively attend to our *coram deo* basic motives. Furthermore, they reveal Christ as the Archimedean point through which the religious roots of man's tacit rebellion against his Creator can be regenerated and made to cohere, in principle, with God's own absolute, personal and objective interpretation of created reality.[9]

This understanding indeed allows, and calls for, an interpretation of knowledge in the lines of an epistemological fiduciary program, and it can be said truly to frame the program as ultimately a "programme of self-identification." Except that neither the

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[6] Cf. *PK*, 324; *SEP*, 342; *M*, 157, 215.

[7] For some excellent example, see: Merold Westphal, *Suspicion and Faith: The Religious Uses of Modern Atheism* (Grand Rapids: W. B. Eerdmans, 1993); Dan O Via, *Self-Deception and Wholeness in Paul and Matthew* (Minneapolis: Fortress Press, 1990); Richard Keyes, "The Idol Factory," in *No God But God*, ed. Os Guinness and John Seel (Chicago: Moody Press, 1990), 31, 33, 46, 48.

[8] Cf. Jer. 17: 9-10; Heb. 4: 12.

[9] See Calvin, *Institutes*, 2:16.2, 19; Cornelius Van Til, A Christian Theory of Knowledge (Phillipsburg: P&R, 1969), 42.

standards that finally determine the tacit roots of our beliefs, nor the standards of rightness concerning human achievements, are in any way seen as self-set. The self does not establish them simply in light of a vague hope and faith that every thing that transpires in the overall cosmic process is directed toward the emergence of ever more transcendent but abstract meanings.[10] Such a fiduciary epistemological program will be circular insofar as it presupposes the very basic beliefs that the program itself affirms, but its circularity is not ultimate. Its transcendence is rooted in the activity of a God who stands outside Creation, setting all its boundaries and limits, and preestablishing the ultimate and final meaning of every fact and every piece of knowledge–tacit or explicit.[11]

This, of course, means that every single aspect of human knowing and doing, which according to Polanyi himself must flow from its ultimate a-critical and fiduciary tacit roots, ends up colored by this negative God-referent. A biblical view of human knowing, therefore, presupposes that every man does know more than he can tell. This ultimately relates to the fact that every man does know God, in one sense. However, since his ultimate faith commitment is actually negatively oriented, it means that, in a way subtle at times and at times explicit, such rebellion will tint every aspect of human knowledge that flows from these tacit roots. It will most likely turn out to be an attempt to rationalize, so as to account for it without reference to God, the knowledge that, by God's grace, man is able to achieve (viz., the meanings he achieves through his integrations). Nevertheless, God continues to be the final reference point. This is a deeper unifying truth that underlies every natural human fiduciary framework, and which Polanyi was not only incapable of identifying, but

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[10] Cf. *M*, 182, 214; *STSR*, 147, 148-149; *PK*, 265.

[11] Cf. *PK*, 269, 299; Van Til, *A Christian Theory of Knowledge*, 41-45.

also of escaping.[12]

Polanyi's keen insight on the fiduciary root of all knowledge leads, at the most, to a completely circular epistemological program. The logic of "self-affirmation," despite his resistance to the "absurdity of absolute self-determination,"[13] cannot finally offer more than an autonomous justification for beliefs. Yet, the rejection of revelation protects the most basic level of these beliefs (i.e., their God-ward referent) from exposure, ensuring their apparent unspecifiability. They continue, however, to "operate effectively by stealth" and to color every act of meaningful integration.[14] His attempts subsequently to provide, through the logic of emergence, a teleological justification for trusting that the whole cosmos is moving in a constructive direction, toward ever more intangible and meaningful levels of integrations, whose pursuit by indwelling becomes the human mode of self-transcendence,[15] seems quite analogous to what Polanyi himself credited to Hegel's historicism:

> Historicism has replaced God by an Historic Necessity, credited with the easier (if even more inscrutable) role of achieving what is historically fitting… we have an active principle immanent in a manifest event; the relation between the immanent and the manifest being the same as between a purpose and its fulfillment, except that the connection is here… left undefined.[16]

Though our comments so far have been directed toward shaping a final restatement of our thesis, we wish to turn now to an analogy that we believe may further clarify some aspects of this inversion, particularly as we then move to a brief discussion of the inherent

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[12] Cf. Calvin, *Institutes*, 1:5.4-5.

[13] *TD*, 91.

[14] Cf. *PK*, 234.

[15] Polanyi, "Transcendence and Self-Transcendence," 93-94.

