These reflections are a review of Marjorie Grene’s almost sixty year involvement with what I call the *Personal Knowledge* project. I here pull together some important things Marjorie Grene has said about *Personal Knowledge* (hereafter *PK*). But I cannot do that without also noting beforehand the important role that Grene played in working with Polanyi in the period leading up to the publication of *PK* on June 20, 1958. I also touch upon work Grene has done herself after the publication of *PK*. I emphasize that this paper primarily collects and interprets—rather than criticizes—the role of Marjorie Grene as Polanyi’s able associate, advocate and critic.

I. The Collaboration on the Gifford Lecturers and Personal Knowledge

Grene met Polanyi in the spring term of 1950 when he came to the University of Chicago as Alexander White Visiting Professor to give several lectures, most of which were likely drawn from the material that the next year was published as *The Logic of Liberty*. Grene heard at least one Polanyi lecture and apparently soon afterward became acquainted with Polanyi. What she heard in Polanyi’s lecture and soon afterward read in the copy of *Science, Faith and Society* that she rounded up, she must have regarded as promising philosophical seeds that might grow. She says of her earliest exposure to Polanyi that she “found his argument against positivism thoroughly convincing; in fact I thought he had found the very refutation of that movement that I had been unable to articulate twelve years earlier in Carnap’s seminar.” She also notes that she was or (quickly became) “deeply committed to what he [Polanyi] came to call [in his Gifford Lectures and later in *PK*] his ‘fiduciary program’: a kind of lay Augustinianism, in which we recognize that our reasoning always rests on the attempt to clarify, and to improve, something we already believe, but believe, of course, in such a way that we recognize

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1 See Marjorie Grene’s “Intellectual Autobiography” (hereafter “IA” in notes) in *The Philosophy of Marjorie Grene*, Library of Living Philosophers, Vol. 29. eds. Randall E. Auxier and Lewis Edwin Hahn (Chicago and LaSalle, IL: Open Court, 2002), 12. *The Philosophy of Marjorie Grene* is hereafter cited as *PMG*. “IA” is *PMG*, 3-28 and I draw extensively on “IA” here as well as my essay “On Persons and Knowledge: Marjorie Grene and Michael Polanyi,” in *PMG*, 32-36 which treats a number of the things discussed early in this essay. See also Marjorie Grene, *A Philosophical Testament* (Chicago and LaSalle, IL: Open Court, 1995), p. 91. *A Philosophical Testament* is hereafter cited as *PT*. There are many comments on Grene and her work with Polanyi in the Polanyi biography (William Scott and Martin Moleski, SJ, *Michael Polanyi, Scientist and Philosopher* [Oxford: 2005] cited hereafter as Scott and Moleski). See Scott and Moleski, 216 for comments on meeting Grene and 216-231 for various comments on her role with the Gifford Lectures and *Personal Knowledge*. My debts in this paper to the biography are many and I suspect sometimes that I am no longer clearly distinguishing these debts to the biography (or early drafts of the biography material) from archival material and the many scattered comments Grene makes in her own writing. Most of the citations here are to sources other than the biography (although the biography may have comments similar and may be relying upon the same archival sources).

2 *PMG*, 12.

3 *PT*, 91.
that we might be mistaken.” In any event, shortly after his Chicago lectures, Grene, who no longer had an academic appointment at Chicago, says she was asked by Polanyi to help him prepare his Gifford Lectures which he already was hard at work on. She reports that she was “delighted” to join in Polanyi’s struggle to do what he called “articulate the inarticulate” and that one of her first tasks in working with Polanyi was to find for Polanyi in the literature of biology “heresies in evolutionary theory, specifically critics of the evolutionary synthesis.”

Grene’s role in connection with the Gifford Lectures remains somewhat unclear. I think she may have helped a bit on the First Series delivered in May and early June of 1951, but it is almost certain that she helped on the Second Series in November of 1952. But the extent and full nature of Grene’s work on the Gifford Lectures is a matter about which I have found few records. This is the somewhat unsettled period in Polanyi’s life when he tried to leave Manchester to take an appointment at the University of Chicago but was denied a visa and then reassumed his position in Manchester. Grene was farming in Illinois and had small children, although she apparently did come to Manchester in the spring of 1952.

Later in 1952, Grene moved to Ireland and began a six year period in which she worked with Polanyi to turn his Gifford Lectures into *PK*. Although Polanyi somewhat naively hoped quickly to turn out *PK*, it was a long process that Grene was very directly and importantly involved in. There is no extant copy of Polanyi’s original Gifford Lectures but Grene donated to Duke in 1969 two loose-leaf binders which Polanyi had apparently given her in May, 1957 in appreciation for her work on *PK*. This material is apparently a somewhat revised version of the Gifford Lectures; it differs substantially from the published *Personal Knowledge*. Some of the material may come from as late as 1954. After she moved to Ireland, Grene apparently frequently came to Manchester to work with Polanyi and may have also worked in other settings. She gathered material for chapters, discussed it with Polanyi, and reviewed and commented on drafts as they were

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8 *PMG*, 13-14.
9 *PT*, 91.
5 *PMG*, 34.
6 *PMG*, 34.
7 This is discussed a bit in the biography. See Scott and Moleski, 217ff. The letters in the not-yet-public Shils archive at the University of Chicago, however make clear that stress of this encounter with the US immigration authorities in the era of McCarthy was much more traumatic than the biography indicates.
8 *PT*, 5 and *PMG*, 32-33.
9 Scott and Moleski, 216-236, in the discussion of Polanyi’s visits to Chicago, his preparation of the Gifford Lectures and the years of work on *Personal Knowledge*, mention several details about Grene’s work with Polanyi. For my attempt to summarize some of this and link it with things Grene has said and archival tidbits, see *PMG*, 34-36.
10 Polanyi letter to Oldham, 5 March 1953, Box 15,Folder 5, Polanyi Archive, Department of Special Collections, University of Chicago. Citations to Polanyi archival material are used with permission and are hereafter foreshortened to the box and folder number.
11 Gerald Smith’s “Introduction” to the Duke microfilm of this material suggests this dating. I agree with Smith that the sometimes ambiguous penciled notes on this typescript likely imply that this material is a very early (some of it perhaps as late as 1954) step toward *PK*–in other words this material is likely close to the original Gifford texts. Polanyi probably had some of the lectures carefully typed up for the original delivery but may have had only handwritten texts for some. A handwritten note included with Gifford Series 1, Lecture 1 indicates this material was give to Grene in May, 1957.
written. Elizabeth Sewell, who was in Manchester from 1955 to 1957 and was also involved in work on *PK* and knew Grene, noted what she called the “close and constant professional connection” between Grene and Polanyi. Sewall says that she watched Grene work with Polanyi “with admiration and some astonishment” and recognized that Grene was “was integral to Michael’s professional life.” She comments that

Marjorie’s whole work time was devoted to the *Personal Knowledge* enterprise. A professional philosopher and a born teacher, explicator, redacteur . . . one had the sense of her constant presence in Michael’s day-to-day endeavours, checking and suggesting references, discussing the work with him, arguing, extricating as far as possible the Germanic touches in his style.  

