

Michael Polanyi and Karl Popper: The Fraying of a Long-Standing Acquaintance

Struan Jacobs and Phil Mullins

ABSTRACT Key Words: Michael Polanyi and Karl Popper, critical rationalism and post-critical philosophy, Popper's open society and Polanyi's dynamic orders.

Based upon archival correspondence and their publications, this essay analyzes the interaction of Karl Popper and Michael Polanyi. Popper sent Polanyi for review in 1932 an early draft of The Logic of Discovery. Friedrich Hayek helped both Polanyi and Popper publish some of their writings in the forties. Polanyi renewed his acquaintance with Popper in the late forties when Popper took a position at the London School of Economics and they met to discuss common interests. In the early fifties, as Polanyi prepared and presented his Gifford Lectures and published The Logic of Liberty, Polanyi became increasingly clear and articulate in distinguishing his social philosophy and philosophy of science from Popper's ideas. Polanyi's 1952 paper "The Stability of Belief" forthrightly presented Polanyi's post-critical ideas that Popper overtly rejected in an important letter. After this, they had little to do with each other.

I. Introduction¹

In the books and essays of Michael Polanyi, there are only a handful of references to Karl Popper; likewise, in Popper's books and essays, there are only a few references to Polanyi. Most of the references in each figure's later writings are pointedly critical, although sometimes veiled and cryptic, as the following examples show. There is an unnamed but unmistakable and acerbic shot at Polanyi at the very end of Popper's "Preface to the English Edition, 1958" of *The Logic of Scientific Discovery*, published in 1959, a year after the publication of PK.² Popper says he holds that only a revival of interest in the

riddle of man's knowledge of the world can save the sciences and philosophy from narrow specialization and from an obscurantist faith in the expert's special skill and in his personal knowledge and authority; a faith that so well fits our 'post-rationalist' and 'post-critical' age, proudly dedicated to the destruction of the tradition of rational philosophy, and of rational thought itself (23).³

Six years after Polanyi's death, in Popper's 1982 Introduction to the 1983 re-publication of *Realism and the Aim of Science*, Polanyi is named and used as a bludgeon to club Thomas Kuhn.:

Kuhn's views on this fundamental question [the nature of truth] seem to me affected by relativism; more specifically, by some form of subjectivism and elitism, as proposed for example, by Polanyi. Kuhn seems to me also affected by Polanyi's fideism: the theory that a scientist must have faith in the theory he proposes (while I think that scientists—like Einstein in 1916 or Bohr in 1913—often realize that they are proposing conjectures that will, sooner or later be superseded) (xxxix-xxxii).

Popper's passing references to Polanyi condemn Kuhn by association. The implication is that Kuhn is a relativist. Popper thinks neither Kuhn nor Polanyi has an account of truth that is adequate. Further, Popper suggests Kuhn is tainted by Polanyi's fideism which Popper implies does not affirm that scientific discoverers recognize their views will be superseded.⁴

Polanyi's few published comments about Popper also tend to be cryptic, critical remarks, although somewhat more diplomatically articulated. Still early in his philosophical career, in his Preface to *The Logic of Liberty* (1951), Polanyi challenges but does not directly name Popper's views in *The Open Society and Its Enemies* (1945):

Freedom of the individual to do as he pleases, so long as he respect the other fellow's right to do likewise, plays only a minor part in this theory of freedom. Private individualism is no important pillar of public liberty. A free society is not an Open Society, but one fully dedicated to a distinctive set of beliefs (vii).

In *The Tacit Dimension* (1966), Polanyi notes that idealized notions about science as dispassionate are currently fashionable, and such idealizations deem "the scientist not only indifferent to the outcome of his surmises but actually seeking their refutation" (78). In a footnote, Polanyi identifies Popper as the figure who has forcefully expressed this view of science, and he quotes from *The Logic of Scientific Discovery* (279) to illustrate this view which Polanyi rejects. In his 1972 essay "Genius in Science,"⁵ Polanyi points out that the "temper of the age . . . prefers a tangible explanation to one relying on more personal powers of the mind" (46). This has led to the presumption that scientific discoveries are tentative hypotheses and that "unless a hypothesis produces testable conclusions it should be disregarded as lacking any substantial significance" (46). In a footnote, Polanyi identifies Popper as the source of the "widely influential" idea that Polanyi calls "the principles of 'refutationalism.'"⁶ Polanyi only indirectly addresses these "principles," by turning to the history of science to show that testing discoveries is often unnecessary and may be impracticable.⁷

These examples suggest that palpable tensions developed between Karl Popper and Michael Polanyi. Their accounts of science were quite different and eventually these figures clearly recognized this. This recognition provides some explanation for their few, pointed and abbreviated late comments about each other, but there seems to be more involved than disagreements about philosophical accounts of science. This essay is an historically oriented effort to sketch what is known about the relations between Popper and Michael Polanyi.⁸ We attempt to illumine the context in which Polanyi and Popper's philosophical differences emerged.

Although Polanyi was eleven years older than Popper and had formative experiences as a research scientist rather than a philosopher, Polanyi and Popper came from the same cultural milieu; both were Jewish émigrés⁹ who eventually work in English academic institutions. They in fact knew each other from the thirties and seem to have cooperated and shared some intellectual interests in certain periods, although their relationship became fraught with tensions in the fifties and sixties. There is a small but interesting collection of letters that Popper and Polanyi wrote to each other in the Hoover Institution's Popper Archives. These letters are supplemented by a few additional letters that Michael's brother Karl and his wife Ilona Polanyi wrote to Popper (also in the Popper Archives). There is also a letter to Popper in the Papers of Michael Polanyi and, in the Papers of Edward Shils, there is some correspondence between Polanyi and Shils that mentions Popper, who was a mutual friend. Together this material, when linked to some publications, provides insights about the relations of Michael Polanyi and Popper. Although the material leaves many questions unanswered, it places

in a living context some of the issues concerning not only science but also social philosophy that separated Popper and Michael Polanyi, suggesting how what seems once to have been a somewhat collegial relationship became strained.¹⁰

II. Early Connections

A. Popper's 1932 Letters to Polanyi

Karl Popper and Michael Polanyi apparently first became acquainted in 1932 when Popper, then a secondary school teacher,¹¹ sent Polanyi, a prominent scientist at the Kaiser Wilhelm Institute for Physical Chemistry,¹² a manuscript to review. There are carbons, in the Popper Archives, of two typed letters in German from September and October of 1932 from Popper to Polanyi.¹³ The September 17, 1932 letter makes clear Popper is writing to Michael Polanyi at the suggestion of Karl Polanyi, who Popper knew in Vienna in the twenties and early thirties. Popper participated in informal seminars in Karl and Ilona Polanyi's apartment in this period, according to Felix Schaffer.¹⁴ Karl and Ilona continued to write Popper (see letters discussed below) after they and Popper left Vienna, and Popper notes in his intellectual autobiography, that Karl Polanyi introduced him, in 1926, to Professor Heinrich Gomperz, the second professional philosopher with whom he became acquainted (Autobiography, 57-58) and with whom he discussed "the psychology of knowledge or discovery," although he notes that his primary interest was in "the logic of discovery" (Autobiography, 59).

Popper's 1932 letters to Michael Polanyi were concerned with his manuscript "Die beiden Grundprobleme der Erkenntnistheorie, I" (The Two Fundamental Problems of Theory of Knowledge, I). Polanyi apparently received the manuscript in June but did not promptly review and return it, and Popper's September 17, 1932 letter requested the return of the manuscript:

Prof. Dr. Michael Polanyi
Berlin Zehlendorf
Waltraudstr. 15

Dear Professor!

On the recommendation of your brother Karl, I sent you in June the manuscript of a work ("The two fundamental problems of theory of knowledge", I). I assume that you have not yet found the time to examine the work more closely. Since I now most urgently need the manuscript, I would respectfully ask that it be returned to me as soon as possible. If, by coincidence, you are just now reading it, I am asking you to notify me and only send the manuscript after your completed evaluation.