[16] *PK*, 229.

limits the inversion establishes for the usefulness of Polanyi's thought.[17]

J. S. G. Boggs, Currency and the Polanyian Inversion

Writer Lawrence Weschler, in a wonderful little book called *Boggs: A Comedy of Values*, introduces the work of artist J. S. G. Boggs as follows:

> Boggs is a young artist with a certain flair, a certain panache, a certain *je ne payes pas*. What he likes to do, for example, is to invite you out to dinner at some fancy restaurant, to run up a tab of, say, eighty-seven dollars, and then, while sipping coffee after desert, to reach into his satchel and pul out a drawing he's already been working on for several hours before the meal. The drawing, on a small sheet of high quality paper, might consist, in this instance, of a virtually perfect rendition of the face-side of a one-hundred-dollar bill. He then pulls out a couple of precision pens from his satchel–one green ink, and the other black–and proceeds to apply the finishing touches to his drawing. This activity invariable causes a stir… The maître d' eventually drifts over, stares for a while, and then praises the young man on the excellence of his art. "That's good," say Boggs, "I'm glad you like this drawing, because I intend to use it as payment for our meal."[18]

Just as Boggs feels the tension building up, Weschler continues, he "immediately reestablishes a measure of equilibrium by reaching into his satchel, pulling out a real hundred-dollar-bill," and saying to the distraught maître d': "Of course, if you want you can take this regular hundred-dollar-bill instead." Boggs, however, continues:

> "I'm an artist, and I drew this, it took me many hours to do it, and its certainly worth something. I'm assigning an arbitrary price that just happens to coincide with its face value–one hundred dollars. That means, if you decide to accept it as full payment for our meal, you're going to give me thirteen dollars in change. So you have to make up your mind whether you think this piece or art is worth more or less than this regular

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[17] I should note that if the analogy we will suggest seems strange when viewed from outside of Polanyi's own broader interests, I do not believe it is, for a whole area of his thought which we have not even touched in the present inquiry is his work on economic theory. Indeed, quite a bit of Polanyi's work was in the area of economics, and his reflection on that subject was both an extension of his own epistemological insights, and also a source of contribution and analogies for his epistemology proper. See, for example, a few of Polanyi's articles on economic theory, as well as R. T. Allen's comments in his introduction, in *SEP*, 7-8, 119-209; and especially Polanyi's explicit discussion of "money" in *LL*, 171-180.

[18] L. Weschler, *Boggs: A Comedy of Values* (Chicago: University of Chicago Press, 1999), 3-4.

> one-hundred-dollar bill. It's entirely up to you." Boggs smiles, and once again, the maître d' blanches, because now he's into serious vertigo: the free fall of worth and values.[19]

Of course, the maître d' is oblivious to the fact that art collectors will likely be after him offering to pay from ten to one hundred times the face value of the "spent" Boggs bill. But then again, the art for Boggs is the whole process: from the drawing of the bill to its spending in an actual transaction, the subsequent effort by collectors to acquire from him the receipt for the transaction, and then to purchase the bill from whomever first accepted it in lieu of normal currency. Part of what Boggs is trying to get at is illustrated by a large pastiche painting of an English pound note, where, in the place that the original model read 'bank of England: I promise to pay the bearer on demand the sum of 1 pound,' Boggs substituted: "I promise to promise to promise to promise."[20] Elsewhere, in discussing with Weschler his entanglement with the U.S. Secret Service Boggs suggests even more clearly what he is actually after: "These bills of mine subvert the whole system, calling into question the very credibility of… currency. Because what is it really based on?" To which he adds, "Nothing. Sheer faith." Weschler continues:

> He pulled out a photocopy of [a] 1886 five-dollar certificate. "In the old days, as you know, paper was sheer mystification: nobody trusted it. So that, as in this case here, they literally portrayed the five silver dollar coins for which you could redeem the paper bill itself. And you used to be able to do precisely that–to cash in the paper for specie. Not anymore, of course. There is a great old cartoon by Thomas Nast from around the same time which shows a gold coin standing on its side, with an arrow pointing to it saying 'This is specie'; and the coin is casting a faint shadow, with an arrow pointed to it saying 'And this is paper money.' Now that paper money has even lost its gold backing, it has become a shadow of a shadow." …Boggs's art turned out to be mirroring, from its own side, the infinite regress of value inherent in paper

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[19] *Ibid*., 4.

[20] *Ibid*., 14.

money itself.[21]

So much for Boggs money. The issue here is that we wish to suggest some points of analogy between what Boggs tries to do in relation to the concepts of value and worth in art and in money and Polanyi's own epistemological fiduciary program. That is, we wish to suggest an analogy between Polanyi's fiduciary program and "Boggs Money." Though we believe there are in fact quite a few different points of analogy, many of a more subsidiary character, we may, for simplicity's sake, concentrate on two general ways in which we believe Polanyi's program turns out to offer us a kind of challenge similar to Boggs money. These may serve as a sort of aphoristic bridge to our concluding discussions.[22]

First, we suggest the following as one general analogy: Boggs artistic performance has a certain cogency with regards to the questions it raises concerning artistic and monetary value and worth. It also has a certain depth in the way it partly succeeds in exposing the inherent and inescapable fiduciary roots–literally–of the very concept of money around which the modern world largely appears to turn. Likewise, a significantly cogent critique of the objectivistic ideal of knowledge as well as of the problems with existentialist subjectivism is offered by Polanyi's epistemological insights into the presuppositional nature

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[21] *Ibid*., 129-130.

