



NOTES ON POLANYI'S 1954 LECTURE "RULES OF RIGHTNESS"

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ABSTRACT

This short essay provides some historical notes helpful for understanding what Polanyi first called "rules of rightness" in his 1954 University of Chicago series of lectures.

Introduction

"Rules of Rightness" is the fifth of an eight-lecture series given at the University of Chicago on Polanyi's first trip to the United States after being denied entry for several years during the McCarthy era. His first lectures at the University of Chicago, set up by Edward Shils and given when Polanyi was Alexander White Visiting Professor in the spring term of 1950, drew on the material in *The Logic of Liberty* (Mullins 2019, 93-100). But the 1954 series came a few years after Polanyi's 1951 and 1952 Gifford Lectures, two sets of ten lectures jointly titled "Commitment: In Quest of a Post-Critical Philosophy." The 1954 set of lectures seems to be an effort to consolidate and extend elements of Polanyi's constructive philosophy articulated in his Gifford Lectures.¹

Somehow these 1954 lectures were lost or perhaps copies never were given to the University of Chicago. I have found no information about the series in the Michael Polanyi Papers (hereafter MPP). But, as the Editor's Note accompanying the text of "Rules of Rightness" in this issue of *TAD* confirms (cited in parentheses hereafter), three of these lectures, including "Rules of Rightness," have recently turned up in the Karl Polanyi Archives.

There is no lecture titled "Rules of Rightness" in Polanyi's 1951 Series I or his 1952 Series II Gifford Lectures, and this particular phrase apparently was not used at all in the Gifford Lectures. As far as I can determine, the term does not appear in other Polanyi writing before this 1954 Chicago series. But the connections between the "Rules of Rightness" lecture and some of the Gifford Lectures are nevertheless close, and much of the material in this lecture and in particular Gifford Lectures reappears in *PK*.

Speaking macroscopically, it is thus important to bind together the last several Series II Gifford Lectures, the fifth, sixth, and seventh 1954 lectures, and the final three chapters of *PK*, Part IV of the book that Polanyi titles "Knowing and Being" (*PK*, 325). Perhaps the best way to intimately link this material is to

comment briefly on the sweep of Polanyi's argument in his final *PK* section, which is the dénouement. Here Polanyi brings together the discussion of "knowing" and "being." The discussion moves from the more general problem of knowing to the matter of knowing living beings, the evolution of living beings, and the calling of living human beings. Polanyi notes in his opening sentences that he will "outline some views on the nature of living beings, including man," if one accepts "my commitment to personal knowledge" (*PK*, 327). Chapter 11 ("The Logic of Achievement") is interested in achievement as a mark of centered life, and this chapter has an important section (2) titled "Rules of Rightness" (*PK*, 328-331) in which some parts of the preceding 1954 lecture reappear. Chapter 12 ("Knowing Life") has the same title as the lecture following the 1954 "Rules of Rightness" lecture and treats most of the same issues. The final chapter of *PK* ("The Rise of Man") brings together some of the elements in chapter 11—including the important discussion of "rules of rightness"—and chapter 12 in a discussion of evolution and anthropogenesis seen in the context of emergence.²

Participation and Polanyi's Earlier Work

Polanyi's interest in focusing his 1954 series of lectures on articulating his constructive philosophy is suggested at the beginning of his "Rules of Rightness" lecture. He affirms in his opening remarks that his preceding four lectures have been concerned with "the bearing of a formalism on the facts of experience," and this bearing can only be established "by the personal participation of the scientist" ("Rules," 5). In the series, Polanyi aims, more generally, to link participation to the kind of submission to reality that is integral to discovery rather than "to give license to arbitrariness" ("Rules," 5). "Rules of Rightness" thus enlarges the account of the personal and is part of Polanyi's effort (which also includes "Knowing Life" and "Persons") to flesh out the participation of the knower in the known.

Near the beginning of this 1954 "Rules of Rightness" lecture, Polanyi notes that in his earlier lectures' discussions "there is an important piece missing in my picture of the exact sciences" and he needs now to supply this missing piece because it will be "indispensable to the critique of biology" ("Rules," 5) that is upcoming. Later in his lecture, it becomes clear that this missing piece is concerned with the way operational principles are normative and thus "within their own framework they can only function rightly" ("Rules," 9). Polanyi points out that rules may be unacceptable to another person or may be considered invalid, but "they still continue to express someone's convictions of what is right, and to operate that person's appraisal of relevant occurrences. All the operations of a system of rules are necessarily believed to be right by someone upholding the system of rules" ("Rules," 10). Rules imply the commitment of some person in Polanyi's participatory account. However, before Polanyi gets to the matter of discussing in more detail the normative nature of a system of rules (such as those operating in a machine), he spends significant time in this lecture discussing the importance of formalisms and the participative aspect of knowing in the case of formalisms.