I beg you to excuse any inconvenience that I have caused with the sending of the manuscript, and now am continuing to cause with my present request for a return of the manuscript.

With highest respect,

Vienna, 17 September 1932
13, Anton Langergasse 46

Exactly what this manuscript mailed to Polanyi was is not altogether clear. In 1979, a Popper book with this German title was published,¹⁵ and an English translation, *The Two Fundamental Problems of the Theory of Knowledge*¹⁶ finally was published in 2009. Book I of this volume is on induction and Book II on falsifiability. The title of the manuscript noted in his September 1932 letter thus suggests that Popper had sent to Polanyi the material on induction if the early manuscript was organized like the later book. In his intellectual autobiography, Popper says that he completed what he at the time regarded as the first volume “very early in 1932,” and that it was “conceived, from the beginning, largely as a critical discussion and as a correction of the doctrines of the Vienna Circle” (Autobiography, 67).¹⁷ But exactly what Polanyi received to review remains ambiguous. Popper seems to have been extensively revising his manuscript in the period in which Polanyi was mailed a copy. Popper apparently first develops his criticisms of induction and his views about deduction and then puts this together with his ideas about demarcation marked by falsifiability. Hacothen contends that it was not until the spring of 1932 that Popper clearly saw falsifiability as an alternative demarcation criterion. Popper re-wrote some sections of his manuscript in the summer of 1932. Hacothen argues that Popper’s earliest discussions of the limitations of induction as a model for science change as “falsification moved from the margins to the center” as a criterion of demarcation (2000, 198). That is, some sections of the manuscript were rewritten as Popper tried to “create a new framework for a book that had been superseded” (2000, 199).

Why was the manuscript sent to Polanyi? Presumably, Karl Polanyi suggested that Popper send it to his brother the prominent scientist for review since it was concerned with science. The follow-up October 18, 1932 letter from Popper implies that Popper’s motives were likely concerned with getting his work published.

Dear Professor,

With many thanks I confirm the arrival of the manuscript. Recently I wrote to Professor Carnap (Prague) (in a matter that does not pertain to my book), and on that occasion I reminded him of the promised intervention with Frank by dropping the remark that you had recommended to me that I should seek assistance from Frank.

—
Since you have tried once before, as you write, to read my work, I send you herewith a succinct statement of the basic ideas (2 ¼ pages). This presentation I wanted to publish as a “letter” in “Naturwissenschaften” (Natural Sciences), but it was rejected (with the remark that it does not fit into the framework of the journal).

I won’t take more of your time, sparing you even short letters.

Thanks again.

Yours truly,

Vienna, 18 October 1932

This second letter confirmed that Popper’s manuscript was returned, and noted that Popper had, in a letter, reminded Rudolf Carnap of Carnap’s promise of assistance with Phillip Frank, a physicist who Polanyi likely knew who was an editor, along with Moritz Schlick, of a series of works by members of the Vienna Circle. Popper reminded Carnap of his promise by noting that Polanyi recommended that Popper seek help from

Frank. The fact that Popper confided this implies that Popper and Polanyi had communicated earlier about how to get Popper's manuscript some attention and into the hands of Frank. The brief second paragraph indicates that, since Polanyi had earlier tried to read Popper's work and had apparently found the manuscript too long and dense, Popper was now enclosing a short summary of his basic ideas. He confided that he had hoped to publish this summary as a letter in a scientific journal but it was rejected as unsuitable. Unfortunately, a copy of the 2 ¼ page summary seems not to be in the Popper Archives collection of materials. But if Polanyi did receive such a short summary (which perhaps reflected recent Popper revisions during the 1932 summer), it seems reasonable to assume that Polanyi does know something quite early about Popper's developing ideas, even if he did not read the manuscript carefully.

Not long after Popper's correspondence with Polanyi, Popper did manage to get his manuscript (or at least part of it) on the road to publication. Popper recalled that his book was "read first by Feigl, and then Carnap, Schlick, Frank, Hahn, Neurath, and other members of the Circle" (Autobiography, 67). It was accepted for publication in 1933 by Schlick and Frank in their series, most of whose books were by members of the Vienna Circle. However, Springer, the publisher, required that Popper's work be "radically shortened" (Autobiography, 67). Popper notes that by the time the book was accepted, he had written most of the second volume and thus "little more than an outline of my work" (Autobiography, 67) could be published in the pages allotted by the publisher. He put forth a new manuscript with the agreement of Frank and Schlick, drawing material from both volumes. What Popper finally published in December of 1934, under the title *Logik der Forschung*, was what he termed "extracts from both volumes" (Autobiography, 67; see also Hacoen, 2000, 188). Popper says his uncle Walter Schiff produced the final text by cutting about half of what was available in order to meet the publisher's strict requirements for length. This publication is what launches Popper's career as a philosopher.¹⁸

B. Popper, Polanyi, and F. H. Hayek

As the Nazis' program began to unfold, Michael Polanyi left the prestigious Kaiser Wilhelm Institute for Physical Chemistry in Berlin in 1933 for a faculty appointment at the University of Manchester. Although Polanyi continued to hold this appointment in chemistry and continued to do outstanding research for another fifteen years, his interests became broader and his research and writing was not only in chemistry after moving to Manchester¹⁹ (Scott and Moleski, 120, 139, 152, 154-155; Nye, 2011: 145-181). In fact his interests were already expanding before he left Berlin. On several scientific trips to the Soviet Union, Polanyi took a keen interest in the economic changes emerging there in the twenties and early thirties. Both in Berlin and in Manchester, Polanyi was in conversation with economists. In 1935, he published *USSR Economics—Fundamental Data, System and Spirit*, "which gave one of the earliest accounts . . . of Soviet production and consumption figures, of government regulation, and of the basis of the Communists' appeal to the public" (Scott and Moleski, 160). In 1936, Polanyi carefully studied Keynes' *The General Theory of Employment* and came to think of himself as a qualified Keynesian. He became very interested in economics education in the late thirties and early forties (Scott and Moleski, 165-167). His interest in economics and the Soviet Union was also linked to his interest in the plight of persecuted Soviet scientists.

In 1935-36, Popper, while on a leave of absence from his teaching position in Vienna, made two long visits in England; his *Logik der Forschung* (1934) was well reviewed in England and this brought opportunities to lecture in London and Cambridge (Autobiography, 85-86). There is no evidence that Popper had any contact with Michael Polanyi in these early visits to England. Popper does, however, report that on

one of these visits he read a paper titled “The Poverty of Historicism” in a Hayek seminar at the London School of Economics (Autobiography, 90). Hayek seems to have become an important Popper friend and ally thereafter.²⁰ In March, 1937, Popper accepted a lectureship in Canterbury University College, Christchurch, New Zealand (Autobiography, 87-88). Popper speculates that Hayek may in part have been responsible for his New Zealand appointment (Autobiography, 87). Hacohen suggests that Karl Polanyi helped Popper with this appointment, since Karl Polanyi’s friend John Macmurray chaired the appointment committee; Karl Polanyi tried “to facilitate his [Popper’s] move by providing contacts with previous New Zealanders” (2000, 120).

Popper also acknowledges that Hayek (although Popper notes he did not yet know him well enough to ask), along with his friend Ernst Gombrich, helped find a publisher for his *The Open Society and Its Enemies* (1945),²¹ which he completed in New Zealand in February, 1943 (Autobiography, 95). This book, Popper says, developed out of an elaboration of one section of the expanded poverty of historicism material whose germ was given as a paper in 1936 in Hayek’s seminar. As noted above, the poverty of historicism material itself eventually became three articles published by Hayek in *Economica* in 1944 and 1945, after it was earlier rejected by *Mind* (Autobiography, 90-95). *The Poverty of Historicism* appeared as a book in 1957.²² About both the open society and poverty of historicism material, Popper says, they

were my war effort. I thought that freedom might become a central problem again, especially under the renewed influence of Marxism and the idea of large-scale “planning” (or “dirigisme”); and so these books were meant as a defence of freedom against totalitarian and authoritarian ideas, and as a warning against the dangers of historicist superstitions. Both books, and especially *The Open Society* (no doubt the more important one), may be described as books on the philosophy of politics (Autobiography, 91).