I have found few comments from Grene herself about her work with Polanyi in this period from which few letters are preserved. In her *PMG* autobiographical remarks, Grene says she “acted partly as Polanyi’s research assistant and chiefly, I think, as editor and as advisor in the history of philosophy.” In another place, she admits being somewhat puzzled in 1953 or 1954 that Polanyi took a whole year to write the Articulation chapter of *PK*. She says she only later came to appreciate that this chapter treating the “understanding of understanding, of rationality itself” was one that demanded “an understanding of the way in which the subsidiary supports the focal, in particular of the way in which the ineffable supports the activities of voice and pen.” Grene acknowledges that she did not always see clearly where Polanyi was headed, but it seems likely that Polanyi himself did not always himself see how things were to be worked out. That is, there were topics like “Two Kinds of Awareness” in the Gifford Lectures that are broached but not developed until working out chapters like “Articulation.” Grene’s early interest in Polanyi’s work was on the justification of dubitable belief, but she has acknowledged that she did not foresee the importance of Polanyi’s early interest in unspecifiability as the key to the justification of dubitable belief.

If later correspondence between Grene and Polanyi is in any way representative, it seems very likely that Grene’s working relationship with Polanyi was one in which she was a strong-minded and often blunt critic who sometimes convinced Polanyi that she knew best. Sewell’s reflections don’t capture the fiery Grene. Her later letters to Polanyi about his writing often straightforwardly say to Polanyi what she thinks he should and

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12 Quotations here from Sewell are from “Memoir of Michael Polanyi” by Elizabeth Sewell, Box 46, Folder 12, typescript p. 20 and pp. 14-15.
13 Grene statement in “IA” (*PMG*, 13) however says much of her work with Polanyi was in correspondence but there is not much of this in the Polanyi archive.
14 *PMG*, 13.
16 Grene implies this in “TK,” 165 when she says “these puzzles of the organization of science might have culminated in a philosophical ethic, or theory of natural law, and at one time, I believe about 1952, that is the direction in which Polanyi hoped the second series of Gifford lectures would take him.”
17 See *PT*, 168.
should not claim; frequently, she insisted that he rework his prose. Grene was one of the small group of people Polanyi identified as having read the whole manuscript of *PK* before it was published after it was completed in March 1957. A May 12, 1958 letter to Oldham indicates she, like Oldham, particularly wanted further work on the draft of the last chapter. She appreciated the criticisms of Oldham which apparently were the tipping point leading Polanyi extensively to rework the final chapter:

... having just finished re-reading *Personal Knowledge*, I really must tell you how very grateful I feel to you for your criticism of the MS a year ago. I was in despair over the then extant version of the final chapter, which at that stage was by no means up to the standard of the rest of the book, but until you read the whole thing I had been quite unable to persuade Professor Polanyi that it (the concluding chapter, I mean) did need radical rewriting. But when you wrote him (though more courteously) almost what I had been saying myself, he did of course really do it over--and as you will have seen achieved absolutely the right finale, and in fact some of the most important and original conceptions in the whole work. Western philosophy owes you a great debt!

Although the records of Grene’s work with Polanyi on *Personal Knowledge* are sketchy, what is clear is that Polanyi was immensely grateful to Marjorie Grene and intended in the Acknowledgments to *Personal Knowledge* to recognize that “she has a share in anything that I may have achieved here”:

This work owes much to Marjorie Grene. The moment we first talked about it in Chicago in 1950 she seemed to have guessed my whole purpose, and ever since she has never ceased to help its pursuit. Setting aside her own work as a philosopher, she has devoted herself for years to the present enquiry. Our discussions have catalysed its progress at every stage and there is hardly a page that has not benefited from her criticism.

I don’t think Grene, or Polanyi for that matter, in 1950 saw through the whole *Personal Knowledge* project. I do, however, suspect that Grene’s role in putting together *Personal Knowledge* may have been more important than it will ever be possible

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18 Some of the archival correspondence related to the work on *Knowing and Being: Essays by Michael Polanyi* (Chicago: University of Chicago Press, 1969) [hereafter *KB*] make Grene’s approach plain. She refused to include some essays Polanyi wanted that she thought inferior and she refused to allow Polanyi to do some revisions on ones she did include. It seems very likely that she did some revisions in articles that she did want herself rather than trust Polanyi to make the changes. Grene made rather clear that she sometimes thought Polanyi continual revisions marred the quality of his writing and she seems to have thought his writing often had Germanic elements that should be eliminated.

19 *PK*, xv.

20 Oldham letter to Polanyi, May 11, 1957, Box 15, Folder 5. This careful 6.5 page letter criticizing the manuscript of *PK* was certainly an important response to Polanyi. See my discussion of the concerns in this letter and Oldham’s influence more generally in “Michael Polanyi and J. H. Oldham: In Praise of Friendship,” *Appraisal*, vol. 1, no. 4 (Oct. 1997): 179-189.

