

The Christian Encounter of Paul Tillich and Michael Polanyi

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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

Durwood Foster is a theologian who taught for many years at Pacific School of Religion/Graduate Theological Union. Foster took an A.B. at Emory University and then a B.D. and Ph.D. at Union Theological Seminary and was a student of Paul Tillich. He has written scholarly articles on Tillich (and other topics) and, in 1996, he edited *The Irrelevance and Relevance of the Christian Message*, (Cleveland, Pilgrim Press). This book is the 1963 Tillich Earl Lectures given at Pacific School of Religion, the occasion of Tillich’s meeting with Polanyi.

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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