In sum, Popper’s early social and political philosophy is developed in the thirties and forties and is published with the help of Hayek. It turns out, as we describe below, that this political philosophy, which is developed before and during the war, Polanyi comes to think is at odds with his own political philosophy developed in the same period, again with some encouragement from Hayek, and this difference in political philosophy is in fact entangled with the philosophical differences about science that are articulated in the early fifties.

In January 1946, Popper returned to England to a position as Reader in Logic and Scientific Method at the London School of Economics. Hayek played an important role in arranging this appointment and in arranging for Popper to get out of New Zealand just after the war. Popper describes his job offer as coming in a cable (apparently received in late 1945) signed by Hayek who also thanked him for offering the articles recently published in three installments in *Economica* (Autobiography, 96). About Hayek, Popper commented in his autobiographical reflections on this period, “I felt that Hayek had saved my life once more” (Autobiography, 96).²³

In the late thirties, Polanyi, like Popper, became a friend of Friedrich Hayek and they cooperated on several projects thereafter. Polanyi met Hayek in August, 1938 at a Paris conference honoring Walter Lippmann’s recent book *An Inquiry into the Principles of the Good Society*, which criticized collectivism, planning, and totalitarianism.²⁴ Hayek saw Polanyi’s film “An Outline of the Working of Money” at this conference (Scott and Moleski, 167-168). Hayek seems subsequently to have become very interested in Polanyi’s work analyzing the Soviet economy and his outspoken criticism of the British “planned” science movement. As Polanyi’s lectures and publications from the late thirties make very clear, although Polanyi was a new British citizen, he

quickly took on a role as a scientist opposed to the popular movement to centralize science. Hayek reviewed Polanyi's 1940 book *The Contempt of Freedom* in the May, 1941 issue of *Economica* (New Series, 8:30: 211-214). The book is primarily a compilation of Polanyi's writing from the previous five years and it incorporates the material in Polanyi's *USSR Economics—Fundamental Data, System and Spirit* (1935) as well as Polanyi essays, a lecture and review articles resisting Marxist-influenced views of science.

Correspondence between Polanyi and Hayek in 1941 led to the publication in November, 1941 in *Economica* of what is perhaps Polanyi's most important early essay, "The Growth of Thought in Society," articulating his liberal political philosophy. This essay is a lengthy review article attacking a new publication, J. G. Crowther's 1941 book *Social Relations of Science*, promoting "planned" science. The correspondence with Hayek and the references in Polanyi's article to other literature on "planned" science suggests that Polanyi was eager to write more than a simple review of the new Crowther book.²⁵ Polanyi's own ideas about science and society and particularly some of his ideas about freedom are jelling in this period. His essay offers criticisms of "planned" science as well as fascism and communism, but these are presented in the larger context of articulating Polanyi's constructive vision of a liberal society.

Polanyi's philosophical account of science treats science as one of the apparently many "dynamic orders" found in modern liberal society.²⁶ Particularly important in this essay is Polanyi's characterization of liberal society as a domain in which thought grows (hence his title) because society is a complex fabric of many "dynamic orders" or independent, self-governing social networks or communities of practice. Some orders have a more practical orientation and some—the ones that Polanyi seems to regard as especially important—have a more intellectual orientation as does science. In his article, Polanyi focuses on (and compares and contrasts) three such orders: science, the common law and the market,²⁷ which he likely intended as representative. The case of the operation of science Polanyi emphasizes since this is a counter to Crowther's views. Polanyi portrays science as a growing organism of specialized thought which engages many creative persons in its research programs and it cannot be centrally planned. The success of science (as well as other orders) depends upon the "mutual" or "spontaneous" adjustment of individuals in the community; scientists pay attention to ongoing research, adjusting their own inquiries and views, as they serve the transcendent ideals in their community.

In this essay, Polanyi first discusses what he dubs "public liberty" as a necessary component of liberal society. Polanyi's ideas about public liberty seem to grow out of some of his ideas found in essays and lectures written just prior to "The Growth of Thought in Society" (1941). His 1940 lecture "Collectivist Planning," which becomes a chapter in *The Contempt of Freedom* (also SEP, 121-144 [copy cited here]), identifies "two alternative methods of ordering human affairs" (129), "planning" or "comprehensive planning" and "supervision" or "supervisory authority" (129). The latter "is in the first place the method by which the cultivation of things of the mind is regulated" (127). In "Rights and Duties of Science," first published in 1939 and also incorporated in *The Contempt of Freedom* (also SEP, 61-78), Polanyi connects thought and freedom:

Freedom . . . becomes *necessary* because the State cannot maintain and augment the sphere of thought which can only live in pursuit of its own internal necessities, unless it refrains from all attempts to dominate it, and further undertakes to protect all men and women who would devote themselves to the service of thought, from interference by their fellow citizens, private or official—whether prompted by prejudice or guided by enlightened plans" (68).

Polanyi in these essays recognizes the importance of mutual adjustment effected through the free participation of informed scientists in the public conversation about things like new scientific theories. More generally, thought can grow where there are protections encouraging the vigorous public conversations that lead to mutual adjustment. By 1941 in “The Growth of Thought in Society,” he identifies “public liberty” as integral to guarantee such participation in science and other dynamic orders and distinguishes it from “private liberty” or “private freedoms.” Public liberty as implemented in society’s intellectual dynamic orders is not the liberty an individual has to do as he/she pleases; instead public liberty is the protected opportunity for discourse that individuals (who are serving the ideals embedded in a community) have to promote the ongoing work within a community like science. An individual scientist serves truth by articulating new scientific ideas even if these are in tension with prevailing scientific opinion; he/she is obligated to share new research as well as criticize the views of others as part of the ongoing public conversation in the scientific community, which is the vehicle through which science as an intellectual order progresses (or “mutually adjusts”) and scientific thought in society grows. Public liberty is thus an essential element in dynamic orders like science through which thought in society grows.²⁸

To summarize the several threads in this section’s discussion, Friedrich Hayek was an important friend who supported the intellectual development of both Popper and Polanyi in the thirties and forties. As Popper’s views are beginning to take shape, Hayek has a hand in seeing that some early Popper writing best described as Popper’s wartime-generated political philosophy is published. This material, which became three *Economica* essays published by Hayek in 1944 and 1945 and eventually the book *The Poverty of Historicism* (1957), reaches back to a paper read to friends in Brussels in 1935 (Autobiography, 90) and then again in 1936 in Popper’s visit to England to a Hayek seminar. Hayek helps Popper publish in 1945 *The Open Society and Its Enemies* which grew out of Popper’s work on the poverty of historicism material.²⁹ Hayek also was an important figure involved in bringing Popper as a faculty member to the London School of Economics in 1946.

Hayek meets Polanyi in the late thirties and they become allies opposing the “planned” science movement and criticizing Marxist-influenced economic ideas and experiments. Hayek reviews Polanyi’s 1940 book *The Contempt of Freedom*³⁰ and publishes an important early Polanyi essay which articulates Polanyi’s vision of liberal society, buttressed in what Polanyi terms “public liberty.” The essay outlines Polanyi’s early understanding of science (a view that Polanyi develops further in the mid and late forties and fifties) as one important “dynamic order” in a modern liberal society. That is, his early philosophy of science is tightly woven with his broader political philosophy. Friedrich Hayek later saw that both Popper and Polanyi were included in his Mont Pelerin Society which was concerned with preserving liberal society and which met periodically for several years beginning in 1947.³¹

III. Interactions in Popper’s Early Years at the London School of Economics

A. Early UK Contact and Collaboration

Most of the Polanyi-Popper letters in the Popper Archives were written in the late forties and in the early fifties. Four letters are actually from Karl or Ilona Polanyi who Popper seems to have known well in Vienna in the twenties and early thirties; after he returned to London in 1946, he received these four letters from his friends who provided personal news, asked small favors³² and exchanged pleasantries. One letter implies that Karl Polanyi regarded Michael Polanyi as one of Popper’s contemporary intellectual friends. Karl Polanyi asked (in an undated letter whose contents make clear it was written in the fall of 1947), “Have

you eventually bridged the gap separating you from Hayek in economic policy? Tell me about this, also about Shills (sic), my brothers (sic) work, and especially about your own.”