21 Grene letter to Oldham, May 12, 1958. 10.4.Oldham Archive, Edinburgh University Library.

22 *PK*, xv.
definitively to establish. What is perhaps more important is that this collaboration is still yielding good fruit. One only has to read the final chapter of Grene and Depew’s 2004 *The Philosophy of Biology: An Episodic History* to see this. Here these authors argue that philosophy of science, long caught between the residue of logical positivist views and social constructionist views, should be reshaped by the best of the recent tradition in philosophy of biology. Although there is but one reference here to Polanyi, the tracks of the *Personal Knowledge* project and Grene’s work with Polanyi thereafter can be clearly seen.\(^{23}\) In her recent intellectual autobiography (as well as in *PT*) Grene explains that her post-*PK* philosophical career developed in two directions; she pursued interests in history of philosophy and philosophy of biology and this 2004 book, of course, brings the two interests together.\(^{24}\) I expect Grene will eventually come to be regarded as one of the seminal figures from the philosophy camp (as opposed to the biology camp) in the development of philosophy of biology after 1960.

II. Marjorie Grene and the Interpretation of the *PK* --Early and Late

A. Early Comments

Soon after, if not before, the June 20, 1958 publication of *PK*, Grene seems to have become interested in seeing that *PK* was understood by philosophers and other readers.\(^{25}\) Michael Oakeshott wrote a review of *PK* for *Encounter* that was published in September of 1958.\(^{26}\) On the whole, it is a positive review,\(^{27}\) but it did not please Grene. For purposes of simplification, I parse Polanyi’s philosophical perspective in *PK* in terms of three elements: critical philosophizing that attacks some important elements of the

\(^{23}\) Marjorie Grene and David Depew, *The Philosophy of Biology: An Episodic History* (Cambridge: Cambridge University Press, 2004): 348-361. This final chapter much resembles the argument in Grene’s 1985 article, “Perception, Interpretation, and the Sciences: Toward a New Philosophy of Science” (*Evolution at a Crossroads: The New Biology and the New Philosophy of Science*, ed. David J. Depew and Bruce H. Weber [Cambridge: MIT Press]: 1-20). As I note below, I argued in 2002 that Grene’s 1995 *PT* which reflects on her work in several areas of philosophy over her long career shows philosophical convictions that are generally consistent with Polanyi’s perspective (*PMG*, 31-60). Grene’s response to my case was this: “Mullins is also probably correct in believing that my years of working with Polanyi have continued to influence my thought and writing, more than I have recently recognized” (*PMG*, 61). She does go on to say she later developed interests “decidedly extra-Polanyian” (*PMG*, 61) which certainly is the case but my point is that the way in which she pursues these interests bears the mark of her collaboration with Polanyi.

\(^{24}\) See her discussion in “IA,” especially *PMG*, 14-26.

\(^{25}\) It seems likely that Grene was interested, in the period immediately before publication, in the project of getting *PK* reviewed. Her correspondence with J. H. Oldham in May and early June of 1958 touches several matters (one treated above, her thanks to Oldham for his criticism of the first draft of the last chapter of *PK*) and it seems likely that the available record of the correspondence is incomplete. However Oldham’s lengthy June 4, 1958 letter to Grene (Oldham archive, 10.4) outlines at length his thinking about what he dubs the “delicate matter” concerning “the question of reviewing.” He proposes to Grene that “one or two people take a short time to think over one by one the journals and papers that are important.” He notes that “the aim is not propaganda or advertisement or anything of that kind, but merely to ensure that a book of importance is not overlooked through accident or pressure of other things.”

\(^{26}\) Michael Oakeshott, “The Human Coefficient,” *Encounter* vol. 11, no. 3 (1958): 77-80. This review is hereafter noted by page number and the author’s name.

\(^{27}\) Scott and Moleski, 231, note that there were more that twenty reviews between 1958 and 1960 and they were decidedly mixed.
modern tradition of philosophy; constructive philosophizing that articulates an alternative to some but not all elements of philosophy since the Enlightenment; and the articulation of a Lebensphilosophie. I think these three elements are woven inextricably together in PK and particularly the last two.28 Oakeshott clearly sees the critical philosophizing elements in PK, but he is rather unclear about the constructive philosophizing and he does not see how in a post-critical philosophy the Lebensphilosophie is fundamental (although he does briefly praise Part IV of PK). Oakeshott does not see the order of PK; he describes the book as “disordered, repetitive, digressive, and often obscure; as a work of art it leaves much to be desired.”29 Although Oakeshott notices Polanyi’s attention to discovery and his emphasis on skill and personal judgment, he fears that Polanyi’s constructive philosophizing sets forth an understanding of knowledge as subjective and does not really provide a theory of scientific knowledge. He hints that Polanyi may be philosophically innocent, noting that he hears faint “Hegelian echoes” or perhaps a Platonic resolution to the problem of rationality and certainly Polanyi does not give skepticism its due.30

Grene responded to Oakeshott’s review and this was published as a long letter titled “Personal Knowledge” in the October, 1958 issue of Encounter.31 She concedes that the argument of PK is “difficult” but she affirms that it is “luminous” and “convincing” (67). She points out that PK is the only modern work in philosophy that focuses on theory of knowledge which “can answer and therefore fittingly transcend the epistemological problems with which critical minds, from Descartes onward, have been preoccupied”(67). She counters Oakeshott’s claim that PK recognizes the personal coefficient in knowledge but does not really offer a theory of scientific knowledge by laying out the argument of PK in terms of its four sections. Parts One and Two are “primarily descriptive”(67). Part One “establishes the basic analogy between scientific knowing and skilful doing” and Part Two “elaborates and extends it to a panorama of the inarticulate aspect of intellectual life” (67). Part Three addresses the problem of how personal knowledge can be justified This is a section in which the argument is “turned back upon itself”(67). It points to “the paradox of self-set standards--which is the argument’s recurrent theme”(67) and this theme is “restated in a reflective assessment of the calling of man” (67):

It is through the conception of the personal, involving both the givenness and the fallibility of situation and the dignity of universal intent, that the commitment of the philosopher and the scientist is justified. . . The scientist is a believing, seeking, fallible person and this truth is essential to

28 I have elaborated in several places this admittedly artificial but nevertheless useful, three-pronged approach to PK. See “The Spectrum of Meaning: Polanyian Perspectives on Science and Religion,” Zygon: Journal of Religion and Science (vol. 17, no. 1), March, 1982: 3-8 or the first section of my forthcoming review essay in Political Science Reviewer titled “On Reading Polanyi and Reading About Polanyi’s Philosophical Perspective: Notes on Secondary Sources.”

