²Interested readers with access to the guide might, for example, consult pages 58, 96–97, 130–131, and 188–189.

³See, too, page 195 of the guide. In an attempted paraphrase of what Polanyi has to say about the creation of a "center of self-interest," the authors state, "Through using its operational principles, this will maintain its own integrity. In the case of living beings, this means ordering principles that are not determined by material conditions but by the logic of achievement."

⁴Guide to <u>Personal Knowledge</u> italicizes and places within quotation marks all passages from Polanyi. Therefore, to capture Polanyi's use of italics and quotation marks, the authors need to use non-italicized characters and a second set of quotation marks.

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Reflections on Guide to Personal Knowledge

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Paksi and Héder's *Guide to <u>Personal Knowledge</u>* (hereafter *GPK* and *Guide*) is, as the title suggests, a guide of the most important and original ideas of Michael Polanyi's book *Personal Knowledge: Towards a Post-Critical Philosophy* (1958, hereafter *PK*). Is a guide to *Personal Knowledge* needed? I think the answer is a resounding "yes" for many new readers. To see why, let's briefly review two common complaints about *PK*.

First, consider that many of the core theses of *PK* are easy to state in a punchy way that makes readers initially enthusiastic about Polanyi's *magnum opus*. But this enthusiasm is quickly extinguished by the text itself. Part of the difficulty of *PK* is due to the manifold topics Polanyi discusses. As Gulick puts it,

He [Polanyi] writes at one time or another about savings and investment, the anthropology of preliterate people, the role of authority in society, visionary poetry, science in contrast to technology, learning theory, patents, mythology, nihilism, evolutionary theory, the Hungarian revolution, metaphor, causal explanation, illusion in painting, totalitarianism, probability, the role of faith and passion in intellectual life, creativity and discovery—and the list could be extended on and on. (Gulick 2012, 4)

On the one hand, this diversity can be interpreted in terms of the richness, suggestibility, and scope of the work. On the other hand, it can cause some to lose their grip on the central theme(s) of *PK*.¹ For example, consider the complaint expressed by Oakeshott (1958, 77), who wrote that *PK* is a "jungle," viz., "full of side-glances into other matters; it is disordered, repetitive, digressive." So why did Polanyi feel the need to elaborate on so many diverse subjects? For Paksi and Héder, it is because the faulty understanding of scientific practice and knowledge as a detached, purely objective, mechanistic procedure extends beyond the scientific community into everyday life (*GPK*, xvi). At its worst, this impersonal ideal of knowledge manifests itself as a type of moral skepticism, which gets coupled with an excessive moral sensitivity and then is codified in some form of totalitarianism. In short, Polanyi didn't limit himself to a single topic, for doing so would ignore how pervasive the disease of detached objectivity had become.

A second challenging aspect of *PK* is that Polanyi's terminology is said to be idiosyncratic and equivocal, which produces the feeling of both profundity and obscurity. Oakeshott noted this to be the case, remarking that Polanyi surrounds "his argument with an embroidery" that doesn't clarify or qualify his claims but instead simply elaborates on connected themes. More forcefully, Alan White noted that the key fault of *PK* was that it lacked "any critical examination of its key notions" (1960, 378), claiming that Polanyi wants, on the one hand, to say that scientific knowledge itself (rather than the activity of scientific practice) is *not objective* because it involves a personal element but, at the same time, is *not subjective*. White concludes his review of *Personal Knowledge* with frustration, remarking that *PK* contains hundreds of sentences that "remain unintelligible to me after repeated reading of them" (1960, 378).

If *Personal Knowledge* is a deep, meandering jungle with large pockets of darkness, then Paksi and Héder have hacked a straight and clear path through it. The *Guide* is shorter than *PK* (~209 pages to ~428 pages) and laser-focused on what they take to be the core themes, ideas, theses, and arguments of *PK*. In addition to its brevity and directness, Paksi and Héder are also sensitive to the work's obscurity, and so they work to provide clear definitions or clarifications of some of Polanyi's more contentious terms. Finally, they don't muddle clear waters themselves by trying to do too much: they don't try to solve interpretive debates, they don't engage with scholarship, and they don't critically engage Polanyi's book. In sum, this book is a chapter-by-chapter guide to *PK*.