This 1954 lecture's extended discussion of the nature of participation in formalizations and the limits of formalization includes comments on the earlier failed movement to completely formalize mathematics as well as Polanyi's own ideas about computers and mind. He points out that textbooks on symbolic logic pursue this process of strict formalization, but he wants to "define the inherent limitations" ("Rules," 6) of this approach.³ In October 1949, Polanyi took part in the "Mind and the Computing Machine" seminar at the University of Manchester. In addition to Polanyi, this seminar included Alan Turing, Max Newman, Maurice Bartlett, and Bernhard Neumann (all mathematicians), philosophers Dorothy Emmet and Wolfe Mays, neurologists Geoffrey Jefferson and J. Z. Young, and others (see Mays 2000, Blum 2010. and *PK*,

261-264). In the archival MPP, there is a copy of “Can the mind be represented by a machine?” which is subtitled “Notes for discussion on 27 October 1949” (Box 32, Folder 6, MPP), but this document is dated 13 September 1949. These are Polanyi’s notes prepared before the seminar, and they outline what apparently was the perspective Polanyi articulated in the discussion. Polanyi later wrote and published in 1951 “The Hypothesis of Cybernetics,” a three-page comment that was part of a broader discussion of cybernetics by several philosophers in the *British Journal for the Philosophy of Science* (Polanyi 1951, 312-315). The published article recycles the ideas in his earlier notes and argues that machines (including computers, understood as formalized deductive systems) cannot satisfactorily represent a human mind. Further, he argues that it is “logically fallacious to speak of a complete elimination...[of] ‘unformalised’ elements of deductive systems” (Polanyi 1951, 312). Polanyi discusses the importance of the function of “unformalised supplements” provided by a human being using a deductive system, designating these the “semantic operations’ of the formalized system” (313). This earlier discussion makes clear Polanyi’s affirmation of the inevitable participation of the knower in the known and seems to underlie views articulated in the “Rules of Rightness” lecture.

Polanyi also identifies participation (in “Rules of Rightness”) with the scientist’s skillfulness and ability to appraise orderly patterns in nature. The exercise of skill and the appraisal of coherence establish “a formal knowledge of a comprehensive whole in terms of our subsidiary awareness of particulars” (“Rules,” 2). And scientific formalisms expand the human facility to think. For instance, a geographic map makes certain facts (e.g., longitude and latitude data on towns) easy to handle. As Polanyi notes, “a mere inspection of the records [on the map] yields a new understanding of the facts” (2). He also shows how formal operations on denoting symbols (as in solving a simple algebra problem) immensely increase human intellectual powers. Polanyi very much appreciated the way in which formalization works in the human world to create and progressively expand components of articulate culture (see also *PK*, 203-209).

The sixth 1952 Series II Gifford Lecture “Skills and Connoisseurship” also earlier emphasized how skills and connoisseurship are central to scientific practice and are intimately personal in nature. This lecture also thus seems to underlie “Rules of Rightness” and is, as well, background for the later *PK* “Skills” chapter, but the Gifford Lecture is a longer discussion that Polanyi also published independently in the year this lecture was delivered (Polanyi 1952). In the published version (much of which is incorporated in *PK*, 49-57), Polanyi identifies the “domain of skills and connoisseurships” as concerned with “inarticulate performances” and says that accrediting such performances “cannot refer...to any correspondence between a fixed formal framework and the actual instances of our experiences but must seek its justification largely or entirely within a personal act of our own mind.” Human commitment is “inherent in the structure of these performances.” This “necessarily makes us both participate in their achievement and acknowledge their results” (Polanyi 1952, 381). Polanyi has much to say about the nature of rules and rules of art in this and the following Gifford Lecture (“[Two Kinds of Awareness](#),” 12-16). The discussion of “inarticulate performances” in this Gifford Lecture sounds much like and complements ideas about the importance of unformalized elements involved in using a formalized deductive system and the limitations of a strictly empirical psychology in the 1954 “Rules of Rightness” lecture.