29 Oakeshott, 77.

30 Oakeshott, 79.

31 Marjorie Grene, “Personal Knowledge,” Encounter vol. 11, no. 4 (1958): 67-68. Since Grene’s response is printed on only two pages, citations hereafter are in the text in parenthesis following the quotation. Grene apparently sent the draft of this letter to Oldham since a typescript is in the Oldham archive, 10.4.
the nature of his scientific knowledge: that is the fact stated in Part One and exhibited on a broader canvas in Part Two. The philosopher, as such a person likewise, now turns in explicit reflection to recognise this paradox; and that very recognition, made explicit, resolves the paradox, or at any rate confirms it and makes it bearable (67).

Grene downplays any Hegelian echoes in *PK* by suggesting “if *Personal Knowledge* is Hegelian, it is a Hegelianism purged by the Kierkegaardian critique . . . for the existential root of philosophical reflection is an absolute, the only intellectual absolute” (68). She says that she would prefer to see the argument of *PK* in a Kantian context:

... if we take Kant’s argument seriously, unhampered by the limits of his formalism, it leads straight to the concept of personal knowledge--for it expresses the logical dependence of order on the person who both gives the order and submits to it. And when the transcendental unity is filled in to become a living person, the transcendental object is filled in also to be more than an X behind a phenomenal world. We cannot, indeed seize upon reality with our hands, but it is reality, not its shadow, which in hope and humility, we understand, misunderstand, and seek to understand anew(68).  

Finally, Grene notes that while Polanyi in Part Three “has been reflecting on the scientist’s calling, which is in its essential structure his own calling too,” in Part Four he puts this act of reflection, this person striving to make sense of things, into the context of nature:  into the stratified world of ever richer living things.  . . . The epistemologist knowing his own knowing, and the biologist knowing the ongoings of other living things, here coalesce (67).  

B. Late Comments

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32 See also Grene discussion of Kant (especially 140-156) in her chapter on Kant in *The Knower and the Known* (Berkeley: University of CA Press, 1966): 120-156. *The Knower and the Known* is hereafter foreshortened to *KK*.

33 Many scholars interested in Polanyi know Grene’s *KK* which was published in 1966 but she says was mostly written from 1961-1963 (*KK*, “Preface to the Paper-bound Edition of 1974). The book draws on articles written in the late fifties and early sixties and is an example of both Grene’s developing interest in history of philosophy and philosophy of biology. *KK* has chapters on important figures in the history of philosophy as well the interesting chapter “The Faith of Darwinism,” which by 2002 Grene regarded as misguided (*PMG*, 16-17). There are many references in *KK* to Polanyi and/or Polanyi’s writing, including *PK*. In many ways, this book reflects that Grene has digested *PK* and other Polanyi writing from just after *PK*. Certainly one could argue that this book deserves attention in this section of the discussion as an early Grene response to *PK* but space does not permit such a discussion in this paper. Also, unless, I have overlooked it, there is no section in *KK* that is a sustained reflection on *PK* as a whole. More typical are discussions like that in “The Faith of Darwinism,” a chapter discussing the assumptions of NeoDarwinism. The references to Polanyi and *PK* are scattered but it is easy enough to see that Grene’s questions and responses are very akin to things that are developed in discussions in *PK*. 

Grene occasionally commented on Polanyi’s thought and elements of *PK* in several of her publications over the last forty years. I have not carefully read all of her later publications nor am I confident that I have always understood everything that I have read. I regard Grene as a fertile mind whose achievements over a long life are nearly as remarkable as those of Polanyi. As I have noted above, it is a fair summary of Grene’s philosophical career to say that after working on *PK* she wrote many things that might be classified as philosophy of biology, but she also did writing on figures in the history of Western philosophy. She commented in 2002 that these post-Polanyi interests are “so to speak, decidedly extra-Polanyian” (*PMG*, 61) but I am not so sure that Grene’s approach in these areas of endeavor is decidedly un-Polanyian. About her early work in the history of philosophy with Polanyi, she remarks “I did indeed try to assist him with historical information when it was needed; but he thought of history from a scientist’s point of view—as a source from which to cull tidbits, but no more” (*PMG*, 61). As her books and chapters treating the history of philosophy show, clearly Grene believed the “tidbit approach” is inadequate. I believe that at least some of Grene’s work in the history of philosophy—that is, elements of her trenchant analysis of the problems of significant thinkers—does reflect tacit assumptions, epistemological and metaphysical, that she shares with Polanyi. Also I think that it is clear that the inception of Grene’s work in philosophy of biology goes back to work with Polanyi on *PK* and I believe some of her more recent work in this area, despite her later sharply critical words about Part IV of *PK*, still shares ground with Polanyi. Grene has in fact acknowledged the importance of the *Personal Knowledge* project when she commented in 2002 that it is “probably correct . . . that my years of working with Polanyi have continued to influence my thought, and writing, more than I have recently recognized” (*PMG*, 61).

A little over a year after Polanyi’s death, Grene published “Tacit Knowing: Grounds for A Revolution in Philosophy,” (“TK”) which I regard as the finest short analysis of Polanyi’s philosophical achievement. It is a developmental analysis of Polanyi’s thought and it draws, at least indirectly, on Grene’s own developing post-*PK* work on the history of philosophy. Grene both analyzes *PK* and situates it in a broader context of Polanyi’s emerging thought. She says Polanyi’s first philosophizing was motivated by the “problem of the administration of science” (or the problem of “the structure of a ‘society of explorers’”) [165]) which led him to “the question of the justification of dubitable beliefs”34 (165) by 1950 when he is working on the Gifford Lectures (i.e., when Grene meets him), which Polanyi addresses by working out what he calls the “fiduciary program,” which is the key to Polanyi’s early account of personal knowledge.35 The “fiduciary program” is the odd name for Polanyi’s constructive

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34 Grene makes clear that Polanyi’s interest (as well as her own) in “dubitable belief” is quite different than the standard discussion in philosophy of justified true belief. She suggests that Polanyi is generally not attuned to all the philosophers’ talk about justification but he wrestles with the problem coming from a background in science. See her discussion “TK,” 166-167.