In what remains, I wish to reflect on one feature of the *Guide*: its use of text boxes. Text boxes are amply placed throughout the *Guide* and provide supplemental information to the chapter-by-chapter explication of *PK*. I'll discuss how Paksi and Héder use these boxes to clarify and enhance one's reading of *PK*, but I'll also point out how they might have employed these boxes to greater effect.

First, these boxes explain Polanyi's key ideas in an alternative way that may be useful to new readers. For example, in the first few pages of chapter 1 ("Objectivity"), Polanyi recounts that the ousting of man from the center of the Ptolemaic system by Copernicus has been extrapolated to an ousting of the human perspective from any objective account of the world. If we want to know the way the world really is, we need to see things without human eyes. Polanyi quickly notes that this extrapolation is "absurd," that no scientist truly sees the world from a purely objective perspective, and that if they say they do it is mere "lip service" (*PK*, 3). There are at least two ways to interpret this passage. One is that it is humanly *impossible* to see the world from a purely objective point of view, while the other is that no one *does* ever see the world with such a perspective. Concerning the latter interpretation, Polanyi draws out two separate consequences. First, if one did view the world objectively, then no one moment in time would be of more interest than any other. Since the entire history of the human race is a near infinitesimal flash in the grand temporal order, objectively speaking, there is no reason why our intellectual attention should so often turn to items of human concern. Second, if one did view the world objectively, then no point or object in space would be of more interest than any other. As human beings occupy a near infinitesimal amount of space, there is little to no reason that our intellectual attention should be directed to ourselves. Polanyi vividly articulates this latter point:

if we decided to examine the universe objectively in the sense of paying equal attention to portions of equal mass, this would result in a lifelong preoccupation with interstellar dust, relieved only at brief intervals by a survey of incandescent masses of hydrogen—not in a thousand million lifetimes would the turn come to give man even a second's notice. (*PK*, 3)

Polanyi's claim and reasoning is *digestible*, but Paksi and Héder also try to make it *palatable*.³ Rather than trying to conceptualize the "purely objective point of view" in terms of an entity equally indifferent to every time slice or atom in the universe, the authors invoke Laplace's demon. The purely objectivist way of looking at the world (one stripped of any human perspective) is embodied in a hypothetical super-intelligence that sees the world in an impassionate, mechanistic, and distinctively non-human way (*GPK*, 4). To further this end, the authors provide a page-long text box explaining who Laplace was, a passage from Laplace talking about the super-intellect (more commonly now "demon"), and what purpose Laplace's demon is supposed to play in discussing the concept of knowledge. In short, the authors take some of the sting out of *PK* by using text boxes to correlate Polanyi's ideas with those that are more familiar and vivid.⁴

A second use of these text boxes is to connect Polanyi's thoughts with those that run parallel to his own. This use is helpful for reading beyond the bounds of *PK* and putting *PK* in perspective. For example, on page 114, the authors connect Polanyi's argument denying that the human mind can be modeled as a logical inference machine to Searle's famous Chinese room argument. In addition, on page 110, the authors connect J. L. Austin's theory of speech acts to Polanyi's idea that every articulate assertion involves both a sentence and a tacit act.

Finally, text boxes are also employed to fill in gaps that may be present in a reader's knowledge or to clarify what Polanyi means by certain terms. For example, in chapter 9 ("The critique of doubt"), the authors provide a useful explanation of the meaning of "critical philosophy," its relation to Kant and Descartes, and in what sense Polanyi uses the term. Given the criticism of Polanyi's language as being idiosyncratic, obscure, or equivocal, this is a helpful supplement for new readers.

