

Tradition & Discovery

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The Polanyi Society

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Preface

This issue is devoted to the papers originally presented at the 2007 Polanyi Society annual meeting, which focused on the 1963 Berkeley encounter of Michael Polanyi and Paul Tillich. This Society meeting was a joint meeting with the North American Tillich Society. Some readers may recall that in the Polanyi centennial year of 1991 in Kansas City there was a similar meeting with the Tillich Society on the same topic. Two interesting papers by the late Charles McCoy and Richard Gelwick with a response by Donald Musser were eventually published on this session in *TAD* 22:1 (1995-96) which is available in the *TAD* electronic archives on the Polanyi Society web site. Readers may want to look back at these earlier reflections for they are a prelude to this new set of essays on a topic that obviously was not exhausted with the earlier publications. I am delighted that the new essays include one from Durwood Foster who was involved in both the first and second meetings on the 1963 encounter. Foster is a first-rate Tillich scholar, a friend and teacher of several Polanyians, and a figure who recently has reread Polanyi, so he brings new eyes to his thinking about Polanyi and Tillich in his captivating discussion of what he dubs “a dynamic uncoordinated duo.” There is a fresh essay by Gelwick and a new response by Musser. The Foster, Gelwick and Musser essays, like the 1991 papers on Tillich and Polanyi, have also been published in *Bulletin of the North American Paul Tillich Society* (34:3, Summer 2008). Bob Russell, a Foster student and a leader in recent “theology and science” discussions, contributed to the 2007 annual meeting session a short assessment of the lasting impact of Polanyi’s thought on the growing interdisciplinary field of “theology and science.” This too is included in this issue. Be sure that you review “News and Notes” where there is information about the new Poteat archives at Yale and about publications and papers that follow up on earlier *TAD* discussions or inquiries opened at the 2008 Loyola Polanyi Conference. Also you will find (p.6) the program for the November 6 and 7, 2009 session of the upcoming Society annual meeting in Montreal.

Phil Mullins

Tradition and Discovery is indexed selectively in *The Philosopher’s Index* and *Religious and Theological Abstracts* and is included in the EBSCO online database of academic and research journals.

NEWS AND NOTES

Polanyi Society Travel Fund In Need

For students and others requiring assistance to attend the Society's meetings limited funding may be available. Society members are urged to inform worthy candidates that this assistance is available. Those interested in this funding, as well as those who know of potential candidates, should contact **Walter Mead** (wbmead@comcast.net) and see the information on the Polanyi Society web site. Since the 2009 Polanyi Society annual meeting is in Montreal in November, this as an opportunity to attract Canadian graduate students and individuals who have recently finished graduate studies; we hope to have a special round-table discussion to assist and encourage these people in their Polanyian studies. However, we presently have only sufficient money in our Travel Fund account to provide for one student. Contributions to this Fund in any amount will be gratefully received by Wally Mead, 4 Kenyon Court, Bloomington, IL 61701. They are tax-deductible.

Update On *Appraisal*

An issue of *Appraisal: The Journal of the Society for Post-Critical Philosophy and Personalist Studies* (v. 7, n. 2 [October 2008]) came out in May, 2009 and the March 2008 issue (v. 7, n. 1) was published several months ago. *Appraisal* editor Richard Allen reports that illness has put the journal a bit behind publication schedule, but it should catch up during the summer and fall of 2009. The March 2008 issue included the following essays on Wittgenstein and Polanyi: (1) **Philip Rolnick**, "Wittgenstein and Polanyi on the Person." (2) **Charlie Lowney**, "Seeing, Saying and Being the Gestalt: Continuing Investigations on Wittgenstein and Polanyi on the Concept of the Person." The October 2008 issue included the following articles on Hans Jonas, Eric Voegelin and William

Poteat: (1) **Antonio Casado and Rodriguez-Arias**, "Hans Jonas' Contribution to Bioethics: 40 Years after His 'Philosophical Reflections on Experimenting with Human Subjects.'" (2) **Giorgio Baruchello**, "Gnosis, Sustainable Development and Racism: Hans Jonas as a Political Thinker." (3) **Maben Walter Poirier**, "Eric Voegelin's Immanentism: A Man at Odds with the Transcendent, Pt. I." (4) **David Rutledge**, "William Poteat: The Primacy of the Person."

Appraisal (i.e., The Society for Post-Critical and Personalist Studies) and the John Macmurray Fellowship sponsored a conference on April 18, 2009 in Oxford. The conference theme was "Persons and Agency." The following papers were presented: (1) **Walter Gulick**, "Who Are the Persons of Michael Polanyi's *Personal Knowledge* and John Macmurray's *Persons in Relation*?" (2) **Phil Mullins**, "Polanyi on Agency and Some Links to Macmurray."

Colin Burch is now providing valuable help with editorial work and **Mark Arnold** will take up the post of secretary of The Society for Post-Critical and Personalist Studies in the autumn. **Richard Allen** (rt.allen@ntlworld.com) is inviting volunteers to take on other tasks such as treasurer, webmaster and conference master for *Appraisal*.

The *Appraisal* website at <http://www.spcps.org.uk/> has recently been revamped. You can view the table of contents of all issues going back to volume 1 in March 1996. You can order a CD with all back issues, volumes 1 through 6. Payments can now be made via the website, making things much easier for subscribers outside UK.

Struan Jacobs, one of the writers in the 2006-2007 issue of *TAD* (33:2) focusing on Polanyi and Thomas Kuhn, has recently published another article

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on the topic, “Thomas Kuhn’s Memory” *Intellectual History Review* 19 (1) 2009: 83–101. The abstract follows:

Scholars have suggested that Thomas Kuhn’s theory of science in his famous study, *The Structure of Scientific Revolutions*, drew from ideas of Michael Polanyi. There are certain striking resemblances between Polanyi’s masterwork, *Personal Knowledge*, and Kuhn’s, *Scientific Revolutions*, books that were published only a few years apart (1958 and 1962). The present discussion particularly concerns three similarities between Kuhn’s thought and that of Polanyi, making use of hitherto unpublished correspondence between Kuhn and William Poteat, Professor of Christianity and Culture at Duke University. Written early in 1967, the letters (two from Poteat, one from Kuhn) are reproduced in the appendix of this article. Of the similarities, one is between Kuhn’s idea of the ‘paradigm’ as exemplar, with its connotation of unexpressed knowledge, and Polanyi’s theme of ‘tacit knowledge’. Another similarity is between their respective accounts of world pictures (Kuhn’s idea of paradigms as ‘constellations’ and Polanyi’s image of ‘frameworks’). Third is the similarity between Kuhn’s theory of ‘incommensurability’ and Polanyi’s notion of cognitive frameworks as separated by a ‘logical gap’. This article specifies where Kuhn cites, and what he has to say about, Polanyi’s work, and it draws attention to relevant silences, inaccuracies and inconsistencies in Kuhn’s writing. We are aiming at an intensive, accurately detailed discussion of whether Polanyi may have been among Kuhn’s important sources.

Keith Morgan presented at the Academy of Management Annual Meeting, Anaheim, CA, (August 2008) “Creating a Graphical Three (3) Dimensional Diagram of the Knowledge Transfer Process.” The abstract follows (and the paper is available at <http://www.coalescentknowledge.com/papers.htm>):

Polanyi’s tacit and explicit knowledge theory will be integrated with coalescent knowledge theory (a shared knowledge concept) to create a graphical three (3) dimensional diagram of the knowledge

transfer process. This diagram can be used by management consultants to understand and create a customized knowledge transfer process for clients.

Charles Lowney’s article “Authenticity and Reconciliation of Modernity” was published in *The Pluralist* (v. 4, n. 1 [Spring 2009]): 33-50.

Richard Allen’s essay “The Unity of the Person” also appears in *The Pluralist* (v. 4, n. 1 [Spring 2009]): 77-84.

A Note On Polanyi Society Membership

A recent change in subscription procedure may have caused some confusion. There are three issues of *TAD* each year (October, February and July). Self-addressed return envelopes are now enclosed in all printed copies (mailed in the U.S.) of the October and February issues. The subscription cycle begins in the fall of each academic year. Even if you mail in your dues in the October envelope, your February issue will also include an envelope because the US Post Office requires all *TAD* mailing parcels to be identical to qualify for the lowest mailing rate. Rather than use the return envelope, you can, of course, always e-mail subscription information to Phil Mullins (mullins@missouriwestern.edu). When the revision of the Polanyi Society web materials is completed in the summer of 2009, you should be able to complete a subscription form on the web if you prefer.

The Polanyi Society is a very economical academic/professional society. The annual membership is currently \$35 (\$25 for libraries and \$15 for students). The Society has regular expenses associated with producing, printing and mailing *TAD* and with sponsoring academic meetings. Recently, we have added things such as the scholarship/travel fund for younger scholars which also require some resources. The Society much appreciates the contributions which several members have made to support the travel fund as well as regular operating expenses. Annual financial data is normally published in the February issue of

TAD. The Society is an IRS-501(c)3 organization (certified non-profit organization). Any donation members make above the membership rate is tax deductible in the US. You should receive a tax letter for such donations from the Society; if you do not, please inquire.

Although the Polanyi Society is an international organization, it is an increasingly expensive, bureaucratic nightmare to mail printed copies of *TAD* outside the US. In the post-911 world, each non-domestic mailing parcel must have a tracer (paperwork) attached. The Society now produces and archives an identical electronic version of *TAD* available at the same time the printed copy is mailed on the Polanyi Society web site at <<http://www.missouriwestern.edu/orgs/polanyi/>>. Anyone who wishes can easily download all or part of any issue. Society members living outside the US are encouraged to access the electronic *TAD* rather than have a paper copy mailed to them. Those who wish can subscribe to an e-mail list which provides an e-mail notice three times a year (as soon as the electronic *TAD* is posted) with the table of contents of the current issue. Those who receive the electronic edition of *TAD* are encouraged to use e-mail or the Polanyi Society web site to pay annual dues and make contributions to the Society.

Special Collection Of William Poteat Papers

A collection of Poteat's papers is being established at the Yale Divinity School Library. James Clement Van Pelt, a former student of Poteat presently living in New Haven, CT, has worked with Wally Mead, a graduate of YDS, in providing for this archive. We are grateful to Paul Stuehrenberg, YDS Librarian, and Martha Smalley, Special Collections Librarian, for making it possible for us to make the late William Poteat's papers optimally available for future research and thereby not only assuring the continuation of Professor Poteat's legacy but also encouraging the further creative application of Polanyi's insights of the quality and originality represented in Poteat's works. So far four of Bill Poteat's former students and colleagues have contributed their correspondence with Poteat, their notes, and their audio recordings of his lectures and interviews to this archive. There is likely more material out there that could be of great value to future scholars. Those who wish to retain their valued correspondence, etc., in their possession are encouraged to make copies of the relevant material and contact Wally Mead at the e-mail address below. Mead will spend the summer organizing and cataloging the material prior to delivering it to YDS. These materials will hopefully be further ordered and made available to the public sometime during the fall 2009 semester. The Yale Divinity School Library will henceforth hold all literary and other property rights to the unpublished writings in this collection. We are presently considering the possibility of holding a future meeting of the Society in New Haven (perhaps in conjunction with the YDS Initiative in Religion and Science program that Van Pelt coordinates) to celebrate this new research resource and to draw upon some of the relevant regional scholarship. If you have materials that you think would be of value to this Poteat Collection, please inform Wally Mead (wbmead@comcast.net).

2009 Polanyi Society Annual Meeting

Montreal, Quebec.

The Polanyi Society will hold its annual meeting November 6-7, 2009 in conjunction with the AAR annual meeting in Montreal. To attend either or both of the sessions of the the Polanyi Society annual meeting, it is not necessary to register for the AAR meeting. For additional information about the AAR meeting, go to the American Academy of Religion Annual Meeting site: http://www.aarweb.org/meetings/Annual_Meeting/Current_Meeting/default.asp. The hotels and rooms in which the annual meeting will be held will be included in the October 2009 issue of *TAD* and will be posted, when available, with other information about the annual meeting on the Polanyi Society web site (<http://www.missouriwestern.edu/orgs/polanyi/>). Details will also be listed in the AAR annual meeting program.

Friday, 6 November 2009

9:00-11:00pm Panel: "Toward a Polanyian Science of the Virtues"
Walt Gulick, Montana State University, Billings
Paul Lewis, Mercer University
Diane Yeager, Georgetown University

Saturday, 7 November 2009

8:00to9:00 am A Celebration of *The Tacit Dimension* Re-Publication
Light breakfast

Reflections on *The Tacit Dimension*
Phil Mullins, Missouri Western State University
Wally Mead, Illinois State University

9:15to 10:10 am "Of One Mind? Merleau-Ponty and Polanyi on the Reduction of Mind to Body"
Florentien Verhage and Charles Lowney, Washington and Lee University
Response: David Rutledge, Furman University

10:20to11:15 am "Is the Pope Catholic? Polanyian Reflections on Continuity and Authority"
John Apczynski, St. Bonaventure University
Response: Joe Kroger, St. Michael's College

11:15to11:30am Business Meeting

The Christian Encounter of Paul Tillich and Michael Polanyi

Richard Gelwick

ABSTRACT Key Words: Christian encounter, Earl Lectures, Tillich and Polanyi meeting, Horkheimer festschrift, detached and impersonal knowledge, participation and knowledge, ontology of cognition, self-world polarity, comprehensive entities, ontology of commitment, science and religion, common ground.

Michael Polanyi's engagement of Paul Tillich on the Christian faith and the relation of science and religion during the 1963 Earl Lectures at Pacific School of Religion, and his follow up with a public lecture and correspondence with Tillich, show a major complementarity in their epistemologies and common ground for pursuit of scientific knowledge and religious meaning.

Two intellectual giants of the 20th century met in Berkeley on February 21, 1963 to discuss the nature of faith and believing in Christian faith.¹ For both Paul Tillich and for Michael Polanyi, engaging major thinkers in conversation about issues of faith, meaning, and society is a central part of their way of knowing and doing. "Tillich in Dialogue" is certainly more than a book title and is truly representative of the formal as well as the informal nature of Tillich's theological work.² Similarly conviviality is practiced and taught by Polanyi as a central part of his scientific and philosophical work as noted in Scott and Moleski's biography of Polanyi and Ruel Tyson's sketch of Polanyi's life from his mother's intellectual salon to the scientific institute.³ Polanyi is a person who actively engages students and leading thinkers in order to confront the pressing questions of meaningful belief and action in a world beset by doubt. The records of Polanyi's correspondence preserved at the University of Chicago show an interdisciplinary and superstar range of correspondence and associations that compares with Tillich's lively and extensive personal outreach.⁴

The Christian Context of Polanyi's Meeting With Tillich

The context of the encounter of Tillich and Polanyi is important. Tillich is giving the Earl Lectures at the Pacific School of Religion on the theme of "The Irrelevance and Relevance of the Christian Message." Tillich's appeal to the morally earnest and civil rights-minded student body at Berkeley is massive. During the Earl Lecture series, Tillich takes time during the afternoon before his second evening lecture to go a block away from the First Congregational Church where the Earl lectures are being given to speak to students and faculty at the University of California Harmon gymnasium. Tillich's appeal is so great that the gymnasium is estimated to have been packed with over 6,000 persons filling the bleachers, the basketball court, all standing room and even the stage around the speaker's platform. Tillich's Pacific School student host and guide for the week, James A. Stackpole, reports that there were nearly as many persons listening outside on loud speakers as there were inside.⁵ Among the students in the audience is Mario Savio who in 1964 would arise as the voice of the Berkeley student protest for free speech and academic freedom.⁶ A year later, in 1964, Savio and other free speech student leaders would miss a scheduled weekend meeting with Tillich at Santa Barbara because they were in jail for protesting against University anti-freedom of speech policies.

I remember the Harmon gymnasium speech vividly. Seeing Tillich in that arena addressing probably the largest audience in America ever to hear an *avant garde* liberal German theologian seemed like a second coming of a Schleiermacher type speaking to the cultured despisers of religion. For an hour, Tillich addresses

the rapt audience on “Science, Philosophy and Religion.” Typically he uses his two contrasting definitions of religion as ultimate concern and religion as the life of a particular social group.⁷

But we are now so removed from the event of Tillich and Polanyi meeting that we almost forget their common ground, the importance of the meaning and the communication of Christian faith. In contrast to many years of Polanyi scholarship that has obscured and clouded Polanyi’s Christian involvement and have treated him primarily as a philosopher or marginal Christian, today’s topic takes us back to Polanyi basics. *Therefore, I want my first proposition to be that Polanyi’s meeting with Tillich is a meeting about the hegemony of the mistaken understanding of science as strictly detached and impersonal knowledge affecting the vitality and relevance of the Christian faith.*

Polanyi since his beginning years as a medical doctor on the way toward doing physical chemistry with brilliance is searching for his beliefs on liberal social, political, and economic reform and a basis of hope for humanity after World War I. Paul Tillich, only five years older than Polanyi, shares with him both the political and economic turbulence of post-World War I Germany and Europe and later the rise of totalitarian states in Germany and the Soviet Union. Each follows the deep furrows of their family background. Tillich creatively develops his theology of culture out of his Lutheran background and university philosophical and theological studies. Polanyi moves from the liberal political and religious background of his Jewish heritage to seeing Christianity as having given to the world the ethics of the prophets and Jesus. He sees in Christianity an ethical basis for human cooperation, and questions the rightness and value of a separate Jewish state in Palestine.⁸ In 1917, Polanyi’s spiritual quest appears in his paper entitled “To the Peacemakers.”⁹ Later in 1944, he describes “The Peacemakers” to Karl Mannheim as “an attack on the materialist conception of history.”¹⁰ Polanyi sees the peacemakers in Stockholm as dealing with the distribution of territories but missing the central problem that competing sovereign states are the causes of the war. He sees that the underlying assumptions of nationalism function as a quasi-religion. As a better alternative, Polanyi calls for the formation of “a supranational community in which the rights of sovereignty are to take second place to international cooperation toward a new age of wealth and well being.”¹¹

Also during the First World War, Polanyi belongs to a circle with George Lukacs, Bela Balzacs, Karl Mannheim and others that reads Kierkegaard and Dostoyevsky, and at different times later in his life Polanyi speaks of the influence of Tolstoy and Dostoyevsky on his faith. Besides these literary influences in such intellectual circles, there is a mixture of political proposals for social reform that goes from individual initiatives to government planning. So his deeper involvement with Christian faith is a gradual aligning of himself with intellectuals who are trying to establish grounds for believing in and following transcendent ideals of the human spirit and civilization.