The seventh lecture in Gifford Series II, “Two Kinds of Awareness,” is also, in somewhat different ways, an important predecessor of the 1954 lecture series and Polanyi’s ideas about “rules of rightness.” Here Polanyi first presents his ideas about subsidiary and focal awareness and their operation. Both Polanyi and Marjorie Grene later identified this lecture as a steppingstone leading to Polanyi’s more mature philosophical

ideas. In his Gifford Lecture, Polanyi recasts some Gestalt ideas about parts and wholes, and he works out his own account of the personal recognition of patterns and purposes. He does this in a way that emphasizes indwelling, unspecifiability, and integration and thus focuses on the participative, committal nature of knowing.

Perhaps the most important predecessor for the 1954 “Rules of Rightness” lecture’s focus on participation is Gifford Series II, Lecture Eight, “[Living Beings](#).” Here (see pp. 3-8 but note this is a revised lecture dated January 1953) Polanyi discusses differences between “molar” and “molecular” perspectives and analyzes the case of machines (a case analogous to that of living beings but “an example which reveals the essential points, without bringing in the mysteries of life” [4]). He suggests that one can identify a machine “only if I believe that it works, which includes the assumption of a purpose which it achieves in working, and no purpose can be said to exist unless I either share it or consider it to be reasonable for some other person” (4). Polanyi notes that “when a machine is in good working order it presents an instance for the operational principle which would characterise it in a patent” (4). The discussion of patents and of physical and chemical analysis of a machine is akin to what Polanyi presents later in his “Rules of Rightness” lecture. Polanyi acknowledges the “pronounced incommensurabilities between the molar and the molecular aspects of a subject” not only in the case of the machine but also in “such human artifices as printed words, maps, arithmetical computations or a game of chess” (5). In sum, Polanyi’s reflections on molar and molecular perspectives in this Gifford Lecture provide an anti-reductionist account that lies in the background of the 1954 “Rules of Rightness” lecture’s formulation of ideas. Some paragraphs in Polanyi’s 1954 “Rules of Rightness” lecture echo (and perhaps come directly) from the Gifford Lectures and particularly “Living Beings.”

Systems of Rules, Causality and Reasons, “Is” and “Ought”

In his “Rules of Rightness” lecture, following the discussion of the participative dimension of formalization, Polanyi turns to the matter of generalizing his conclusions “to all systems of rules and all kinds of machines” (“Rules,” 9). As noted above, he focuses on showing that all kinds of machines have a normative character in their operational principles, which “within their own framework can only function rightly” (“Rules,” 9). More generally (i.e., not only in the case of operational principles of machines), rules presuppose human knowledge and intentions, and knowledge and intentions are closely aligned with having beliefs and commitments, which is integral to being a person. Polanyi seems simply to accept that some kinds of rules are widely recognized within human communities and some are not. And he does not digress on matters concerned with the genuine diversity of communities of interpretation. By the time Polanyi delivered this 1954 series of lectures, he had for several years studied what might, in shorthand, be dubbed science and the problem of cultural diversity (pluralism). In the late forties, Polanyi read cultural anthropology and was in a Manchester discussion group that focused on the work of Evans Pritchard (see discussion in Jacobs and Mullins 2017). He discusses the case of the Azande in the eighth Gifford Lecture, Series I, “[The Doubting of Implicit Beliefs](#),” and his work on the Azande (and other anthropological studies) is referenced not only in the Gifford Lectures but also in other essays (e.g., Polanyi 1950). But his Series I Gifford Lecture is really focused on the stability of beliefs in a community, and this focus seems to be a further extension of ideas Polanyi worked on in the forties about the intimate relation of believing, belonging, and understanding (Polanyi 1947/2020).⁴ Nevertheless, it is worth noting that science and the matter of cultural diversity are

not discussed in the “Rules of Rightness” lecture. In some ways, the analysis of “rules of rightness” seems to be another Polanyi philosophical move to address and explain the coherence of interpretative communities.