[22] An interesting connection here, which I will not be able to develop but should at least note, is that Polanyi himself suggests that modern or "visionary" art (which seems to describe within his framework the kind of art represented by Boggs) may, in one sense, be seen as an aesthetic equivalent of moral inversion, as it represents a kind of "nihilistic protest," but that it also triumphs "over the destruction of meaning in our social life by evoking… meaningful images never seen before." Though we must state it only tentatively at present, it seems that there might be enough reason to consider certain types of visionary art, such as, we believe, Boggs's conceptual artistic performance, as something that would harmonize quite well as an aesthetic equivalent to Polanyi's idea of a post-critical philosophy. It is, in part, from Polanyi's own discussions in this context, that the idea of this proposed analogy first took root in my mind. Cf. *M*, 116.

of knowing and its inherently fiduciary roots. Just as Weschler suggests that Boggs is at his best when he precipitates "the free fall of worth and values" in the mind of the person to whom he offers his 'money,'[23] Polanyi also realizes that his program "precipitates the crisis caused by skeptical empiricism and vastly extends its scope" concerning the "impossibility… of verifying any of the universal standards commonly held by man."[24]

Indeed, we would suggest that his argument is not only cogent but also true–at least regarding knowledge considered from the standpoint of *supposed final human autonomy*.[25] In fact, Weschler's suggestion that Boggs's art mirrors and makes explicit "the infinite regress of value inherent" in any examination of the idea of money,[26] finds somewhat of a parallel in one of Prosch's summary description of what Polanyi seems to achieve. Though Prosch's statement says more concerning Polanyi than Weschler's says of Boggs, we believe the underlying parallel is there:

> [Polanyi] was saying… that no cognitive judgement can never be rendered wholly explicit, but that the meaning, and indeed the acceptance, of all such judgements must depend ultimately upon some elements known tacitly only by a mind in action. This is even true, as he did not flinch from saying, of this very basic judgement itself that he was making… Many philosophers have stolen a glance into the infinity of mirrors set up by the reflexive character of personal judgement. Some have forthwith become skeptics and some have become absolutists of one kind or another. Polanyi tried to show us how we can avoid both these alternatives and yet continue to face the intraversable infinity of personal judgements…[27]

To the extent that this analogy might hold, it seems fair to say that Polanyi's cogency is akin to the cogency of Boggs money, as it faces up to a serious and inescapable

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[23] Weschler, *Boggs*, 4.

[24] *SFS*, 82.

[25] Cf. David Powlison, "Which Presuppositions?" 271.

[26] Weschler, *Boggs*, 130.

[27] Harry Prosch, *Michael Polanyi* (Albany: S. U. N. Y. Press, 1986), 7.

problem that has often been simply tucked away. The second aspect of the analogy, however, is more critical, though hardly an outright condemnation. A curious fact concerning the critique offered by Boggs through his money is that its final currency is still dependent upon normal and traditional money. The consummation of his "artistic performance" is not the acceptance of his bills. Rather, its completion depends upon two final exchanges: First, Boggs sells to collectors the transaction receipts and the change he received from 'his' money. Second, using the receipts as clues, the collectors seek out the recipient of Boggs bills and try to negociate the purchase of the "spent" bills. Both parties in the original transaction only profit when finally they have 'translated' the whole process into traditional, socially accredited, currency, which collectors are willing to pay.[28]

Polanyi's own fiduciary program does not remain, or so we have sought to argue, within its own circularity, but ends up effectively relying for its currency on an admixture of presuppositions. Though Polanyi has indeed insisted on the final circularity of his program, there are quite a few places where he clearly suggests that circularity is somehow not final, of which the following statement is a good illustration:

> Objectivism seeks to relieve us from all responsibility for the holding of our beliefs. That is why it can be logically expanded to systems of thought in which the responsibility of the human person is eliminated from the life and society of man. In recoiling from objectivism, we would acquire a nihilistic freedom of action *but for the*

[28] Weschler, *Boggs*, 20-22, 23: As Weschler was prompted by his interaction with Boggs to do further research on the issue of the nature of money and value he ran into the work of the German-Jewish philosopher Georg Simmel (*The Philosophy of Money*, 1900), and found Simmel describing money as a dialectic of "pure motion" and "absolute stillness," from which he realized that "Boggs's work operates in the space between those two absolute characterizations." This suggests to me another, almost 'uncanny', analogy in terms of my argument about the activistic and abstract principles in Polanyi's epistemology, and though we cannot further explore this particular aspect at present, we should note that as Weschler describes further what he thought was the meaning of this characterization the analogy we are suggesting seems to become even clearer and more explicit.

fact that our protest is made in the name of higher allegiances.[29]

Granted that Polanyi follows that statement by again suggesting that "our calling," which is the point of contact with these "higher allegiances," is simply the calling to abandon the infinite regress of objectivist epistemic justification and embrace instead a personal and self-set movement from "intellectual hopes to a succession of equally hopeful positions," and that this constitutes "transcendence" only in terms of the universal aspirations expressed in the process. Nevertheless, without unnecessarily rehashing our whole argument about Polanyi's borrowing, and even what we discussed above as constituting his inversion, his statement above should be a sufficient reminder of how he is concerned with ultimately justifying the circularity of the fiduciary program as to its abstract transcendent bearing. It seems then, that the final currency of Polanyi's argument cannot, just as the final value and currency of Boggs money, be conceived without recourse to a final standard or medium, a currency, outside its own circularity.[30]

