Ford opened this workshop with a discussion of Newman’s long and stimulating dialogue with William Froude, a distinguished mathematician, engineer, and hydrodynamicist. From 1844 until Froude’s death in 1879, the Catholic apologist and the agnostic scientist probed the nature of certitude in general and the relationship between faith and reason in particular. Ford called their correspondence a “prelude and a postlude to Newman’s Grammar of Assent,” which was first published in 1870.

Part of the pleasure for Newman in this relationship may have come from Froude’s “personification of Locke’s position on the nature and limits of human knowledge.” Although they disagreed about the nature of certitude, Froude found Newman a good listener: “You have always had . . . a special faculty of seeing how those [see] who see differently from yourself.” Perhaps the first lesson to be derived from the Newman-Froude debate is a pastoral one: in the continuing divergence between religion and science, what is needed are more people with Newman’s gift for entering into others’ way of seeing reality.

Because of his scientific background, Froude had a taste for speculative freedom and a distaste for dogmatic authority. “I could no more live in mental sympathy with a system under which Lourdes and la Salette are upheld and thrive, than I could breathe in an atmosphere of carbonic acid.” The rule of assent for Froude was that one could not agree to anything more than could be strictly proven. In science, there is no absolute certainty, but only a very high degree of probability that what one believes is true, so there is always a margin of uncertainty. Indeed, Froude felt that “Science makes progress by being always alive to its own fundamental uncertainties.” Using scientific method as a paradigm for all learning, Froude relegated religion to a separate sphere of “religious beliefs” that are impervious to scientific inspection. In this view, science appears to be the domain of reason acting on experience while religious faith seems to be a matter of willful submission to authority.

3LD 29:112.
4LD 29:111.
In responding to Froude, Newman took pains to demonstrate his agreement that knowledge depends mainly upon the experience of facts and that in concrete matters there is no formal "demonstration" of truth. However, he rejected Froude's conclusion that therefore it is improper to allow the mind to rest in certainty. In spite of their protests of scientific reasoning, there are concrete circumstances in which even scientists will (and should) act as if they are certain. In such cases, they rely on a type of judgment quite different from that which emerges from formal operations. In the Grammar, Newman called this the "illative sense," while in his last letter to Froude he spoke of it as "the inductive sense." This informal manner of reasoning may compel one to be certain even though the formal lines of logic do not go beyond probability.

The Newman-Froude debate shows that agreement in principle can easily turn into divergence, not only in practice but also in theory. Newman and Froude agreed that "probability is the guide of life." For Froude this principle led him to conclude that the achievement of certitude is impossible, because every scientific statement is always subject to revision. Newman took this same principle in the opposite direction: the accumulation of probabilities, under the aegis of the illative sense, can lead the mind to certitude. Because the same principle easily takes on a different life when placed in different systems, we need to proceed cautiously in declaring that we have found a way to unify the diverse cultures of science and religion.

Because the illative sense varies from person to person, it is a wellspring of diversity. Even in one person's experience, the power of informal reasoning operates unevenly due to the diversity of intellectual and experiential gifts—there is no reason to suppose that a scientific genius will understand politics. It is not only necessary to compare the similarities that occur in the process of exercising one's personal judgment, it is also necessary to respect the irreducible pluralism that emerges in the varied products of that illative sense.

Michael Polanyi (1891-1976) offers a striking contrast to the philosophy of science embraced by Froude. Moleski discussed Polanyi's notion of "tacit knowledge" in an effort to support Newman's claim that both science and religion operate on the basis of informal personal judgment. Polanyi's scientific credentials include studies in medicine, chemistry and crystallography. Unlike Froude, Polanyi was willing to recognize that we may make a commitment to a position even in the absence of formal proof: "The principle purpose of this book is to achieve a frame of mind in which I may hold firmly to what I believe to be true, even though I know it might conceivably be false." Polanyi held that it is tacit knowledge which enables us to be certain of what cannot be proven. "All knowledge falls into one of these two classes: it is either

*LD 29:112-14.
*LD 29:115. Had Newman forgotten his own terminology from the Grammar?
*Fey, 129.
tacit or rooted in tacit knowledge." 9 One significant clue to the reality of tacit knowledge is the common experience that "we know more than we can tell"10 because we can see so much more than we can say. Every frustration with the adequacy of language provides further evidence of the nature of tacit knowledge.