Before Popper arrived in London in January 1946 to begin his new position at the London School of Economics,³³ Polanyi had invited him to visit Manchester to make a late spring presentation for The Manchester Literary and Philosophical Society. Polanyi’s December 10, 1945 letter to Popper invites him “to give us an address on the subject of your recent book” which was *The Open Society and Its Enemies* published in mid November 1945. He adds that “your work has aroused considerable interest in our Society and many of us would be happy to be granted an opportunity to listen to you and to discuss your ideas with you.” A January 26, 1946 follow-up letter from Walter James, secretary for the Social Philosophy Section of The Manchester Literary and Philosophical Society, explained that Polanyi was away from the University, and that James had been requested to discuss arrangements for Popper to give a talk at Manchester in late June, apparently on the topic the “open society.” The letter from James indicates that Popper has already affirmatively responded to Polanyi’s invitation to give a talk: Popper agreed to come to Manchester, but advised Polanyi that he “may not be able to prepare a paper for publication in time.” James suggested that if Popper cannot “prepare a finished paper, we shall be happy to have you talk to us on some matter related to your conception of the ‘open society.’” Popper made the projected trip to Manchester, and Polanyi wrote a short letter to him on June 24, 1946, thanking him “very much for your visit to Manchester and for the most interesting lecture which you gave.”³⁴

Other letters from the late forties make clear that Polanyi and Popper were interested in each other’s work. These letters seem cordial and generally amiable. Polanyi wrote to Popper on January 29, 1948 thanking him for having sent two papers but acknowledging that he had not yet read them. He reported he had heard “enthusiastic comments” about one paper from John Jewkes, a colleague and friend who was an economist. The other paper, “Logic without pre-suppositions”³⁵ Polanyi proclaimed to be one “which I happen to need very much” but he had apparently mislaid the paper so he requested that Popper save another copy for him, adding he was “undeserving of this added kindness but I assure you at least, that your paper will be quite vital to my work.” Polanyi apparently recognized this might appear an odd claim to make, given that he had not read the paper, and added, “but it is not unreasonable according to my view of science.” Polanyi apparently was referring to his view that scientists rely on assumptions and what he later identified as tacit elements. Polanyi remarked that he appreciated that Popper had “called . . . [him] by the name my oldest friends use, because through Karl [Polanyi] we are really very old friends, and this was revived in me by talking about you to Ilona [Polanyi]. You have been a good friend to her too.” Polanyi thus invoked their shared history. He commented at the end of his letter that he had tried unsuccessfully to phone Popper in London and added that he might be coming to the London School of Economics to deliver a paper in March, “but it is not yet certain. Anyhow, I really must try to meet you soon.”

Correspondence suggests Polanyi and Popper did meet for discussions on occasion in the final months of 1949 and early 1950 (prior to trips both took to the US) as they seriously pursued some topics of common interest. A letter from Polanyi dated October 11, 1949 tried to set up a meeting with Popper later in the month. Polanyi noted that he received a reprint from Popper and commented that he had “gone through your ‘Logik der Forschung’ some time ago and shall be interested to see what principles you consider to be most central to its argument.” Polanyi indicated that he was sending an outline for a paper to Popper to review; it is apparently this outline that he hoped to discuss with Popper in the upcoming meeting.³⁶ The meeting took place and was one Polanyi found very fruitful.³⁷ A November 26, 1949 letter from Polanyi to Popper proclaims “I am most anxious to see you again and talk to you about a number of things that occurred to me since our last meeting.”

Polanyi also asks “whether your paper mentioned over the telephone is available. I should like very much to read it.” A December 6, 1949 letter from Polanyi to Popper concludes “I should very much like to know what your movements will be between now and the middle of March, for I should like to go to see you in London for a couple of hours or so, if you cannot come to address us here.” This late 1949 correspondence makes quite clear that Polanyi sought intellectual contact with Popper and valued his input.³⁸

Writing to Popper on January 12, 1950, Polanyi indicated that he would go to London to meet with Popper on January 17 if January 26 or 27 proved impossible dates. Polanyi promised to mail to Popper the “ms which includes the Polycentricity discussion as soon as I get it back from a colleague who is reading it.” He ends by noting that “I greatly look forward to seeing your paper on the problem of mind and machine which has occupied me so long.”³⁹ Polanyi’s reference in his January 12, 1950 letter to a manuscript dealing with polycentricity is to his “Economic and Intellectual Liberties,” an essay published later in 1950 in a German journal.⁴⁰ “Manageability of Social Tasks,” is a slightly modified version of this essay⁴¹ which was published the following year as the concluding chapter of *The Logic of Liberty*.

Polanyi later notes, in a June 7, 1951 letter to Popper, that he is sending to Popper in a separate mailing a copy of his new book. *The Logic of Liberty* had apparently very recently been published when Polanyi wrote to Popper on June 7, 1951. A review appeared in May, 29, 1951 in *The Manchester Guardian* and another review appeared in the issue of *The Times Literary Supplement* (an organ Popper was more likely to see) dated June 8, 1951 (359)—the day after Polanyi wrote Popper—and in fact this *TLS* issue may already have been available at the time that Polanyi wrote.

Polanyi’s June 7, 1951 letter also remarks that he was “very grateful to you [Popper] for your help in revising the last essay. I have been able to incorporate most of your suggestions in the proofs. Without your stimulus this essay would never have been written.” “The Manageability of Social Tasks” (as well as its predecessor “Economic and Intellectual Liberties” which apparently appeared late in 1950) incorporate most of Polanyi’s 1941 essay “The Growth of Thought in Society” and material from Polanyi’s 1944 publication on patent reform (“Patent Reform,” *Review of Economic Studies*, XI, Summer 1944, 61-76).⁴²

B. Differences Over “Liberalism”

The most interesting element in Polanyi’s June 7, 1951 letter to Popper comes later in the letter: Polanyi avers, “I think we do not agree on the formulation of liberalism, but that only proves how inadequate all formulations are in these matters as our views are fundamentally similar.” This is a declaration which manages both to challenge and conciliate. The challenge identifies that Polanyi and Popper do not conceive liberalism in the same way. But in the same breath Polanyi acknowledges the inadequacy of all efforts to formulate the nature of liberalism and then acknowledges a basic kinship between his own and Popper’s political philosophies. Polanyi’s statement seems primarily to have been intended as a diplomatic gesture which might prepare Popper for what he would soon read in the Preface of *The Logic of Liberty* being mailed separately to him. One section of the Preface seems to be an overt rejection of Popperian terminology and elements of the perspective elaborated in *The Open Society and Its Enemies*: “Private individualism is no important pillar of public liberty. A free society is not an Open Society, but one fully dedicated to a distinctive set of beliefs” (LL, vi). Polanyi does not name Popper here, but he does capitalize “open society.” He clearly aims to re-define “a free society” in terms of what he calls “a distinctive set of beliefs” rather than what he associates (and thinks

his readers associate) with “an Open Society.”

Some of the discussion in *The Logic of Liberty*—especially that in the last chapter which Popper has presumably already read in the virtually identical “Economic and Intellectual Liberties”—helps clarify (in terms of his ideas about “public liberty” as opposed to “private freedoms” as integral to spontaneous orders of liberal society) what Polanyi means when he emphasizes (in his Preface) “a distinctive set of beliefs” which is, for Polanyi, bound up with “public liberty.” There are here in this last chapter of LL also hints about what Polanyi found missing in Popper’s discussion of an “open society” and what Polanyi thinks is wrong with Popper’s conception of liberalism. Polanyi says, for example, “A free society is characterized by the range of public liberties through which individualism performs a social function, and not by the scope of socially ineffective personal liberties” (LL 158; “Economic and Intellectual Liberties,” 415). “Public liberty” is a means to produce a social function and should not be conflated with “private liberty.” Later Polanyi complains about just this conflation which he likely thought Popper’s social philosophy was guilty of:

The liberal conception of society which attributes a decisive part to the operation of individual freedom in the public life of nations, must recognize that this entails a distinction between two aspects of freedom: public and private. Both deserve protection; but it is damaging to the first that it should be demanded and its justification sought—as often happens—on the grounds of the second” (LL 158-159; “Economic and Intellectual Liberties” 415).

