

# Polanyi and Newman: A Reconsideration

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## ABSTRACT

*The author's doctoral dissertation on the theological implications of the epistemologies of John Henry Newman (1801-1890) and Michael Polanyi (1891-1976) operated on the assumption that Polanyi's work was independent of Newman's. That assumption was wrong. Polanyi read Newman's Grammar of Assent twice and took at least five pages of notes on it; he also had a copy of the book in his personal library when he died. He mentioned his reading to a friend, but indicated that he could not quote Newman because to do so would distort Newman's meaning. The purpose of this essay is to defend the thesis that the similarities between the epistemologies are real and to speculate why diagramming the relationship between the two systems of thought was not a worthwhile project for Polanyi.*

When I wrote my Ph.D. dissertation, "Illative Sense and Tacit Knowledge: A Comparison of the Theological Implications of the Epistemologies of John Henry Newman and Michael Polanyi,"<sup>1</sup> I believed that Michael Polanyi's work was completely independent of John Henry Newman's *Grammar of Assent*: "I cannot find any evidence that Newman's epistemology in any way influenced Polanyi's" (*Personal Catholicism*, xxii). Since that time, I have found evidence that Polanyi had twice read Newman's *Grammar of Assent* (hereafter cited as *GA*), which raises the question of what kind of influence Newman may have had on Polanyi.

Some of the evidence of Polanyi's reading of the *Grammar* was available when I wrote my dissertation; it is my fault that I did not find it then. The most interesting note did not turn up until 2010, when I did a final survey of the material Bill Scott had collected for *Michael Polanyi: Scientist and Philosopher*.<sup>2</sup> On January 27, 1959, Hugh O'Neill, one of Polanyi's earliest and best friends from Manchester, invited Polanyi to give a talk on "Scientific and Non-scientific Ways of Thought" to a Newman association. Polanyi regretfully declined the invitation, then, in a postscript, told O'Neill that he had read the *Grammar* twice:

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P.S. I have read Newman's work on the illative sense (at Dorothy Emmet's recommendation) before publishing Science Faith and Society (1946) and have studied it again before sending off the MS of Personal Knowledge but I found that I could not quote him without attributing to him a meaning he would not accept nor in fact intended.

Insofar as my thesis was that Newman and Polanyi are in substantial agreement about epistemology, I must disagree with Polanyi's view that he "could not quote him [Newman] without attributing to him a meaning he would not accept nor in fact intended."

There are, of course, any number of difficulties in mapping one person's thought over another's, but I have several advantages that Polanyi lacked.<sup>3</sup> He was largely self-taught in philosophy; I have had years of discipleship in the Catholic philosophical tradition under the tutelage of many masters. When Polanyi read the *Grammar* prior to publishing the first edition of *Science, Faith, and Society*, he was not yet in full possession of his own philosophical thought, which he worked out over the next seventeen years and then viewed retrospectively in the introduction to the 1963 version of *Science, Faith, and Society*; I read the two authors from the standpoint of their completed careers. Polanyi seems only to have read the *Grammar*; I drew on Newman's *University Sermons* in which he first explored the topic of informal reasoning and placed his reflections on the illative sense in that larger context.<sup>4</sup> Polanyi's great strength and weakness as he moved from medicine to physical chemistry and then to economics, sociology, philosophy, theology, and aesthetics was that he saw things with fresh eyes. He had interesting and valuable things to say in the humanities, but the fact that he was largely self-taught limited his ability to communicate his insights persuasively with established members of the discipline.

Polanyi's lack of familiarity with the philosophical tradition turns up in his correspondence with Marjorie Grene. Polanyi was very excited about what he saw in Kant: "To have lived as a scholar and missed Kant would be like visiting Egypt and missing the Pyramids."<sup>5</sup> Grene seems to have argued with Polanyi over his reading (or misreading) of Kant for years. In 1967, she threatened to picket one of his lectures carrying a sign, "UNFAIR TO IMMANUEL KANT!"<sup>6</sup> In order to defend my thesis, I must suppose that in a similar fashion, Polanyi failed to see the similarities between his work and Newman's because he had not sufficiently indwelt the philosophical framework to which Newman's work was oriented.