When Polanyi is negotiating with the University of Manchester to move to a new position in physical chemistry, with larger and better facilities than Polanyi would have had if he remained at The Kaiser Wilhelm Institute in Berlin, it is Sir Walter Moberly, vice-chancellor of Manchester University, who finally gets Polanyi to leave. Not incidentally, Moberly is a leading and senior figure in the Student Christian Movement in Britain and wrote *The Crisis in the University* that became an international manifesto on the importance of a university education that involves study and understanding of religion, particularly Christian, in the modern university.¹² In Polanyi’s quest he joins Christian thinkers in England in The Christian Frontier Council and in The Moot, both led by Joseph Oldham, one time head of the International Missionary Council and a founding leader of the World Council of Churches. The Moot particularly becomes a major connection with Christian theologians and supports

his belief in the reality of spiritual ideals. In this way, Polanyi's thought increasingly indwells a Christian view of history and hope, and he begins writing and thinking in terms of faith and reason, the predicament of human finitude, and the Pauline paradigm of grace and faith.¹³

Earlier in 1917 applying for a position in physical chemistry in Munich, Polanyi tries to make his best case as a Hungarian and includes a statement that as to religion he is formerly a Jew and presently without a church affiliation and would be willing to join any Christian denomination that his superior might suggest.¹⁴ Two years later, Polanyi moving to Karlsruhe in Germany becomes a citizen and is baptized a Roman Catholic. Then in 1921, he marries Magda Kemeny, a Hungarian Roman Catholic from Budapest whom he meets in Karlsruhe. So Polanyi's Christian allegiance seems to be both practical and theological. Practical in the sense that Christian identity opens opportunities in the face of growing anti-Semitism. Theological in the sense that Polanyi's deepest longings for the spiritual, political, and economic renewal of Europe seem to lie in a Christian image of humanity called out of its fallen nature to achieve greatness and good in spite of the difficulties.

In February of 1963 when this important dialogue occurs at the Earl Lectures of the Pacific School of Religion, I was working with Polanyi at The Center for Advanced Studies in the Behavioral Sciences at Stanford as the beginning of my doctoral research on his epistemology and its implications for Christian theology.¹⁵ In the fall of that year, Polanyi gave The Terry Lectures at Yale. As part of my working with Polanyi, I proofread the lectures before they were given. These lectures were the first draft of what becomes Polanyi's summary of his main epistemological thesis and leads to his incisive book, *The Tacit Dimension*.¹⁶ Coincidentally, The Terry Lectures is the same platform where Tillich delivered earlier his most famous book, *The Courage to Be*.¹⁷

Using Tillich's mode of conceptualization, I am claiming that Polanyi has "an ultimate concern" about the understanding and articulation of religious faith, particularly the western heritage of Christian faith, in a world dominated by scientism. Polanyi is forty miles away from UC Berkeley at Stanford. He is approaching his 72nd birthday in 18 days. His books *Science, Faith and Society*, *Personal Knowledge*, and his work on the *Tacit Dimension* all state his concern to restore the capacity of humanity to have faith in the ideals of our religious heritage.¹⁸ Polanyi's concern is no mere curiosity about hearing Tillich. His attendance at the lectures is not for lack of things to do in the San Francisco Bay area. He has heard Tillich, read, used, and very well understood parts of Tillich's writing, particularly volume one of *Systematic Theology* and *Dynamics of Faith*.¹⁹ It is because of Polanyi's knowledge of and interest in Tillich's thought, that I tell him that Tillich will be giving the Earl Lectures. Polanyi asks if he would be able to meet with Tillich. It so happens that the faculty chair for the Earl Lectures that year is my doctoral advisor, Charles McCoy. Arrangements are made by having McCoy come to the Center for Advanced Studies at Stanford and lunch with Polanyi and Robert McAfee Brown of the Stanford University Religion Department. Polanyi's purpose in talking with Tillich is about the critical issue of how to understand the role of faith both within science and religion, particularly the Christian religion. Polanyi's visit to hear Tillich lecture and to talk with him is very deliberate, intentional and significant in understanding Polanyi's religious outlook. Polanyi sees in Tillich a theologian akin to his own programmatic work of trying to purge science of a dogmatism that cuts off science from its own intrinsic nature and its relation to a wider realm of moral and spiritual guidance.

So Polanyi comes to Berkeley by bus, which takes about an hour and a half by the time he gets to the University and the neighboring First Congregational Church - United Church of Christ. After hearing the lecture, he meets privately with Tillich at the Claremont Hotel where Tillich is staying. Still later that evening, Polanyi stays with his former post-doctoral student in physical chemistry, Melvin Calvin who is a Nobel Laureate in physical

chemistry doing research at the University of California. About five days later Polanyi shares with me a short account of the meeting, “Notes from a conversation with Paul Tillich on February 21, 1963.”²⁰ Two months later after this meeting with Tillich, Polanyi gives an address at Pacific School of Religion focusing his concerns in the conversation with Tillich following the Earl Lectures. The title of the address, “Science and Religion: Separate Dimensions or Common Ground?” denotes his great concern with Tillich’s thought.²¹ In the address, Polanyi shows his own connection with Christian faith. Polanyi claims that for scientists to have a reasonable view of the universe they must have “a theory of knowledge which accepts indwelling as the proper way for discovering and possessing the knowledge of comprehensive entities.”²² Comprehensive entities, we will soon see have a connection with Tillich’s ontology. But for the moment, we need to notice the relevance that Polanyi asserts here when he goes on to say: “I believe also that this may open up a cosmic vision which will harmonize with some basic teachings of Christianity.”²³ At stake for Polanyi in the dialogue with Tillich is helping Tillich to see that religion, of which Christian faith is the example, is tied to the scientist’s being able to make discoveries about reality. Both science and religion for Polanyi have their depth or significance by their bearing on truth about reality. This relation of knowledge and ontology is one of the most basic questions Tillich and Polanyi could discuss which will lead to my second proposition.

On Comparing Tillich’s and Polanyi’s Ontology

Scholars of the work of Paul Tillich will find in Tillich’s paper in the Horkheimer festschrift much that is familiar.²⁴ I think that one reason why he may have recommended it to Polanyi that night is that it very concisely summarizes his basic thoughts on epistemology and ontology without Polanyi having to search through his systematic theology. As we will see, Tillich discusses the structure of knowing in terms of the basic polarities of self and world that he did in his systematic theology. In this way, Tillich goes much further in his analysis of being than Polanyi does in organizing as a philosopher and theologian the categories necessary for analyzing being. Polanyi confines himself mainly to the bearing of knowledge of the truth on reality, the issue that for Polanyi is at stake in the freedom of humans to be creative, to have a progressive and socially constructive society. For both Tillich and Polanyi the ontological issue in the status of knowledge reflects their European experience of totalitarian ideologies. How can we, in a world of supposedly increasing knowledge, become so destructive, and what can we do to deal with it?

For people fresh to or unacquainted with Polanyi, you meet in him not an academic philosopher whose tools come mainly from the history of philosophy, though Polanyi as a European educated in an elite and experimental *gymnasium* in Budapest and raised in a very cosmopolitan, literate and *au courant* family, was prepared to move easily in his life to tackling major theoretical problems in physical chemistry, economics, government planning, and theory of knowledge. This breadth of background makes him, like Tillich, a person who reads his world with great scope and in his generalizing and ranging interests addresses basic issues for human life today.

When Polanyi takes on the problem of the relation of knowing to the truth about reality, he is not an instructor about ontology as Tillich is. One of the helpful aspects of Tillich’s work is that he is an instructor not only on the frontier issues of our time, but he is also a guide to the history of western thought. As you read him, you get an education in both the history of thought as well as its relevance to the present. Polanyi plunges into his problem of theory of knowledge assuming a lot of background in science, philosophy, humanities, and political and economic history. *Therefore, my second proposition is that Tillich and Polanyi compare well on the basic issue of the ontological relation of the knower to the known but they do so as philosopher-theologian and*

scientist-philosopher. This difference and likeness makes them able to connect with each other and to offer help to each other. It also helps their work to reach further in the science and religion dialogue.

There are two more features in comparing their ontologies that I notice. One is the constancy of the dualities of the polarity of self-world in Tillich and the from-to structure of knowing in Polanyi. Here is a point of common agreement between Tillich and Polanyi though formulated in very different idioms. We will see this feature as we proceed.

The other feature, already suggested by their difference in background, is that Polanyi besides indicating that his theory of knowledge leads to an “ontology of commitment” also develops another linguistic denotation for ontology in his use of the words “comprehensive entities.”²⁵ These two denotations, “ontology of commitment” and “comprehensive entities” point to extensive areas where Polanyi’s work may complement our traditional use of ontology in philosophy. By “ontology of commitment” Polanyi means accepting as our human condition that we are “called,” or “thrown into being” in Heideggerian terms, to rely upon standards of our self and cultural heritage to exercise responsible judgment with universal intent. Packaged in this language Polanyi is speaking to our need to serve the truth as we can find it in a changing world with immense potential and hazard.

For the person looking for familiar ontological locutions in Polanyi, you might not immediately notice them. Nevertheless, his discussion of epistemology is a discussion of how we know aspects of reality through everything - the humanities, the sciences, and the arts. Because Polanyi finds knowing to be an activity of the self, all received knowledge including skills - practices - concepts - records, traditions, models, etc., are known only by the action of the self in the world. For this reason, he turned to a verbal formulation that describes *knowledge in active terms as knowing*. This point is fundamental to Polanyi’s outlook. What is knowing? For Polanyi it is the action of the self engaging the world and relying upon the flood of clues coming into our self and shaping them into meaningful patterns. He got his suggestion for this approach from Gestalt psychology, but he radically changed its implications by giving credit to the individual self for reaching out, receiving, and integrating the flood of clues into patterns. The nature of this view is that it talks about reality through the process of “comprehension.” To comprehend is rooted in the Latin *com* for “with” and *prehendere* “to grasp.” When Polanyi talks about what we know about aspects of reality, he also often uses the term “comprehensive entities.” As Phil Mullins has recently shown, comprehensive entities is a formulation that allows Polanyi to give credit to the rich variety and unfolding character of reality.²⁶ In short, Polanyi talks less about *ontos* or being and more about comprehensive entities. I think this change in language, along with Polanyi’s more scientific examples, may be one of the ways that the ontological issues in the science and religion dialogue could be promoted. With these suggestions on making comparisons, we now turn to the missing link, the Horkheimer paper, in the attempt of Tillich to share with Polanyi his theory of knowledge which gives Tillichians and Polanyians the opportunity to decide more intelligently on their relationship.

Tillich’s Horkheimer Festschrift Paper

Responding to Polanyi during their conversation, Tillich tells him that in a paper he gave years ago on an ontology of cognition, he tried to make a point similar to Polanyi’s idea of personal knowledge, but Ernest Nagel and others in philosophy of science would have nothing to do with it. Due to confusion on where the paper was published, it only recently was found in English but in a German periodical. When we examine Tillich’s paper

it does seem that Tillich had reached a point in his analysis of the subject-object polarity of all knowing that is similar to Polanyi on the structure of knowing and the fundamental role of the person in it. Tillich's position is also one that would challenge Nagel's analytic philosophy of science. *Therefore my third principal proposition is that Tillich's epistemology is like Polanyi's concern to show that for ontological reasons all knowledge including science is a personal achievement and intellectual commitment.*

In Tillich's paper, the personal participation of the knower in attaining knowledge is emphatic. He demonstrates it in several ways: 1) the polarity of subject and object seen in the very act of asking about being, 2) the polarity of the individualized self and its taking part in that about which it asks, and 3) the relation of cognitive attitudes to levels of being. The levels of being in Tillich's paper are also threefold: First, inanimate matter or things that relate to each other by replacing or resisting each other. This category suggests physical and chemical reactions of compounding and dissolving. Second, animate matter which produces each other or inheres in each other substantially. This category suggests biological processes of evolution and inheritance. Third, conscious matter which relates to other matter by encounter. This category suggests the meeting of beings who are aware of each other. These three classes of 'beings' roughly parallel the stratification of reality in Teilhard and in Polanyi. Further, a conjunction of Tillich's with Polanyi's thought appears here when Tillich points out that the coming together in cognitive encounter is joint participation in a common situation.²⁷ This point puts Tillich closer to Polanyi's concern for the common ground of both science and of religion. One of the grand problems between science and religion is the debate over whether their knowing allows for common ground. We also see in Tillich's terms of separation and of participation in the cognitive act a similarity to Polanyi's "from-to" structure in knowing, as seen in Polanyi's terms of the "proximal" and "distal" poles of knowing.²⁸ If a Polanyian like myself is trying to share with someone else Polanyi's formulation of knowing, Tillich's discussion of the subject and object polarity of individualization and participation and the levels of being also shows very quickly and cogently why knowing cannot be detached. Though there are differences, Tillich's paper sets out very clearly and briefly why any knowing without participation is fundamentally or ontologically mistaken.

Having done the structural analysis of knowing and as a polarity, Tillich goes directly to the critical issue in the debate about participation, detachment and controlling knowledge. Here his attention turns to what degree the knower participates in what is known. Tillich finds the degree of participation is on a scale between "controlling knowledge" and "existential knowledge."²⁹ In both poles of knowledge, controlling and existential, there is an element of separation and of participation. Speaking of scientific knowing, Tillich finds participation at two points. First, participation is in the categorical structure of knowing as a polarity. But second, participation is in the very nature of the scientific process of discovery. Tillich's words on discovery sound almost like Polanyi's descriptions of a scientist's disciplined yet passionate attraction to the pursuit of truth as he approaches a discovery. Tillich says about the give and take of scientific work: "It is the desire to participate in that which is real and which by its reality, exerts an infinite attraction on that being who is able to encounter reality as reality. Participation in that which has the power of being the really Real gives fulfillment to him who participates in it."³⁰ So while there may be a difference between controlling knowledge and existential knowledge or "saving knowledge," Tillich finds a very strong element of participation in the scientific pole as well as the existential one. This denies a strict impersonal detachment in any form of knowing.

Now from this basic paralleling of Tillich with Polanyi I want to name quickly some other similar points in support of my third proposition about their similarity. Both Tillich and Polanyi agree that knowing changes with different forms of encounter.³¹ One of the problems of empiricism is that it can never find the structural presuppositions of experience because it lacks the ontological understanding of the polarity of self and world.³²

In other words, empiricism alone reduces experience without including the subject-self that is a part of the experience. This weakness, Tillich comments, led to the development of phenomenology that helped to regain the subject-object distinction and the subject as important to understanding cognition. Then Tillich makes a statement about cognitive encounter that drives home Polanyi's "personal knowledge." Tillich says: "In this respect, participation seems to be absolutely predominant over separation. The subject is a part of the process in which it not only encounters the object, but also encounters its own encountering."³³

Tillich then goes on to notice how disturbing this participation is to the idea of detached verification because it seems too subjective and undermines independent judgment. The fear of subjectivity leads Tillich to one of the key points in Polanyi's discussion with him, the relation of participation of the cognizing subject to the object of knowing by "controlling knowledge." Tillich says that even at the scientific pole there is a major element of participation. Because the role of the subject is often omitted in scientific description, Polanyi thinks scientific accounts of the emergence of life have the oddity that they do not include the emergence of a person who develops theories that there is evolutionary emergence.

Despite the richness of Tillich's discussion of an ontology of cognition, I must go on to see their similar standing regarding religion as brought out in Tillich's discussion of knowledge and commitment in his Horkheimer Festschrift paper. Tillich again shows that knowing is a participation and in the history of religion knowing has had the meanings of mystical union, sexual intercourse, and knowledge that is not *episteme*.³⁴ So religious knowledge, though deeply involving remains knowledge. Tillich says: "It is not qualitatively different from knowledge in all other realms..."³⁵ The problem is when we make controlling knowledge "by a kind of methodological imperialism" the standard for all knowledge. Then, existential knowledge and cognitive commitment become meaningless concepts. What Tillich means by existential knowledge and cognitive commitment is crucial to Polanyi's criticism, and we will turn to that next. So far we have seen that Tillich in this paper has a strong sense of participation of the knower in all knowledge and that he sees well the mistakes of science or "controlling knowledge" thinking that it is detached and the only valid form of knowledge.

When it comes to religious knowledge, Tillich calls it "existential knowledge," "saving knowledge," and "cognitive commitment."³⁶ Here Tillich becomes very theological by seeing primary religious knowledge going beyond the subject-object polarity that he has been using.³⁷ In religious knowledge, Tillich saves the deity or otherness of God as God or the ultimacy of the ground of being by showing that the object of religious knowledge cannot be the same as an object in the subject-object polarity of things or beings in the world or it would make God into an object as in conventional theism. So how can this be possible? Tillich says that because: "...knowledge is an 'ontic relation' ...it is subject to the categories of being, above all to time. It is the time difference between the moment of uniting participation and separating observation which makes religious, and - in some degree - all knowledge possible."³⁸ What I understand this statement to mean is that in the moment of religious encounter, there is a union or ecstasy that goes beyond the polarity of subject and object. Religious knowledge is not a remembered moment, but a moment of what Tillich elsewhere called the "eternal now." What we are doing here in discussion is cognitive encounter with poles of participation and of separation, and Tillich seems to say here concerning knowledge and commitment that in the immediacy of religious experience the person is so grasped that the polarity is temporarily suspended.

By now, it ought to be agreed that despite Polanyi's coming to Tillich with concern about differences between Polanyi's asserting that Tillich has separated science and religion too much, there is basically a significant compatibility. Dealing with knowledge, Tillich has a "scale" of difference of participation of the knower in the known between his "controlling knowledge" for science and his religious knowledge. Also, neither one

tries to place them at completely opposite poles or to equate completely scientific with religious knowledge. Polanyi in later years formulates in his and Harry Prosch's book *Meaning* his view of science as "self-centered" integrations of clues about nature. "Self-centered" integrations refers not to a moral condition of selfishness but to the locus and the intrinsic interest of our clues as we seek meaning.³⁹ In science, the meaning is focused as away in some feature of nature and the clues about it are very much subsidiarily indwelled, of less intrinsic interest, and centered in the self. The scientist is not as interested in the clues in themselves as they impact on her body but in their joint meaning that lies in their integrated appearance. Polanyi's typical example is the recognition of a physiognomy in which the various clues that impact our neurosensory system such as color, shape, and texture are centered in the self and the meaning of them is in the gestalt of the physiognomy that is at the focal pole of knowing. In religion and works of art, the way clues that give meaning is contrasting to scientific knowing in that they are "self-giving" in the way the self surrenders to them for meaning. Symbolization through stories, rituals, memories within us "carry us away."⁴⁰ Instead of being focused on them as away, they are focused as moving us within as persons. As Polanyi indicates, it is not the bread on the altar, the light of the candles, the familiar sounds, all of which could be measured, but the joint meaning of these within us that is of intrinsic interest and move us deeply. Now ask in Polanyian terms "What is the meaning of what Tillich calls 'cognitive commitment'?" Is it not also like Polanyi's "being carried away" as Tillich suggests in his description of being grasped so that the whole person is lifted beyond the polarities of objectivity and subjectivity? Or ask in Tillichian terms "What is the meaning of what Polanyi calls being 'carried away'?" Is it not also like having "ultimate concern"?

The Creative Tension Between Tillich and Polanyi

When we compare Tillich and Polanyi on scientific and religious knowledge, the basic formulations seem similar though built on different frameworks. Tillich works with philosophical terminology and Polanyi works with terms from Gestalt psychology. Tillich's arguments appeal from the force of philosophical argument about human experience. Polanyi's argument appeals from repeated empirical examples in science and then continuing their application to works of art, myth, and religion. When one looks at the combination of these two modes of discourse, it shows there may be two mutually supporting approaches to one common problem that could be combined for the sake of a greater goal, the relevance of religious faith and particularly the Christian faith out of which background Tillich and Polanyi formulate their proposals.