As noted above, in his 1941 essay “The Growth of Thought in Society” (most of which is recycled in LL), Polanyi first discussed “public liberty.” Polanyi champions the type of liberty embodied in the second nature beliefs and practices of agents engaged in particular communities or circles such as science and those embodying common law practices. Such agents are embedded in particular “dynamic orders” of liberal society. Society is a network of such orders, although such orders are not all identical and the non-intellectual economic order in particular differs from intellectual orders like science which rely on professional opinion. Those who participate in particular orders serve certain ideals and values revered in that particular order. Agents within a particular order are independent but have common mores and transcendent standards (i.e., have concrete shared beliefs and habits which they put into action) which give the order both coherence and dynamism which comes through the ongoing interaction of independent agents (i.e., through mutual adjustment or spontaneous adjustment). Polanyi seems to envision a public conversation as an ongoing feature of an intellectual dynamic order like science (just as interaction is ongoing in the competitive economic order) and each inquiring scientist has a right and a responsibility to participate in the conversation. That participation is protected by certain guarantees for free speech. Agents of a particular order thus share what Polanyi calls in his Preface to *The Logic of Liberty* “a distinctive set of beliefs” which he links to his vision of a free society. Agents have, or their actions embody, “public freedoms” or “public liberties.” Government in liberal society provides a certain amount of general but indirect support for orders like science though institutions like universities which have certain traditions. Government as well as practices within science and other dynamic orders preserve “public liberty.” Each order is self-governing or self-maintaining through professional opinion and mutual adjustment, and each produces certain intrinsically valuable social goods which support the well-being of larger society.

Polanyi likely sensed profound differences in his account of liberal society, which relies on “dynamic orders” and “public liberty,” and the account of Popper, which projected a major shift in history from the “closed” to the “open society.” Jarvie’s discussion of Popper’s social philosophy is helpful for illuminating this difference.⁴³ Jarvie argues that Popper comes up “with an original conception of the social using the polar

concepts of the open and the closed societies, and of abstract and concrete social relations” (26). Certainly, it is easy enough to recognize these motifs used architectonically in *The Open Society and Its Enemies*. On the opening page of his Introduction, Popper speaks of “the transition from the tribal or ‘closed society’, with its submission to magical forces, to the ‘open society’ which sets free the critical powers of man” (1966, 1). Later, in his chapter titled “The Open Society,” Popper says “in what follows, the magical or tribal or collectivist society will also be called the *closed society*, and the society in which individuals are confronted with personal decisions, the *open society*” (1966, 173). Still later, Popper positively discusses how modern society has lost “organic character” (174) and moved toward being a more “abstract society” (1966, 174) and this is linked to “a new individualism” involving “personal relationships of a new kind” (1966, 175) which “can be freely entered into” (1966, 175). Popper’s “open society” is connected with rational, critical thought, and the “closed society” is exemplified by modern totalitarianism⁴⁴ and is at least indirectly linked with what Popper calls “historicism,” which, as Jarvie notes, is “the idea that there are inexorable laws of history” (91). Just as Popper’s “philosophy of science had rejected induction as the characteristic method of science” so also “his philosophy of social science rejected historicism as the characteristic method of social science” (93). As Jarvie makes clear, Popper’s polarities are ideal types and certainly Popper did not think his positive ideal of an “open society” was in more than its infancy (143).

It seems very likely, however, that Polanyi found Popper’s general way of framing the discussion of political philosophy and Western historical development in terms of movement between his polarities to be problematic. By 1941, he is already trying to work out his own ideas about “dynamic orders” and “public liberties” as the key to modern liberal society. He likely saw Popper’s social philosophy, despite its cautionary ambience, as close to the standard Enlightenment narrative. By the time (i.e., the late forties and early fifties) that Polanyi is putting together his Gifford Lectures and writing the Preface of *The Logic of Liberty* (and his essay “The Stability of Beliefs” discussed below), he is working to pull together both an alternative political philosophy and an account of science that recognizes the importance of belief.⁴⁵

C. A Close Reading of the Preface to *The Logic of Liberty*

As we have suggested, Polanyi tightly links public liberty and his conception of liberalism (i.e., what he calls a “free society”) in his Preface to *The Logic of Liberty*, hinting that differences with Popper turn on this linkage. Polanyi’s full Preface deserves a more careful consideration since it raises the larger question as to how much kinship—despite his June 7, 1951 letter’s claim—Polanyi did in fact, think he had with Popper. His Preface reads more like a mild mannered manifesto outlining how a whole set of new philosophical ideas—ideas that Popper would not accept—belong together and need to be articulated. The Preface is a prolegomena of sorts for the philosophical perspective that Polanyi is beginning to articulate in his First Series Gifford Lectures which began May 7, 1951.

Polanyi introduces his Preface with a quotation from Kant which points out that only after wrestling unsystematically with elements that seem to be deeply embedded in mind do we become able to see the elements clearly and reasonably as they fit together. He then points out that over the eight years in which the essays in his book were written, he has been trying “to clarify the position of liberty” (LL, vi). He notes that he has considered recasting his earlier efforts at clarification in a more comprehensive system but he acknowledges “this seemed premature.” He further explains himself with the claim that a better account of liberty is impossible “without establishing first a better foundation than we possess to-day (sic) for the holding of our beliefs” (LL, vi). Polanyi suggests that he, nevertheless, hopes this collection of essays “may supply

some elements of a future coherent doctrine since it expresses throughout a consistent line of thought” (LL, vi). This consistent line of thought he describes in terms of how his essays “take more seriously here than was done in the past the fiduciary presuppositions of science; that is the fact that our discovery and acceptance of scientific knowledge is a commitment to certain beliefs which we hold, but which others may refuse to share” (LL, vi). He then notes that “freedom in science” is “the Natural Law of a community committed to certain beliefs.” Polanyi links “freedom of thought” and respect for thought and ongoing inquiry, but he points out that freedom is not an end in itself but a prerequisite for the ongoing work of scientific inquiry and, more generally, a commitment to “cultivate the things of the mind”:

On these lines, freedom of thought is justified in general to the extent to which we believe in the power of thought and recognize our obligation to cultivate the things of the mind. Once committed to such beliefs and obligations we must uphold freedom, but in doing so freedom is not our primary consideration (LL, vi).

Polanyi’s next paragraph shifts from discussing freedom in science to what he dubs “economic liberty” (found in the market, a competitive and non-intellectual dynamic order). He contends this type of liberty is “a social technique suitable, and indeed indispensable, for the administration of a particular productive technique” [LL, vii]. “Economic liberty” thus is a means through which “individualism performs a social function” (LL 158) insofar as it is integral to the particular productive technology now employed, Polanyi acknowledges the present deep commitment to a market economic system with its particular set of economic liberties enjoyed by producers and consumers, but he points out that “other alternatives may one day present themselves with strong claim in their favour” (LL, vii). Thus “economic liberties,” like “freedom in science,” are not valuable in themselves but insofar as they serve ends in a particular domain or order of society and, more generally, the “cultivation [of] the things of the mind.”

Near the end of his Preface, Polanyi says somewhat more directly what his previous comments have hinted at:

There is a link between my insistence on acknowledging the fiduciary foundations of science and thought in general, and my rejection of the individualistic formula of liberty. This formula could be upheld only in the innocence of eighteenth-century rationalism, with its ingenuous self-evidences and unshakable scientific truths. Modern liberty, which has to stand up to a total critique of its fiduciary foundations, will have to be conceived in more positive terms. Its claims must be closely circumscribed and at the same time sharpened for a defence against new opponents, incomparably more formidable than those against which liberty achieved its first victories in the gentler centuries of modern Europe. (LL, vii).