In asserting that there are substantial and demonstrable similarities between the thought of Newman and Polanyi, I am not charging Polanyi with dependence on Newman, nor am I faulting him for not mentioning Newman in his publications. The seeds of Polanyi's epistemology of tacit knowing and personal knowledge are evident in "The Value of the Inexact," a brief note sent to *Philosophy of Science* in 1936.<sup>7</sup> Over the next twelve years, Polanyi worked diligently to develop his personal understanding of the paradoxes of freedom in society, in economics, and in the life of the intellect, culminating in *Full Employment and Free Trade* (1945), *Science, Faith, and Society* (1946), and *The Logic of Liberty* (1951). It seems likely to me that the reason Dorothy Emmet recommended that Polanyi read Newman's *Grammar of Assent* was that she saw parallels between the work Polanyi had already done independently of Newman and the *Grammar*. Long afterward, she reported that she saw parallels between Polanyi and "others" who worked in the same vein, without supposing that the similarities diminished Polanyi's unique contributions to the dialogue:

Polanyi was concerned, rightly, to attack the notion that thinking, and indeed its testing, can be reduced to something purely objective, formal or specifiable. There is always the personal involvement of the thinker, judging, probing, following clues in the penumbra of unspecified "tacit" awareness which surrounds everything we are concentrating on in "focal" awareness. *Others have said this kind of thing*, but what is distinctive about the way that Polanyi says it, besides his marvelous spread of examples, is the central place he gives to personal commitment. If we cannot rely on impersonal criteria as sufficient guides, there is no way of evading the thinker's own personal judgment.<sup>8</sup>

There is no direct evidence of how much Emmet may have contributed to the development of *Science, Faith and Society*, but the 1946 edition was dedicated to her, which suggests that she must have earned Polanyi's gratitude by reading his drafts attentively and acting as a sounding-board for the work.

When O'Neill invited Polanyi to address the Newman Association, he mentioned in passing that Dorothy Emmet read the Association's journal. In her philosophical memoir, Emmet discussed "a problem over objectivity" in Polanyi's thought: "Polanyi wants to be on the side of the realists, but his fiduciary mode seems to produce an internal view of truth."<sup>9</sup> She used Newman to clarify her criticism of Polanyi:

There is the difference between what Cardinal Newman in *The Grammar of Assent* called 'notional' and 'real assent.' For Polanyi, all assent should be real assent, 'accredited' by a personal act of commitment. I think, however, there is an ambiguity in his concept of 'commitment.' Commitment to what? One can be committed to seeking truth, and in doing so admitting that one's beliefs are corrigible, so that commitment to the truth of a particular belief does not have the same irreversible quality that attaches to the commitment to truth itself (*PAF*, 83).

Emmet warned that giving too much weight to the act of faith involved in personal knowledge tended to cut Polanyians off from dialogue with critics:

In combining truth, assertion, and commitment Polanyi was in fact drawing attention to the tension between faith and criticism about which I spoke earlier in this chapter. I do not think he resolved this—if it is resolvable—but this was because he was firmly on the side of faith. This could lead to a manner of preaching rather than arguing, and also to a stereotyped and simplified version of his views which he was attacking. I mention this as it is an attitude which can be found in some of his followers, more strongly indeed than in Polanyi himself who used to say to me 'Keep on with your criticism.' It hinders their effective engagement with other philosophers (*PAF*, 84).

Emmet ended her remarks on her friendship with Polanyi by expressing her admiration for his exploration of tacit knowledge and his testimony about the "actual processes of discovery, where the personal factor is clearly present" (*PAF*, 84).