Ultimately, Boggs does not really set up his own self-accredited competing fiduciary framework. Indeed, his "money" is accepted usually by those who either recognize it for what it is (viz., a work of art that turns out, because of its uniqueness and its mode of production, to be of greater value than the serially produced model that inspired it), or because they understand that his cachet as a recognized artist causes 'his money' to be redeemable for a significant higher value, in terms of socially accredited currency, than that which he claimed for it in the moment of a transaction. We are suggesting Polanyi also does

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[29] *PK*, 323-324 (emphasis added).

[30] *Ibid*., 324: "The technique of our redemption is to lose ourselves in the performance of an obligation which we accept, in spite of its appearing on reflection impossible of achievement… we hope to be visited by powers for which we cannot account… This hope is a clue to God."

not ultimately set up a truly independent fiduciary framework where the paradox of self-set universality is internally resolved. Rather, like the dynamic he himself describes in the process of moral inversion, he simply finds a way to make the kind of transcendent-referent for knowledge and meaning, which Christian-theism openly acknowledges as God and His revelation, something that appears to function within a framework of intrinsic immanence. He cannot, however, account for the final currency of his epistemology and ontology within its own circularity.[31]

Of course, if the analogy holds at all, suggesting that Polanyi's inversion of the *coram deo* nature of knowledge ends up functioning with a dynamic not unlike the dynamo-object coupling with which he accounted for the apparent cogency of moral inversion in his analysis of Marxism also seems plausible. Here, though, there would be a "*self-confirmatory reverberation* between the" claim that the fiduciary program is strictly rooted in the immanent, and the "concealed [religious] *motives* which underlie" its transcendental thrust.[32] Yet, lest we extend these considerations to a point where they would necessarily become exceedingly tentative and abstract, let us stop at this and continue to complete our picture with a brief discussion of how we believe what we have argued so far translates into the limits of Polanyi's epistemology for a secular as well as a Christian audience.

The Limits of Polanyi's Epistemology I: The Secular Audience

Though as we stated in our introduction we will not concentrate on this aspect of what we consider the limits of Polanyi's epistemology, it is, nevertheless, important to

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[31] Cf. *PK*, 315; *SEP*, 221-223; 341, 342-343.

[32] Q.v., p. 61 above. Cf. *PK*, 230.

consider it even if only briefly. Harry Prosch, in line with his perspective of Polanyi as a physician-philosopher seeking a philosophical cure for the epistemological and moral maladies of modern man, recognizes a troublesome issue that should become obvious to anyone who develops an interest in Polanyi's philosophy. He states it as follows:

> An attempt to treat a disorder is to be evaluated finally, as an acid test, by the resulting conditions of the patient. It is no doubt for this reason that Polanyi himself considered, toward the end of his life, that his work had been a failure. After all, his final purpose had been to restore the modern mind to a healthy confidence in its own powers to achieve meaningful organization of its thought, aspirations, and manner of living. He felt that the various segments of the Western intellectual and cultural world had not, in general, been persuaded by his efforts. To be sure, he had, he knew, won a number of converts in a great many fields of human endeavor; but by and large on the whole the modern mind seemed to him to be no better off than when he found it. He had, for instance, expected to cause some stir at Oxford. But years after he had come there as a Research Fellow at Merton College he still found himself and his ideas virtually ignored. He actually had a greater following in the United States. But he certainly had not changed the main flow of ideas there, either.[33]

Prosch goes on to put this problem in context, and, in a sense, provide some justification for this reality not only in the fact that, as he believes, "the full impact of [Polanyi's] work lay still in the future," but also by showing why, he believes, Polanyi's philosophy did achieve its "healing" for some like himself, but should not be expected to function in a more universal way. Of course, Prosch's analysis is more complex than our brief statements suggest. It is also much more appreciative of the extent to which, Prosch does believe, Polanyi has managed to suggest a way to remain within the "limits of the contemporary frame of mind" and yet satisfy our longing for things that "bear upon eternity."[34] We shall, however, leave Prosch's own assessment aside and look at why some writers who were in fact challenged and taken up by Polanyi's epistemology felt it, at the

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[33] Harry Prosch, *Michael Polanyi: A Critical Exposition* (Albany: S. U. N. Y. Press, 1986), 203-204.