But having found this much similarity in Tillich and Polanyi, what are we to make of Polanyi's claims that Tillich has placed science and religion in separate dimensions instead of on common ground?⁴¹ Are the differences between Tillich and Polanyi substantial? One part of the answer seems to be what part of Tillich Polanyi is emphasizing. Polanyi refers to volume one of *The Systematic Theology* and *Dynamics of Faith* in his address on "Science and Religion, Separate Dimension or Common Ground." Polanyi does state that he is much more in accord with Tillich's other statement in *The Systematic Theology* where Tillich says there is an element of union and of detachment in every form of knowledge.⁴² The objection in Polanyi's address, however, is against what Tillich says in *Dynamics of Faith* where Tillich does say:

If tomorrow scientific progress reduced the sphere of uncertainty, faith would have to continue its retreat - an undignified and unnecessary procedure, for scientific truth and the truth of faith do not belong to the same dimension of meaning. Science has no right and no power to interfere with faith and faith has no power to interfere with science. One dimension of meaning is not able to interfere with another dimension.⁴³

It seems that there are two different domains, one for science and one for religion, in this statement, yet I find that with care for what Tillich and Polanyi are saying over all it is not as oppositional as it seems. In fact, I think Polanyi's own theory of knowledge as well as Tillich's supports both. Further, they both need each others' comments in order to deal with a common problem, the hegemony of the scientific model of detached objective knowledge.

Taking Tillich first, there is clearly a distinction between scientific knowledge and religious knowledge. In this passage just quoted, Tillich uses the word "faith" as a term for religion as ultimate concern, but I am going to use "religion" to keep the domains of knowledge clearer and to allow for a later comment on the presence of faith in all knowing. Immediately, we know from comparing Tillich and Polanyi that they are similar on the knower participating in all types of knowledge. We also know that they both distinguish scientific and religious knowledge with their own distinctive terminologies and theories. In Tillich there is science as controlling knowledge and in Polanyi there is science as self-centered integrations. In Tillich there is religious knowledge as cognitive commitment and in Polanyi there is religion as self-giving integrations.

There is also similarity in Tillich and in Polanyi in seeing that one of the major challenges to religious faith is the way in Tillich's words the standard of controlling knowledge in science imperializes and becomes the pattern for all knowledge thereby making saving knowledge meaningless. Even so, I think Polanyi is trying to go further in this criticism about the imperialism of science than Tillich does. Tillich in his criticism of contemporary culture is certainly alert to and deeply critical of the hegemony of the scientific outlook and is insightful in analyzing it as horizontally going ahead endlessly in space and time, controlling reality and nature, quantifying and managing everything as numbers, and converting reason from a principle of knowing to a method of control.⁴⁴ The reason I say that Polanyi goes further is that his analysis of the reign of scientific objectivistic knowing takes a deeper account of this impact on our culture than Tillich does. *Therefore, my fourth proposition is that Polanyi's analysis of the bearing of the model of strictly detached scientific knowledge upon our society is significantly more comprehensive than Tillich's analysis is.*

When Tillich tells Polanyi about his paper on "Participation and Knowledge" and says that Ernest Nagel would have none of it, it discourages Tillich from pursuing the issue further as a battle that needs to be waged. Tillich did what recent and contemporary theology has mainly done in facing the challenge of the model of objective detached knowing. He disagreed with it, made his case, and continued his teaching within the circle of theology. The problem with this approach is that it means despite Tillich's greatness as a theologian of culture and correlates Christian faith with contemporary culture, his criticism leaves the culture of science as the reigning standard of knowledge. Polanyi is much more aggressive. In 1959, four years before the Tillich and Polanyi dialogue, Polanyi attacked C. P. Snow's book *The Two Cultures* for mistaking the gap between science and the humanities as the key to our problems today⁴⁵ Snow's thesis is that our culture suffers because of a separation of science and of the humanities, and the world suffers because the humanists know so little about the principles of science. In contradiction, Polanyi argues that a major part of the predicament of our world comes from the dominance of science over all thought. Improvement of science education for humanists would do little, Polanyi argues, to help the world. A keen statement of Polanyi's shows the force of his argument:

...the principles of scientific rationalism are strictly speaking nonsensical. No human mind can function without accepting authority, custom, and tradition: it must rely on them for the mere use of a language. Empirical induction, strictly applied, can yield no knowledge at all, and the

mechanistic explanation of the universe is a meaningless ideal. Not so much because of the much invoked Principle of Indeterminacy, which is irrelevant, but because the prediction of all atomic positions in the universe would not answer any question of interest to a n y - body. And as to the naturalistic explanation of morality, it must ignore, and so by implication deny, the very existence of human responsibility. It too is absurd!⁴⁶

The problem of our culture and the need for our capacity to believe in truth greater than what can be known in science and to which metaphor, art, myth, and religious knowledge point us is why Polanyi is concerned with Tillich's statements in *Dynamics of Faith* about separate dimensions for science and religion. Separate domains allows science to escape facing that its impersonal theory of knowledge is mistaken and it misleads the world into thinking that our greatest knowledge is based on what can be verified by the ideal of strict detachment.

This issue is connected with a basic issue in the science and religion dialogue, the pursuit of truth. Polanyi agrees with Tillich's point that there is a difference between "observing a fact and speaking of a symbol ...and... that in consequence the meaning of similarly worded statements may lie in dimensions which bypass each other."⁴⁷ Later in 1975 in his and Prosch's book *Meaning*, Polanyi illustrates such differences as in praying "Our Father who are in heaven" but believing nothing literal about where God is or God's identity as a super parent. Tillich's contribution to helping to expose the confusion of a literal rendering of religious symbols and language is, to Polanyi, one of Tillich's great contributions. It is certainly one of the major barriers to an intelligent science and religion dialogue. Polanyi, however, thinks the issue of truth in science and religion cannot be adequately helped by separating them from common ground.

Polanyi's argument is extensive on this point and finally circular, as he admits. Here I want to state it only briefly that for Polanyi truth is the external pole of belief with universal intent.⁴⁸ Beliefs are made up out of our experience and out of a rich background of living in a world. Beliefs are our way of bodily indwelling the world and making sense out of it. Under the hegemony of the ideal of detached objective knowledge, science has made non-sense out of the levels of the world by limiting truth to the materialist explanations of physics and chemistry and leaving out a host of non-material coefficients supporting belief in both science and religion. These coefficients include the skills and arts of knowing and the general authority of science as a community in evaluating and articulating science.

Nevertheless, science itself has produced the understanding of the panorama of evolutionary biology and the emergence of human life with the capacity to make moral judgments. Humans are called by this vast evolutionary development described by science to accept the responsibility of seeking the truth and stating their findings. But science as defined by an ideal of strict detachment or controlling knowledge has no basis for upholding scientific rationality, morality or religious standards to guide us. The crisis faced by Immanuel Kant and a host of others about how to uphold science, morality and hope for human purpose in the face of the modern scientific revolution remains. Dismissal of all beliefs that may be doubted until confirmed by scientific standards of strict detachment remains a challenge of our time. In short, the bearing of truth on the nature of science, moral problems and the meaning of human destiny of our planet shows the need for a comprehensive theory of knowledge that not only criticizes but replaces this mistaken ideal of strict detachment. This accomplishment is the one that Polanyi proposes to do through his theory of personal knowledge based on tacit knowing.

In this connection, it ought also to be observed that the meaning of the polymath life of Polanyi is missed if one does not discern in it a man driven to leave one field for another, from medicine to physical chemistry to

economics and social thought and finally to philosophy. Polanyi's abilities as a polymath are dazzling. More significant is his drive for meaning for the sake of humanity that led him from one field to another. His example asks us to take risks in order to know the truth.

Before concluding, there is one more creative tension between Tillich and Polanyi. In Tillich there is a greater sense of distance between the knowing subject and its object. Tillich having denoted the openness to encounter and participation in cognition goes on to speak about cognition necessarily having "separation, self-containment, and detachment."⁴⁹ This formulation contrasts with Polanyi's more integrative epistemological conception in which the object of knowing is comprehended as focally at a distance while in actuality it is also tacitly internal.⁵⁰ Polanyi explains the sense of distance by the way we indwell the internal clues of perception in our tacit knowing. In Polanyi's model of knowing there is the profound sense that when we look at the stars, they are both within us subsidiarily in the impacts of their light on our neurosensory system as well as the distant twinkle in the sky that is our focus. While this difference between Tillich and Polanyi may seem minor, it could be significant in a way pointed out by Marjorie Grene and Phil Mullins. What they both see in Polanyi that is missing in Heidegger is a sense of the biological world. Grene and Mullins claim that the Heideggerian turn away from the Cartesian view of consciousness is not radical enough because it does not stress embodiment enough. They turn to Polanyi's kinship with the thought of Merleau-Ponty as a more realistic account of lived being-in-a world.⁵¹ The thrust of this distinction leads in Polanyi toward a sense of reality that has an indeterminate and novel quality that cannot be categorized or contained. This more pluralistic nuance about reality in Polanyi than being in Heidegger's and Tillich's terms probably bears on the nature of discovery. While both Tillich and Polanyi share roots in phenomenology and existentialism, the issue about the hazard and risks of faith goes beyond the inherent dubiety in faith to the inherent openness of the cognitive object. So for Polanyi, one of his stakes in the discussion with Tillich is about how the scientist is seriously involved in intense risk in believing in the discovery of a new aspect of reality when it conceivably might be false. To Polanyi, scientific discovery would not occur if scientists did not commit themselves to the possibility that reality is surprising and revealing even while it is rational and intelligible. If that working attitude is lost in science, science becomes sterile and uncreative.

A Concluding Note

I began this paper with an emphasis on the Christian context of the meeting of Tillich and Polanyi. I hope that I have been able to show that both Tillich and Polanyi were aligned in the need to make religion and especially the Christian faith relevant to our time by attacking the problem of the detached ideal of knowledge. Because both Tillich and Polanyi dared to try to renew the depth and relevance of science and religion they have been doubted as true Christians. Both have been questioned for not being true theists since they reject the proposition that God exists and argue that God cannot be made into an object. Both have been questioned on whether or not they believed in the divinity of Christ for seeing Jesus under the limits and conditions of existence. In short, they are not conventionally orthodox. It seems to me that one has to take a word from each one on what their loyalties were about. In Tillich's terms, one is a Christian who receives the Christ event that brings the New Being into history. In Polanyi's terms, we are what we indwell and focus upon. For him, it is the task of how a civilization inspired by what he once called "a crucified God" can regain its ability to understand how to know and how to believe.⁵²

Endnotes

¹ There is a disagreement between Charles McCoy's date, Feb. 21, 1963 on this meeting with the date,

Feb. 20 on Paul Tillich's typed notes for his address to the University of California. Polanyi in his notes says, "Points from a conversation with Paul Tillich on Feb. 21, 1963. I was asked to discuss with him his University Lecture on 'Religion, Science, and Philosophy' and his second Earl Lecture on 'The Irrelevance and Relevance of Christianity' both delivered on that day." See *Tradition & Discovery*, XXII, No. 1, 1995-96, pp. 5,14.

² See Brown, Mackenzie D., *Ultimate Concern, Tillich in Dialogue*, New York, Harper & Row, 1965.

³ Scott, William T. and Moleski, Martin X., *Michael Polanyi, Scientist and Philosopher*, New York, Oxford University Press, 2005; Tyson, Ruel, "From Salon to Institute: Convivial Spaces in the Intellectual Life of Polanyi," *Tradition & Discovery*, XXXII, No. 3, pp.19-22; Polanyi, Michael, *Personal Knowledge*, Chicago, University of Chicago Press, 1958, Chapter 7, "Conviviality," pp. 203-248.

⁴ For the range of Polanyi's intellectual and spiritual outreach see John M. Cash, "Guide to the Papers of Michael Polanyi," *Tradition & Discovery*, XXIII, Number 1, 1996-97, pp. 5-47.

⁵ Personal correspondence, Oct. 4, 2007. Stackpole thought it was 8,000 but review of the seating at Harmon at that time suggests that it would have been more likely 6,000.

⁶ From 1963-66 while writing my dissertation, I knew Savio as campus minister for the Northern California Conference of the United Church of Christ at the University of California at Berkeley and with the United Ministries working with the students during the Free Speech Movement. I recorded Mario Savio on tape in the men's room of Sproul Hall during the student sit-in. Savio's tape was transcribed and first published in *Humanity, An Arena of Critique and Commitment*, No. 2, December, 1964, for which I worked under my doctoral advisor, Charles McCoy. Savio's article, "An End to History," is in Lipset, Martin Seymour and Wohlin, Sheldon S., (eds) *The Berkeley Student Revolt*, New York, Doubleday, 1965, pp. 216-219.

⁷ Typed copy, Richard Gelwick received 1963 either from Charles McCoy at Pacific School of Religion or Joann Nash, Westminster House at University of California at Berkeley.

⁸ Polanyi, Michael, "Jewish Problems," *The Political Quarterly*, XIV, January-March, 1943, pp. 33-45, and Knepper, Paul, "Polanyi, 'Jewish Problems' and Zionism," *Tradition & Discovery*, XXXII, Number 1, pp. 6-19.

⁹ Scott and Moleski, p. 45.

¹⁰ *Ibidem*.

¹¹ Scott and Moleski, p. 46.

¹² 1949, 1951, London, SCM Ltd. On p. 240 Moberly refers to Polanyi as follows: "That is the State is not morally free to mould the university to its will, nor is the university morally free to go its own way at its own pleasure. Their relation will only be healthy when both recognize a higher loyalty. Similarly Professor Michael Polanyi has pointed out that the basis of the intellectual conscience of the scholar or the scientist is his sense, in discovery, of making contact with a spiritual reality by which he is controlled. Professional tradition may be corrupt. But it is properly rooted in access to spiritual reality and in a consequent moral compulsion. *Hier stehe ich und kann nicht anders*. His claim to freedom is in the name of this, more fundamental, allegiance. He makes it not as a gifted or privileged, but as a dedicated person. The university must be free, as the Church must be free, to obey God rather than man." This theme remained constant in Polanyi's thought until the end of his life.

¹³ Another example of this underlying drive in Polanyi's philosophical work is seen in an address in England, "Can Science Bring Peace?" in *The Listener*, April 25, 1946, where Polanyi suggests that before religion can guide humanity again on a cultural scale there will have to be a reform in the public outlook that reduces human nature and morality to materialist levels.

¹⁴ Scott and Moleski, p. 47.

¹⁵ Completed 1965. *Michael Polanyi: Credere Aude, His Theory of Knowledge and Its Implications for Christian Theology*, University of Michigan Microfilms.

¹⁶ Garden City, New York, Doubleday and Company, 1966. University of Chicago Press, 2009.

¹⁷ New Haven, Yale University Press, 1952.

¹⁸ *Science, Faith and Society*, Chicago, University of Chicago Press, 1946. *Personal Knowledge*, Chicago, University of Chicago Press, 1958. University of Chicago Press, 2009.

¹⁹ Chicago, University of Chicago Press, 1951 and New York, Harper and Brothers, 1952. For Polanyi's discussion of Tillich's theology see *Personal Knowledge*, p. 283.

²⁰ For a copy of these "notes" and subsequent correspondence between Tillich and Polanyi see *Tradition & Discovery*, XXII, No. 1, 1995-96, pp. 14-18.

²¹ *Philosophy Today*, VII, Spring, 1963, pp.4-14

²² *Ibid.*, p.11.

²³ *Ibidem*.

²⁴ "Participation and Knowledge: Problems of an Ontology of Cognition," is in English in the Festschrift *Max Horkheimer zum 60 Geburtstag* published in *Sociologica*, pp. 201-9. hrsg. Adorno and Dirks, Frankfurt a.m., 1955, bound in *Frankfurter Beiträge zur Soziologie*, Bd. 1.

²⁵ On ontology of commitment see *Personal Knowledge*, pp. 379ff and on "comprehensive entities" see Phil Mullins, "Comprehension and the 'Comprehensive Entity': Polanyi's Theory of Tacit Knowing and Its Metaphysical Implications," *Tradition & Discovery*, XXXIII, No. 3, 2006-2007, pp. 26-43.

²⁶ Mullins, *op. cit.*

²⁷ "Participation and Knowledge: Problems of an Ontology of Cognition," pp. 202-203.

²⁸ *The Tacit Dimension*, pp. 10-11, *et passim*.

²⁹ "Participation and Knowledge: Problems of an Ontology of Cognition," pp. 204-205.

³⁰ *Ibidem*.

³¹ *Ibid.*, pp. 203-204 and Polanyi, *Meaning*, Chicago, University of Chicago Press, 1975. Chapter 4 *et passim*.

³² "Participation and Knowledge: Problems of an Ontology of Cognition," pp. 203-204.

³³ *Ibidem*.

³⁴ *Ibid.*, 207-209.

³⁵ *Ibidem*.

³⁶ *Ibid.* pp. 204-205, 207-209.

³⁷ I qualify Tillich's religious knowledge here with the word "primary" because it seems he means an experience about which reflection and discourse in theology occurs secondarily.

³⁸ *Ibid.*, 209.

³⁹ *Meaning*, pp. 74-75.

⁴⁰ *Meaning*, p. 180.

⁴¹ "Science and Religion: Separate Dimensions or Common Ground," *Philosophy Today*, VII, Spring, 1963, pp. 4-14.

⁴² *Ibid.*, Note 1, p. 14.

⁴³ Pp. 81-82.

⁴⁴ Tillich, Paul, *The Irrelevance and Relevance of the Christian Message*, ed. Durwood Foster, Cleveland, Pilgrim Press, 1996, pp. 23-41. This chapter, "The Nature of Present Day Thought and Its Strangeness to Traditional Christianity," is the second Earl Lecture that Polanyi heard that evening.

⁴⁵ Polanyi in "The Two Cultures," reprinted in Grene, Marjorie (ed.), *Knowing and Being*, Chicago, University of Chicago Press, 1959, pp. 40-46.

⁴⁶ *Ibid.*, pp. 41-42.

⁴⁷ "Science and Religion: Separate Dimensions or Common Ground," p. 4.

⁴⁸ *Personal Knowledge*, p. 284, *et passim*, and pp.308-312.

⁴⁹ “Participation and Knowledge: Problems of an Ontology of Cognition,” pp. 202-203.

⁵⁰ *The Tacit Dimension*, p. 11 *et passim*.

⁵¹ Mullins, p.36.

⁵² *Personal Knowledge*, p. 199.

Notes on Contributors

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Richard Gelwick is Professor Emeritus of Medical Ethics and Humanities of the University of New England and Adjunct Professor of Bangor Theological Seminary. Earlier, he chaired for twenty one years the Religion and Philosophy Department at Stephens College. When he met Michael Polanyi in 1962, Polanyi had just published his address on “Faith and Reason” given at the assembly of The World Student Christian Federation in Strasbourg. Gelwick approached Polanyi about doing his doctoral dissertation on Polanyi’s theory of knowledge and its implications for Christian theology. Polanyi invited him to work with him the following year at the Center For Advanced Studies in Behavioral Sciences at Stanford; Gelwick helped organized the 1963 meeting between Polanyi and Tillich when Tillich was giving the Earl Lectures at Pacific School of Religion. From t1962 on, Gelwick worked closely with Polanyi, prepared the first bibliography and microfilm of Polanyi’s social and philosophical papers, published *The Way of Discovery, An Introduction to the Thought of Michael Polanyi*, was the founding editor of *TAD* and served for many year as General Coordinator of the Polanyi Society.