On balance, I take comfort in the fact that a philosopher with Emmet's credentials saw parallels between Newman and Polanyi. At the same time, she shows little inclination to follow in either man's footsteps; where Newman and Polanyi express conviction that we can know some truths with certitude, both in the immanent and in the transcendent order, Emmet remains non-committal:

A metaphysical thinker may try to see life steadily; he cannot see it as a whole. He can only express what he grasps in the perspective of his experience. But the right word, giving articulation to the living relations out of which this perspective is constituted, can enlarge and not straiten further possibilities of responsive awareness. The word gives form to experience; it does not copy the structure of the real. But experience so informed itself arises out of interrelationships. To indicate the possibilities of such relationships and to bring them into conscious articulation is a distinctive task of metaphysical thinking.<sup>10</sup>

So, from Emmet's standpoint, there were resemblances between the insights of Polanyi and Newman, but neither provided a metaphysical standpoint that she found satisfactory.

Phil Mullins spotted another interesting note in the Regenstein Polanyi archive. It is on the third page of notes that Polanyi took on *Ideas and Men* by Crane Brinton,<sup>11</sup> dated "15 November 1951": "re-read Newman, *Grammar of Assent*. 'illative sense' (?)" (23:3). The index of *Ideas and Men* cites seven

pages that have a reference to Newman; on six of them, Brinton discusses “illative sense” as well. It is not surprising that reading Brinton’s reflections on the *Grammar* led Polanyi to consider re-reading it, paying special attention to what Newman says about the illative sense.

Brinton introduces the illative sense in the context of Newman’s theory of the development of doctrine: “In a higher world it is otherwise, but here below to live is to change, and to be perfect is to have changed often.”<sup>12</sup> Knowing what changes are good and what are destructive cannot be decided by “any simple scientific test”:

For that we must rest on what Newman called our illative sense ... It would be unfair to say that Newman’s illative sense is basically William James’s famous pragmatic “will to believe”; certainly Newman does not say that we should believe what we want to believe. But he does insist that full human life on this earth has to be guided by something more than notions of truth that guide the experimental scientist in his laboratory; that something is a mixture of what we Americans call “hunch” and “know-how,” of aesthetic sensitivity, of moral sensitivity, of concrete experience of actual problems. Knowledge we arrive at through the illative sense is to knowledge arrived at by pure logic as a cable of many strands is to a single bar of steel; each is strong, but only one is of a simple, single piece (*IM*, 462).

Brinton saw that the illative sense provided an apologetic opening to secure not just religious faith but all of the values espoused in the humanities: “Only if we expect Christian truths as we find them at work among men to be perfect, unchanging, absolute, only, in fact if we are dogmatic where dogmas do not fit, shall we feel that our judgments of value are inferior in validity to the judgments of fact of the scientist” (463).

Brinton portrayed Newman as being critical of the same features in the culture of the Enlightenment that Polanyi later criticized in *Personal Knowledge*:

Newman’s own exercise of the illative sense led him in the direction of conservative politics, toward sustaining the existing system of social and economic relations. But the theoretical scaffolding he drew up is one of the very best for what is sometimes called liberal Catholicism, the conscious adapting of Christian attitudes to a greater degree of democracy, toward a greater acceptance of some of the goals of the Enlightenment. We have chosen Maistre, Burke, and Newman as examples of thinkers who attack from the point of view of traditional Christian cosmology and psychology the optimistic and rationalistic beliefs of the Enlightenment (*IM*, 463).

Looking at Newman from Brinton’s point of view seems to confirm my thesis that there is a great deal of congruence in their thought.

Polanyi’s cryptic comment to himself at the end of his notes on Brinton suggests that perhaps in his first reading of the *Grammar*, he had not understood how Newman’s ninth chapter (out of ten) on the illative sense is the keystone that completes his epistemology. The last words of the eighth chapter point in this direction: “Judgment then in all concrete matter is the architectonic faculty; and what may be called the Illative Sense, or right judgment in ratiocination, is one branch of it” (*GA*, 269).

There are five pages of notes on the *Grammar* in the Polanyi Archives at the Regenstein (24:10). The beginning of the notes reads: “Extract from An Essay in aid of A GRAMMAR OF ASSENT by John Henry Cardinal Newman. New Edition 1892. (163, N16, 292681).” Judith Shiel, a librarian at Merton College in Oxford, replied to my query about the call numbers: “The book is still on the shelves and I have found

that it was in the possession of Professor Samuel Alexander (it has an autograph inscription in it) and was part of the Alexander bequest, so it presumably came to the library after Alexander's death in 1938. It is not possible to determine when any particular person borrowed a book because the loan records for that period were on paper loan slips and were not kept" (email correspondence, March 27, 2002).