[34] *Ibid*., 204, 274-289, 292-296.

same time, limited with regards to their "naturalistic" interpretation of life. Stefania Jha suggests the following difficulties:[35]

> Whereas purposive action (our shaping of a skillful achievement) in his theory of personal knowledge was innovative and a much needed correction to older forms of epistemology, the teleological ontology he proposed–an emergent hierarchy of comprehensive entities–leads to either an unwarranted anthropological conception or may encourage a theistic interpretation. In any case, he was incorporating a troublesome final cause or value in his modified evolution of ideogenesis… The problems caused by carrying teleological notions from his epistemology through the rest of what he hoped to be an organic and unified vision, bears examining.[36]

She continues to recognize the valuable contributions Polanyi's epistemology represented, but the correlated ontology, she says, "makes teleology the most important underlying principle… when he describes the nature of epistemology, ontology and ethics."[37] The problem for her boils down to a question of Polanyi's own justification for the presuppositions that underlie the epistemology and the ontology: His epistemology, she says, while it remains within a discussion of science, is not so problematic. "Knowledge is justified by the authority of scientific peers and the tradition and premises of science." Yet, the ontological correlate, she continues, is dependent upon a conception of the "real" and a warrant for true factual statements, that strives to affirm that there is "something out there," an objective and independent reality to which both the ontology and the epistemology refer. "But by his definition, *he wants to keep this 'something' both as a goal and indeterminate*. This makes sense in his framework only if it is cast on 'the two poles of knowing' schema:

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[35] Though I disagree with Jha's claims that this is the 'ultimate' problem in Polanyi's thought, she does, nevertheless, seem to grasp how the very quasi-religious nuances of Polanyi's thought that make it apparently so promising, become its limitations with regards to a truly *naturalistic* position.

[36] Stefania Jha, "Polanyi's Problematic 'Man in Thought': The Tacit and the Real," unpublished paper presented at the 1999 (Boston) Polanyi Society Meeting, 1.

[37] *Ibid*., 5.

internal–external, self–world, potential–actual."[38]

It is interesting that Jha seems generally to agree here that, in a sense, both Polanyi's epistemology and his ontology seem to require the dialectic between what we have repeatedly characterized throughout our argument as the activistic and abstract principles. Our main concern here is with her realization that the move toward justification of knowing through a correlated ontology of emergence has "exposed him to the charge of Hegelianism," a charge that she complements as follows: "The evidence for this charge was only strengthened by his ontology of hierarchy of comprehensive entities, which seem to be a Hegelian Reason unfolding in the world."[39]

Though we are not presently concerned with the totality of Jha's analysis, it seems to illustrate quite well what we believe lies at the heart of the limitations for Polanyi's epistemology from a truly secular perspective. The quasi-religious way in which Polanyi has to establish a reference point that justifies the claim that knowing and being are ultimately acts of self-transcendence directed toward ever higher and more abstract integrations, which are, in turn, supposed to offer a basis for faith and hope that the universe moves in ever more meaningful directions, is foreign to a view of knowledge and science derived strictly from naturalistic roots. Jha does attempt to show how Polanyi's helpful contribution, and even the inevitable ontological correlate, might be maintained without necessarily veering off toward teleological or quasi-theological implications. She suggests the following:

Unless the notion is taken as a retrospective explanation of gradual complexity, using

[38] *Ibid*. (emphasis added)

[39] *Ibid*., 6.

> "function" as a heuristic device, the operational principle governed by boundary conditions is highly problematic for any non-engineering conception or non-theological conception of ontology (since an intelligent first mover is required). *Polanyi's arrangement of the sciences as explanatory human constructs works, because he patterned the arrangement on the gradual complexity of cognitive ability as performance in evolutionary time, that is, an aspect of his ontology is an ontology of mental performance as a noun (while his epistemology is an epistemology of mental performance as a verb). One must take care however, not to confuse the explanatory device with the content of what is explained.*[40]

Her idea, however, of taking the ontology as simply a heuristic device should also cast the epistemology in the same light. Then, she would no longer be referring to Polanyi's epistemology as he developed it, i.e., as intending to depict the *actual structure of tacit knowing and of being*.[41] It seems, therefore, if the illustration of Stefania Jha's critique is at all representative of problems others who desire to remain strictly within a secularist scientific mode would also meet in Polanyi's philosophy–and we believe it is–that his thought would inevitably have to suffer significant modification before it could be wholeheartedly embraced from a secularist position unwilling to share his teleological and semi-theological position.[42] Let us then shift the discussion to how we see the limits of his epistemology regarding Christian thought.

The Limits of Polanyi's Epistemology II: The Christian Audience

Terrence Kennedy's assertion that "honesty demands that we acknowledge that Polanyi was not religiously committed nor did he have religious faith as this is understood

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[40] *Ibid*., 3.

[41] Cf. *TD*, 33-34; Prosch, *Michael Polanyi*, 232-234.

[42] Cf. Prosch, *Michael Polanyi*, 233. Though Prosch does not seem as concerned as other writers that Polanyi's ontology necessarily leads to a quasi-religious type of teleology, he does appear to agree that a rejection of Polanyi's ontological hierarchies and the underlying logic of emergence would entail a radical re-reading of Polanyi's epistemology itself.

in Christian theology" seems difficult to refute.[43] The same is true for Kennedy's argument that Polanyi's effort somehow to create an opening for religion as something philosophically acceptable ends up characterizing it as "an extension of the world of art," with a meaning that ultimately akin to that of "symbols and myths of ancient cultures."[44]

Of course, that in itself radically limits the application of Polanyi's thought as a whole within a traditional Christian interpretation of knowing and being. Throughout our argument we have suggested many particular areas in which it would be quite difficult simply to assume that Polanyi's thought is naturally compatible with Christian theology. The issue now, however, is somewhat more specific: Are there some broader categories capable of encompassing the different ways in which Polanyi's presuppositions limit the possible applications of his thought, as it stands, to theological reflection and Christian epistemology? We wish to suggest that the limits of Polanyi's epistemology from a Christian-theistic standpoint may be grouped under three distinct categories, and that these dovetail from our basic thesis. Curiously, these are three areas in which Polanyi has explicitly claimed a kinship between his own interpretation and that of the Christian faith.