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Michael and Paulus: A Dynamic Uncoordinated Duo

Durwood Foster

ABSTRACT Key words: Key terms, Polanyi, Tillich, their Berkeley dialogue of 1963, theology of culture, scientism, faith, belief, role of personal freedom in cognition, Gestalt epistemology, fundamentalism, objectivism. *Polanyi's and Tillich's unique dialogue of February 1963 is systematically exegeted, its provenance and aftermath traced and its disappointing but challenging outcome inventoried. Mutual lack of preparation flawed the Berkeley meeting along with Tillich's severe preoccupation. Polanyi had valued Tillich's basic theology but never delved into the latter's important conceptualization of science, wherein Polanyi's own concerns are significantly broached. Tillich had barely heard of Polanyi, while under the surface was wide disparity in the meaning of faith. Afterwards, having meaninglessly blandished, they ignored each other, though the late Tillich espoused freedom in faith in a way that would have opened him to Polanyi's help and the latter desiderated a panentheistic endorsement of human creativity as part of his Pauline envisagement of satisfying and open ended faith—which was just what Tillich became intent upon in the denouement of his system. Destined lovers who tragically fail to connect, they leave their respective societies with a truly proactive heritage, since the cultural crisis they combatted has if anything worsened.*

1. Polanyi and Tillich are congruent *and* divergent heroes in modernity's ongoing struggle for meaning, especially with a Christian twist. They are indeed a dynamic duo but never gelled as they might, which challenges us, the Tillich and Polanyi Societies, with unfinished business. Born five years apart, Tillich first in 1886, they share bourgeois middle Europe in harrowing transition from 19th Century progressivism through scientific upheaval, social convulsion, and Nazi barbarism, under threat of which the targeted Jew and the distrusted academic (first to meet decades later) emigrate to England and America. Both devote serious attention to socialism, but come to eschew Marx as well as Soviet oppression. In Eliot's postwar wasteland they join—philosopher-scientist and philosopher-theologian — the insurgency of humanist existentialism against objectivist scientism, as titanic new ethnic and global energies start to seethe. From early on, Tillich the Christian strikingly appreciates Judaism, while Polanyi the Jew receives baptism and saliently intones Christian faith (which may be the reason Jewish thought stays cool to him). In 1914 our duo enter the military of the Central Powers, as chaplain and medic respectively. Ailing, discharged early, they return to their research. Tillich, the burgeoning Berlin Privatdozent, startles his profession with the “Idea of a Theology of Culture,” 1919, just as Polanyi receives a PhD and emigrates from Hungary, a promising new hands-on talent in German physical chemistry. He corresponds with Einstein and will awaken thoughts of a Nobel, yet feels increasing pan-disciplinary duty to “Science and Society.” It becomes his transcendental “calling” to restore the humanity of knowledge and reinsure the significance of culture.

2. In 1923, Tillich publishes a system of all the Wissenschaften. Three years later his “Religious Situation” critiques every cultural domain as enthralled by “self-sufficient finitude” through which however the Transcendent is perceived to break anew. This book classically models theology of culture until (arguably) upstaged by a more provocative work, Polanyi's Gifford Lectures of 1951-52 (—i.e., “upstaged” substantively though Polanyi never appropriates Tillich's *idea* of such a theology). Tillich meanwhile mainly addresses church theology, the counterpart to that of culture. In the same year as Part One of *Personal Knowledge* (as lectures), there emerges Volume One of the *Systematics*. Each magnum opus, Tillich's *ST* and Polanyi's *PK*, aims to

overcome malignant loss of meaning in modern life. For Polanyi the problem's core is the ideal of impersonal detachment pervading science and epistemology, typified by Laplace in the 18th Century and Skinner now. There results from this ideal of positivist objectivism—which Polanyi rebuts as untenable—not only undermining of ethics and religion but also conceptual abolition of the free person and free society. Tillich's overlapping diagnosis of the human predicament (elaborately rethinking original sin) is much more complex but has come by 1951 to include a critique of that controlling knowledge which denies pervasive participation of the subject and reduces the human to manipulable objectivity. The stage is set for our duo to meet, and Richard Gelwick gets Charles McCoy to arrange this in Berkeley during Tillich's Earl Lectures of February, 1963.

3. To use Polanyian parlance, there are several documentary sources that crucially comprise the subsidiary matrix converging to the "Berkeley Dialogue" at the Claremont Hotel, which lasts about an hour and a half on the evening of February 21. [The hotel is not actually in Berkeley, but just over the Oakland line.] It seems pertinent to recall that in *Personal Knowledge* five years earlier, Polanyi had named Tillich his favored theologian [pp. 280, 283n.], citing from *Biblical Religion and the Search for Ultimate Reality* and *ST I* the coupling of doubt and faith and critique of fundamentalism. More recently, he was troubled in reading *Dynamics of Faith* [1958] by Tillich's separate dimensions strategy for avoiding conflict between science and faith. Hereto see Polanyi's article "Science and Religion: Separate Dimensions or Common Ground?" in *Philosophy Today*, VII, (Spring, 1963) 4-16, written right after the Berkeley encounter. Contrary to Tillich, Polanyi affirms (p. 4) his own belief that our knowledge of nature has a bearing on our religious beliefs; that, indeed, some aspects of nature offer us a common ground with religion. [Bob Russell, on our panel, will recall how such a belief later moved some of us in Berkeley to found under his lead the Center for Theology and the Natural Sciences.] Here indeed is one of the BIG issues between Polanyi and Tillich., but it was left very much unpacked on February 21. For what actually transpired that night between them, the most essential record is Richard Gelwick's 1995 article in *Tradition and Discovery* XXII, 1, which includes Polanyi's four and a half page summary of the conversation. Regretfully, there is no resume by Tillich, though some weeks later in two letters to Polanyi [included in Gelwick, op. cit.] he is pleased by how much they agree and notably with Polanyi's assertion that Tillich has fought for the purification of faith from religious dogmatism while Polanyi supplemented this by purifying truth from scientific dogmatism. Tillich adds that Polanyi has excellently shown the continuity between the different types of knowledge and then in the second letter identifies the essay to which he refers Polanyi in the conversation as "Participation and Knowledge: Problems of an Ontology of Cognition," his contribution to the festschrift, *Max Horkheimer zum 60. Geburtstag* published in *Sociologica*, pp. 201-9, hrsg. Adorno and Dirks, Frankfurt a.M., 1955, bound in *Frankfurter Beitrage zur Soziologie*, Bd. 1. [This essay was prior to the 2007 Polanyi Society annual meeting put on the website as the most axial subsidiary clue to the interface from Tillich's side.] With these sources I would further place the second of Tillich's Earl Lectures, "The Nature of Present Day Thought: Its Strangeness to Traditional Christianity" [available in the published lectures, *The Irrelevance and the Relevance of the Christian Message*, Pilgrim Press, 1996, pp. 23-41]. Polanyi heard Tillich deliver this lecture just prior to their conversation, but did not (I understand from Richard Gelwick) attend any other of Tillich's formal presentations that week—including the Wednesday afternoon lecture at UCB on "Science, Philosophy and Religion," which (from a remark attributed to him in Polanyi's summary) Tillich might be taken to assume Polanyi did hear. [I cannot, by the way, locate any extant text of this lecture.] Finally, as to salient documents bearing on the Claremont Hotel encounter, it seems pertinent to cite Tillich's statements in his letter to Polanyi of May 23, 1963 [Gelwick, op. cit.] that he first envisaged an epistemological hierarchy of involvement and detachment when he wrote *System der Wissenschaften* (1923) and that he has carried it through rather fully in the forthcoming third volume of the ST. This clearly implies that an assessment of where Tillich stood and came to stand vis-à-vis the Polanyian epistemological project calls for a close look also at both those works.

4. However, the first document of interest in our case to examine is doubtless Tillich's essay "Participation and Knowledge," regarding which he makes his most meaty intervention during the Berkeley conversation and then follows up in the second letter to Polanyi with bibliographic data and the promise of help if needed in finding the piece. The *Frankfurter Beiträge* were in fact hard to access, and I understand Polanyi never did get to read what Rob James calls Tillich's little gem of epistemology. [James' enthusiastic look at the essay in his *Tillich and World Religions*, (Mercer University Press, 2003), pp 55 ff., is very much worth consulting]. Ironically, Tillich could have given far simpler directions to the document. It was widely available (in a German translation of the original English) in Band VI of his *Gesammelte Werke*, 1961. Like Karl Barth, Paulus could not recall where to find all he had published! It is even more ironic, though, that the pith of what Tillich had to say epistemologically, so far as it bears on the Polanyi project of establishing personal participation in all cognitive domains, was already in *STI* when Polanyi consulted that volume, as he mentions in the *Philosophy Today* article referred to above. After citing there what he does not like in *Dynamics of Faith* (the separate dimensions strategy) Polanyi says the following in Footnote 1:

The present paper responds to this statement [from p. 81 of *DF*] and more directly to recent lectures [sic] at Berkeley in February, 1963. The following formulation that comes nearer my own position (to which my attention has been called) can be found in *Systematic Theology I* [which we recall was cited in *Personal Knowledge* as a favored theological source], p. 97: "The element of union and the element of detachment appear in different proportions in the different realms of knowledge. But there is no knowledge without the presence of both elements."

5. We find ourselves knee deep here in the question: How does Tillich's "Participation and Knowledge" of 1955 differ from the epistemology formulated in *STI*, 1951 (especially pp. 94-100, dealing with the cognitive function of existential reason)? One might presume there is variance, given the four year hiatus in publication—for Tillich's detailed conceptualization continuously mutated. But in this respect there is something that does not meet the eye, namely that Tillich's "PK" (not to be confused with Polanyi's!) originated precisely at the time *STI* was coming out. The impression given in Polanyi's summary of the Berkeley meeting (see Gelwick, op. cit.) that Tillich says he did the piece while still in Germany (i. e., before emigrating in 1933) is quite misleading; Tillich must have said something like "for a German publication." Peter John, to whose voluntary labors as emanuensis to Tillich (despite the latter's discouraging attitude) we are manifoldly indebted, has preserved a very early (and obviously not entire or ungarbled) version of the "PK" essay from its provenance in the spring of 1951. It seems in the late winter of that year it was Tillich's turn to give the paper for a club of philosophers who met monthly for dinner and discussion at Columbia University. Obviously, he drew from thematization in press for *STI* which would appear in May, no doubt using a compressed outline as was his wont. Soon thereafter (April 30) Peter John was among a group of students at a Tillich open house to whom Paulus presented a redaction of what he had shared with the group of philosophers, with their salient responses. True to form, Peter preserved a shorthand account showing many of the elements reformulated and polished a few years later for the Horkheimer festschrift.

6. While the the final version of Tillich's "PK" still largely coincides with *STI*, there is one new idea: a proposal in the third paragraph from the end as to how knowledge can include, besides the moment of separation, also the moment of union which transcends the subject-object structure. The key, he says, is temporal alternation.

It is the time difference between the moment of uniting participation and separating objectivation

which makes religious and—in some degree—all knowledge possible. This does not mean that a former participation is remembered and made an object of cognition. But it does mean that the moment is present in the cognitive moment and vice versa. Participation still persists in the moment of cognitive separation; the cognitive encounter includes moments of predominant participation, which I have called the perceptive moments, as well as moments of predominant separation, which I have called the cognitive moments. These alternate and establish in their totality a cognitive encounter. This is the situation in all realms, and it is the structure which makes religious knowledge possible. [*Main Works*, I, 389.]

Do we find anything like this elsewhere in Tillich? One has to think a moment, but then yes, we do, in *ST III*'s elucidation of the mystical element in a Protestant theology determined by faith.

The question which arises about faith and mysticism in Protestant theology is that of the compatibility and, even more, the interdependence of the two. They are compatible only if the one is an element of the other; two attitudes toward the ultimate could not exist beside each other if the one were not given with the other. This is the case in spite of all anti-mystical tendencies in Protestantism; there is no faith (but only belief) without the Spirit's grasping the personal center of him who is in the state of faith, and this is a mystical experience, an experience of the presence of the infinite within the finite. As an ecstatic experience, faith is mystical, although it does not produce mysticism as a religious type. The same is true from the other side. There is faith in mystical experience. [*ST III*, p. 242.]

Here Tillich desists from the "temporal alternation" floated in "PK." His thinking of "one within the other" suggests rather the "eschatological panentheism" affirmed at the very end of *ST III* (p. 423). However, temporal movement reappears when normative Protestant mysticism is described as "every serious prayer leading into contemplation" (*ST III*, p. 192). In contemplation, "the paradox of prayer is manifest, the identity and non-identity of him who prays and Him who is prayed to: God as Spirit" (ibid.). What is notable in the wrestling with these matters, in relation to Polanyi's epistemological project, is Tillich's evident awareness of a cognitive bifocality fusing—without being abolished—into a unity. One term is more participatory, the other more detached. At the much more primitive stage of "PK" preserved by Peter John [p. 3 of his transcription], Tillich gets into heated discussion with Prof. Hendel of Yale as to how cognition must participate in terms of the presence of sense impressions, otherwise we cannot have even controlling knowledge. I am sure Polanyi's ears would have pricked up at that! His tacit dimension theory compasses sensation far more thoroughly than does Tillich, but it is surprising how much the two of them, mutually unaware, fished in the same waters.

7. This pertains not only to cognition's sensory or "material" component but also to what Aristotle further taught Western philosophy to call the "formal" and the "final" aspects of any causative transaction. Note in Tillich's published "PK" what he dubs the "structural presuppositions of experience" [*Main Works*, p. 384]. "There is," he insists, despite the disputes over particular renditions of these—whether by Plato (the ideas), Kant (the categories), Husserl, Scheler, or whomever—"an irreducible though indefinite minimum" of such presuppositions in every cognitive encounter. They comprise a medium of inescapable participation of the subject in the object of knowledge and vice versa. Math and logic are of course in the front rank here, without which the "hardest" of the physical sciences would dissolve. Actually, from early on, Tillich is as aware of this as is Polanyi. We could certainly wish, at this precise apposition, that the latter would somehow have read the former's *System der Wissenschaften* of 1923! Beyond the "PK" text Peter John reports Tillich relating, at that

open house in 1951, that some of his philosophical acquaintances, apparently in the club that met monthly at Columbia, had urged him now to turn his creative powers, still at high tide, to a major work in epistemology. Having completed the arduous task of getting *ST I* into galley proofs, if he plowed on with the system he faced the controverted terrain of Christology and Pneumatology where he was less systematically *au courant*. Besides, he seems to have experienced a somewhat galling frustration in not having secured yet better underpinnings in the philosophy of cognition, where he once scintillated prodigiously. Hence the somber remark of Paulus remembered by Sarah Terrien: "I will be damned for my mystical theory of knowledge." Tillich asked the students in his home that evening, says Peter, after they heard the resume of "PK," what *they* thought he should do. It was a typical gesture of the theological giant. But the seminary middlers, of course, were way out beyond their depth. Providence decreed, if partly by default, that the *magnum opus* should be completed. Maybe it was, as some thought might be true of Barth's *Kirkliche Dogmatik*, that the Lord God could not bear to miss the denouement of such magisterial constructs. In Tillich's case at least here on earth most would rejoice that the ST got finished. Yet who can doubt who has read both Tillich and Polanyi that, in epistemology and the whole gamut of culture as well, something still profoundly needed could have commenced to flower had the one's immense gift for theophilosophical conceptualizing somehow melded with the other's prophetic genius in empirical scientific and cultural diagnostics. Suppose after that April evening Peter John was privy to, Paulus had tabled the ST and gone to Britain to hear Polanyi deliver the Gifford Lectures. Suppose Michael, settling in Berlin to do science at the Faber Institute in the '20s, had also walked blocks away to the Kant Gesellschaft and let his irrepressible mind ingest disparate yet dynamically pairable Tillichian stem cells? Dream on, ye fatuous! Or maybe get busy, for the need—*our* cultural crisis, darkened by deadly feud with fanaticism—is no less ominous.

8. But we've gotten ahead of ourselves. Because it is so important also to Polanyi, I want to bring out Tillich's emphatic recognition for *all* knowledge of the determining valuational Gestalt. In society as well as the individual or the research team, knowing is always established and sustained, expanded or corrected, within a contextualizing tradition. Meaning, devolving from ultimate valuation and commitment, shapes the whole matrix within which physics as much if not more than theology transpires. This is the zone of the Aristotelean "final" or teleological cause, which, as modernity unfolds, Francis Bacon and Galileo, unknowingly preparing for Laplace and Skinner, will bracket for untrammelled study of nature. Polanyi as physical chemist (*ipso facto* becoming philosopher too) blows here a shrill whistle and engages the now humongous phalanx of purposeless objectivism in no-holds-barred dissent. After much earlier lightning flashes, this begins to happen programmatically, I take it, by the time he writes the lectures for *Science, Faith and Society*, 1946. [Cf. Moleski/Scott, *Michael Polanyi*, 2005, pp. 200, 258, 100, 154, *passim*] It gains a grand if sprawling fruition, of course, in the Gifford Lectures, 1951-2. Tillich's contemporaneous *ST I*, wherein Polanyi found salient points of agreement, contains upfront the following pregnant passages.

In every assumedly scientific theology there is a point where individual experience, traditional valuation, and personal commitment must decide the issue.... If an inductive approach is employed, one must ask in what direction the writer looks for his material. And if the answer is that he looks in every direction and toward every experience, one must ask what characteristic of reality or experience is the empirical basis of his theology. Whatever the answer may be, an a priori of experience and valuation is implied. ... In both the empirical and metaphysical approaches, it can be observed that the a priori which directs the induction and the deduction is a type of mystical experience. Whether it is 'being-itself' (Scholastics) or the 'universal substance' (Spinoza), whether it is 'beyond subjectivity and objectivity' (James), or the 'identity of spirit and nature' (Schelling), whether it is 'universe' (Schleiermacher) or 'cosmic

whole' (Hocking), whether it is 'value creating process' (Whitehead) or 'progressive integration' (Wieman), whether it is 'absolute spirit' (Hegel) or 'cosmic person' (Brightman)—each of these concepts is based on an immediate experience of something ultimate in value and being of which one can become intuitively aware [pp. 8-9].

9. In these passages, Tillich is talking focally about religion and theology, but it is clear what he says intends to apply to cognition generally. He repeats this in the "PK" essay. When did he begin to think this way? Here let me cite from *System der Wissenschaften* thematization which is the obvious preformation of what was just quoted from ST I three decades later: "*Erkannt ist, was als notwendiges Glied einem Zusammenhang eingeordnet ist*" [Main Works, p. 115]. (Known is what is categorized as a necessary part of a context). The necessary *Zusammenhang*, if it too shall belong to knowledge, must finally fit into an all embracing system, and

"Die lebendige Kraft eines Systems ist sein Gehalt, sein schöpferisches Standpunkt, seine Urintuition. Jedes System lebt von dem Prinzip, auf das es gegründet und mit dem es erbaut ist. Jedes letzte Prinzip aber ist der Ausdruck einer letzten Wirklichkeitsschau, einer grundlegenden Lebenshaltung. So bricht durch das Formalsystem der Wissenschaften in jedem Augenblick ein Gehalt hindurch, der metaphysisch ist, d.h. der jenseits jeder einzelnen Form und aller Formen liegt, und darum nie nach Art einer falschen Metaphysik selbst eine Form neben anderen sein kann. Das Metaphysische ist der lebendige Kraft, der Sinn und das Blut des Systems [p. 118]. (The vital force of a system is its meaningful import, its creative standpoint, its primal intuition. Every system lives from the principle on which it is grounded and with which it is constructed. Every ultimate system however is the expression of an ultimate view of reality, a grounding attitude toward life. Thus in every moment there breaks through the formal system of the sciences a meaningful import that is metaphysical, i.e. that lies beyond every individual form and all forms, and therefore never can itself be in the manner of a false metaphysic a form alongside others. The metaphysical substance is the vital force, the meaning and blood of the system.).