The eighteen quotations in the notes are from the first three chapters of Part II of the *Grammar*. To understand what aspect of Newman's thought they represent, we need a short sketch of the *Grammar*. In "Note II," appended to the work in 1880, Newman summarized the structure of the book: "The Essay begins with refuting the fallacies of those who say we cannot believe what we do not understand."<sup>13</sup> This is the purpose of Part I, "Assent and Apprehension." Part II, "Assent and Inference," has five chapters, but the fifth is an application of Newman's epistemology to theology, so the heart of his philosophical investigation is in chapters VI to IX. Newman said that in this section, "I proceed to justify certitude as exercised upon a cumulation of proofs, short of demonstration separately" (*GA*, 379). In the final analysis, it is the illative (reasoning) sense, operating largely in the tacit dimension, that takes such incomplete indications and crosses the logical gap between proof and assent. In Newman's words,

And to this conclusion he comes, as is plain, not by any possible verbal enumeration of all the considerations, minute but abundant, delicate but effective, which unite him to it; but by a mental comprehension of the whole case, and a discernment of its upshot, sometimes after much deliberation, but, it may be, by a clear and rapid act of the intellect, always, however, by an unwritten summing-up, something like the summation of the terms, plus and minus of an algebraical series (*GA*, 232).<sup>14</sup>

Here is an outline of the material considered in each of the five chapters of Part II:

- VI. Assent Considered as Unconditional
  - 1. Simple Assent
  - 2. Complex Assent
- VII. Certitude
  - 1. Assent and Certitude contrasted
  - 2. Indefectibility of Certitude
- VIII. Inference
  - 1. Formal Inference
  - 2. Informal Inference
  - 3. Natural Inference
- IX. The Illative Sense
  - 1. The Sanction of the Illative Sense
  - 2. The Nature of the Illative Sense
  - 3. The Range of the Illative Sense
- X. Inference and Assent in the Matter of Religion
  - 1. Natural Religion
  - 2. Revealed Religion

Eight of Polanyi's quotations are taken from Chapter VI, Section 1, "Simple Assent." One is taken from the next section, "Complex Assent." Eight quotations are taken from the second section of Chapter VII, "Indefectibility of Certitude." The final quotation is from the second section of Chapter VIII, "Informal Inference." It seems very likely, then, that these eighteen quotations are from Polanyi's first reading of the *Grammar*. If he took notes on his second reading, while thinking about the meaning of "illative sense" in the ninth chapter under Brinton's tutelage, they have not yet turned up.

A few of the quotations in this collection seem to foreshadow themes in Polanyi's later work. "If our nature has any constitution, any laws, one of them is this absolute reception of propositions as true, which lie outside the narrow range of conclusions to which logic, formal or virtual, is tethered; nor has any philosophical theory the power to force on us a rule which will not work for a day."<sup>15</sup> I believe this is precisely the mindset of Polanyi in formulating his fiduciary program:

Yet so be it. Only this manner of adopting the fiduciary mode is consonant with itself: the decision to do so must be admitted to be itself in the nature of a fiduciary act. . . . Nothing that I shall say should claim the kind of objectivity to which in my belief no reasoning should ever aspire; namely that it proceeds by a strict process, the acceptance of which by the expositor, and his recommendation of which for acceptance by others, include no passionate impulse of his own (*PK*, 256).

Both Newman and Polanyi were reacting to positivism in the philosophy of science that reduced knowledge to what was strictly proven. To use Polanyi's language, Newman should be ranked as a post-critical philosopher.