In sum, Polanyi implies in his Preface that philosophical views of liberty must be wary about conceiving liberty too individualistically and too independently of the operation of particular dynamic orders such as science and the market economy where certain kinds of liberty serve a very important but subsidiary role. It seems very likely that Polanyi holds Popper’s “open society” does conceive liberty too individualistically and too independently of particular dynamic orders such as science, common law and the market economy. The conception of modern liberty in “more positive terms” (i.e., terms that can “stand up to a total critique of its fiduciary foundations”) that Polanyi here mentions is Polanyi’s “public liberty.” Polanyi’s Preface suggests that he thinks it is necessary to connect the project of sorting out the nature of liberty and the larger project of

understanding the fiduciary foundations of science and of thought in general.⁴⁶ This is his emerging broader agenda as a philosopher, namely to show how belief (what he calls here “the fiduciary foundations”) is the foundation of knowledge and to show how this is the case even in science. This larger project Polanyi later sometimes identifies as “post-critical philosophy.”⁴⁷

Work on this larger project was formally initiated in his Gifford Lectures whose First Series lectures began May 7, 1951, a month before his June 7 letter to Popper suggesting that his conception of liberalism differed from that of Popper. Although Polanyi’s critical-yet-conciliatory comments about “liberalism” in his June 7 letter seem to try diplomatically to prepare Popper for his more forthright remark about the “open society” in his new book’s Preface, it is not clear that Polanyi deeply believed, as he put it in his June 7 letter, that “our views are fundamentally similar.” The claims—visible in the larger context of Polanyi’s Preface—hint at the program of his Gifford Lectures. Mark Mitchell recently noted that “Polanyi should be understood as a political philosopher who rightly grasped that liberty depends on resources beyond politics.”⁴⁸ The Preface to *The Logic of Liberty* is essentially an announcement that this is the case. Polanyi’s Preface, and some of the material in the book itself, seem quite different than ideas developed in both Popper’s social and political philosophy and his philosophy of science and Polanyi likely recognized this at the time he wrote his Preface and his letter.

Despite his veiled criticism (i.e., a criticism with no citation of Popper’s book) in the Preface to *The Logic of Liberty* and his June 7, 1951 letter’s comment about liberalism, Polanyi continued to be collegial with Popper⁴⁹ and Popper responded in the same vein. Popper’s October 30th 1951 letter enthused that he would “love to see you when you can come to London and as much as you like.” Popper also invited Polanyi to attend his seminar that term: “Do you think you could possibly attend my Seminar either for reading a Paper there or for discussion? It is on Thursdays from 2 to 4 p.m. The topic of the Seminar at present is a very wide and ambitious one—on ‘the principles of a Good Society.’”

IV. Popper’s 1952 Letter Concerning “The Stability of Beliefs”

A. The Context of Popper’s 1952 Letter

Another particularly interesting letter in the Hoover Archives correspondence between Popper and the Polanyi is an undated one in Popper’s hand that he very likely wrote in the summer of 1952. It is a letter directly challenging the argument that Popper understood Polanyi to have made in his paper “The Stability of Beliefs,” which Polanyi delivered on June 9, 1952 in London before the Philosophy of Science group which Popper chaired.⁵⁰ Polanyi’s paper soon appeared in the November 1952 issue of *The British Journal for the Philosophy of Science*, which was under Popper’s editorship. This 1952 letter, it seems reasonably clear, marks a turning point in the interaction between Polanyi and Popper.

Polanyi’s comment (in his June 7, 1951 letter) about liberalism, as well as his new book’s Preface with both its apparent criticism of Popper’s open society and his broader suggestion that social philosophy and the understanding of science must be recast in a fiduciary context, offer largely subterranean hints about Polanyi’s sense that he does not agree with some things Popper affirmed. Popper’s summer 1952 letter to Polanyi is an overt announcement that Popper does not accept the account of things that Polanyi presented before the philosophy of science group. Given the context and claims of Polanyi’s paper, it is certainly seems

that Polanyi used this London presentation to make more clear and more public his emerging philosophical perspective which he now clearly recognized differed markedly from Popper's ideas. Popper's forthright letter of response takes the wraps off this difference in perspectives since it boldly challenges Polanyi's views.

The 1952 archival letter from Popper may be missing one element. It has numbered points: points 1 and 2 are on the first page of the letter; points 3 and 4 are on the second page, points 6 and 7 are on a separate sheet and the last sheet has a closing sentence. There is no point 5 but there very well could have been in the original letter on another separate sheet but a check with the Hoover Institution Popper Archives has not turned up a misfiled page containing a point 5. Even absent a point 5, Popper's criticisms are clear. Before presenting Popper's letter of response, we analyze the argument in "The Stability of Beliefs" in some detail since it is more tightly woven than it initially appears. As a prelude to analyzing this argument, we describe the specific context in which this particular Polanyi paper and published essay should be situated.

B. The Context of "The Stability of Beliefs"

The published article is representative of the epistemological views and the account of science that Polanyi was pulling together in the late forties and early fifties as he worked on his 1951 and 1952 Gifford Lectures. That is, "The Stability of Beliefs" fits into the general context of this fertile period when Polanyi is reconsidering the importance of belief. There is clear thematic kinship between "The Stability of Beliefs" and several other Polanyi publications from this period. The discussion above of Polanyi's Preface to *The Logic of Liberty* (which was written close to the time of the 1951 publication of this collection of essays) has outlined how Polanyi aspired to link his account of liberty with a broader understanding of the fiduciary foundations of science and of thought in general. Another Polanyi article titled "Scientific Beliefs"⁵¹ that was published in 1950 has close affinities with "The Stability of Belief." In "Scientific Beliefs," Polanyi argues that "any rigorously cognitive conception of science . . . requires to be supplemented by fiducial elements" (26). This is an essay, like "The Stability of Beliefs," in which Polanyi cites and builds upon ideas found in Levy-Bruhl, and he draws upon Evans-Pritchard's work on witchcraft and magic of the Zande.

The more immediate context in which "The Stability of Beliefs" should be viewed is Polanyi's Gifford Lectures. The First Series was given in May and June of 1951, at the University of Aberdeen, about a year prior to Polanyi's presentation of "The Stability of Beliefs" in London in June 1952. The Second Series was delivered in November and December of 1952 about the time Polanyi's paper was published. Polanyi's Gifford Lectures argued against what he considered to be the disproportionate role that has been given to doubt and criticism in modern thought, and—as a constructive alternative—Polanyi set forth the contours of a new philosophical perspective emphasizing belief, faith, skills and commitment. Polanyi's First Series first lecture (May 7, 1951) proclaimed at the beginning, "philosophy must voice today our decisive beliefs."⁵² The fourth lecture, "The Fiduciary Mode," looked at the pervasiveness of belief. "The Self-Destruction of Objectivism" (lecture five) outlined how, since the Enlightenment, "radical skepticism grew from the doubt that had cleared the ground for the progress of science," undermining the traditional virtues and liberal society itself and preparing the way for the political upheavals and nihilism in Europe since the nineteenth century (Scott and Moleski, 218). The sixth lecture argued that "the dangers of a frankly fiduciary philosophy cannot be avoided," and Polanyi called for "the rehabilitation of overt belief." In the seventh lecture, "The Doubting of Explicit Beliefs," Polanyi focused on how the modern mind sharply distinguishes between belief and doubt and attacks belief "by pitting against it the method of doubt, in the expectation that this will leave behind a residue of true knowledge." In fact, as Polanyi put matters in the précis of the following lecture, "The Doubting

of Implicit Beliefs,” in doubting both explicit and implicit beliefs, there is “no reduction in the volume of beliefs, but ... an acceptance of new beliefs in place of those previously held.”⁵³