By no means had Tillich always so envisaged the basic layout of knowledge. In this frenetically creative phase of his maturation, spurred by favorable attention from Ernst Troeltsch, conceptual breakthroughs were attaining warp speed. Only four years earlier, in the thunderclap that first gained him wide attention, he opened his lecture "On the Idea of a Theology of Culture" by *contrasting* the "empirical sciences" with the "systematic sciences of culture" in just the way Polanyi would later indict as nefariously deceptive. "*In der Erfahrungswissenschaften*" (In the sciences of experience), avers the opening sentence of that lecture, "*ist der Standpunkt etwas, das ueberwunden werden muss,*" (the standpoint is something which must be overcome) whereas, continues the next paragraph, "*in den systematischen Kulturwissenschaften gehoert der Standpunkt des Systematikers zur Sache selbst*" [Main Works 2, p. 70] (in the systematic sciences of culture ... the standpoint of the systematizer belongs to the matter itself). In other words, at this point Tillich was quite aware that *both* participation and detachment were integral to (what he later mainly calls) the *Geisteswissenschaften*, but he does not yet see what Polanyi would become particularly concerned to drive home, viz., that participation (or indwelling, or a matrix of personal/subjective presuppositions) is pervasively involved also in the natural (also dubbed empirical) sciences, including the so-called "hardest" of them. However, the text of *Das System der Wissenschaften* shows that Tillich just four years later had wised up—at least to some extent—to what was to be the Polanyian insight. This is further confirmed in Tillich's Marburg *Dogmatics* of 1925, which he sometimes spoke of as the ST's beginning. [Cf. *Dogmatik*, ed. W. Schuessler, pp. 100, 238, *passim*. "*Bei naeherem Zusehen ergibt sich... dass*

diese drei Gruppen (the mathematical, empirical, and geisteswissenschaftlich sciences) *gar nicht so radikal geschieden sind, dass jedes Element in jeder mehr oder weniger vertreten ist*" [p. 100] (On closer inspection it emerges ...that these three groups (xxxxx) are indeed not so radically separated and that every element is more or less represented in each). It is also fully reflected in *The Religious Situation's* overview of science [*Die religioese Lage der Gegenwart*, 1926, trans. 1930].

10. Polanyi's summary of the Berkeley dialogue shows *he* is emphatically unsatisfied with Tillich's attempt to envisage participation also in the natural sciences. [Cf. Gelwick's article referenced above.] But how well has he understood Tillich's attempt? I don't see how we can ever know, but *prima facie* he seems to misrepresent Tillich in the opening assertion that "The method of absolute detachment you [PT] ascribe to science in contrasting it with philosophy and religion is a method which scientists falsely ascribe to themselves." [If Gelwick is right that Polanyi did not attend the afternoon lecture at UCB on Science, Philosophy and Religion, then Tillich must have lent him the text before the dialogue commenced. I have already noted I cannot now discover anything about this text—even whether it existed; it seems if it had it would be in the Harvard archives]. But can we believe that at UCB that afternoon, before what was said to be the largest audience ever to crowd the gym, Tillich would have diverged drastically from what had been for decades his standing view? Well, he did in public presentations sometimes foreshorten his complex positions, and there are many oddities in what has come down to us about the whole affair. Why, for example, would Tillich parry Polanyi's opening thrust the way he does—i.e., by reminding that his lecture had also noted the wider responsibility of scientists for our shared world—if the lecture had more relevantly addressed Polanyi's pivotal concern. Polanyi's following intervention justifiably dismisses Tillich's riposte as irrelevantly adducing a "dual function" (the social responsibility of scientists). Of course, we must not forget we are enclosed here within Polanyi's notes; which hardly can accurately embody all Tillich said. The plain truth is we never can precisely know what went back and forth that evening between our dynamic duo, but it is incontestably about as uncoordinated as one can get.

11. It is disappointing that Tillich knows nothing about Polanyi. Further, it is hard to avoid concluding, in spite of epistolary courtesy, that he also failed to learn anything from the interface. Renate Albrecht had reason for not mentioning Polanyi among the many "Encounters" of Tillich she records in Volume XII of the *Gesammelte Werke* [*Begegnungen*, 1971]. The Paucks similarly did not regard anything that happened in Berkeley in 1963 as deserving notice in their account of Paulus's life [*Paul Tillich*, I, 1975]. *ST III*, when it appears the following summer, does show passages we might argue are tintured Polanyianly, except for knowing they were in press when our heroes met—and that, as seen, propitious Tillichian soil for them existed earlier. Tillich never did become privy to Polanyi's courageous and brilliant expeditions in the infrastructure of empirical science. He never grasped, or even confronted in its prime thrust, the theory spelled out in *The Tacit Dimension*. Nor could Tillich assimilate Polanyi's completely unintimidated attitude of bearding practitioners of science in their own den. He felt keenly his lack of credentials—which Polanyi had—to debunk scientific dogmatism at the laboratory level. Besides, Tillich, especially as he aged, was almost overly "nice," close sometimes to being unctious. Note him saying (in Polanyi's resume) that when philosophers like Nagel "would accept none" of the "PK" essay's inclusion of participation in every branch of knowledge, he "did not dare to pursue it further." Even though what he states here (i. e., what Polanyi says he states) is rather misleading, since he had long previously held and kept right on holding there is participation in all knowledge, the utterance is *attitudinally* true to Tillich. It resonates completely with his deference vis-à-vis Martin Buber, Hans Reichenbach and others when they visited Union during my student days there. [I think what Tillich must actually have said to Polanyi is illumined by Peter John's report from the open house (cf. supra). After the presentation of "PK" at UCB in early 1951, some friends of Tillich urged him to shelve the ST and undertake a major work in epistemology, but Ernest Nagel, who had

great prestige around NYC and certainly with Tillich, advised against it. Though a stringent positivist, Nagel fraternized genially with Rabbi Louis Finkelstein and others in the local theological community.]

12. How could Tillich be so nescient of Polanyi prior to the meeting? Was not this the Paulus justly famous since the twenties for an almost too watchful eye on contemporary culture, especially philosophy, with which to “correlate” his theological work? Yes, but it seems even would-be polymaths can overbook. For one thing, Tillich’s speed in English never matched what it was in German; he concentrated on learning to write. Meanwhile a spate of invitations had pulled from every direction since *Time*’s cover (ca. 1950) christened him “Mr. Theology.” But for the last years pressing anxiety to complete the system overhung everything, as his angina pectoris worsened. He *did* for that matter read valiantly—Heidegger, Whitehead, Hartshorne, recently Teilhard, even novels like *1984*, *de rigueur* scholarly papers for meetings and dissertations, always trying as well to scrawl a personal word on the term papers his assistants graded. On the other hand, for whatever reasons, at Union in the mid fifties Polanyi’s work was hardly known by anyone. Before I left in 53, the only sounding of his name I ever heard was by Aristotle expert Richard McKeon of Chicago. He had to spell it as he told Rabbi Finkelstein and his steering committee of the Conference on Science, Philosophy and Religion of this “Hungarian scientist now living in Britain” who argued Aristotle’s *pistis* (in the *Prior Analytics*) was a skeleton in the closet of modern natural science. Some at Union would have picked up on a possible relation to the *credo ut intelligam* of medieval Christian theology, but Tillich was not one of those. I don’t know when he may first have heard of Polanyi, but it was relatively late, after becoming preoccupied with *ST II* and *III* and all the folderol of moving to Harvard and then Chicago. Then, following the Berkeley dialogue, Tillich had but a short time to live. He returned to Chicago absorbed in his history of religions teamwork with Mircea Eliade, worried at East Hampton about glitches in the English text of *ST III* as he tried to oversee its German translation, kept frenetically responding to multifarious initiatives, including a post at New York’s School of Social Research, and barely mustered strength for that notable swan song lecture in Chicago. There was just no chance to mull over Polanyi. Among my puzzlements about the tangled skein of how come and what if is why the Conference on Science, Philosophy and Religion did not seek out Polanyi, as his interests and qualifications were very much in their ball park. From about 1940 they had a cosmopolitan program going annually in New York to which he could have spoken very incisively, and then a much more receptive Tillich would perforce have become aware of him. Did the animus toward Polanyi (in British analytic philosophy, e.g), or his endorsing Jewish *assimilation*, also poison more distant waters? [Even today one notices, in the quite recent *Oxford Companion to Philosophy*, edited by Ted Honderich, there is (for all the hundreds of modern trivia) no entry at all for Polanyi.]

13. All the initiative for and in the Berkeley encounter was taken by Polanyi. He had been significantly impressed by Tillich’s writing for at least a decade. But, that being the case, why is *he* as unsteeped as it seems he is in the complexity of Tillich’s thought? Polanyi was a phenomenally omnivorous reader. Why would he not have digested, if not earlier then down at Stanford where he was spending the semester, Tillich’s treatise on the sciences? [I happen to know it was in the library there.] Even closer in, why would he not have carefully reread *ST I*, which he praised in his Gifford Lectures? During or after the encounter, he tells us in the *Philosophy Today* article, someone had to call his attention to the passage from that volume which he acknowledges is closer to his own position. There are in fact lots of passages in the volume that resonate quite deeply with Polanyi’s concern and “calling.” Here is one further example (from *ST I*, pp. 98-9):

Most cognitive distortions are rooted in a disregard of the polarity which is in cognitive reason. This disregard is not simply an avoidable mistake; it is a genuine conflict under the conditions of existence. One side of this conflict is the tension between dogmatism and criticism within

social groups. But there are other sides to it. Controlling knowledge claims control of every level of reality. Life, spirit, personality, community, meanings, values, even one's ultimate concern, should be treated in terms of detachment, analysis, calculation, technical use. The power behind this claim is the preciseness, verifiability, the public approachability of controlling knowledge, and, above all, the tremendous success of its application to certain levels of reality. It is impossible to disregard or even to restrain this claim. [The last clause here is NOT acceptable to Polanyi, and yet the resistance and frustration he experiences in pursuit of his "calling" exemplify its truth—or let me rather say its partial truth. For Tillich himself is pursuing the same calling—and so are others like Karl Jaspers and Buber, and the cause has never been altogether lost.] The public mind is so impregnated with its methodological demands and astonishing results that every cognitive attempt in which reception and union are presupposed encounters utter distrust. [Shall we here call Prof. Nagel to the stand?] A consequence of this attitude is a rapid decay of spiritual (not only of the Spiritual) life, an estrangement from nature, and, most dangerous of all, a dealing with human beings as with things. In psychology and sociology, in medicine and philosophy, man has been dissolved into elements out of which he is composed and which determine him. Treasures of empirical knowledge have been produced in this way, and new research projects augment those treasures daily. But man has been lost in this enterprise. That which can be known only by participation and union, that which is the object of receiving knowledge, is disregarded. Man actually has become what controlling knowledge considers him to be, a thing among things, a cog in the dominating machine of production and consumption, a dehumanized object of tyranny or a normalized object of public communications. Cognitive dehumanization has produced actual dehumanization.

This is vintage Tillichian theology of culture. Polanyi's distinct and original voice harmonizes well with it, and we can be gratified and hopeful in the power of their modulated consonance. But any actual duet to come forth from our duo is one we shall need ourselves to arrange.

14. Alas, these two "kings of high C" never get to sing together. When they meet in Berkeley, why does Polanyi [once again if we follow his resume, our sole definitive source, unless Richard Gelwick will correct it] so aggressively pin Tillich to the wall with *his* summation of the latter's position? And then follow with a staccato recital of his own views? Why not ask Tillich whether he has him right? Polanyi's impatience does show a throbbing earnestness we cannot but salute. On to the *Sache selbst!* Still, might we not have expected more scrupulous prior review of his favored religious thinker? And why no reference at least to the Earl Lecture given just several minutes before, which Polanyi came to hear, and in which Tillich had indicted "Skinnerism's" turning persons into things as the current extreme of "calculating reason" run amok [*Irrelevance*, pp. 25, 31, *passim*]? Focus on this point alone would show the inadequacy of casting Tillich simply as the seminary teacher countering fundamentalism, vastly important as that is. True, Paulus seems to acquiesce in this settlement with Polanyi, like a harried business man "agreeing quickly with the adversary" so as to get on with his main agenda. But there are bones to pick that Wednesday evening that are still far from ever having been stripped clean. One we already noted is that Tillich does not perceive how manifoldly and thoroughly the empirical sciences in their experimental infrastructure and their existential underbracing and control *depend tacitly upon a fiduciary matrix* of social and personal preconditions. On the other hand, he is awed by the achievements of science while being unexposed to the sweaty disconnects and seat-of-one's-pants guesswork that Polanyi knew all too well. Of course even more than Tillich, Polanyi also reveres science, but he can and does loudly sound the note as well

that in monotone was projected by the book *Science is a Sacred Cow* [by Anthony Standen, 1950]. That was a kind of book Paulus tended to deprecate.

15. Unaware of the weight of Polanyi's scholarship, Tillich could have gotten the impression his interlocutor was too exercised, not to say obsessed, by his pivotal insight, however correct and important it doubtless was. We have no objectively intended utterance to the point from Paulus; the courteous blandishments can hardly count. Certainly he would have deemed it too simple to ascribe our universal human malaise *only* to the false ideal of objectivity, since for him the human predicament was compounded transcendently of unfaith, hubris and concupiscence—this being our fallenness or sinfulness—continuously issuing in more concrete configurations and specific actions of estrangement. Not that Polanyi really was so tunnel-visioned! The grounding and range we know from *Personal Knowledge*—as well as (post-Tillich) *Meaning* with its incisive addressal of the whole scope of culture—would have doubtless evoked even in a preoccupied Paulus much more hermeneutic alacrity. It is a shame to have to say the Claremont Hotel dialogue of our dynamic duo was largely a reciprocal fizzle, and yet for Polanyi too it seems to have pretty well finished turning him off to Tillich, with whom once he had been coming on so strongly. I can find no subsequent expression of interest in Paulus other than the *Philosophy Today* article which is mainly predicated on Polanyi's disenchantment with *Dynamics of Faith*, published in 1958. His disillusion—re his own cutting edge—probably began whenever it was he perused that work. His deep respect for the “upper story” of Tillich's theology apparently stayed in place, even while he pigeonholed Paulus off to the side of the axial quarrel with science. In any case animadversion to the “separate dimensions” strategy [cf. Par. 3 above] for mutually pacifying religion and science seems in Berkeley to have gone on engrossing his attention in a practical parallel to Tillich's overloaded agenda. He likewise does not appear to have learned anything new about his interlocutor by coming up from Stanford that day, *or* later—settling instead for the rhetorical concord of his tackling scientific false consciousness and Tillich religious fundamentalism. This is all the further borne out if Richard Gelwick is correct that Polanyi never did get around to looking up the Horkheimer festschrift essay. But for me the principal earnest of it is the fact that, in *Meaning* crucially, the theophilosophical work in which Polanyi has latterly become interested is that of emergent evolution and Whitehead. There are sanguine reasons why he would have, as we shall see below. But, as he obviously did not realize, there was much more in Tillich too that might have creatively boosted the project to which he was called.

16. In the resume, after Polanyi presents his position, Tillich inquires, “Is this view based on Gestalt psychology?” Far from just making apt conversation, as it might appear, the specificity of the question is loaded with residual Tillichiana. In *System der Wissenschaften*, Paulus had proposed Gestalt psychology as the pivot to overcoming the stultifying conflict of methods especially within the “sciences of being” vis-à-vis the “sciences of thought.” It seems worth our while to adduce here further the flavor and stringency packed into this 1923 volume which I continue so much to wish our same-year Hungarian immigrant to Berlin had somehow managed to ingest—or, indeed, even more, *emulate* with a comparable “Systematik” of the sciences. Tillich was not out simply to arrange concepts but was intent on solving live problems:

Nachdem im Vorhergehenden die seinswissenschaftliche Systematik positiv begründet ist, moege ein Blick auf den Stand der Debatte zeigen, dass unsere Auffassung im Stande ist, die aktuellen Probleme zu loesen. Es ringen gegenwaertig miteinander eine methodische und eine gegenstaendliche Richtung. Die methodische Richtung, die mit erkenntnistheoretischem Idealismus verbunden ist, teilt die Wissenschaft ein in *Natur- und Kulturwissenschaften*. Die gegenstaendliche, *erkenntnistheoretische* realistische, teilt ein in *Natur- und*

Geisteswissenschaften. Fuer die erste *Richtung* gehoert die Psychologie zu den Naturwissenschaften, da sie methodisch wie diese, naemlich generalisierend verfaehrt. Fuer die zweite Richtung ist die Psychologie Grundlage der Geisteswissenschaften, da sie mit ihnen den gleichen Gegenstand, das geistige Leben bearbeitet. Die Stellung der Psychologie ist also das Kriterium beider Richtungen. Dadurch gewinnt dieser anscheinend so formalistischer Streit eine hoechst reale Bedeutung. In ihm entscheidet sich das Schicksal der Geisteswissenschaften, die Auffassung des Geistes und der Kultur. Ist die Psychologie grundlegende Geisteswissenschaft, so verliert der Geist seinen individuell einmaligen Charakter, er wird aus einer schoepferischen Folge zu einem Strukturgesetz; das Denken zerstoert das Sein, die rationale Form siegt ueber den Widerspruch des irrationalen Gehaltes. Dem entgeht die methodische Richtung, aber sie selbst leidet an zahlreichen Maengeln. Sie unterscheidet nicht die seinswissenschaftliche Historie von den reinen systematischen Geisteswissenschaften und treibt diese gleichfalls zu einer rationalistischen Auffassung, in welcher der schoepferischer Charakter des Geistigen verloren geht. Sie wird aber auch dem Einwand nicht gerecht, den die gegenstaendliche Methode erhebt, dass Psychologie etwas anderes ist als physikalische Naturwissenschaft; sie kann es nicht, denn sie uebersieht das zentrale Gebiet der Gestalt-Wissenschaften, in deren Mitte die Psychologie steht. Sie ist endlich unfaehig, den historischen Elementen in der physikalischen und organischen Gruppe gerecht zu werden, da sie die historische Methode auf die Kulturwissenschaften einschraenkt und den Unterschied von autogenen und heterogenen Methoden nicht kennt. Die Wirklichkeit ist reicher, als dass sich zwei Methoden in sie teilen koennten und gerade die Methode der Gestalten, die im Streit um der Methoden vergessen wurde, ist die eigentlich zentrale und konkrete Methode: Die Methode, die der denkgeformten Wirklichkeit gemaess ist und die darum im Stande ist, das Problem der Methode zu loesen" [MW 1, p. 140]. (After grounding in the preceding the systematic of the sciences of being, a glance at the state of the debate may show our conception is capable of solving the current problems. Contending with each other temporarily are a methodological and an objective trend. The methodological trend, which is bound up with epistemological idealism, divides science into natural and cultural sciences. The objective, epistemologically realist trend makes the division between natural sciences and those of spirit. According to the first trend psychology belongs to the natural sciences since it proceeds methodologically as they do, namely generalizingly. For the second trend psychology is the basis of the sciences of spirit, since it works with the same object they do, the spiritual life. The placing of psychology is thus the criterion of both trends. Thereby this seemingly so formalistic conflict gains an extremely real significance. In it is decided the fate of the sciences of spirit, the way of conceiving spirit and culture. If psychology is the determinative science of the spirit, the spirit loses its individually unique character, from a creative emergence it becomes a structural law, thinking destroys being, the rational form triumphs over the irrational import. The methodological trend escapes the latter, but itself suffers numerous shortcomings. It does not distinguish the history of the sciences of being from the pure systematic sciences of the spirit and drives these likewise to a rationalistic conceptualization in which the creative character of the spirit is lost. It however also does not meet the protest raised by the objective method that psychology is something other than a physical natural science; it cannot do so, since it overlooks the central area of the Gestalt sciences, at the center of which psychology stands. Finally it is unable to do justice to the historical elements in the physical and organic groups, since it constricts the historical method

to the cultural sciences and does not recognize the difference between autogenic and heterogenic methods. Reality is too rich for two methods to divide it between themselves, and the Gestalt method, which is forgotten in the conflict of methods, is the authentically central and concrete method: the method which suits thought-formed actuality and therefore is able to solve the problem of method.)