For Newman, simple assent is an acceptance of truths without conscious deliberation or critical self-appraisal. By contrast, "those [complex] assents which we give with a direct knowledge of what we are doing ... are few compared with the multitude of like acts which pass through our minds in long succession without our observing them" (*GA*, 189/157). Polanyi calls such simple assents "a-critical choices":

Objectivism has totally falsified our conception of truth, by exalting what we can know and prove, while covering up with ambiguous utterances all that we know and *cannot* prove, even though the latter knowledge underlies, and must ultimately set its seal to, all that we *can* prove. In trying to restrict our minds to the few things that are demonstrable, and therefore explicitly dubitable, it has overlooked the a-critical choices which determine the whole being of our minds and has rendered us incapable of acknowledging these vital choices (*PK*, 286).

The last quotation Polanyi took from the *Grammar* is from an example Newman gives of being forced to rely on a-critical choices in order to know his own mortality with certitude. "But what logic cannot do, my own living personal reasoning, my good sense, which is the healthy condition of such personal reasoning, but which cannot adequately express itself in words, does for me, and I am possessed with the most precise, absolute, masterful certitude of my dying some day or other" (*GA*, 300-301/239). Of course, it is the illative sense that is "my own living personal reasoning, my good sense" and "the healthy condition of such personal reasoning." Polanyi chose a much more helpful and intelligible name for this aspect of our mental life: tacit knowledge.

When the Polanyi Archive was opened at the University of Chicago, his books were donated to the Regenstein. All of the title pages were photocopied, along with any pages bearing personal inscriptions. The collection of title pages shows that Polanyi had an edition of the *Grammar* on his bookshelves when he died. It was edited and introduced by Charles Frederick Harrold (1947); the book was disposed of by the Regenstein long ago. Whether this was the edition Polanyi used in his second reading of the *Grammar* is unclear. I have many books on my shelves that I have not read, so it seems unfair to me to suppose that Polanyi necessarily read Harrold's prefatory material. Be that as it may, there is material in the introduction that seems to me to support a reading of Newman that brings him very close to Polanyi's understanding of tacit knowing.

Harrold portrays the *Grammar* as the culmination of 37 years of reflection by Neman on how “assent or belief is arrived at not primarily by logic or demonstration, but by “the whole man”— his feelings, memories, associations, etc.,” beginning in his book on *The Arians of the Fourth Century* (1833; xi).

It is in the *Oxford University Sermons* (1843) that we see Newman deliberately engaged on “an exploring expedition” to determine the nature of faith and reason, to show the grounds on which the (logically) untrained believer justifiably holds his belief, namely through “implicit” or unconscious reasoning, against a background of a “right state of heart.” In these sermons Newman is convinced that conscience gives us a glimpse of reality behind the physical world so piercing and compelling that we place it on a level with our knowledge of the external world as delivered through reason and the five senses. He is sure that logic is inadequate to a complete statement of our mental process, since so much of our reasoning is done subconsciously, mingling memories, emotions, associations with its strictly ratiocinative elements. Yet it is all this complex of conscious and subconscious activity that propels a man toward an assent. Again, “the whole man reasons,” not just the “mind” (xii).

Just as Polanyi strove to show the role of tacit knowledge and acts of faith in the realm of science, so Newman aimed “to show that the modern mind is not violating itself in certain acts of assent that transcend logic, but is following certain laws or patterns which bring certitude in any field, not merely in that of religion. Daily life...is a constant act of faith. Put differently, it rests largely on implicit or unconscious reasoning” (xiii).

The importance of using Harrold as a witness to this theme in Newman is that he wrote his introduction to the *Grammar* before Polanyi shared his first reflections on the tacit dimension in the Gifford Lectures (1951-1952) and *Personal Knowledge* (1958). Unlike my reading of Newman, which I did a decade after I had grown fond of Polanyi, Harrold’s reading cannot have been influenced by familiarity with Polanyi’s theory of tacit, personal knowledge. By the time I read the *Grammar*, it was second nature to me to look for associations with those themes in everything I read.