Polanyi’s discussion focuses primarily on the case of the machine, and this, of course, also is a topic treated in *PK*, chapter 11, “The Logic of Achievement,” where there is a section focused specifically on “rules of rightness” (*PK*, 328-331). As I noted, in Gifford Series II, Lecture Eight, “[Living Beings](#),” Polanyi discusses differences between “molar” and “molecular” perspectives and analyzes the case of machines.⁵ He identifies machines as a case analogous to that of living beings but “an example which reveals the essential points, without bringing in all the mysteries of life” (4). It is, of course, unclear precisely what “mysteries of life” Polanyi is alluding to. However, in this Gifford Lecture’s discussion, he straightforwardly acknowledges that the methods of the exact sciences have yielded great insights recently in biochemistry and biophysics. But Polanyi nevertheless puts his primary philosophical question this way: “The question can only be how the methods of exact science are to be applied to such complex subjects and where exactly lie the limits beyond which they cannot be taken” (4). Mechanical devices, for Polanyi, are clearly a class of artifacts fundamentally different from living beings, although they in part closely resemble living beings and can anchor (i.e., make plausible) an argument by analogy. Polanyi’s discussion of the limits of formalization simply draws a line between machine and mind insofar as mind relies on unformalized semantic operations to perform intelligent acts. Formal systems always must be supplemented by the unformalized semantic operations of a person. Polanyi identifies mind as “the agent directing an irreducible residue of unformalized operations,” saying that it is “inherently unformalizable” and therefore cannot be “represented by any artefact” (“Rules,” 8). Somewhat later in this lecture, Polanyi discusses “the unspecifiability of a living function and a living being” (“Rules,” 9). He clearly contends that machines “must be conceived as determined by a specific material mechanism,” and this is “a fundamental difference between mind and machines” (“Rules,” 8).

Machines, according to Polanyi, are members of a larger “group of formal instruments” (“Rules,” 12). And for this entire group, the “rules of rightness” for any member cannot account for failure, but these rules do set forth a specific context (or framework) for understanding what is in accordance with that context. Polanyi apparently thinks that, in many cases such as that of machines, this context or framework can be made at least partially explicit. Thus, we speak of mechanical or engineering principles, “logical reasons,” “legal reasons,” and “moral reasons” (“Rules,” 12). Failures of a machine and errors in inference in terms of the particular framework must be linked to causes with an impact at a lower level of control than “rules of rightness.” Thus, psychology does not account for the rightness of logical inferences, but it might provide an account for the causes bearing on the processes of a particular person who is attempting (but failing) to draw logical inferences. In his “Rules of Rightness” lecture, Polanyi does distinguish “causes” and “reasons,” but he does so more clearly in his *PK* discussion with the title “Causes and Reasons” (331-332) that immediately follows the “Rules and Rightness” section in chapter 11 (*PK*, 328-331). Here Polanyi says clearly that “reasons for doing something can only be given within the context of rules of rightness” (*PK*, 332).

Finally, it is worth noting that Polanyi ends his “Rules of Rightness” lecture by pointing to the broader implications of his participative account. He notes that the chasm between “is” and “ought” that has been given much credence since Hume is not warranted. One should regard

the incommensurability of the “is” and “ought” as arising not between two utterly different categories of judgement, but merely between two different degrees of personal participation

in the act of knowing. The division would no longer imperil the validity of the ought, but would on the contrary lend support to it by acknowledging its kinship with the validity of the is (“Rules,” 13).

This is a rather bold challenge to much in mainstream Anglo-American philosophy. I wish that Polanyi had later come back to this challenge and further elaborated it, but as far as I know Polanyi makes such a direct challenge only in this “Rules of Rightness” lecture.

ENDNOTES

¹I find it helpful to distinguish (however roughly) Polanyi’s critical philosophizing from his constructive philosophizing but acknowledge that the two are often woven together. While the former is aimed at sharply critiquing major affirmations of mainstream modern philosophical thought (i.e., the so-called critical tradition which prizes elements such as objectivism, doubt, extreme empiricism, and lack of respect for belief and tradition), Polanyi’s constructive philosophizing (sometimes called “post-critical philosophy” and the “fiduciary” program) is built on a Gestalt epistemology (with distinctions between subsidiary and focal awareness and tacit and explicit knowledge) focusing on integration, personal commitment, and the way committed, inquiring persons are always embedded in dynamic interpretative communities. See the brief discussion of Polanyi’s “fiduciary program” in Mullins 2016, 3-6.

²This final chapter of *PK* was apparently significantly revised in response to Oldham’s criticism (which Grene claimed to share) that the initial draft simply did not bring together matters satisfactorily. See the discussion in Mullins 1997.

³Later he wrote about the “The Logic of Tacit Inference” (Polanyi 1966).