His architectonic grounding, particularly in psychology, was ever a large resource in Tillich's ongoing career, reanchored in enduring friendships with the Gestalt neurophysiologist Kurt Goldstein and such psychotherapists as Harry Bone, Karen Horney and Rollo May. Fructifying insights devolved not only for depth psychology but also Paulus's fresh thinking in ST III regarding the wholeness and centeredness of personal life—thus fortifying him to stand up to B. F. Skinner during the Harvard professorship. An inestimable catalyst to the co-thinking he did in those very late years with Goldstein and others might have but sadly did not come from Michael, for whom similarly we may desiderate more helpful "think tank" context than he appears to have garnered from fellow scientists or philosophers (with the beneficent exception of Marjorie Grene, Bill Scott and a few others).

17. At the Claremont Hotel, Tillich's rich background goes untapped. Polanyi has started the bidding and remains completely in charge. When asked about Gestalt psychology, he acknowledges its initial significance for his "way of discovery" [to use Richard's fine phrase] but immediately conveys his severe disappointment with the tack taken by Wolfgang Koehler, the name most of us readily associate with the Gestalt movement. This could have opened the door for a truly basic Auseinandersetzung between our dialoguers, one with immense import for the Polanyi project and also for Tillich's theology. The crux of the issue is the causal role of purposive freedom in the cognitive process. In other words, we are propelled headlong here into the solar plexus of Aristotle's grammar of causality—the fourth or final (teleological) cause. Koehler's experiments with apes learning to join sticks to reach food had promisingly cued Polanyi toward his climactic insight into tacit knowing [cf. PK, Torchbook ed., pp. 340-1, *passim*]. In *Tacit Dimension*, the most succinct statement of his flagship theory, Michael favorably refers to Hans Driesch, noting that "Biologists who recognize the basic distinction between mechanistic and organismic processes consider living functions to be determined at all stages by a combination of a mechanism with organismic regulation." Note how close we are to the terrain of Tillich's ruminations in the long passage just cited [Par. 16] from *System der Wissenschaften*. "Gestalt psychologists," Polanyi continues, "have often suggested that the processes of regulation are akin to the shaping of perception, but their insistence that both perceptual shaping and biological regulation are but the result of physical equilibration brought this suggestion to a dead end" [Anchor Books, 1967, pp. 43-4]. Koehler, and in Polanyi's generalization the whole school, had capitulated to impersonal physical determinism. This is *not* how Tillich saw the situation in 1923 when he firmly held "jede Gestaltwirklichkeit ist eine Einheit von aequivalenter und produktiver Kausalitaet [ibid., 145] (every Gestalt actuality is a unity of equivalent and productive causality), *nor* does it cohere with the viewpoint of such neuroscientists as Goldstein, by whom Tillich felt aided and abetted in depicting human being as finite freedom. Maybe the general situation had by 1963 considerably worsened, with Crick and Watson, for instance, simply taking for granted that "religion was a mistake" or Stephen Weinberg announcing "the more we understand the universe the more meaningless it becomes." But whatever may have been happening in Gestalt theory—or later in Prigogine, Eccles, Wilber *et alii*—it is noteworthy that Polanyi and Tillich solidly agree the meaningful creativity of human personal and cultural life is urgently challenged by current science's reductionist causal determinism. They agree *de facto*, that is. Polanyi has no inkling of how much the preceding, or how surprisingly some of the very late, thinking of Tillich may agree with him.

18. There at the hotel, why doesn't Paulus just tell him? We already spoke to this, but more needs saying. Increasingly, as I go on reimagining the dialogue I poignantly regretted having to miss, I am very glad I wasn't there. Paulus was winded, done in from a grueling day of orating and interacting. He was set back on his heels by Michael's pent up steam. He was 75, with a heart condition. As someone who always spoke from notes his mind was juggling possible tacks to take on the morrow to round out the final Earl Lecture. Then, as Polanyi approaches the end of his concentrated allocution, he reasserts the fixed idea that Tillich completely acquiesces in the false ideal of strictly detached scientific knowledge. This was precisely the kind of point at which Paulus would always emit a sigh too deep for words and simply shut up. The only thing left to do was keep smiling and get some relevant reading into Michael's hands, as the followup letters attempt. Okay. But there is still more that *could* explain the muteness of Tillich if the foregoing were insufficient, and these not yet mentioned factors considerably thicken the plot left over for us, the Polanyi and Tillich societies, to untangle.

19. The first of these more subterranean items is the great disparity between the meaning of *faith* for Polanyi and its meaning for Tillich. At first blush, Polanyi's meaning is the more commonplace. It is more or less what Aristotle meant by *pistis* 2300 years ago; namely, a conviction that lacks certainty. A synonym for this meaning of faith is belief. [In German there is one word—"Glaube"—for the English pair, while "Ueberzeugung" ("conviction") also overlaps English use of "belief"] As Polanyi says in the next to last paragraph of his resume, "it is of the essence of knowledge to be held to be true by a man's mental effort." But this meaning of "faith" (which as here put could also be expressed as effortful *Fuerwahrhalten* in German) is exactly what Tillich tried strenuously to insist religious (and Christian) faith is NOT. *Dynamics of Faith* (on another but not unrelated aspect of which Polanyi had gotten hung up) from stem to stern tries to drive home an absolutely pivotal difference between belief (conviction lacking certainty about a matter of fact) and faith (being grasped by "God" or ultimate concern). Ironically, the smudging and even widespread modern obliteration of this difference sometimes seemed comparable in Tillichian diagnostics to the false ideal of detachment in Polanyian. For Paulus, as he says in his *magnum opus*, authentic faith is always and only "the state of being grasped by that toward which self-transcendence aspires, the ultimate in being and meaning" [*ST III*, p.131.]. Above [especially Par. 8] I compared to Polanyi's insight into faith being presupposed by science Tillich's long standing recognition of a "mystical a priori" in all systems of thought. But even though it creates a hermeneutical circle analogous to that of Christian theology, Tillich never calls this *a priori* faith. We also have seen throughout this discussion that subjective "participation" was ascribed in some degree by Paulus to all cognitive domains. But again he never calls this participation faith. Now there were around Union Seminary when I was there ('46-'53) various versions of the idea "that every worldview rests ultimately on a faith." Augustine's *nisi credederitis non intelligeris* or the medieval motto *credo ut intelligam* were cited in support, and it was taken to be an apologetic corollary of this truth that one might not need worry about critical attacks coming from alien faith systems—which meant in effect coming from anywhere, since there was really no neutral science ungrounded in a faith. I was reminded of this attitude some time ago in *Tradition and Discovery* by the slant of Evangelical Biblical Professor Esther Meek, who wanted to claim support from Michael Polanyi in not having to worry about radical criticism. There is a problem here to which we shall have to speak before concluding, but for the moment I want simply to bring out that Tillich was *not* among those who espoused this kind of apologetics. Several times in my hearing, he made clear his unhappiness with it. I hasten to add I personally feel he never cogently established mutual exclusion between faith and belief, even though it was axiomatic for some of his utmost theological concerns. It is no wonder so many, including his would-be friend Polanyi, have been incredulous or uneasy about Paulus' edict of total separation of faith from the "preliminary" findings of science. In any case, coming back to the Berkeley dialogue, the profound problematic that looms in and under their disparate notions of faith—

though Michael is quite unaware of it—would have been all too palpable to Paulus, and very understandably would have clinched his motivation at 10 P.M. or so to call it an evening.

20. Our interest, of course, is not chiefly in why Tillich (normally powerful in dialogue, as Richard says) clammed up that evening, but in the substantive issues inhering then and now in his face-off with Polanyi. Therefore we are impelled on from divergence of faith and belief to a therewith-entangled *aporia* that is if anything even more challenging through the whole history of theology and philosophy. *This is the role of freewill in cognition*. From Socrates to Scotus, Augustine to Arminius, Calvin to Kant, Jansenism to the Jesuits: it is all over the map and then some! Let me say for myself that Polanyi's handling of this enigma [epitomized, e.g., in *The Tacit Dimension*, Anchor Book ed., pp. 42-5] has been groundbreaking. I deem his envisagement of the emergent causality of purposive commitment to be the most significant element in what he calls the "from-to" sequence from a "fiduciary matrix" of subsidiary clues to the focality of accomplished knowing. It picks up in a fresh, empirically convincing way from Peirce, James and so many others a full parsing (which is impossible here) would require. As for Tillich, trying to discern how cognition, freedom and faith converge in the hemispheres of his cerebrum is indeed a formidable task. There is first the fact that Paulus is always amphibious, always "on the boundary" or going back and forth across it—the boundaries here being saliently those between science, philosophy and theology. But in addition to territorial adaptations there occur in Tillich major changes over time, and—*mirabile dictu*—one was just then underway as our duo sat together in the Claremont. To say the great systematizer was constantly evolving is heresy to some interpreters, though I salute it as a corroboration of his remarkable openness—one thing about him that never changed. From early on there is plenty in Tillich's utterances *re* science and philosophy wherewith to support a robust yet sensible doctrine of human freedom. Up to a point this is likewise true of his theology. As bearing on the human factor, in any dimension but the vertical, we have the deciding self-center. Then, in the dipolar structural ontology, dynamics, individuation and freedom are equally enfranchised with form, participation and destiny. Paulus would never have wanted to retract *System der Wissenschaften's* definition of freedom as "*das individuell Schoepferische*" [MW, p. 144] or that work's culminating mandate that "*Nur in der vollkommenen **Einheit von Theonomie und Autonomie** kommt die Wissenschaft, wie jeder sinnerfuellende Akt, zu ihrer Wahrheit*" [p. 262]. (Only in the perfect unity of theonomy and autonomy does science, like every act that fulfills meaning, arrive at its truth.) One can only conclude that a hefty *part* of his conceptual viscera could and did buy Michael's insight that willing commitment is integral to knowing the truth (with unavoidable risk of falling into error) But Michael construed this as what *faith* was about, and here Paulus had a massive block. In spite of his scientific, philosophical and humanological espousal of freedom, a prime taproot of his spiritual being *von Haus aus* [very literally when we think of "*Vaterchen*," his authoritarian dad] was the venerable Christian and especially Lutheran principle that "faith is not a human act" [ST II, p. 178] but rather entirely a work in us of divine grace. Tillich saw this as indispensable to St. Paul's "justification by faith alone" which Luther had made the "article by which the church stands or falls." In the Marburg *Dogmatik* [1925] Paulus went so far as to deny that even the humanity of Jesus contributes anything to our salvation. "*Das in Jesus Christus erchienene Heil ist allein durch sich selbst bedingt. Seine Wirkung ist unabaengig von jeder durch den Menschen geschaffenen Voraussetzung, sowohl vor wie nach seinem Durchbruch*" [p. 375]. (The salvation that has appeared in Jesus Christ is conditioned by itself alone. Its working is independent of any presupposition created by human beings, as well before as after its breakthrough.) This was his determined orientation over against any qualification by liberals like Brightman or Hartshorne. His celebrated message "You are Accepted" gained its force precisely through the "in spite of" of *our* total lack of a reciprocating condition. It was predicated indispensably—so one would have thought—on "the basic theological truth that in relation to God everything is by God" [ST III, p. 135].

21. Something strange, however, was going to happen shortly, and it must have been fermenting that night in Berkeley. When *ST III* appeared in the late summer of '63, there surfaced about 20 pages from its end the Tillichianly unprecedented motif of *essentialization*, which thereafter arguably dominates the denouement of Paulus's whole *magnum opus*. [Cf. my article "Tillich's Notion of Essentialization," in *Tillich-Studien* 3, ed. Hummel & Lax, 2000, pp. 365-83. I am still trying to pin down exactly when, how and why this novel epiphany in Tillich's text occurred. As of now it cannot be ruled out that the encounter with Polanyi was causally involved.] The word was borrowed from Schelling, but "essentialization" [German *Essentifikation*] was used by Tillich to express ontological fructification significant for God that is achieved by finitely free creatures. "The world process means something for God," he can now intone [almost as if proleptically privy to Polanyi's *Meaning*, pp. 162-3, written a decade after Paulus's death]. God "is not a separated, self-sufficient entity who, driven by a whim, creates what he wants and saves whom he wants. Rather, the eternal act of creation is driven by a love which finds fulfilment only through the other one who has the freedom to reject and to accept love" [ST III, p. 422]. It is this amplifying of his thinking—after prolonged jousting with process thought—that justifies Tillich finally dubbing it "eschatological panentheism" [op. cit., p. 421]. Charles Hartshorne noted the change [in Kegley, *The Theology of Paul Tillich*, rev., 1982, pp. 230-31], but the only Tillich scholar (of whom I am aware) to anticipate my own perception of a "radical reversal" in Paulus was Alex McKelway [in his 1964 overview *The Systematic Theology of Paul Tillich*, p. 244]. My point about the whole matter at this juncture is in the first instance merely that internal seismic rumblings around the issue of human "vertical freedom" (freedom toward God) may well help explain Tillich's somewhat unusual taciturnity at the Claremont Hotel dialogue—or should we almost say monologue? Be that as it may, the substantive importance of the issue in itself puts it on the overarching agenda of sorting out where the contacts and disconnects of our dynamic duo leave us today.

22. It is exceedingly interesting that Polanyi, continuing his aggressive reading in all cultural directions, had delved hungrily—by the time *Meaning* appeared—into Peirce, James and Whitehead, endorsing their "looser view of teleology" as a desirable alternative to what he had come to see as "the Good forcing itself" on everything else [*Meaning*, pp. 162-3]. This was a decade after Tillich's death, and it seems a shame Michael could not have known about "essentialization" bursting on stage at the very end of Paulus's concluding and to his own mind most authoritative testament, which the *ST* indisputably was. I have the impression that following their time together, except for the courtesy of two letters, Polanyi never read another line of Paulus. I greatly wish I had more access to Michael's candid reaction to the theological opportunities and occasions that had reached out to him through the '30s and '40s as well as thereafter. He seems [in the Scott/Moleski chronicle] to have keenly appreciated initially and then been rather frustrated by the British groups convened by J. H. Oldham. Was he disappointed by their Barthian ethos, which far less than Tillich was prepared to accord any theological significance to human enterprise? One thing is unmistakable: *Polanyi was unswervingly inspired by the sacredness of human freedom*, whereas Christian theology has no such consistent scoresheet. By 1966, in *The Tacit Dimension*, Michael is convinced modernity's dilemma cannot be resolved "by the enfeebled authority of revealed religion;" the reciprocating split between critical cynicism and moral fanaticism (which has hounded humanity since the Enlightenment) must first be healed on secular grounds [Anchor Book ed., p. 62]. Is this in part fall out from his Tillichian disillusion? I continue to ponder such imponderables. It is upbeat in any case that Michael, in a theological coda to his own swan song [*Meaning*, p. 215], manages to hit a surpassingly high note, or actually a chord, that is quite reminiscent of Reinhold Niebuhr and Tillich where they harmonized. Even before his Gifford Lectures, a *cantus firmus* for Polanyi had been the Pauline rendition of the Christian moral vision. His valedictory summation of this is as good theology as Reinie or Paulus ever wrote.

Perhaps it has been the clear moral call of Christianity that has left behind in us a distillation which causes us to burn with ... hunger and thirst after righteousness. If so, it should be possible for us to find in this same Christianity the antidote for [the] poison of moral perfectionism; for what this religion has also told us is that we are inescapably *imperfect* and that it is only by faith and trust in the all-encompassing grace of God that we can project ourselves into that supreme work of the imagination—the Kingdom of God—where we can dwell in peace and hope of the perfection which is God's alone and thus where we can, in a wholly inexplicable and transnatural way, find our hunger and thirst after righteousness satisfied at last—in the midst of all our imperfections. As Saint Paul tells us his God told him: 'I will not remove your infirmity. For my strength is made perfect in weakness.'

23. I like to think this poignant paragraph speaks for Polanyi himself, and yet it is not his very last word. He goes on to represent also the wider cultural *oikumene*, those who stand outside the Christian or any religious stance, affirming our world's need—which has meanwhile become all the more dire—for tolerance and mutual understanding “within the free society,” as in our common yet so differentiated humanity we seek universal truth [ibid., pp. 215-6]. Michael seems in fact to espouse this Christianly uncommitted stance, as though he is “on the boundary” and/or crossing over. We have here, of course, the unfathomable problem of how Harry Prosch's editing may have shaped the text. Even so I cannot believe it stretches things to see a parallel between Michael's farewell witness and that of Paulus, in his October '65 Chicago address on “The Significance of the History of Religions for the Systematic Theologian” [*The Future of Religions*, ed. J. Brauer, 1966, p. 94]. Tillich too remains “rooted in his own experiential foundation” which is Pauline Christianity, while urging upon all the endeavor to formulate our roots in “universally valid statements” with “openness to spiritual freedom both from one's own foundation and for one's own foundation.” Just a few months earlier, in his eulogy for Martin Buber, [GW, XII, pp. 320-3] precisely that commitment to openness had been identified as what Paulus would most hope to emulate in his own life. I argued in 2006, in a paper for the Tillich group in Washington, that in that eulogy it comes to light that Paulus' concept of sainthood is best of all fulfilled in Buber. I believe, however, that had Paulus known Polanyi better he might well have canonized him too. For all their missed connections, there winds up being an amazing compatibility between them.

24. Note, for instance, how Polanyi and Tillich both posit a double registry—a dipolarity—of the ultimate fulfilment of meaning. Despite their uncoordination, they both finally embrace fully the *indicative* of unconditional divine grace and the *imperative* of free human creativity summoned to serve beauty, truth and good in what Rilke calls “*die wunderbare Stadt der Zeit* (the wonderful city of time).” This corresponds to what Christianity names (perhaps nowadays too obsolescently) “justification” and (perhaps nowadays too moralistically) “sanctification.” The general history of religion mirrors variously the same problematic, and so (one can hardly not infer) does the human plight to which religion speaks. There is, on the one hand, a need for indiscriminating and absolute Divine help, and, on the other, a finite but still radical need for creative human effort *to be needed* and appreciated. In no theology has the integration of “grace and works” ever been completely or unparadoxically achieved, even while disputes about their relationship have instigated terrible religious hostility. I frankly think Polanyi could have helped Tillich as much or more than Kurt Goldstein on the dynamics *in faith too* of cognitive commitment, after Paulus at the last moment was ready for such help. Our duo also share a profound instinct with Karl Barth to “Let God be God”—to honor the unforespeakable Divine mystery, even in their mutual devotion to intense ratiocination. They affirm categorically the *symbolic* character of religious language. Surely Polanyi would agree with Tillich's mature insistence that the only non-symbolic statement we can make about God is that “everything we say about God is symbolic” [ST II, p. 9], even though,

like Buber, Michael has no taste for ontological language and the partially desymbolizing constructs (such as “being-itself” or “the infinite”) to which Paulus has recourse in relating Christian witness to the wider world.