I am convinced that Polanyi did feel a resonance between his own insights, won by diligent reflection on his experience as a research scientist, and those of Newman, derived from a profound indwelling in the framework of the humanities. Having done my best to map one man’s vocabulary and convictions over that of the other, I understand why Polanyi shied away from figuring out how to correlate his worldview with Newman’s so that the intersections of their thought could be made apparent to his readers. Newman is a towering figure in some branches of Catholic thought, but he was not and is not one of the classic sources for philosophy in the last century. Like Polanyi, Newman was something of an outsider to professional philosophers and theologians. Newman had something to say that emerged from his immersion in the intellectual life of his day, and he said what he saw in a way that made it difficult to categorize him and correlate his view with classic philosophical systems. He was not an academic philosopher or theologian, but a visionary, a preacher, and an apologist. It is small wonder, then, that Polanyi did not consider it worthwhile to figure out how to quote Newman “without attributing to him a meaning he would not accept nor in fact intended.” Taking time to map his ideas over those of Newman would not cause his views to be more intelligible or persuasive to the leading figures in twentieth-century philosophy.

As the correspondence about the links between Polanyi’s thought and that of Thomas Kuhn shows, Polanyi was disturbed when he did not receive sufficient attention and respect for having explored the social structure of science before Kuhn.<sup>16</sup> At first glance, it may appear that Polanyi owed Newman some kind of tribute for anticipating many of the themes of *Science, Faith and Society*, *Personal Knowledge*, and

*The Tacit Dimension*. I suspect that Polanyi felt that his key insights into the structure of tacit knowing, the nature of the fiduciary program, and the sociology of scientific authority were not anticipated by Newman and that he therefore did not have to acknowledge priority on those grounds. Polanyi may also have wanted to avoid the appearance of supporting Newman's use of the epistemology of informal reasoning to advocate Catholic teaching. Newman discusses monotheism, the Holy Trinity, and Dogmatic Theology in Chapter V of the *Grammar*, then takes up Natural Religion and Revealed Religion in Chapter X. Newman defended the authority of the Church to define what Catholics must believe:

To her is committed the care and the interpretation of the revelation. The word of the Church is the word of revelation. That the Church is the infallible oracle of truth is the fundamental dogma of the Catholic religion; and 'I believe what the Church proposes to be believed' is an act of real assent, including all particular assents, notional and real; and, while it is possible for unlearned as well as learned, it is imperative on learned as well as unlearned (131).

Polanyi saw this as an "intolerable" (*SFS*, 59) burden on the conscience of theologians:

A Specific Authority on the other hand makes all important reinterpretations and innovations by pronouncements from the center. This center alone is thought to have authentic contacts with the fundamental sources from which the existing tradition springs and can be renewed. Specific Authority demands therefore not only devotion to the tenets of a tradition but subordination of everyone's ultimate judgment to discretionary decision by an official center (*SFS*, 57).

Polanyi hoped that his post-critical philosophy would free religious believers from "an absurd vision of the universe" and thus "open up instead a meaningful world which could resound to religion" (*TD*, 92), but the religion he had in mind was some variety of Protestantism, not the kind of Catholicism he may have thought Newman advocated. Newman's understanding of the proper role of authority in identifying and preserving revelation does not correspond to Polanyi's portrait of a "Specific Authority" that controls all "reinterpretations and innovations from the center," but this distinction is not well developed in the *Grammar*. It may well be that Polanyi kept silence about his reading of the *Grammar* in order to avoid raising theological questions far removed from his central concerns for the healing and renewal of European civilization.

As an assenting Catholic—one who accepts all that the Church authoritatively proposes to be true—I do not find the Church's authority to declare what has been definitively revealed a burden on my freedom of thought, but the unsurpassable beginning of thinking theologically.

Devotion is excited doubtless by the plain, categorical truths of revelation, such as the articles of the Creed; on these it depends; with these it is satisfied. It accepts them one by one; it is careless about intellectual consistency; it draws from each of them the spiritual nourishment which it was intended to supply. Far different, certainly, is the nature and duty of the intellect. It is ever active, inquisitive, penetrating; it examines doctrine and doctrine; it compares, contrasts, and forms them into a science; that science is theology. Now theological science, being thus the exercise of the intellect upon the *credenda* of revelation, is, though not directly devotional, at once natural, excellent, and necessary (*GA*, 127).