It is tacit knowledge which gives rise to articulation. Meaning arises from the tacit integration of many subsidiaries to a focus. "Thus the meaning of a text resides in a focal comprehension of all the relevant instrumentally known particulars."11 Knowledge therefore depends upon the tacit, informal skill of bringing subsidiaries to bear upon a focus. To know is to act wisely.

Polanyi uses the metaphor of "interpretative frameworks" to call attention to the way in which the subsidiaries of consciousness shape our vision of reality. Even though we dwell within these tacit frames of reference and employ them to reach definite decisions, we are unable to map them completely. We do not have the capacity to inspect the most important features of our own intellectual activity: "The curious thing is that we have no clear knowledge of what our presuppositions are and when we try to formulate them they appear quite unconvincing."12 Nevertheless, we cannot operate without such interpretative frameworks. Human knowledge is always a commitment to a structure that cannot be completely formalized.

The actions underlying human knowing are motivated by intellectual passions and are ruled by conscience, just as other human acts are similarly motivated and governed. It is this enthusiasm for knowing reality and the commitment to the notion of truth that enables the scientist to overthrow one inadequate interpretative framework after another: "I want to show that scientific passions are no mere psychological by-product, but have a logical function which contributes an indispensable element to science. They respond to an essential quality in a scientific statement and may accordingly be said to be right or wrong...."13 Believers have long been accustomed to the fact that what is appropriated by faith cannot be fully expressed in language. It is a comfort to see that scientists suffer from the same kind of perplexities. Religious faith no longer seems so peculiar when one recognizes that scientists also must stake their lives on interpretative frameworks that cannot be fully illuminated by the light of articulate and formal intelligence. Theology may also find itself liberated from models of scientific objectivity which neglected the personal grounds of knowledge. Under the influence of a post-critical model of science, theology may allow itself to be more informal, intuitive, illative and kenotic. A systematic theology inspired by the notion of tacit knowledge may tolerate wide divergences from its own system and uphold the certitudes of faith with a flexible confidence not only in the revealing God but in the recipient mind. If Polanyi is right that knowledge is essentially personal because of its tacit dimension, then we may speak not only of "personal

11PK 92.
12PK 59.
13PK 134-35.
knowledge” but also of “personal physics” and “personal Catholicism.” This approach holds great promise not only for finding common ground between religion and science but also opens doors to Evangelical and even New Age concerns. There is, of course, great danger in also opening the door to a flood of absurdities, so some principle of balance must be found to preserve the strength of critical reason even while locating it in a post-critical context.

In the discussion which followed, the question of the legitimacy of passing from probabilities to certitude was discussed. Is it really the case that a similar integrative power of the mind is at work in both science and religion? Does a community possess and exercise tacit knowledge? Some observed strong links between illative/tacit knowledge and feminist methods in theology.

One member objected to using Polanyi to read Newman, noting in passing that Wittgenstein had extensively annotated his copy of the Grammar and suggesting that there might be no end of commenting on commentaries. Moleski responded that no evidence has been found that Polanyi depended in any way upon Newman and that this should strengthen the apologetic value of the similarities.

Ford was asked whether Newman explains how to keep the illative sense healthy. He answered that, as with any matter of conscience, the more we use the illative sense, the better it gets. It is a matter of practicing a personal skill of judgment.

The seminar then explored the question of how to recognize and transform cultural interpretative frameworks. The pain of conflicting world-views gives us choices about how we will choose to envision ourselves. Can we operate with a multi-cultural awareness? Can we change the non-verbal underpinnings of our society?

We reflected briefly on the paradox that Polanyi wanted to renew the possibility of religious faith but hesitated to declare his own standpoint. Did his emphasis on tacit knowledge keep him from making his faith explicit? Does epistemology dictate theology?

Some attention was given to Newman’s own “Englishness” as an example of an inculturated theologian. Newman has very strong empirical tendencies. His goal was to see how assent works in fact, not to make up abstract rules for how it should work. We may believe what we cannot understand and assent to what we cannot prove because this is how the mind operates. It is a matter of fact that there is no standpoint free from illative assumptions—no completely articulate interpretative framework—from which some Cartesian system of clear and distinct ideas could be derived.

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