25. An outcome of the “Berkeley Dialogue” might be seen as Polanyi’s proposal he and Tillich should thenceforth focus respectively on combatting objectivism in science and fundamentalism in religion. Though Tillich gave his nod to the formula, it seems in fact merely to signify the mutual resignation of our duo that each would go his own way inattentive to the other. That was as it had been previously—entirely for Tillich and really, *so far as concerns objectivism in science*, entirely for Polanyi too, since Michael was indebted to Paulus at key theological points but never looked into his sweeping study of science. Then, after the Berkeley encounter, as we already noted, other than parting courtesies they paid one another no heed. But quite apart from their not tuning in to each other, we need to ask *what did Polanyi and Tillich actually do about the twin demons of scientism and fundamentalism?* Surveying this adequately extrudes way beyond my present contract and is an ongoing challenge to both the Polanyi and Tillich societies. Still, we cannot ignore what to begin with makes our duo dynamic, and I first note yet another irony in the whole tableau—specifically in their recipe of divided tasks. For though they put it the other way around, *fundamentalism was arguably more Polanyi’s problem than Tillich’s, and scientism (or the false ideal of detached objectivity) was at least as much Tillich’s problem as Polanyi’s*. Thus the divisional formula of concord they floated after the Berkeley meeting was intrinsically nonsensical. Happily, they both *did go* on counteracting both the more cultural abcess (scientism) and the more formally religious one (fundamentalism,).

26. Tillich’s teaching pulls the rug from under fundamentalism in his categorical premise that religious knowledge is altogether symbolic. Then he also removes from faith anything to be fundamentalist about—by insisting its cognitive aspect, being a matter of ultimate concern, can in principle neither rest upon nor be threatened by the preliminary concern operative in empirical science (including especially historiography, the principal test case in Tillich’s arguments with peers, but also cosmology, and psychology where formidable challenges loomed). But Tillich never spent any time contending with fundamentalists, who avoided him and Union like the plague. Also, the idea (which he himself wafted to Polanyi) that he ever told students what to put in next Sunday’s sermon, is completely fatuous. His insistence that “the biggest barrier to religious understanding is literalism” [often reiterated orally and frustratingly eluding me for documentation] fell equally on the ears of orthodox, liberals, neoorthodox, and scientistically brainwashed seekers—and was as pertinent to their respective confusions as it was to fundamentalism. A striking example here is Albert Einstein, who was notably (albeit gently) critiqued by Paulus for literalistically rejecting the Personal God [“The Idea of the Personal God,” *Union Theological Seminary Quarterly Review*, II, 1, 1940, pp. 8-10]. Though it was hardly appropriate for Polanyi to assign our duo to the separate operational theatres he did, Polanyi himself does seem to have received direct help from Tillich in steering his own religious way around the shoals of fundamentalism. His reiterated envisagement “of an indeterminate meaning which floats beyond all materially structured experiences ultimately pointing at unsubstantial existence” [p.4 of Gelwick private collection of Polanyi quotations from Berkeley dialog] was his (ontologically unsophisticated) way of expressing the Tillichianly symbolism culminating in being-itself. However Michael consistently deplores fundamentalism also because it violates his norm of scientific integrity in defying the consensus of expertise he would rely upon to establish empirical probability. [The best statement I have found of this is in *Meaning*, Chapter 12, “Mutual Authority.”] Now in spite of partial dependence on the notion of symbol shared with Tillich, Polanyi—as was noted above in Paragraph 3—became aware in reading *Dynamics of Faith* that he seriously differed with Paulus regarding faith’s relation to science. Michael did *not* believe the two could be totally separated. Already in *PK*, apparently unaware his thought is here contrary to Tillich’s, Polanyi writes “an event which has in fact never taken place can have

no supernatural significance; and whether it has taken place or not must be established by factual evidence” [p. 284]. After all, it is not enough simply to reveal the overreaching of scientism. Increasingly, Michael seems concerned with the intrinsic plausibility of faith. Toward the end of *Meaning*, note how he desiderates empirical and philosophical support from emergent evolution and cosmic teleology. Thinking along these lines inevitably brings one onto Tillichian-avoided terrain where, unless one becomes a fundamentalist, collision with fundamentalism must occur. Michael, of course, was not about to become one or acquiesce in anybody doing so. But it is this would-be militant presence, so to speak, in the theatre of operations where faith *can* conflict with or receive support from science, that leads me to say—if we *had* to choose one of our duo to battle fundamentalism—the more plausible choice is arguably Polanyi. I say this partly because, along with many others who have carefully studied Tillich’s position on faith and science, I am not convinced these can be so cleanly disjoined as Paulus asseverates—either in historiography or cosmology or psychology. And I also would put Michael in top command here because (presupposing what he shares with Tillich) I find his mandate of universal openness to expert testing and consensus to be the most plausible antidote we actually have to fundamentalism at ground level. I believe Ian Barbour’s appealing redefinition of objectivity, which I personally adopted decades ago, is largely inspired by Polanyi, viz., that post-critical objectivity has to mean “intersubjective testability and commitment to universality” [Barbour, *Issues in Science and Religion*, p. 177]. This is our motive, is it not, in coming to the American Academy of Religion meetings, aside from fun with friends?

27. The other battlefield, scientific objectivism, is an arena where *prima facie* Polanyi might seem almost a shoo-in to head the fighting, especially to hear him tell it, and if the only alternative is Tillich. But, as we saw, Polanyi is unaware of the case for Tillich in regard to science. On alternatives, we are of course talking here of our duo henceforth dividing *their* efforts, prescinding from a much larger field that could not exclude contemporaries like Buber, Marcel, Berdyaev, Shestov and numerous others, not to mention the capital figures like Whitehead, Wittgenstein and Heidegger. Tillich used to mention especially Bergson and Simmel. And James seems more and more important. Nor today do we dare omit Huston Smith. All these fecund minds do bear relevantly on the “sclerosis of objectivity,” to use Jaspers’ incisive phrase. With due allowance for the fact that Paulus and Michael were addressing just their own division of labor, there *is* something a little unreal in their rhetoric (“You have done for science what I have done for religion,” etc.)—one more, perhaps, of the oddities which stud this intermezzo. For one senses hubris, I think, in neither of our duo. They are too consecrated to their calling. While Polanyi is naturally more surefooted in the forward trenches of experimental work and its logical calculus of uptake, and while no one can rival his pioneering expose of scientific pretense, Tillich offers a magisterially comprehensive and deeply anchored matrix in which to unpack, diagnose and treat the pathology of egregious and culturally tyrannical cognitive detachment. The suasive wholism of his vision transcends necessary critique in transparency to the gracious Unconditioned manifest as universal cruciform Love. As the current world crisis widens under simultaneous onslaught of cynical reductionism and all too credulous fanaticism, can we even think of dispensing with the services of either of our doughty duo? As I cannot imagine trying to do philosophy without *both* Plato and Aristotle, I adamantly refuse to furlough either Paulus or Michael to some more circumscribed task. As for Tillich, it is just now becoming clear how very much unfinished business there is in the full outworking of energies, horizons and strategic shifts so richly packed into his intellectual estate. The early and the late phases of it—not to speak of the thick 1923 study of science—have not been at all adequately assessed. There is a specific crying need to pick up the sharp pang Paulus felt when he was tempted, as Peter John reports from that 1951 open house [above, Par. 7], to shelve the *ST* and undertake a major work in epistemology, of which the “PK” essay is a suggestive nucleus. I have just been zestfully reawakened to Polanyi, and if I could only have back my worthy colleague Charles McCoy, I would never tease him again for ranking Michael the greatest mind since Plato. That may be slightly exaggerated, but who cares? We need to

have our consciousness raised. Polanyi has been shamefully ignored by the philosophical/theological gatekeepers. He is an extremely potent catalyst and resource, not only for going on further with Tillich but in marshalling the best aid we can get to deal with the Richard Dawkins, Sam Harris and all the varied legion who reductively deny or uncritically bloat the possibility of meaningful faith to light our human future. In his last Berkeley lecture following the Claremont encounter, Paulus pleads with us all “to fight an uphill battle” [*Irrelevance*, p. 63] and at the end of *Meaning* thirteen years later Michael says “We do not see the end in sight” [p. 214].” The battle can be daunting, but our auspicious duo, our proactive pair, conjoining to evoke the best in us, will preclude our ever despairing.

Submissions for Publication

Articles, meeting notices and notes likely to be of interest to persons interested in the thought of Michael Polanyi are welcomed. Review suggestions and book reviews should be sent to Walter Gulick (see addresses listed below). Manuscripts, notices and notes should be sent to Phil Mullins. Manuscripts should be double-spaced type with notes at the end; writers are encouraged to employ simple citations within the text when possible. MLA or APA style is preferred. Because the journal serves English writers across the world, we do not require anybody’s “standard English.” Abbreviate frequently cited book titles, particularly books by Polanyi (e.g., *Personal Knowledge* becomes *PK*). Shorter articles (10-15 pages) are preferred, although longer manuscripts (20-24 pages) will be considered. Consistency and clear writing are expected. Manuscripts normally will be sent out for blind review. Authors are expected to provide an electronic copy as an e-mail attachment.

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Polanyi's Enduring Gift to "Theology and Science"

Robert John Russell

ABSTRACT Key Words: Michael Polanyi, personal knowledge, theology and science, Ian Barbour, Thomas Torrance, John Polkinghorne, Authur Peacocke, John Haught.

This essay is a brief assessment of the lasting impact of Michael Polanyi's thought on the growing interdisciplinary field of "theology and science." I note representative examples in the writing of Ian Barbour, Thomas Torrance, John Polkinghorne, Arthur Peacocke and John Haught, showing how Polanyi's "personal knowledge," as well as some other Polanyian themes, have been recognized and accepted.

Introduction

I am grateful for the invitation to respond to my mentor and lifelong friend, Durwood Foster, on his superb analysis of the relation between the thought of Michael Polanyi and Paul Tillich at this remarkable joint session of the Polanyi and Tillich Societies. Durwood's erudite and detailed paper focuses to a great extent on the ways their relation is contextualized in the "Berkeley Dialogue" of 1963 and in light of Tillich's 1955 paper, "Participation and Knowledge." However, as I told Durwood in a recent conversation, I need to make what for me is a highly unusual move when invited to respond to another scholar's paper and simply state up front that I can add little to what Durwood has so carefully and astutely written in "Michael and Paulus: A Dynamic Uncoordinated Duo." I hope you will take this as an expression of my esteem for his paper from which I have learned greatly. It seems all the more appropriate in light of the fact that many of the world's leading experts on Polanyi, on Tillich, and on their relation are gathered here today, and I welcome the opportunity to learn from them!

What I will do instead is respond to a second dimension of the invitation given me: namely to offer a brief, initial assessment of the lasting impact of Polanyi's thought on the burgeoning interdisciplinary field of "theology and science."

Themes In Polanyi's Writings That Have Had A Lasting Influence In "Theology And Science"

There are several themes in Polanyi's writings which have had a lasting influence in the "theology and science" literature. I'll first present the theme (actually a complex of themes) which in my awareness has had the most lasting influence: his concept of "personal knowledge." After offering a brief definition drawn from *Personal Knowledge (PK)*¹ and touching on four of its most salient subthemes, I'll point to the some of the ways it has had such an effect through the writings of three of the key players in theology and science: Ian G. Barbour, Thomas F. Torrance, and John Polkinghorne. Finally, I'll list several other, related, themes which seem to me to have had less of an effect on theology and science.

A. Personal Knowledge: The theme with the most lasting effect in theology and science

Definition: Of the many places where Polanyi discusses "personal knowledge" the key definition may well be taken from the Preface to Torchbook edition of *PK*:

Comprehension is neither an arbitrary act nor a passive experience, but a responsible act claiming universal validity. Such knowing is indeed *objective* in the sense of establishing contact with a hidden reality; a contact that is defined as the condition for anticipating an indeterminate range of yet unknown (and perhaps yet inconceivable) true implications. It seems reasonable to describe this fusion of the personal and the objective as Personal Knowledge. Personal knowledge is an intellectual commitment, and as such inherently hazardous. Only affirmations that could be false can be said to convey objective knowledge of this kind...I have shown that into every act of knowing there enters a passionate contribution of the person knowing what is being known, and that this coefficient is no mere imperfection but a vital component of his knowledge (*PK*, pp. xiii-xiv).

Subthemes:

According to Polanyi, personal knowledge involves at least four subthemes:

1. A scientist's knack at *choosing the right hypothesis* to test: it is partly learned from the scientific community and partly an inborn talent of the scientist: "It is of the essence of the scientific method to select for verification hypotheses having a *high* chance of being true. To select good questions for investigation is the mark of scientific talent..." (*PK*, p. 30).

2. The *fiduciary character* of personal knowledge, the role of commitment in personal knowledge, and Polanyi's indebtedness to Augustine.² The scientist has "faith" that, — prior to its testing — the chosen hypothesis is right and will prove fruitful, a faith which issues in the scientist's commitment to that hypothesis and which entails a sustained investigating of the hypothesis even if the scientist's reputation is questioned.

(W)e must now go back to St. Augustine to restore the balance of our cognitive powers. St. Augustine ... taught that all knowledge was a gift of grace, for which we must strive under the guidance of antecedent belief: *nisi credideritis, non intelligitis*. His doctrine ruled the minds of Christian scholars for a thousand years" (*PK*, p. 266).

Of course, such faith must be tested by the evidence, but even here the presuppositions of this faith define the limits and scope of what counts as relevant evidence. "Our fundamental beliefs are continuously reconsidered in the course of such a process, but only within the scope of their own basic premisses" (*PK*, p. 267).³ It also involves a fundamental circularity: "Any enquiry into our ultimate beliefs can be consistent only if it presupposes its own conclusions. It must be intentionally circular" (*PK*, p. 299).

3. The presence of *tacit knowledge* or subsidiary awareness along with explicit knowledge or focal awareness: tacit knowledge provides a background or context in which the focal knowledge is held and interpreted. This insight led Polanyi to his famous aphorism: "we can know more than we can tell" (*TD*, p. 4). Tacit knowledge is often passed on implicitly by apprenticeship (*PK*, p. 53).

4. The structure of commitment entails *universal intent*:

The enquiring scientist's intimations of a hidden reality are personal. They are his own beliefs,

which — owing to his originality — as yet he alone holds. Yet they are not a subjective state of mind, but convictions held with universal intent, and heavy with arduous projects (*PK*, p. 311).

You can only believe something that might be false... Every act of factual knowing has the structure of a commitment (*PK*, p. 313).

By his own command, which bound him to the quest of reality, he will claim that his results are universally valid. Such is the universal intent of a scientific discovery. I speak not of an *established* universality, but of a universal *intent*, for the scientist cannot know whether his claims will be accepted. They may prove false or, though true, may fail to carry conviction.”(*TD*, p. 78)

The Effect of “Personal Knowledge” in Theology and Science: Representatives Examples

1. Ian G. Barbour⁴

a. Methodological “parallels of theology and science,” i.e., similarities in methods even with independent content. In comparing scientific and theological methodologies, Barbour stresses that his is not an attempt to derive implications from science for theology but a recognition of rational and empirical attitudes that are shared by scientists and theologians. For example, he draws on the work of Oxford physicist, C. A. Coulson, who speaks about how scientists experience wonder about, reverence towards, and beauty in nature. He points out that science involves presuppositions and moral commitments similar to those in religion; e.g., that the world is lawful and intelligible, that science requires humility and cooperation. In stressing that science involves human factors including the scientist’s personal judgment and involvement in the scientific community he cites both Polanyi (*PK*) and Harold Schilling, *Science and Religion* (*ISR*, p. 128n).

b. The essential role of community in science. Here Barbour claims that the progress of science depends essentially on science as community: “a social enterprise (and) a cooperative venture”(*ISR*, p. 152). The scientific community carries with it a set of attitudes which, according to Schilling, include ideals, a characteristic way of life, standards, mores, conventions, signs and symbols, ethics, the authority of the community’s consensus, etc. He then quotes Polanyi as writing: “Its members recognize the same set of persons as their masters and derive from this allegiance a common tradition, of which each carries on a particular strand” (*PK*, p. 163, in *ISR* p. 152).

c. Scientific objectivity as intersubjective testability that includes personal involvement. Drawing again on Polanyi, Barbour argues that the evaluation of competing theories is more than a formal process; it involves a personal judgement by the scientist. The scientist is similar to a judge weighing evidence or a doctor making a diagnosis. “Objectivity is not the absence of personal judgment but, as Polanyi puts it, the presence of *universal intent* (*PK*, p. 64f). It is commitment to universality and rationality, not an attempt at impersonal detachment, which prevents such decisions from being purely subjective” (*ISR*, p. 151). Universality, in turn, includes the “conviction that the same structure of nature is open to investigation by other scientists” who constitute the international community of scientists. It involves a transcendence of one’s personal preferences and of evidence that challenges one’s presuppositions. Finally, universality does not exclude but actually requires personal

involvement shaped by what Polanyi calls “universal intent.” Thus science does not require “disinterestedness,” a detached attitude without personal involvement; instead scientists may be passionate about their work. Moving into the humanities and especially religion, we still find “the personal involvement of the knower” but here it influences the process of inquiry more so than in science. Thus science and religion lie on a “spectrum with varying forms of personal involvement” rather than an absolute dichotomy between scientific=objective vs. religious=subjective knowledge (*ISR*, pp. 181-185).