If my train of thought leads to the dissolution of the data of the faith, then I presume that my argument is defective, not the teaching of the Church that contradicts my argument. To paraphrase a commonplace,

as a Catholic theologian, I am entitled to my own theological opinions but not to my own theological facts. If I begin from or arrive at a creed that is demonstrably different from the Church's creed, then I have ceased to be a Catholic theologian and have become something else.

I very much enjoyed mapping Polanyi's epistemology onto Newman's in my doctoral work because I value Polanyi's authority as a successful scientist. His first-hand experience of how scientists define problems and discover ways to solve them adds weight to Newman's view that all certitudes are ultimately moral certitudes—all knowledge is quintessentially personal: "This certitude and this evidence are often called moral; a word which I avoid, as having a very vague meaning; but using it here for once, I observe that moral evidence and moral certitude are all that we can attain, not only in the case of ethical and spiritual subjects, such as religion, but of terrestrial and cosmical questions also" (*GA*, 252). Because "all knowledge is tacit or rooted in tacit knowing" (*Meaning*, 61; *KB*, 195; *SFS*, 10), scientists, like religious believers, must rely on their illative sense, the inchoate but real conscience of the intellect that commands us to assent or to refrain from assent.

Although I believe that finding intersections between their views strengthens Newman's argument, I am not confident that Newman's contributions aid Polanyi or Polanyians very much. Newman's key epistemic term, "illative sense," has been a failure in the marketplace of ideas. My thesis that Polanyi's theory of tacit knowledge bears a striking resemblance to Newman's understanding of the illative sense is of no interest or use to the vast majority of today's philosophers of science. Their interest lies elsewhere, and the correspondence between Newman and Polanyi does not solve any of their problems. My delight in the common features comes from theological interests, not purely philosophical. I find that Polanyi's understanding of personal knowledge sheds a great deal of light on what Newman called, in passing, "personal Christianity" (91).

In the last analysis, it is difficult to assess how much Polanyi's reading of the *Grammar* may have contributed to his own expression of his epistemology. I have never found a passage in Polanyi that feels to me as though it were lifted from Newman. Even if I had found Polanyi's notes on the *Grammar* and the title page to the edition on his bookshelves—as I ought to have done—I believe that it would have made very little difference in the outcome of my dissertation. Newman's motto as a Cardinal was "*Cor ad cor loquitur*"—"heart speaks to heart." I hear the heart of the nineteenth-century Cardinal speaking to the heart of the twentieth-century scientist and I am glad to have done what I could to bring that conversation to light.<sup>4</sup>

## ENDNOTES

<sup>1</sup>The Catholic University of America, 1991. Revised and published as *Personal Catholicism: The Theological Epistemologies of John Henry Newman and Michael Polanyi*, with foreword by Avery Dulles. Washington, D.C.: The Catholic University of America Press, 2000.

<sup>2</sup>William T. Scott and Martin X. Moleski (Oxford University Press, 2005).

<sup>3</sup>*Personal Catholicism*, xxi-xxii.

<sup>4</sup>See especially "Implicit and Explicit Reason," preached in 1840: "The mind ranges to and fro, and spreads out, and advances forward with a quickness which has become a proverb, and a subtlety and versatility which baffle investigation. It passes on from point to point, gaining one by some indication; another on a probability; then availing itself of an association; then falling back on some received law;

next seizing on testimony; then committing itself to some popular impression, or some inward instinct, or some obscure memory; and thus it makes progress not unlike a clamberer on a steep cliff, who, by quick eye, prompt hand, and firm foot, ascends how he knows not himself, by personal endowments and by practice, rather than by rule, leaving no track behind him, and unable to teach another. It is not too much to say that the stepping by which great geniuses scale the mountains of truth is as unsafe and precarious to men in general, as the ascent of a skillful mountaineer up a literal crag. It is a way which they alone can take; and its justification lies in their success. And such mainly is the way in which all men, gifted or not gifted, commonly reason, not by rule, but by an inward faculty” (*Fifteen Sermons Preached before the University of Oxford between A.D. 1826 and 1843 in the Definitive Third Edition of 1872* [Notre Dame, Indiana: University of Notre Dame Press, 1997], 257).