⁴The independently published version of this Series I Gifford Lecture is titled “The Stability of Beliefs” (Polanyi 1952). This was an essay about which Karl Popper and Polanyi wrangled (see the extended discussion in Jacobs and Mullins 2012). This controversy and publication precede the 1954 Chicago lecture series that includes the “Rules of Rightness” lecture.

⁵For Polanyi, molar recognition is a kind of participation of the knower in the known. Polanyi later frequently characterized his effort to turn important Gestalt ideas into an account of knowing as an approach that emphasized participation (*PK*, x, xiii, 65, 379; *SM*, 26, 28-29, 32, 62). Molar recognition involves dwelling in subsidiaries (i.e., making them function in the special way parts of the body function when we use them to attend to what is of interest) and grasping their conjoint bearing in the meaning of a whole (i.e., integrating relevant subsidiaries). Polanyi argued that the predominant approach of much science was reductionistic insofar as it smuggled in but denied the importance of the molar and focused instead on least parts (usually fundamental elements recognized by physics and chemistry) that were assumed strictly to determine a whole. While this reductionism was not always harmful, it is grounded in Cartesian presuppositions that implicitly accept as a starting point a *res cogitans/res extensa* bifurcation. It fundamentally separates mind and world and sets up an inside/outside problematic; it fails to acknowledge the knower’s participation in grasping the known. This reductionism has inclined science (and broader culture that has been influenced by scientific accounts of science) to favor a single-level ontology and predominantly materialistic explanations.

REFERENCES

- Blum, Richard P. 2010. “Michael Polanyi: Can the Mind Be Represented by a Machine?” *Polanyiana* 1 & 2 (19): 35-60. Article plus attached archival documents are online at <https://polanyiana.org/volumes/7>.
- Jacobs, Struan, and Phil Mullins. 2012. “[Michael Polanyi and Karl Popper: The Fraying of a Long-Standing Acquaintance.](#)” *Tradition and Discovery* 38 (2):61-93.
- . 2017. “Anthropological Materials in the Making of Michael Polanyi’s Metascience.” *Perspectives on Science* 25(2): 261-285. DOI: 10.1162/ POSC_a_00243.
- Mays, Wolfe. 2000. “[Turing and Polanyi on Minds and Machines.](#)” *Appraisal* 3(2): 55-62.
- Mullins, Phil. 1997. “[Michael Polanyi and J. H. Oldham: In Praise of Friendship.](#)” *Appraisal* 1(4): 179-189.

- . 2016. “An Introduction to Michael Polanyi’s Gifford Lectures.” 1-11. Online only at <http://www.polanyisociety.org/Giffords/Intro-MP-Giffords-9-20-16.pdf>.
- . 2019. “Edward Shils and Michael Polanyi: The Terms of Engagement.” In *The Calling of Social Thought—Rediscovering the Work of Edward Shils*. Ed. Stephen Turner and Christopher Adair-Totef. Manchester: Manchester University Press. 79-105.
- Polanyi, Michael. 1947/2020. “What to Believe.” Box 31, Folder 10, MPP. Published in 2020 in *Tradition and Discovery* 46 (2): 21-28.
- . 1949. “Can the mind be represented by a machine?” [subtitled “Notes for discussion on 27 October 1949”]. Box 32, Folder 6, MPP.
- . 1950. “Scientific Beliefs.” *Ethics* 61: 27-37. Online at <http://www.compilerpress.ca/Competitiveness/Anno/Anno%20Polanyi%20Scientific%20Beliefs%20Ethics%201950.htm>.
- . 1951. “The Hypothesis of Cybernetics.” *British Journal for the Philosophy of Science* 2(8): 312-315.
- . 1951 and 1952. Gifford Lectures: Commitment, in Quest of a Post-Critical Philosophy. David M. Rubenstein Rare Book and Manuscript Library. Duke University, Durham, NC. 1-403. Online at <http://www.polanyisociety.org/Giffords/Giffords-web-page9-20-16.htm>.
- . 1952 [November]. “The Stability of Beliefs.” *British Journal for the Philosophy of Science* 3 (11): 217-232. Online at <http://www.polanyisociety.org/mp-stability.htm>.
- . 1952 [December 17-20]. “Skills and Connoisseurship”. In *Atti del Congresso di Studi Metodologia*. Torino: 381-394.
- . 1966. “The Logic of Tacit Inference.” *Philosophy* 41: 369-386. Published in KB, 138-158.