First, we submit that the intrinsic limits of Polanyi's epistemology may be seen as for the inadequacy of the *Arche* he proposes for knowledge, and actually for the cosmos as such, and the consequent distortion of the concepts of man and of nature. Polanyi contends that his view of evolution through the prism of emergence, underlaid simply by a cosmic field of potentiality, provides an account of the origin of man and of the "noosphere" that not only supplies the necessary rooting and Arche for his epistemological program, but also

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[43] Terrence Kennedy, *The Morality of Knowledge* (Rome: Pont. Univ. Lateranensis, 1979), 138.

[44] *Ibid*., 140.

furnishes an underlying continuity for the cosmos from its supposedly inanimate and quasi-meaningless material beginnings, all the way up to man, and even beyond, as a clue to God himself.[45] He affirms, furthermore, that this is the underlying truth of the creation "myths," and particularly the Christian creation "myth."[46]

We have already discussed extensively how we believe his concept of emergence actually fails to dispose of the need for an active external creative agent, as he proposed to do.[47] The crucial point here is that, contrary to his affirmation that such a view is harmonious, and in fact supportive of a Christian idea of origins, of the Christian Arche, such a view is really antithetical to the Christian Arche. While Polanyi begins with the universe and its emergence, and seeks to arrive at man, and finally see in the whole process a possible clue to God (and evidence suggests this would be some kind of emergent God) a Christian-theistic position starts with God as the Arche, and recognizes from the start "that the being of the cosmos is a dependent, creaturely being," and "refers beyond itself to… God, from whom, and through whom and unto whom are all things."[48] Upon this basis it maintains a strict Creator-creature distinction. It also insists that the meaning of the universe, every meaning in fact, is derivative, and can only be understood in relation to God. This makes the notion of a "novel idea of human knowledge from which a harmonious view of thought and existence, *rooted in the universe*," throughout, hardly compatible with the Christian framework[49]

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[45] *PK*, 197-199, 279-286, 324, 380, 384, 405.

[46] *M*, 147.

[47] Q.v., pp. 176f. above.

[48] L. Kalsbeek, Contours of a Christian Philosophy (Toronto: Wedge, 1975), 60.

[49] *TD*, 4 (emphasis added).

Second, the intrinsic limits of Polanyi's thought, as for a Christian framework, can also be framed in terms of its *Archimedean point*. This is related to the question of his final dialectic between the activistic and the abstract principle, between contingency and abstract transcendence in which man is the point of confluence. We have discussed this issue sufficiently throughout our inquiry. It is important to note that on one hand, Polanyi insists that such a view of man, especially as coupled with his notion of origins, is somehow amenable to, and supportive of, Christian (or at least religious) meanings,[50] and yet, the very idea that man is the Archimedean point for knowledge, and in a sense also the Archimedean point for the whole noosphere, is not only antithetical to the Christian view of man's being and knowing as dependent and derivative, as a being who thinks and is only *coram deo*, but it is in fact such a central point in the Christian framework and in his own "program of self-identification" as to make the two quite generally incompatible.[51]

Third, and perhaps most important, is that the issues of Polanyi's Arche and of his Archimedean point converge in the fact that his philosophical program not only lacks a concrete *transcendental frame of reference*, but indeed makes such a concept impossible. This has been such a recurring concern throughout our inquiry that it suffices here to cite a particular passage to which Prosch referred in one of his papers from the debate with Gelwick et al. about the reality of religious meanings for Polanyi. It consists of a brief note, which besides being quite telling, also makes it extremely clear how Polanyi refused to entertain the possibility of a concrete transcendent referent:

The hopes of Tillich to see divinity as beyond any coherent entity corresponds to my

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[50] Cf. *STSR*, 128.

[51] Cf. Calvin, *Institutes*, 2:1.2-3.