While the text boxes are a useful addition to the *Guide*, there are three places where the authors' supplements might have gone further. First, one might have hoped that the authors would put some of Polanyi's ideas in more *contemporary* intellectual context. For example, rather than connecting Polanyi's views on language with J. L. Austin, it would be interesting to know what Polanyi would think about more contemporary debates between semantic minimalists and contextualists on literal meaning. Both sides of this debate acknowledge the importance of contextual factors when trying to determine *speaker meaning* (roughly, what a person means when they utter a sentence). They disagree about the type of contextual information required to obtain *literal meaning* (i.e., the meaning expressed by linguistic conventions). Minimalists contend that the contextual enrichment required to obtain literal meaning is driven by rule-governed ways (cf. Borg 2004; Cappelen and LePore 2005). In contrast, contextualists claim that literal meaning requires *free-enrichment* on the part of the language user, viz., a non-linguistically controlled process of drawing from the context to give the sentence meaning (Récanati 2004, 18). At first glance, given Polanyi's penchant for preserving the personal element to all knowledge, one would suspect he would side with contemporary contextualists.

To use a broader example, toward the end of chapter 1 of *PK*, Polanyi notes *how non-empirical values* (to use a modern term) play an important role in scientific discovery and theory choice. He remarks that those with an objectivist mindset cover up the importance of these values with terms that hide the personal element, e.g., rather than saying a theory is "beautiful" we call it "simple" (and "simplicity" is being used in a deviant way). This, and other aspects of chapter 1, call to mind discussions of Kuhn (1978, 321–322; 2012, 184–186), who notably outlined five characteristics of a good scientific theory (accuracy, consistency, generality, simplicity, fruitfulness). Given that both Polanyi and Kuhn would agree that there is no neutral algorithm for theory selection, the question becomes how do (or ought) we select a theory from its rivals?

Pointing to more contemporary literature (e.g., Okasha 2011; Stegenga 2015) might have been useful for helping readers understand how Polanyi's work bears on work done today in the philosophy of science.

Second, another unexplored use of text boxes is to contextualize *PK* relative to Polanyi's life and thought *outside of* the pages of *PK*. After reading either *PK* or the *Guide*, one is likely to wonder quite a bit about the author and the circumstances surrounding the work's production: what was Polanyi doing when he wrote it; who were the important people involved (e.g., Marjorie Grene, Oldham); who was the audience, what was the occasion, and what was the response to it; was it circulated among friends first or delivered as a series of lectures (viz., the Gifford Lectures); how and where was it written; and, finally, how did he feel about it before, during, and after. It would be a herculean task to answer all of these, but the authors might have added some of these biographical tidbits for at least two reasons.⁵

First, a reader will likely want to know what people thought of PK when it was published and what people think of it today. Knowing this information helps to give the reader a sense of what *spirit* they should adopt when reading PK today. I've already mentioned some criticisms of PK (its length and use of terminology), but what about the more general reaction to the text? A common feature of many of the reviews of Polanyi's work is amusing as expressed by Timmins: "[l]ooking back at the reviews of Polanyi's Personal Knowledge, there is very much a sense running through most of them that 'this is a good work, but..." (2013, 307). One such example was expressed by Edward C. Moore (1959). Moore thought PK was not likely to win over hardened logical empiricists, but it might at least shake their convictions. Like other readers, he thought that the philosophical merit of the text was lacking, but Polanyi's knowledge of the details of science was reason not to ignore the book: "Polanyi is not as good a philosopher as Peirce and Whitehead [...] but he is a better scientist and has the advantage of a more thorough knowledge of contemporary science" (cf. Holton 1993, 24-26).6 In short, an analytical spirit is perhaps not the best spirit to have when approaching Polanyi for the first time. More positively, Gulick notes that while PK is certainly challenging and Polanyi's language can be frustrating, if one wants to reap the rewards of text "the reader must accord him the benefit of doubt and find out what sort of world opens up if one thinks along with him. It is a world brimming with meaning" (2012, 4). Similarly, Reid remarked that PK "yields its fruits only through patient and intensive study" (1959, 71).