2. Thomas F. Torrance⁵

a. God’s self-disclosure in the Word of God, the *Logos*, is parallel to our scientific knowledge of nature. This is so because, while the facts of nature are known through our rational experience, these facts do not derive their rationality from our experience, for that would be the end of science. Instead, science presupposes that the rationality of nature “transcends our experience of it” and we therefore let it “subject our formulations and apprehensions to its criticisms and guidance.” Torrance cites Polanyi who writes that “this reality beyond sense-experience” gives to science its sense of objectivity. Its reality is warranted by the fact that its scientific implications extend beyond their originating event/experience (*PK* p. 37). Torrance then argues for the formal equivalence of scientific and theological knowledge. “Theological thinking is more like a listening than any other knowledge, a listening for and to a rational Word from beyond anything that we can tell to ourselves and distinct from our rational elaborations of it” (*TS*, p. 29-30).

b. Scientific knowledge is not purely objective, but rather it includes a “personal factor (which) inevitably enters into scientific knowledge ... It is therefore unscientific to pretend that the subjective element is eliminated when it cannot be... In natural science ... the very nature of our inquiry, by which we create certain conditions within which we force nature to disclose itself to us according to our will, affects the content of our knowledge, and gives it an unavoidable ambiguity” (*TS*, pp.93-94, cites *PK*).

c. The role of the scientific community in personal knowledge: “Our thinking presupposes the structure of our active personal inter-relations and takes place within them. Even the activity of natural science is inextricably involved in the structure of science, and would be impossible without a community of empirical subjects in which mutual questioning and criticism and communication provide the necessary condition for verification and progress in knowledge” (*TS*, p. 163, cites *PK*).

d. Theological knowledge can only be verified not by us but by “(God) who alone is capable of justifying them... our knowledge of God must come to us from without from God Himself... (Similarly) in natural science verification requires in the last resort a personal judgement in assessment of the evidence” (*TS*, p. 197, second sentence in footnote #1 where Torrance cites *PK*, pp. 17, 59, 63, 202, 264, 299).

e. Our experience points beyond itself to a universal rationality in nature: “What sustains and fortifies us at this point is the discovery of a rationality in the nature of things that goes far beyond our understanding and that transcends the clues on which we have relied in attaining vision of it” (*TS*, p. 237, cites *PK*, p. 66ff).

f. The terms of theological language must be reformulated and shaped by the nature of their object for then “as we use them they extend our apprehension of the object.” He cites what Polanyi called the “indeterminate anticipatory powers of an apposite vocabulary” which arises from its contact with reality (*TS*, pp. 266-267, *PK*, 116).

g. We only know God through God's free self-giving in Grace. Thus the kind of inquiry appropriate to theology is essentially different from that of science. Experimental investigations are inappropriate for theology for we would be investigating an idol, not the Lord God. He cites Polanyi as saying that "It is illogical to attempt the proof of the supernatural by natural tests, for these can only establish the natural aspects of an event and can never represent it as supernatural" (*TS*, pp. 299-300, citing *PK*, p.284).

3. John Polkinghorne⁶

a. In some places, Polkinghorne clearly draws on Polanyi without specifically citing him (although he frequently cites Torrance). Polkinghorne claims that there are "two circularities ... involved in the search for knowledge. One is the hermeneutic circle: we have to believe in order to understand and we have to understand in order to believe... The second circle is the epistemic circle: how we know is controlled by the nature of the object and the nature of the object is revealed through out knowledge of it" (*FP*, p. 32).

b. Elsewhere, he cites both Torrance and Polanyi. For example, Polkinghorne writes that in science "it is possible for understanding to be attained without the possession of a detailed explanation....The ability of understanding to outrun explanation is intimately connected with the religious concept of faith" (*FP*, p. 38). He then draws on Torrance who compares discursive argumentation with intuitive, ontological knowledge where "something utterly new becomes disclosed and our minds cannot but yield conceptual assent to its self-evident reality... Genuine faith in God, for example, was held to involve a conceptual assent of this kind..." (*TS*, p. 74). Thus such a response of faith is "the exercise of those tacit skills which Michael Polanyi rightly diagnosed as indispensable to the scientific enterprise and which give it kinship with all other forms of human rational inquiry" (*FP*, pp. 37-38). And in discussing the open future of the world of becoming and for new horizons of discovery (specifically about "emergent-downward" holistic chaos theory yet to be discovered), and about the difference between executing algorithms and human thinking, Polkinghorne cites Polanyi's aphorism: "We can know more than we can tell." (*FP*, p. 26, note 35, citing *TD*, p. 4).

c. Finally, Polkinghorne offers a succinct and appreciative summary of Polanyi: "Belief that science and theology are intellectual cousins under the skin encourages theological interest in the philosophy of science. It will be apparent that I am considerably influenced by the writings of Michael Polanyi... The emphasis on the exercise of tacit skills of judgement, within a convivial community but employed with universal intent, is both consonant with what goes on in science .. and it has obvious affinities with the procedures of other disciplines — like theology, where it is even harder to tell what we know and why we know it" (*FP*, p. 47).

Additional Themes in Polanyi That Have Had an Influence in "Theology and Science"

1. Conception of a generalized field

Polanyi offers a "generalization of the field concept in a strictly biological sense." "Morphogenesis, operating under the direction of a morphogenetic field, is a somatic process of the same kind [as comprehension], but following *morphological rightness* as its standard of achievement" (*PK*, p. 398). The morphogenetic process is one of "inexhaustible resourcefulness." The success of morphogenesis is defined in terms of the agency of "the morphogenetic field (or its organizer, if there is one)" (*PK*, p. 398).

2. Boundary conditions as irreducible to the laws of nature.

Polanyi argues that the laws of physics, for example, do not determine the boundary conditions which make a particular physical object function the way it does, i.e., as a tool. Hence against reductionism, there are emergent levels in nature in which the boundary conditions arise that supervene on the lower levels (*PK*, p. 401ff).

The effect of these additional themes in theology and science: representative examples.

1. Arthur Peacocke.

Regarding anti-reductionism in Peacocke's early thought (1971)⁷: "For Polanyi's analysis even of what we mean by a machine shows the involvement in mechanisms of new principles of ordering matter, of boundary conditions, which could not have been predicted from a knowledge of the laws governing the constituent parts. So 'mechanism' as a view of biological evolution has to reckon with this logical feature of the relation of higher organisms to less complex (ones)" (*SCE*, p. 131). But where do these 'boundary conditions' come from? Does natural selection answer this question, or "is it necessary to postulate, as Polanyi himself does, the existence of a 'phylogenetic field' that governs the process of evolution and in which the organisms are guided by the potentialities which are open to them, drawn on by an active centre from which such striving is directed?" (*SCE*, p. 131, ref. *PK*, pp. 398-400, 405). Peacocke's response is not to link this field with God's immanent activity in nature as the continuous creator but rather to claim that nature displays a "continuous creative development governed by its own inherent laws" (*SCE*, p. 132).

Note: Seven years later, with Peacocke's Bampton lectures, all mention of "morphogenesis," "phylogenetic field," and even Polanyi, are gone. Instead Peacocke turns to the "order out of chaos" scenario as discovered by Nobel laureate Ilya Prigogine in relation to dissipative systems such as found in non-linear, irreversible thermodynamic processes far from equilibrium. Polanyi's name doesn't show up in the index to his Gifford Lectures (1993).⁸ Interestingly, though, throughout his writings Peacocke makes extensive use of the idea that boundary conditions affect the particular characteristics of a dynamic system even while they cannot be reduced to the basic laws of nature (what he calls "whole-part constraints") in arguing against epistemic reductionism in favor of emergence and in discussing non-interventionist models of divine action. It is not altogether clear to me how much he drew this from Polanyi and how much he took it from what is really a standard point in mathematical physics with which we are all familiar — i.e., the need to specify boundary conditions and initial conditions when solving the equations for particular physical systems such as the wave motion of sound in a rectangular room or the vibrations of a drumhead.⁹

2. John Haught

In his earlier writings, John Haught makes interesting use of some of Polanyi's ideas, including personal knowledge with its fiduciary character¹⁰ and tacit dimension,¹¹ and the argument against reductionism via the appeal to what are in effect boundary conditions, namely life and mind as they "indwell" chemical processes and while relying on them they cannot be understood in their terms.¹² Polanyi continues to influence Haught's work in more recent writings, especially in comparison with the thought of Teilhard, Hans Jonas and Whitehead.¹³

Conclusions

It would be quite interesting to undertake an extensive exploration of the theology and science literature to determine just how widespread and lasting is the influence of Polanyi's writings. Perhaps 2008 would be a fitting year for such a project in celebration of the fiftieth year anniversary of the publication of *Personal Knowledge*.¹⁴

Endnotes

¹Obviously a more extended paper than this very brief one would include Polanyi's discussion of personal knowledge in his other writings.

²Reminiscent, of course, of *fides quaerens intellectum*.

³As Norwood Hanson famously remarked, "all data are theory-laden."

⁴These citations are from Ian G. Barbour, *Issues in Science and Religion* (New York: Harper & Row, 1971 [originally published in 1966 by Prentice-Hall]) (*ISR*). Other citations of Polanyi in *ISR* not used here include p. 148n, p. 156, p. 265. Polanyi figures prominently in Barbour's Gifford Lectures, *Religion in an Age of Science*, (San Francisco: Harper & Row, 1990).

⁵References are to Thomas F. Torrance, *Theological Science* (London: Oxford University Press, 1969) cited as *TS*.

⁶John C. Polkinghorne, *The Faith of a Physicist: Reflections of a Bottom-up Thinker* (New Jersey: Princeton University Press, 1994) cited as *FP*.

⁷Arthur Peacocke, *Science and the Christian Experiment*, (OUP, 1971).

⁸Arthur Peacocke, *Theology for a Scientific Age: Being and Becoming — Natural, Divine and Human*, Enlarged Edition (Minneapolis: Fortress Press, 1993).

⁹Peacocke, *Theology for a Scientific Age*, Ch. 3. See also: "Peacocke considers how to conceive of God's relation to the world in the light of modifications in the scientific concepts of predictability and causality which the phenomena of deterministic chaos and dissipative systems on the one hand, and of 'whole-part constraints' on the other hand, have induced.... Peacocke argues that the notion of 'whole-part constraints' in interconnected and interdependent systems does provide a new conceptual resource for modeling how God might be conceived of as interacting with and influencing events in the world. This is particularly true in conjunction with a prime exemplification of the whole-part constraint in the unitive relation of the 'human brain in the human body' - in fact, this model of personal agency is the biblical and traditional model for God's action in the world. He evokes the notion of a flow of information as illuminating this 'whole-part' interaction of God with the world, which could then be conceived of as a communication by God to that part of the world (namely, humanity) capable of discovering God's meanings." (Excerpted from my summary of Peacocke's "God's Interaction with the World" Robert John Russell, Nancy C. Murphy, and Arthur R. Peacocke, eds., *Chaos and Complexity: Scientific Perspectives on Divine Action*, Scientific Perspectives on Divine Action Series [Vatican City State: Vatican Observatory Publications: Berkeley, California: Center for Theology and the Natural Sciences, 1995]).

¹⁰John F. Haught, *Science & Religion: From Conflict to Conversion* (New York: Paulist Press, 1995), 23.

¹¹Haught, *Science & Religion*, 88.

¹²Haught, *Science & Religion*, 91.

¹³John F. Haught, *God After Darwin: A Theology of Evolution* (Boulder, Colorado: Westview Press, 2000), Ch. 10.

¹⁴This would certainly include works by Philip Clayton and Joseph Bracken, whom I know use Polanyi

(private communications from Clayton). See also recent *TAD* articles by Clayton (“Emergence, Supervenience, and Personal Knowledge”.29:3 (2002-03): 8-19)and Bracken (“Emergent Monism and Final Causality: A Field-Oriented Approach”31:2 (2004-05): 18-26).

WWW Polanyi Resources

The Polanyi Society has a World Wide Web site at <http://www.missouriwestern.edu/orgs/polanyi> . In addition to information about Polanyi Society membership and meetings, the site contains the following: (1) digital archives containing all issues of *Tradition and Discovery* since 1991; (2) a comprehensive listing of *Tradition and Discovery* authors, reviews and reviewers; (3) the history of Polanyi Society publications, and information on locating early publications not in the archive; (4) information on *Appraisal* and *Polanyiana*, two sister journals with special interest in Polanyi's thought; (5) the “Guide to the Papers of Michael Polanyi,” which provides an orientation to archival material housed in the Department of Special Collections of the University of Chicago Library; (6) photographs of Polanyi; (7) links to a number of essays by Polanyi as well as audio files for the McEnerney Lectures (1962) and Polanyi’s conversation with Carl Rogers (1966).

A Response To The Papers of Robert John Russell, Durwood Foster and Richard Gelwick

Donald Musser

ABSTRACT Key Words: epistemology , heteronomy, method, ontology, participation, republic of science, theology and science, Paul Tillich, Michael Polanyi, Karl Barth, T. F. Torrance, Ian Barbour.

This essay is a brief response to Durwood Foster and Richard Gelwick's essays analyzing the 1963 encounter of Paul Tillich and Michael Polanyi and to Robert Russell's assessment of the importance of Polanyi's ideas for recent theology and science discussions.

Since about 1975 I have been a member of both the North American Paul Tillich Society and the Michael Polanyi Society. A dues paying member, most years. Like a non-resident church member, one who attends society meetings sporadically. Seldom have I been more eager to attend and to participate as a respondent than in this unique joint session. When Walt Gulick invited me, I did not have to reflect on the challenge of taking on another new and unplanned task; rather, I immediately consented.

A bit of autobiography will help you understand why. In the mid-1970s, at the age of thirty-two, my wife and I packed up our four-year old daughter, our seven-year-old dog, and drove our aging Ford Torino from a pleasant pastorium in Pittsburgh to a small apartment in a three-story walk-up in Chicago's Hyde Park neighborhood. For the next seven years I spent my intellectual life indwelling the writings of Michael Polanyi and Paul Tillich.

On the one hand, I read Tillich with University of Chicago theologian Langdon Gilkey, one of Tillich's Union Seminary students. On the other hand, I became a mentee to the Lutheran first-name in science and theology, Philip Hefner of the Lutheran School of Theology at Chicago, as well as a young associate of Ralph Wendell Burhoe, future Templeton Award winner and co-editor with Hefner of *Zygon: Journal of Science and Religion*.

During those idyllic years, I wrote seminar papers and a doctoral thesis on the implications of Michael Polanyi's epistemology for theology. Through courses with Gilkey and as a teaching assistant to Hefner and Joseph Sittler, and with a dash of spice from Carl Braaten who introduced me to the influence of Martin Kähler on Tillich, I also imbibed the ontological world of Paulus, often with an Old Style in hand.

At the time, I was not focally aware that I was being prepared for a thirty-year career as a teacher, researcher, and author who frequently, even always, was indwelling the insights of the two luminaries we engage today. This short trip through my life provides, then, the reasons I am so pleased to be a part of this convivial gathering.

My deep appreciation goes to our convener, Walter Gulick, who in a *kairotic* moment asked me to be a respondent, which, unknown to him at the time, even tacitly, led me to an ecstatic revelation about my intellectual identity, after all these years. I confess this truth today, publicly, for the first time: *Ich bin ein Tillanyian!* Walt,

thank you for catalyzing my way to this discovery of my true being. I have accepted my acceptance as a Tillanyian.

I now turn to my responses. First, I want to attend briefly to Robert John Russell's fine presentation of the influence of Polanyi on a number of theologians, most who are vitally engaged in the conversation between science and theology. I suggest that a fruitful way of engaging Polanyi and theology would involve asking variations of the question: How is Polanyi's thought used in theology? One way to pursue an answer might be a comparative study of the way Polanyi is brought into theological discourse. I think, for example, that a comparison of the use of Polanyi between, say, a Barthian like T. F. Torrance, with a theologian like myself or Richard Gelwick who finds Tillich's method and epistemology commensurate with Polanyi would be worth undertaking.¹

Second, let me turn to Durwood Foster's fascinating reflections on the Polanyi-Tillich conversation and subsequent interchanges of 1963. Foster's fascinating piece is refreshing, vivid, erudite, emotive, and bold! Foster, for example, states: "Paul Tillich knows nothing about Michael Polanyi." And, he refers to their conversation as "a reciprocal fizzle." And, further, he complains that Polanyi's thought has been "shamefully ignored" by philosophers. He also avers that a subtle prejudice obtained against the Jewish Polanyi because of his baptism as a Roman Catholic. Foster's style in his essay embodies the "genes" of "personal knowledge" in his dialogical treatment of our duo.

I concur with Foster that Polanyi was amiss to conclude in his essay, "Science and Religion: Separate Dimensions or Common Ground?,"² that Tillich sees science and theology as independent of one another. Although Tillich says as much in *Dynamics of Faith*, Tillich has a much richer position, as his background paper for this session shows clearly.³ Based upon that essay and Parts Four and Five of his *Systematic Theology*, among others, I am quite certain that Tillich would today embrace what Ian Barbour terms the attitude of "dialogue" and even "integration" with regard to science and theology.⁴

Despite our disappointment that the "uncoordinated duo"⁵ did not seriously engage one another in the 1960s, our session today could, and I hope it does, bring them into conversation as we continue to think through their works.

Third, Richard Gelwick's paper refreshes our memories about the context and content of the Tillich-Polanyi nexus. Even more importantly for the theologian, Gelwick enunciates and supports four theses that, taken together, beg for the intellectual engagement of the two thinkers, the philosopher-theologian Tillich and the scientist-philosopher Polanyi. Although I believe they can be brought into fruitful dialogue on numerous topics, let me suggest one. Theologians, like natural scientists, belong to professional groups who authorize, or do not authorize, the results and conclusions of their research. If, I suggest, theologians became acquainted with Polanyi's delineation of what he calls "the republic of science," and applied ideas from the dynamic structures of scientific investigation, they would find an attractive parallel in Tillich's notion of the "participation" of the theologian in the knowing process.

I am not quite convinced of Gelwick's claim about the import of the "Christian" context of the 1963 encounter of the two. He strongly affirms Polanyi's commitment to the Christian faith. In my reading of Polanyi I do not find him seriously confessional with regard to faith. And, even if he considered himself a Christian, I find little solace in that as a theologian. Whether a Christian or not, Polanyi's thought, especially his epistemology, bears our attention as it is as an important resource for our thinking.

Finally, picking up on Gelwick's other emphasis when he references the "context" of their meeting in February in California in 1963, I would like to urge that our two thinkers are as contemporary as ever in the troubled "context" of our world today. The issues that confront the planet, the human race, and all living creatures can be illumined through their multifaceted writings. Attention, for example, to the contemporary "moral inversion" of truth (a Polanyian topic) and the "heteronomy" of thought (a Tillichean notion) is sorely needed to combat unbridled authoritarianism, selfish ambition, and vacuous claims to certainty, from both the "right" and the "left."

Lest I turn this podium into a pulpit, and since my time has elapsed, let me close by citing some concluding remarks in an essay I wrote in a 1986 essay that was based upon an oral presentation I made at a conference at Hope College in Holland, Michigan, on the centennial of Tillich's birth. I said that Tillich's view of reason has the structural framework to buttress an ontology and an epistemology that are dynamic and not static, subject to rational assessment, and personal (or participative). With the following words I then concluded that Polanyi's theory of personal knowledge is a promising candidate: "Polanyi . . . developed an epistemology and a correlative ontology (a stratified universe) that provide the beginnings for a constructive philosophy that awaits development and application to theology."⁶

Endnotes

¹ See my essay "Theological Reasoning: A Tillichean Perspective," *Soundings* LXIX (Winter, 1986): pp. 423-435.

² In *Philosophy Today* 7 (Spring, 1963): pp. 4-14.

³ "Participation and Knowledge: Problems of an Ontology of Cognition," *Main Works / Hauptwerke*, Vol 1/Bd 1: Philosophical Writings / Philosophische Schriften; Ed. by Wenz, Gunther. Berlin and New York: De Gruyter, 1989, pp. 382-389.

⁴ See Barbour, *When Science Meets Religion*, pp. 36-38.

⁵ Foster's term for them.

⁶ Musser, "Theological Reasoning," pp. 433-434.

Electronic Discussion List

The Polanyi Society supports an electronic discussion group that explores implications of the thought of Michael Polanyi. Anyone interested can join. To join yourself, go to the following address: http://groups.yahoo.com/group/polanyi_list/join. If you have difficulty, send an e-mail to Doug Masini (masini@etsu.edu) and someone will see that you are added to the list.