> own perspective. It was in 1963 that I attended some lectures by Tillich at Berkeley and at one of the churches attached to the same area. I spent a few hours with Tillich in the evening following the second lecture, telling him a little about my work, to which he answered "you have done for science what I have done for religion." This was a matter of courtesy, but it did hold some substance. The vision of an indeterminate meaning, which floats above all materially structured experiences, exists on the lines of a stratified sequence *ultimately pointing at unsubstantial existence*.[52]

We have dealt throughout this chapter mainly with what we submit as the Polanyian inversion. Yet, the three categories suggested above are also related to the second part of our initial thesis, that is, the claim that Polanyi's concept of knowledge (and of course, it should be clear by now that our references to his epistemology necessarily involve the correlated ontology) ends up being abstract as for final meaning and self-referential in terms of particular meanings. Since we have been referring to the limits of Polanyi's epistemology with regards to a Christian framework throughout our work, the present discussion has been intentionally brief. Our purpose has been mainly to suggest in a summary fashion some broad categories within which the many different points of our argument can fit together. Nevertheless, it seems important still to consider whether our argument that the application of Polanyi's epistemology, and of his thought in general, in Christian thought is severely limited by the very presuppositions involved therein, leaves room for an appreciation of some kind of positive contribution, so we turn briefly to this issue.

A Rationale for Profiting from Polanyi's Contribution

We believe our analysis does provide some clues for reinterpreting and reforming certain important aspects of Polanyi's thought in a way that makes it a valid and significant

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[52] Michael Polanyi, untitled, unpublished fragment, box 38:4 in Michael Polanyi Papers, Regenstein Library, University of Chicago, cited in Harry Prosch, "Polanyi's View of Religion in Personal Knowledge: A Response to Richard Gelwick," *Zygon* 17, no. 1 (March 1982), 47 (emphasis added).

contribution to Christian reflection–particularly to Christian epistemology and presuppositional apologetics. Of course, our previous discussion has already established that this would require significant, and probably radical, modification and amendment. This seems a challenging and promising task, and it cannot be fulfilled here. Yet, it might be possible and profitable briefly to suggest some general lines in which such a project may be carried out, perhaps as a future extension of our present work.

Of course, given our overall thesis, the first step would clearly be to undo what we have suggested as the inversion of the *coram deo*, and to turn the whole framework right side up by clearly reconfiguring the Arche and the Archimedean point in Polanyi's thought. This, however, would be easier said than done. It would actually mean such a radical reconfiguration of the whole framework of his thought that it would leave few areas unaffected. It would also mean an abandonment of the whole ontological correlate, and for that matter one which would be inherently more radical than the one implicitly required by Jha, Grene, and others, who object to the ontological and teleological aspects of Polanyi because of their more naturalistic presuppositions.

But what about Polanyi's epistemological insights? It seems to us that the most promising areas of his epistemological thought might actually be something other than the emphasis on commitment and on the fiduciary roots of knowledge, which for some writers from within the theological milieu, was often considered his greatest contribution.[53] We need not belittle his effort to show that all knowledge does and must spring from basic tacit beliefs. Merely by arguing, as a respected scientific mind, how science rests upon a

[53] Cf. Thomas Torrance, *Belief in Science and In Christian Life* (Edinburgh: The Handsel Press, 1980). xvi.

fiduciary framework structurally similar to every other articulate system of thought, he has already made a valid contribution: A powerful challenge to the common fallacy of assuming that science is "simon-pure, crystal-clear fount of all reliable knowledge."[54] Yet, this aspect of presuppositional reflection has been, we believe, developed with greater clarity by a few different Christian writers who, unencumbered by the tensions we have argued were present in Polanyi's thought, were able to develop more consistent and radical presuppositional approaches ranging from philosophy proper to philosophy of science all the way to theology and apologetics. Their work transcended the critique of objectivism and the merely formal identification of fiduciary epistemic roots. It actually accounted (with a much clearer conception of the human condition and of the human heart) for the inherent religious origin of those presuppositions, *i.e.*, for the *coram deo* nature of man's knowing and being.[55]

What we do believe is most precious about Polanyi's epistemological insights is the way in which he provides certain key conceptual tools that could become a significant contribution for Christian epistemological reflection mainly through an eidetic reduction of his insights on tacit integration and on the different aspects of tacit knowing.[56] The very concept of a from-to structure, the tacit triad, the distinction between phenomenal, semantic and ontic aspects in terms of knowledge, and even his idea of indwelling seem to open many different possibilities as for clarification and articulation concerning presuppositions and

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[54] *M*, 63.

[55] Cf. Herman Dooyeweerd, *A New Critique of Theoretical Thought*, 4 vols. (Philadelphia: Presbyterian and Reformed Publishing Co., 1953-69); H. G. Stoker, *Beginsels en Metodes in die Wetenskap* (Johannesburg: Boekhandel De Jong, 1969); D.H. Vollenhoven, *Isagooge Philosophiae* (Amsterdam: Vrije Universiteit, 1967); C. Van Til, *A Christian Theory of Knowledge* (Phillipsburg: Presbyterian and Reformed Publishing Co., 1969).

[56] See R. T. Allen, *Transcendence and Immanence in the Philosophy of Michael Polanyi and Christian Theism* (Lewiston: E. Mellem Press, 1992), 131.

how they seem to operate. It seems that many of these concepts could not only be redeemed, but might even function heuristically within a Christian fiduciary framework. Perhaps an effort to appropriate and reform these conceptual tools might even lead to a vision of more material in Polanyi that could and should be reclaimed, especially since, as we have sought to argue, we believe there are some areas in which the borrowed Christian capital upon which Polanyi has tacitly relied still maintains significant aspects of its Christian cachet.