The précis of “The Doubting of Implicit Beliefs” in the Syllabus of the First Series, identifies Zande belief as an example of implicit belief and describes how Zande belief remains stable when challenged. The précis outlines, and the Duke version of the lecture delivers, what is, compared to “The Stability of Beliefs,” a longer, more general discussion of implicit beliefs and topics such as the adaptation of frameworks and the circularity of frameworks. Nevertheless, it is quite clear that Polanyi’s later 1952 paper and published essay “The Stability of Belief” draws directly on much of this Gifford lecture delivered May 30, 1951.⁵⁴

C. The Argument of “The Stability of Beliefs”

“The Stability of Beliefs” opens by asserting that all our beliefs are held in one of two ways, either “explicitly as articles of faith” or “implicitly by reliance on a particular conceptual framework by which all experience is interpreted” (217).⁵⁵ Polanyi contends that “the principle of doubt” has become a presupposition of modern culture where it is taken to be an antidote to dogmatism. In the modern period, “the continued application of doubt seems to have converted all explicit forms of faith into implicit beliefs, ensconced in our conceptual framework, where they elude the edge of our skepticism”(217). Holding beliefs dogmatically as explicit “articles of faith” (217) has come to be seen as irrational. The modern mind has worked to eliminate all “open affirmations of faith” (217) as uncritical. Polanyi suggests the modern application of doubt is like penicillin too frequently used which helps produce resistant strains. The application of doubt has converted forms of faith into implicit beliefs whose power we don’t appreciate. It is how implicit belief works forming a very stable (“doubt-proof”) systemic perspective such as that found in Marxism, psychoanalysis, science and the Zande magical and ritualized worldview that is the general topic of Polanyi’s essay.

Polanyi did not elaborate here what he understood the principle of doubt to stand for in terms of modern epistemology or philosophy of science, nor does he name its supporters. However, Polanyi does carefully set forth his own account of the role of doubt in science. He argues scientists are cautious, but caution is not peculiar to science: “The practice of every art must be restrained by its own form of caution” (227). He qualifies this generalization by saying “caution is commendable in science, but only in so far as it does not hamper the boldness on which all progress in science depends” (227). Discovery—which for Polanyi is the heart of science⁵⁶—requires boldness and there is no rule in research for deciding what is “truly bold” and what is “merely reckless” (227). There is no procedure or rule that will serve to distinguish doubt that “will curb recklessness and will qualify as a true caution, and doubt which cripples boldness and will stand condemned as unimaginativeness or dogmatism” (227). Polanyi thus points out that “caution” is a notion that has built into it already the idea of reasonable doubt: it “acknowledges our appreciation of a successful operation of doubt, without telling us how to achieve such success . . . ‘Caution’ is a form of approval, masquerading as a rule of procedure” (225).

Polanyi briefly summarizes a case from the history of science in which a Swedish professor refused to accept Arrhenius’ later celebrated theory of electrolyte dissociation; the professor tried explicitly and rigorously to apply the principle of doubt and argued he could not accept Arrhenius’ theory because theories were almost certainly eventually to be superseded (228). Rhetorically, this narrative seems in Polanyi’s essay to be something like a *reductio ad absurdum*, ridiculing ideas about exhaustive application of doubt or criticism in scientific practice.⁵⁷ Polanyi also discusses anomalies and observations held at one time to be important

scientific facts but which are discredited and disappear without having been “disproved or indeed newly tested” (229)—the conceptual framework of science changed so that such facts no longer were credible. He points to the fate of research on intensive drying (to stop chemical reactions and reduce evaporation) in the history of chemistry to illustrate his claim (229-230). What facts are relevant and of interest to a scientist, or any other person, depend on the particular framework in which the person dwells. Polanyi considered this to be as true for those who accept the modern scientific account (or a particular theoretical orientation within the larger naturalistic scientific outlook) as for those who believe in Zande witchcraft, psychoanalysis or Marxism: “The process of selecting facts for our attention is the same in science as among Azande, but I believe that science is more often right in its application of it”(230).

The perspective articulated in “The Stability of Beliefs” is linked to a particular theory of language. The theory proposes that each language reflects a worldview which seems to be what Polanyi dubs the “modes of interpretation” inherent in a “conceptual framework” (220).⁵⁸ To use a language confidently “expresses belief in a conceptual framework” (220). The language forms “an idiom of belief” (220) which offers those who use it a particular way of interpreting experience in the world. Polanyi cites Lévy-Brühl as the figure who worked out this account and notes that Evans-Pritchard had elaborated on the idea in his 1937 study, *Witchcraft, Oracles and Magic among the Azande* (220).

Polanyi’s 1952 essay, of course, provocatively used this exotic anthropology to raise and respond to fundamental questions about belief as well as the operation of doubt and reasoning in science.⁵⁹ Polanyi reports that Evans-Pritchard was struck by the conviction with which the Azande held their beliefs “against evidence which to the European seems flagrantly to refute them” (220). He quoted Evans-Pritchard’s view that the Azande “reason excellently ... in the idiom of their beliefs, but they cannot reason outside, or against, their beliefs because they have no other idiom in which to express their thoughts”(221). Beliefs like those held by doctrinaire Marxists or Freudians, scientists and the Azande are, Polanyi suggested, “doubt-proof” since they have “adhesive power” as “interpretative frameworks” (218) They are *acritically* held faith-beliefs.⁶⁰ For its adherents, a framework of belief underlies, interprets, and is confirmed by experience, ruling out the possibility of adherents criticizing (testing) it by experience.⁶¹

Polanyi aimed in his essay to “illustrate the elementary principles by which a conceptual framework retains its hold on the mind of a person believing it” (218). His strategy for showing the dynamics of all conceptual frameworks “examine[d] the same or similar mental operations in the one case from the outside critically, and in the other from the inside, uncritically” (218). In regard to the practice of witchcraft and magic, Evans-Pritchard (a scientifically trained anthropologist with an outside view) could not convince the Azande to experiment with the administration of special ritually-gathered poison so that they could recognize that it is merely the quantity of poison that determines whether the fowl consuming it died or recovered (a matter of great significance to the Azande in their decision-making). Instead, the Azande believed (an inside view), matters depended on whether magical powers were properly introduced into the substance (*benge*) by oracles and magicians. Thus the Azande as a people “hold distinctive systems of beliefs by practicing peculiar modes of interpretation which are inherent in their conceptual framework and are reflected in their language” (220). Nevertheless, Polanyi affirmed that he held as his own framework a modern scientific worldview and thus did not believe that the magical orientation of the Azande is true (nor did he believe that Marxist or Freudian perspectives are true). He emphasized (222) how the Zande conceptual framework (and any conceptual framework, science included), works in a particular human communal setting to thwart efforts to demonstrate that it is false.

Polanyi discussed the operational powers that make conceptual frameworks very stable in terms of several elements. First, any system of implicit beliefs is embodied in a language which meets objections one by one; the system has “circularity” (222). Other unchallenged elements of a worldview continue in use and undermine the credibility of any new “fact” or “experience”: “so long as each objection is defeated in its turn, its effect is to strengthen the fundamental convictions against which it was raised” (222). Second, Polanyi argued that each “idiom of belief” has a “self-expanding capacity”: “all major interpretative frameworks have an epicyclical structure which supplies a reserve of subsidiary explanations for difficult situations” (224). Indeed, Polanyi contended that every well developed interpretative framework has the capacity “to supply secondary elaborations to its beliefs which will cover almost any conceivable eventuality, however embarrassing this may appear at first sight” (224). As an example of the use of epicyclical explanation, Polanyi claimed that (228) scientists often dismiss “contradictions to current scientific conceptions . . . by calling them ‘anomalies’”. This is among the most handy assumptions in the epicyclical reserve that is available for the adaptation of any theory, in the face of adverse evidence” (228). The third power enabling each idiom of belief to maintain its stability, Polanyi called “the principle of suppressed nucleation” (225). This principle complements circularity and the powers of an epicyclical reserve by suppressing and preventing “the germination of any alternative concept on the basis of any single new piece of evidence” (225). That is, adverse evidence must accumulate if it is eventually to become a credible perspective, but suppressed nucleation limits the development of concepts to cover instances that might accumulate and become recognized as significant.