35 Polanyi notes in the 1964 Torchbook edition of *PK* that there are forty declarations of belief listed under “fiduciary program” in the index (*PK*, ix). Grene and her children did the index so she is certainly mindful of the importance of this key term (See “TK,” 167), which however goes back earlier than *PK*. In the syllabus of the Gifford Lectures, First Series, similar language (“fiduciary mode” and “fiduciary philosophy”) is used in the precis of Lecture 6 (Box 33, Folder 1). There are indications Polanyi was already discussing “the fiduciary mode” in 1948 before he met Grene. See my discussion of Polanyi’s
argument which ultimately articulates an “epistemology of science” (166) in *Personal Knowledge* and the argument, Grene emphasizes, is basically analogical: Polanyi’s method “consisted essentially in broadening and stabilizing the interpretive circle through a series of analogies, by showing that human activities of many kinds are structures in the same hopeful yet hazardous fashion as those of science” (167). Polanyi links his account of commitment in science with the broader range of responsible committed human endeavor:

... the account of commitment, expanded to a fiduciary programme, showed us science as one instance of the way in which responsible beings do their best to make sense of what is given them and yet what they, by their active powers, have also partly already enacted (167).

The line between perception and scientific discovery is unbroken in Polanyi’s narrative. He carefully works out his themes concerned with self-set standards and universal intent. 36 He is a realist 37 who pays attention to scientific practice and the history of science. Grene thus clearly recognizes that the “Two Kinds of Awareness” lecture in the Gifford Lectures is the seed that grows, by the time of *PK* into Polanyi’s richer discussions of focal and subsidiary awareness, the operation of skills, problem solving and scientific discovery. But this germinating seed then becomes the mature Polanyi account we later know as the theory of tacit knowing. That is, “two kinds of awareness” is first the key to “the justification of dubitable beliefs” (165) but then blossoms into the full-blown theory of tacit knowing that gets worked out in the decade after *PK*. 38 This, of correspondence with J. H. Oldham about his paper “Forms of Atheism” prepared for a December, 1948 Oldham gathering (Phil Mullins, “Michael Polanyi and J. H. Oldham: In Praise of Friendship,” *Appraisal*, vol. 1, no. 4 [Oct. 1997], p. 184). One of Polanyi’s comments in *The Logic of Liberty* (as well as the syllabus for the Gifford Lectures) makes clear that Polanyi by the time of the First Series of Gifford Lectures and the publication of *The Logic of Liberty* understood “post-critical” in terms of the fiduciary program: “We have thus begun to live in a new intellectual period, which I would call the post-critical age of Western civilization. Liberalism to-day is becoming conscious of its own fiduciary foundations and is forming an alliance with other beliefs kindred to its own” (109).

36 Grene emphasizes Polanyi’s notion of the human obligation “to fulfil demands made on us by something that both defines and transcends our particular selves;” she identifies it as “what Polanyi called the paradox of self-set standards. We accept with universal intent principles or patterns of behavior that we have at one and the same time both happened to develop and enacted as responsibly our own” (*PT*, 169-170).

37 Grene to my mind is very insightful about the character of Polanyi’s realism (a realism to which she herself subscribes and today explains in terms of orientation and ecology, which draws on the language of the Gibsons; see *PT*, 108, and more generally *PT*, 113-191, as well as her response [*PMG*, 61-62] to my essay on her links to Polanyi in *PMG*, 31-60) when she notes that recognition of the from-to structure of knowing (i.e., tacit knowing) is “indispensable if we are to escape the to-and-fro of realism-anti-realism arguments” (*PT*, 123) which are found in contemporary philosophy of science (*PT*, 169-170). Grene offers an interesting discussion of contemporary discussions of realism in *PT*, 113-126. She suggests that much contemporary discussion in philosophy of science has formulistic suppositions about knowledge and misguided notions about perception going back to empiricism. It is really an in-house debate about “scientific realism” and it is a debate into which neither Polanyi nor Grene fit. I have recently argued (“Comprehension and the ‘Comprehensive Entity’”, *TAD* 33: 3 (2006-2007), 26-43) that Polanyi is closer to a medieval realist (a position that opposed nominalism) than a modern realist.

38 “Polanyi was not only right to call the distinction between two kinds of awareness the most important feature of *Personal Knowledge*; he was richer than he knew. For in the development of
course, was a decade in which Grene was very involved in Polanyi-related projects and she ultimately edits *KB* (published in 1969), a collection designed primarily to show the interesting ways Polanyi’s philosophical ideas were developing in the decade after *Personal Knowledge*, as her remarks on the third group of essays in the collection show: 39

*Personal Knowledge* was directed not so much to tacit knowing as to the problem of intellectual commitment, the question how I can justify the holding of dubitable beliefs. The theory of tacit knowing is indeed the foundation of the doctrine of commitment, but while the latter probes deeper into the foundation of human personality, the former is more far-reaching. It reveals a pervasive substructure of all intelligent behavior. 40

C. Grene on Part IV of *PK* and Other Comments

Grene has been quite clear that the theory of tacit knowing is “revolutionary,” as the subtitle of her 1977 evaluative article on Polanyi’s thought (“Tacit Knowing: Grounds for a Revolution in Philosophy”) indicates. What Polanyi offered is “a major break with the tradition and a possible foundation for a new turn in the theory of knowledge and a fortiori in philosophy as such.” 41 In “TK” Grene, of course, not only outlines Polanyi’s philosophical development and its importance, but she also sharply criticizes elements of his thought. She makes clear that she thinks some of Polanyi’s late articles, particularly those attacking behaviorism, suggest that he has forgotten his own best insights about the “from-to” structure of knowing. He slips into a body-mind dualism that in fact his earlier work in *PK* and *TD* shows is a philosophical cul-de-sac to be avoided. He seems, Grene

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39 As Grene notes, the analogical reasoning of *PK* with its focus on commitment is in some ways superseded by the stronger general affirmation of unspecifiability in the theory of tacit knowing: “The point is, I now see, that the fiduciary programme is supported, not so much by its expansion through analogical reasoning, as by the foundation common to all its instances, the foundation of tacit knowing” (“TK,” 168).