Second, these biographical details not only inform the reader about the spirit in which *PK* should be read but also add additional *foci* that can make the text more nuanced and intelligible. One can still feel lost even if a path is carved out. For example, a passing reading of chapter 1 would inform even the most casual reader that Polanyi's primary opponent is a view of science that is purely objective, impersonal, mechanistic, and algorithmic. Reviewers called this part of Polanyi's text "the negative thesis." This same cursory reading also suggests that Polanyi's goal is to show his readers that scientific knowledge involves an indispensable intellectual power to recognize the rationality that is found in nature and that the production of knowledge always involves some personal element on the part of the knower. Some version of this claim was called his "positive thesis" by reviewers.

The claim that scientific practice is indelibly "personal" can be easily conflated with several different ideas, one of which is that science should serve some limited practical (human) end, e.g., human welfare. Polanyi, of course, fiercely opposed this view. To dissuade readers from this interpretation, it might have been helpful for Paksi and Héder to mention other opponents Polanyi had on his radar. One way of doing this is to draw on Polanyi's autobiographical account of what led him into philosophy. For example, in the preface to the 1964 Torchbook edition of *Personal Knowledge*, Polanyi notes that the origin of *PK* began in

1939 with a review of J. D. Bernal's *The Social Functions of Science* (Polanyi 1939; cf. 1940, ch. 1; cf. Nye 2011, ch. 6; Wiser 1977, 92; Polanyi 1966, 3). In the preface, he remarks that his investigation into grounds of science was motivated by trying to justify why scientific inquiry should be autonomous and dynamically organized rather than controlled and directed to practical ends by public authorities (cf. Wiser 1977, 92; Nye 2011, 207). This latter position, Polanyi thought, denied freedom to human beings, denied that they can be genuinely attracted to the body of ideas that compose science, and resulted in the "final self-destruction of the human mind" (Polanyi 1940, 10–11; *PK*, 240). It keeps the personal element in science but does so by making it an object of control. With this information at hand, we see another foe in Polanyi's sights: Polanyi rejects the *removal* of the personal element from science but also rejects its bastardization.⁸ In general, these sorts of biographical and intellectual details give flesh to Polanyi's ideas, dissuade problematic interpretations, and help to better serve the purpose of making *PK* a less frustrating read.

ENDNOTES

¹For example, Macbeath notes that "it is very difficult to explain its [*PK*'s] main thesis, much less to examine it critically" (1960, 62).

²For further discussion of the difficulty and diversity of PK, see Mullins 2008 and essays in Langford and Poteat 1968.

³Timmins (2013, 313) notes that the palatability of *The Structure of Scientific Revolutions* was one of the central reasons that this book was so much more popular than *Personal Knowledge* (other reasons include length, snappiness, timing, use of the history of science, and the focus on the scientific community rather than individual scientists).

⁴It is also useful for the authors' own purposes since they use the Laplacian ideal of knowledge (usefully referring back to these text boxes) later in the text, e.g., *GPK*, 75.

⁵ Scott and Moleski (2005, 221) report that while Polanyi's Gifford Lectures were well attended and well received, Polanyi "was disappointed in not having excited any substantial controversy. What he believed to be a fundamental and revolutionary contribution to the philosophy of knowledge had evidently not been recognized as such." Further, he found parts of the lectures lacking. They point out that "he had treated the area of language far too briefly" and that more work would need to be done on the conception of human life, along with the concepts of focal and subsidiary awareness (2005, 221). Concerning the use of biographical information to understand Polanyi, Gulick writes that often the "best way to learn about someone's ideas is to learn about the experiences and hopes that shaped the person" (2012, 5).

⁶ For a similar sentiment, see Whiteley 1959.

⁷A punchier way of putting this is expressed by Drusilla Scott (1987, 7), who writes that Polanyi "worked to free our minds from distorting assumptions about the impersonality and certainty of scientific knowledge."

⁸The authors, of course, are certainly aware of these facts since they are alluded to in the preface, and they revisit these ideas when Polanyi does later in *PK* (Chapter 7).

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