<sup>5</sup>Polanyi to Arthur Koestler, August 14, 1947 (Regenstein, 5:4).

<sup>6</sup>November 1, 1967 (Regenstein 16:1).

<sup>7</sup>Reprinted with introduction and comments as “The Value of the Inexact,” *Tradition and Discovery* 18:3 (1992): 35-36.

<sup>8</sup>“Truth and the Fiduciary Mode in Michael Polanyi’s *Personal Knowledge*,” *Tradition and Discovery* 14:1 (1986-87) 32; emphasis added.

<sup>9</sup>*Philosophers and Friends: Reminiscences of Seventy Years in Philosophy* (London: Macmillan, 1996), 82. Hereafter, *PAF*.

<sup>10</sup>See her *The Nature of Metaphysical Thinking* (London: Macmillan, 1953 [1946]), 227.

<sup>11</sup>*Ideas and Men: The Story of Western Thought* (Englewood Cliffs, N.J.: Prentice-Hall, 1950). Hereafter, *IM*.

<sup>12</sup>*Essay on the Development of Christian Doctrine* (New York: Sheed and Ward, 1960 [1845]), 30.

<sup>13</sup>*An Essay in Aid of a Grammar of Assent*, new edition, edited with preface and introduction by Charles Frederick Harrold (London: Longmans, Green and Co., 1947), 378. This is the edition of the *Grammar* that Polanyi had on his bookshelves when he died.

<sup>14</sup>I discuss how Newman’s notion of “cumulation of probabilities” resembles Polanyi’s view of the “tacit integration of subsidiaries” at some length in *Personal Catholicism* (104-107, 125-130).

<sup>15</sup>VI, 1, “Simple Assent.” The page number in Polanyi’s notes is 179; in the Lash edition, it is 150. I will give both page numbers in subsequent references—so, 179/150.

<sup>16</sup>Struan Jacobs, “Michael Polanyi and Thomas Kuhn: Priority and Credit,” *Tradition and Discovery* 33:2 (2006-07), 25-36; Martin X. Moleski, “Polanyi vs. Kuhn: Worldviews Apart,” *Tradition and Discovery* 33:2 (2006-07), 8-24.

## REFERENCES

- Brinton, Crane. *Ideas and Men: The Story of Western Thought*. Englewood Cliffs, N.J.: Prentice-Hall, 1950.
- Emmet, Dorothy. *The Nature of Metaphysical Thinking*. London: Macmillan, 1953 (1946).
- \_\_\_\_\_. *Philosophers and Friends: Reminiscences of Seventy Years in Philosophy*. London: Macmillan, 1996.
- \_\_\_\_\_. "Truth and the Fiduciary Mode in Michael Polanyi's Personal Knowledge," *Tradition and Discovery* 14:1 (1986-87) 32-36.
- Jacobs, Struan. "Michael Polanyi and Thomas Kuhn: Priority and Credit," *Tradition and Discovery* 33:2 (2006-07), 25-36.
- Moleski, Martin X. *Personal Catholicism: The Theological Epistemologies of John Henry Newman and Michael Polanyi*, with foreword by Avery Dulles. Washington, D.C.: The Catholic University of America Press, 2000.
- \_\_\_\_\_. "Polanyi vs. Kuhn: Worldviews Apart," *Tradition and Discovery* 33:2 (2006-07), 8-24.
- Newman, John Henry. *An Essay in Aid of a Grammar of Assent*. 1) London: Longmans, Green, and Co., new edition, 1892. 2) Edited with preface and introduction by Charles Frederick Harrold. London: Longmans, Green and Co., 1947. 3) With an introduction by Nicholas Lash. Notre Dame: University of Notre Dame Press, 1979.
- \_\_\_\_\_. *Essay on the Development of Christian Doctrine*. New York: Sheed and Ward, 1960 (1845).
- Polanyi, Michael. "The Value of the Inexact," *Tradition and Discovery* 18:3 (1992): 35-36.
- Scott, William T. and Martin X. Moleski. *Michael Polanyi: Scientist and Philosopher*. New York: Oxford University Press, 2005.