40 *Knowing and Being*, xiv. Polanyi makes this interesting comment about Grene’s “Introduction” to *Knowing and Being* in a letter to Grene, 22 Nov., 1968, Box 16, Folder 3: “I thank you also for your introduction, which I read with great interest. You do make me gradually familiar with a number of toes on which I have trodden. It is fascinating.” Polanyi, however, says much the same thing as Grene about the development of his ideas in his April 1966 Introduction to *The Tacit Dimension*: “Viewing the content of these pages from the position reached in Personal Knowledge and The Study of Man eight years ago, I see that my reliance on the necessity of commitment has been reduced by working out the structure of tacit knowing. This structure shows that all thought contains components of which we are subsidiarily aware in the focal content of our thinking, and that all thought dwells in its subsidiaries as if they were parts of our body” (x).

41 “TD,” 164. Against common misreadings of Polanyi, Grene insists “what is essential is not the existence of the tacit, but the relation of the tacit to the explicit”:

The tacit component is not a residuum, but an indispensable foundation. What matters is not that there is something unspecifiable, for example, in science, but how unspecifiability works and what it accomplishes. It is the function of the tacit in all knowledge, however exact and “objective”, that the tradition had neglected or denied, and that Polanyi’s epistemology allows us to accept and articulate (165)
shows, sometimes not to recognize “the incarnate nature of mind” which is “part and parcel of the theory of tacit knowing.” Grene also suggests that some of Polanyi’s very late writing is “tragically misguided” since it manages to separate art and science, reversing the ways in which Polanyi had put art and science together in PK and The Study of Man. Polanyi’s effort to extend his analysis of meaning by analyzing art, myth, and religion using an expanded version of the theory of tacit knowing is too grand and relies on sources that she thinks are not truly consistent with Polanyi’s own revolution in philosophy.

A late criticism more directly aimed at PK is in Grene’s Kent State address where she carefully goes through PK to show that “the contrast between the personal and the subjective forms one of several basic theses carefully woven into the texture of Polanyi’s argument in Personal Knowledge. . .” Grene has long been vigilant to point out that philosophers who think Polanyi is a subjectivist simply have it wrong. She identifies this as one of two common misreadings in her 1977 “TK.” Thus her 1991 Kent State address in which she carefully went through PK to contrast the personal and the subjective was in some ways nothing new. In her address, Grene shows that PK both sharply separates the personal and “subjectivity,” understood in one sense, but also links the personal, objectivity, and “subjectivity,” understood in another sense: “The subjective as just my passive experience, is other than the personal, but the personal contains as aspect of subjectivity, of mineness, in fusion with objectivity, the thrust toward something other than myself.” However, what Grene finds in 1991 in a footnote in Part IV of PK (PK, 374) suggests to her that Polanyi has not been consistent and may have introduced another notion of subjectivity (“commitments made to a mistaken system”). In PT, she dubs this a “treacherous footnote.” She thinks that any new notion of subjectivity which the footnote implies means Polanyi really may not have grasped the full implications of the “fiduciary program” that he sets forth in PK.

42 “TK,” 171. It should be noted that Harry Prosch (Michael Polanyi: A Critical Exposition [Albany: SUNY, 1986]: 220-234) spends much time trying to refute Grene’s criticisms of Polanyi.
43 “TK,” 168.
44 Such criticisms appear in Grene letters to Polanyi in the period in which he was delivering some of the lectures that Prosch eventually synthesized and published as Meaning in 1976.
46 “TK,” 165.
49 PT, 171.
50 What Grene finds objectionable is Polanyi’s introduction (in this Part IV discussion of his critique of science and other systematic interpretative systems) of “subjective validity” as one of the “four grades” for classifying “reasonable action and perception, as well as animal inference” (PK, 374). Subjective validity is “the correct use of a fallacious system” which is an “incompetent mode of reasoning” (PK, 374). The PK footnote to “subjective validity” takes one back to the Zande discussion in PK. Thus it appears that Polanyi regards Zande practices as subjective rather than personal and thus: “We, the heirs of a modern European liberal tradition, turn out to be the only human beings who make commitments with universal intent. Everybody else is following a mere subjective impulse” (PT, 170). Grene does seem to make a good point in suggesting that this classification does not fit with Polanyi’s primary notions of the subjective outlined in the fiduciary program. However, I think she may be overestimating the importance of this inconsistency as she herself seems to hint when she points out that at the end of Part IV Polanyi refers to the “social lore”
Grene’s 1991 question about Polanyi’s account of subjectivity in *PK* is really part of a larger general dissatisfaction, made clear in several publications since 1977, with the fourth section of *PK*, and particularly the last chapter of the book.\(^{51}\) I have noted above that Grene’s correspondence with Oldham indicates that she, like Oldham, was unhappy with the first draft of the last chapter of *PK* even before it was published. But at least some of what she says early in the response to Oakeshott and in *KK* imply at least some support for Polanyi’s views. By her 1977 “TK,” she notes Polanyi’s “notion of a ‘stratified universe’ was always less than convincing; indeed, the final chapter of *Personal Knowledge* has only been saved from total disaster by the criticisms of his friend J. H. Oldham. And as I have learned a little more about evolutionary theory, both its subtleties and its limitations, I have grown more sceptical about cosmologies of emergence in any form.”\(^{52}\) In her 2002 intellectual autobiography, she acknowledges that when she re-read *PK* to prepare her 1991 Kent State address, she found “Polanyi’s argument (of Part IV of *Personal Knowledge*) even more shocking than I had originally thought it.”\(^{53}\) She says looking more closely at the literature of evolutionary biology--whose important developing course she has carefully followed for more than forty years--enhanced her discontent with Part IV of *PK*. She proclaims in her intellectual autobiography that Polanyi’s “understanding of Darwinian theory was minimal, or worse, and I’m afraid mine at the time was not much better.”\(^{54}\)

Although she still appreciates what she in 2002 calls Polanyi’s/*PK*’s “lay Augustinianism,”\(^{55}\) Grene also became increasingly unhappy with the theistic hints and

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\(^{51}\) Her early comments on Part IV of *PK* are rather general so it is unclear whether or how Grene early objected to some details but see my remarks below for hints. Clearly, Grene’s writing in the years soon after the publication of *PK* show that she does share Polanyi’s interests in attacking what was then called “reductionism” in biology and even in her 2002 intellectual autobiography she affirms that she “still appreciates his [Polanyi’s] dubbing epistemology, or philosophy of science, “ultrabiology” (*PMG*, 61, see also *PT*, 25 where see approving uses Polanyi’s term “ultrabiology” to link Polanyi’s philosophy and Merleau-Ponty). See also Grene’s discussions from the early sixties in *KK* in Part Three, “The Complexity of Things” where her views seem reasonably well aligned with Polanyi. As I have noted, she now however, in her intellectual autobiography says she regards the chapter “The Faith of Darwinism” (in this section) as “a really bad chapter”(*PMG*, 17) which, like much of her writing on evolution in most of the sixties and perhaps the seventies, is “in large part indefensible” (*PMG*, 16). However she identifies an early publication in philosophy of biology, “Two Evolutionary Theories”(*I and II, The British Journal for the Philosophy of Science*, IX:34 and 35) as still a reasonable piece of “conceptual analysis” (*PMG*, 16). In this article, she applies the insight in *PK* about two kinds of awareness to debates among then contemporary evolution theorists and argues for more attention to structure in evolutionary theory.