It seems, in the end, that it might be simply a matter of resisting the temptation of trying to develop a Polanyian application adapted to Christian-theism, as it has often been done, and instead, developing a primarily theological reading of Polanyi from which many of his insights can be tested, reformed and modified so that they may be made to contribute subsidiarily within a framework that starts out with a clearer and more focal awareness of what lies at the heart of human knowledge. In one sense, that would be itself a reversal of certain Polanyian maxims, but it does seem to be, in a more general way, the kind of project that Polanyi himself would not completely rule out.

The literature on Polanyi, and about Polanyi, which we have surveyed in our research, seems to be filled with various attempts at either direct theological applications of Polanyi's thought, or reinterpretations of his philosophy in which it is made more harmonious with Christian theology than we have suggested it actually is, or even incisive critiques that parallel some aspects of our own. It appears, however, that with a few possible exceptions, the kind of 'post-criticism' constructive work on Polanyi from the standpoint of reformed theology (the emphasis here would be on the post-criticism, since there have been a few attempts to incorporate Polanyian insights into a Christian presuppositional approach,

but these, we feel, have often lacked the needed antecedent critical work) is something yet to be realized. Perhaps, for us, the present inquiry might be a tentative first step.

For now, however, we must leave it at that and bring our inquiry to a close. Still, not before one final brief point.

"Foot Stamping" and Polanyian Justification

A final comment as to the justification of our biased analysis seems appropriate as we conclude our inquiry. We have looked at Polanyi from an ostensive theological frame of reference of a particular kind. The claim of a privileged standing from which to judge not only Polanyi's thought, but also the ultimate religious root of all knowing and being, has been undeniably implicit. It is one thing for Polanyi to affirm the ultimate fiduciary roots of all knowledge, but a whole inquiry into his thought that claims as its point of transcendence an ultimate religious faith upheld not only with some kind of tentative universal intent but as the universal basis for true knowledge and for the harmony of knowing and being, is bound to appear not only dogmatic and authoritarian, but probably even presumptuous. Worse yet, we have radicalized Polanyi's aphorism that "we know more than we can tell" and virtually suggested that it should actually read somewhat like, "every man knows God more than he can tell but his knowledge is naturally rebellious."

For many, such position would not be taken lightly. It certainly makes itself open to attack not only by those who would object to our reading of Polanyi, but more particularly to the grounds from which such reading emerges. John Puddefoot, in an essay that seeks to emphasize the relativistic tendency of Polanyi's ideas on knowledge and truth, argues that such a reading as ours is inherently a kind of "foot stamping." He characterizes it as follows:

> Whenever my tribe wants its truths and its reality to have more than the status they earn from being just that–the truths and realities of my tribe–we tend to 'stamp our foot' and insist that our truths [and realities] are not merely ours, but should also be yours… We may seek to bolster the power of our truths and realities by giving them divine or religious status: they are not merely our, they are also God's truths and realities. Appealing to more authority than the accumulated authority of a person or tribe constitutes the 'foot-stamping syndrome'… Theism can be the ultimate form of a foot-stamping… attempt to have absolute certainty without responsibility: we simply claim that our view is God's view, and so that is that. When someone asks how we know that our view is also God's view, we usually pretend not to understand, or quote the Bible, thus instituting an infinite regress. Metaphysical realism is foot-stamping… totalitarianism in disguise. It is concerned to impose one truth and one reality as the 'best' or 'only possible' truth and reality on the basis of some putative 'method' that exempts it from the fallibility and diversity of the human condition. But today's totalising[*sic*] discourse is tomorrow's totalitarianism. And Michael Polanyi would have none of it.[57]

Without necessarily accepting the overall validity of the challenge, we may nevertheless ask whether it is really true that "Michael Polanyi would have none of it." Is our whole effort to examine the limits of Polanyi's epistemology as for our basic presupposition (viz., that knowing, and for that matter all of life, can only be understood as ultimately *coram deo*) really some kind of "foot stamping" that subjects Polanyi to a treatment he would not admit of? Though it is not Polanyi who must finally judge the adequacy of a frankly theological critique of his own thinking, we find solace in the fact that Polanyi seems not only to allow such a critique–by his own avowed theological and Christian nuanced intentions–but also to call for it. We have previously cited what Polanyi deems the "logically consistent" way that one should expound one's fundamental beliefs and analyze any topic, but a restatement of it seems a fitting way to bring our efforts to a close:

> You cannot expose an error by interpreting it from the premises which led to it, but only from premises believed to be true. …the process of examining any topic is both

[57] John Puddefoot, "The Trust Relationship," unpublished paper presented at the 1999 (Boston) Polanyi Society Meeting.

> an *exploration* of the topic, and an *exegesis of our fundamental beliefs* in the light of which we approach it.[58]

The above should therefore be seen not as "foot stamping," but as just that: A Polanyian-inspired exegesis of our fundamental Christian-theistic beliefs in the analysis of the thought of Michael Polanyi.

[58] *PK*, 267 (emphases added).

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