\(^{52}\) “TK,” 168.

\(^{53}\) *PMG*, 61.

\(^{54}\) *PMG*, 15.

\(^{55}\) *PMG*, 13-14. In 2002, she says she does still have some sympathy with “Polanyi’s Augustinianism”. I do believe that faith is prior to reason--only I don’t believe it has to be faith held dogmatically, let alone faith
Christian overtones in *PK* and other Polanyi writings; she complained about such religious language in her Kent State address. She recognized these elements as sure to prevent philosophers of science from seriously reading Polanyi and recognizing his philosophical importance. Grene discovers Merleau-Ponty shortly after the publication of *PK* and somewhat later the writings of the Gibsons on an “ecological account” of perception and animal behavior. She tends to fit these thinkers seamlessly with Polanyi in her later writing, but she certainly recognizes that Merleau-Ponty and the Gibsons are likely not to be rejected out of hand by many philosophers quite so quickly as Polanyi. Grene also, even while Polanyi was alive, worked hard to bring into discussions of philosophy of science connections with philosophical European scientists influenced by what once was called modern continental philosophy. Clearly she tried to make Polanyi aware of this literature and of the importance of claims about “being-in-the-world” in figures like Heidegger and Merleau-Ponty. She was very insightful about the links between this literature and Polanyi’s own developing theory of tacit knowing. There are, of course, some general references in Polanyi’s writing after 1958 to some of this literature, but Grene is likely correct that Polanyi did not explore connections very much and likely did not want to explore them because of his inability to think historically about himself as a philosophical thinker.

More important than Grene’s complaints about the alienating (to philosophers of science) religious rhetoric in *PK* (and other Polanyi writing) are her substantial criticisms of philosophical ideas important in Part IV of *PK*. Although some of these I have sketched above, I want to try to develop them further. In her 1991 Kent State address, Grene claimed that she by now suspected that Polanyi slipped into “ontological dogmatism” and she found “the hopelessly anthropocentric evolutionism of the final chapter, as well as its closing Christian apologetic, must be discouraging . . . to supporters of the model of commitment for epistemology and the philosophy of science.” Grene does allow that “Polanyi’s late work on tacit knowledge, being cosmologically less ambitious, may help to correct this imbalance.” About Polanyi’s discussion of evolution and emergence in his last section of *PK*, Grene says:

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56 See her discussion in “The Personal and the Subjective,” 14.
58 In her intellectual autobiography, she dates her first reading in 1960 (*PMG*, 14-15, 20). See also *PT*, 69.
59 She dates the first reading to 1979 (*PMG*, 21-22). See her extended discussion of the Gibsons’ work and “the ecological approach” in *PT*, 129-151.
60 See her discussion throughout *PT* as well as her discussion in her intellectual autobiography (*PMG*, 20-23).
61 See her discussion in her intellectual autobiography (*PMG*, 18-19) as well as Grene’s 1965 book *Approaches to a Philosophy of Biology* (New York: Basic Books) which treats some of this literature. Her correspondence with Polanyi in the sixties reflects her interest in some of these philosophical European scientists and she encouraged Polanyi to read them.
62 See, for example, *KK*, 202-225. I have tried to lay out Grene’s work here in “Comprehension and the ‘Comprehensive Entity’: Polanyi’s Theory of Tacit Knowing and Its Metaphysical Implications” cited above.
63 See the footnote discussion in “TK,” 164.
64 “The Personal and the Subjective,” 15.
... while these chapters raise some important points against reduction in biology, the effort to locate homo sapiens as the apex of evolution is hopelessly mistaken. The ontological aspect of tacit knowing, proposed in *The Tacit Dimension*, being more limited in its import, is much more convincing. Commitment, however, has, I should think, to retain its precarious ontological position as the stance of a given embodied person, cast ephemerally into the flow of history, and pre- and posthistory, self-obliged to obey a calling that takes him (her) beyond the confines of subjective preference.  

I believe that Grene’s several criticisms are interwoven and are worth taking very seriously. In 1991, Grene said that she still stood behind the commitment chapter of *PK*, the last of Part III, as one that provides “an appropriate foundation for a philosophy of science, a theory of knowledge, and a perspective on the nature of responsible personhood.” This is a “precarious foothold” but “the best we can do.” However in Part IV of *PK* Polanyi wrongly thought he had “provided a more sweeping ontological location for the act of commitment.” The end of *PK* is cosmologically overly ambitious and focuses on human beings in evolution in a way that is very anthropomorphic and simply wrong, in terms of modern evolutionary biology. Clearly, Grene thinks Polanyi’s field theory approach to emergence, using Driesch’s biology and to some degree models from physics, is not tenable. She seems by 2002 to think any account of emergence is dubious. At the least, surely she is right that Driesch’s approach is not viable in today’s biology. Yet Grene seems to accept the epistemological point, Polanyi’s antireductionism, that is embedded in all of the discussion of Part IV and even in his account of evolution. She accepts what in *PK* is called the “critical” and “convivial” nature of biology (i.e., knowing living forms necessarily involves recognizing their achievements) which is basically Polanyi’s claim that the study of life requires recognizing two levels of control. Lower levels bear on higher levels insofar as they “define the conditions of their success and account for their failures, but they cannot account for their success, for they cannot even define it” (*PK*, 382). Grene seems to me insightfully on target in recognizing that the

68 See my discussion of this element in Polanyi in “Polanyian Footnotes To ‘From Biology To Consciousness To Morality’” (*Tradition and Discovery*, 30:3 (2004-2005): 23-25). Here I also try to show the way in which in the early sixties in *KK*, Grene, perhaps even more clearly than Polanyi, shows what acceptance of the critical and convivial nature of biology involves philosophically: “To know life is to comprehend comprehensive entities; to know knowing is to comprehend those particular achievements of living things which consist in their acts of comprehension. Mind is once more a natural reality, and nature once more both the medium and the object of mind’s activity” (*KK*, 224). As I have noted above, Grene says in 2002 that she “still appreciates his [Polanyi’s] dubbing epistemology, or philosophy of science, ‘ultrabiology’” (*PMG*, 61). Although she does not say much, I think Grene very illuminatingly comments (in 2002) on one of her 1990 articles criticizing extreme “‘population thinking’” as “pure nominalist” (*PMG*, 17); she insists that she is a realist of the sort that her mentors Polanyi, Merleau-Ponty and the Gibsons are and the discussions of realism and anti-realism in contemporary philosophy of science are artificial debates that really are only about scientific realism.
critical and convivial nature of biology and the claims for two levels of control are what Polanyi after _PK_ discusses (e.g., in _TD_) as the “ontological aspect” of tacit knowing. She seems to believe that working out the ontological aspect of tacit knowing in the years after _PK_ tempers the element of Part IV of _PK_ that she dubs “a more sweeping ontological location for the act of commitment.”  

What should one make of all of this? Clearly, Grene does not like the grand cosmological vision at the end of _PK_. Perhaps she is correct in suggesting that the end of _TD_ employs a less grand rhetoric, but the message is nevertheless much the same as that of Part IV of _PK_. I am not quite sure what it means to accuse Part IV of manifesting ontological dogmatism or of affirming a sweeping ontological location for commitment. Polanyi says clearly in the Preface to the Torchbook Edition of _PK_ (admittedly written in 1964) that “it is from the logic of indwelling that I have derived in Part IV of this book the conception of a stratified universe and the evolutionary panorama, leading to the rise of man equipped with the logic of comprehension” (x-xi). In _TD_, Polanyi affirms a “universe filled with strata of realities, joined together meaningfully in pairs of higher and lower strata” (35). What Grene still seems most to value in Polanyi is what in _PK_ was called the fiduciary program with its emphasis upon commitment and fallibility (the “precarious foothold” she finds in the Commitment chapter), although she clearly understands that Polanyi’s later theory of tacit knowing underlies and in some ways supersedes the fiduciary program.  

At the least, she seems to find a tension between the emphasis upon commitment and fallibility and the vision of human beings articulated in Part IV of _PK_. Polanyi tries to deflect attention from mutation and natural selection because he thinks that evolutionary history needs to be understood as a succession of achievements in which the complexity of life emerges as new levels of control come to be part of history. Polanyi argues that such an understanding of evolutionary history allows human beings better to know their natural heritage, their kinship with the nonhuman and what their opportunities and responsibilities are. All of this is concerned with the emergence of meaning in the natural and ultrabiological world. Polanyi’s anthropomorphism so far as I can see does not suggest that evolutionary history ends with or culminates in the human, but it is a claim that evolutionary theory must ultimately recognize the intricate powers of human beings as creatures gifted with the complex skills to study and understand evolution.  

This is an opportunity (an affordance, to use Grene’s term appropriated from J. J. Gibson) in the human world. Polanyi situates biological study (or at least the biologist) in an ecological context. It is, to use another of Grene’s terms, a manifestation of the minding of a human being with the specialized skills of a biological scientist.

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70 I suspect that Grene’s early work on Kierkegaard and Heidegger (not to mention her several books on existentialism) has influenced her on these points, although she has little good to say about either Kierkegaard or Heidegger.
71 This is rather close to what Grene herself said about Part IV in her 1958 response to Oakeshott’s review.
Appendix

Harry Prosch seems to think that Grene regards the “ontological aspect” of tacit knowing “as simply meaning that the two levels in entities we find in our world are only analogues to the two levels we find in our knowing processes” (230). This is Grene’s claim that “epistemological antireductionism is sufficient.” Recall that the title of Prosch’s sixteenth chapter is “Is Epistemological Antireductionism Sufficient?”, a question which he answers with a resounding “no.” He stakes out what he regards as a stronger position, “that they [the two levels] are composed necessarily of the same identical subsidiary parts used by our minds in establishing our focal awareness of them” (230). I am, in general, uncomfortable with Prosch’s tendency rather quickly to slip into an idiom that at least implicitly separates knowing and being. He implies Polanyi was making claims about the world that were like unsigned checks, i.e., there are ontological first principles or levels which nobody was knowing but which serve as a trump card. This is some kind of noumenal realm of things in themselves. It seems to me that Grene has always done an outstanding job (perhaps because she first studied the anti-Cartesian thought of figures like Heidegger) of showing how Polanyi at his best never separates res extensa and res cogitans. He does not begin his constructive philosophy with this supposition. He is not preoccupied to begin philosophizing by making any sort of foundational ontological distinctions or categories. This is a nominalist starting point for philosophizing, a starting point that most everyone since Descartes has presupposed. Grene insists mind is incarnate in a stronger sense than Prosch suggests (see his discussion on 229). I don’t think Prosch really grasped the kind of realist that Grene and Polanyi are. I think both figures presuppose a brand of realism in which mind and world are simply not two presupposed types of existing things but are instead simply elements of one developing, interactive system. I have tried to link this peculiar brand of realism, which I have called “participative realism,” to Peirce and to medieval realism in my essay “Comprehension and the ‘Comprehensive Entity’: Polanyi’s Theory of Knowledge and Its Metaphysical Implications.” Peirce says the medieval realists thought of real things as (1) not dependent upon what you or I may think and (b) things about which there will be agreement in the long run. Both conditions must be met in order to avoid devolving into orienting philosophical discussions around matters of existence and inside-outside epistemological problems which we find everywhere in modern philosophy. I do think Prosch places perhaps a stronger emphasis upon Polanyi’s sense in which the real may manifest itself unexpectedly than does Grene’s (see his discussion on 229) reading of Polanyi. While she wants to stress commitment and fallibility, Prosch wants to stress the ontological hierarchy and the fecundity of the real but, of course, concern about fallibility is another way to point to the fecundity of the real.