Polanyi suggested that Western scientists reject most Zande beliefs “by discarding mystical conceptions and replacing them by a naturalistic explanation,” but he straightforwardly questioned whether this rejection “is the outcome of any general principle of doubt” (225). He argued that if a principle of doubt existed, it should be “possible to detect it in the first place within science which the adherents of the principle of doubt regard as the best example for the operations of this principle” (225). Polanyi then turned to a discussion of advance in science, suggesting first that advance is “the *assimilation* of fresh topics within its existing system and . . . the *adaptation* of its existing system to the nature of fresh topics; the first is a conservative act, the second a process of reform” (226). However, later discussion makes clear that Polanyi is not simply arguing that science consists of assimilative processes that conserve and adaptive processes by which the framework of science is reformed. Instead what he emphasizes is that the significant expansion of an existing framework of science (assimilation) is dependent on scientific discovery, the central feature of science: “The power to expand hitherto accepted beliefs far beyond the scope of hitherto explored implications is an eminent force of discovery” (226). In his discussion, Polanyi gives a series of historical examples of such extraordinary assimilation and concludes “the assimilative power of an existing scientific framework thus appears no less creative and offers no less scope for the application of scientific genius, than its capacity to sprout into new and entirely unexpected forms” (227). This conclusion leads to the further question as to “what room does such a picture leave for the operation of a principle of doubt?” (227), and this is a question that Polanyi only addresses in a way so as to undermine views attributing special importance to doubt in science: as we have outlined above, he simply points out that every art is restrained by caution and that in science there is no rule for distinguishing proper caution and caution that hampers boldness in research.

Polanyi’s argument in “The Stability of Beliefs” is, in sum, one that makes a careful case for the pervasiveness of belief and the resiliency of all systems of belief, science included. The argument undermines the claim that doubt plays a special role in science; Polanyi emphasizes the importance of discovery in science rather than doubt. At least by implication, Polanyi undermines any claims that might be put forward about the importance of a program aimed at falsification of scientific theories. Although Polanyi’s discussion focuses

on the rather exotic case of the Zande, his consistent comments on the analogous case of modern science and his effort to muster concrete examples from the history of science is an important part of his case. Popper's letter suggests that he recognized that his own and Polanyi's account of science were worlds apart, although Polanyi never used certain terms like "criticism," "falsifiability" and "falsification" that were primary in Popper's lexicon.

D. Popper's Response

Dear Michael,

If you are interested in what I now think concerning the matter we discussed in the very interesting meeting when you addressed The Philosophy of Science Group, here it is.

(1) The parallelism between Zandi [sic] religion and modern science is admittedly far reaching and interesting.

(2) There are structural differences. These can be explained away, of course, by epicyclical arguments. (That epicyclical arguments are always possible as has been pointed out by me in my *Logik der Forschung* I call them there: "Konventionalistische Wendung" [conventionalist strategies⁶²]).

(3) Indeed, we need a faith – "faith in reason", I called it in the "Open Society". But this faith consists, fundamentally, in the realisation of (2), i.e. of the existence of structural differences between Zandi and us; and therefore in the abstention from applying epicyclical method used to explain away these differences.

(4) If, seduced by the obvious possibility of explaining away these differences, the structural identity of Zandi and our science is asserted, then faith in reason is abandoned. This leads to relativism, or skepticism, or mysticism.

(6) The common basis of the relativistic or sceptic or mystic position is always the same. It is disappointment with a rationalism from which more was demanded than it can give, viz. certainty or demonstration where we have to be content without these.

(7) For example, we can never/usually not be certain that a certain argument is not used epicyclically and cannot demonstrate that it is not so used. But why should we?

I suppose you will consider all this useless, and not to the point. However here it is. We all enjoyed your paper very much and we should love to publish it in the Journal as quickly as possible.

Yours ever,

K.

Although Popper's letter begins by acknowledging "far reaching and interesting" parallels between Zande belief and science, he strongly affirms that there are "structural differences." He acknowledges the way in which epicyclical arguments can be used to undermine claims about "structural differences," suggesting that he has himself already pointed out in his 1934 book how epicyclical arguments are always a possible option. But he insists that "we need 'faith in reason,'" invoking the terminology used in *The Open Society and Its Enemies*,⁶³ and what this amounts to is accepting the "structural differences" between Zande religion and modern science and rejecting what he calls the "epicyclical method" which might be used to explain away these differences.⁶⁴

Popper's stress upon the "structural difference" of science apparently alludes to his falsifiability criterion of demarcation between statements of science and those of non-scientific systems (e.g., Zande witchcraft), and to the critical method which he believed is characteristic of science. According to Popper's falsifiability criterion, there are two possible reasons why the statements of Zande witchcraft could be unfalsifiable: first, they could be inherently unfalsifiable (unfalsifiable in principle) because the statements have no empirical reference; second, the Zande might express statements that are structurally falsifiable (falsifiable in principle), but which are rendered unfalsifiable in practice by resorting to something like *ad hoc* hypotheses to explain away empirical contradictions (falsifying observations). Popper's comment about refraining from applying epicyclical method to explain away differences between science and Zande belief may be meant to suggest that he believes any unfalsifiability of Zande belief is practical and attitudinal.⁶⁵ That is, Zande adoption of practical methods that will save empirically contradicted statements from falsification by adding hypotheses (and thus serves to explain putative falsifications away) is "structurally different" than the approach of science where this Popper holds is unacceptable. Popper's response is very concisely formulated—so much so that his argument is not altogether clear,⁶⁶ although it is clear enough that he is rejecting Polanyi's case and affirming that science accepts certain "methodological rules" (to use Jarvie's phrase) including falsification. Ultimately, as his final sentences in the letter suggests, he does not think his case will be convincing for Polanyi.

Popper's last three points in the letter suggest that to be "seduced by the obvious possibility of explaining away these differences"—to assert too much parallelism or similarity (as he thinks Polanyi does) rather than structural difference—is to abandon "faith in reason" and to turn to "relativism or skepticism, or mysticism." All of these options, Popper abhors and characterizes as grounded in "disappointment with rationalism from which more was demanded than it can give, viz. certainty or demonstration where we have to be content without these." Popper's last numbered point is an assertion phrased as a question: since we cannot be certain—nor can we demonstrate—that an argument is not "used epicyclically," we should not focus on (or be preoccupied with) this.

Popper was passionately committed to his own philosophy of science, and intolerant of its critics and doubters. Even Popper's closest friend, Ernst Gombrich, emphasized this, explaining to Bryan Magee that Popper

seemed unable to accept the continued existence of different points of view, but went on and on and *on* about them with a kind of unforgivingness until the dissenter, so to speak, put his signature to a confession that he was wrong and Popper was right. In practice this meant he was trying to subjugate people.⁶⁷

Given his tenacious disposition, Popper's remark in his letter that he "enjoyed" Polanyi's "paper very much" seems overly diplomatic. This likely was not the impression Polanyi received at the London presentation. John Watkins, in the only brief report on the session that we have found, suggests that "Polanyi was gravely offended by the treatment that Popper, as chairman, meted out to him when he read a paper (on "The Stability of Beliefs", 6 March 1952 [sic.] to the Philosophy of Science Group" (668). Popper apparently recognized that his philosophical perspective was being fundamentally challenged by what he had had heard in "The Stability of Beliefs." Popper championed the "principle of doubt" in a falsificationist version; he viewed criticism as the method of rational cognitive advance in science and in general. He likely believed that Polanyi had effectively dismissed all this as a caricature of science and epistemology. At the beginning of his essay, Polanyi admitted his case was "a conscious affront on my part to the critical tradition of modern thought and is bound to shock some readers" (218). Popper seems to have been among those shocked. All of the editions of *The Open Society*

and Its Enemies make clear Popper's aversion to what he takes to be cognitive relativism (2002, 679 n. 23); he had explained why a rejection of his critical rationalism would likely encourage violence, and undermine rationality and humanitarian values (2002, 496ff). Popper likely saw "The Stability of Beliefs" as a harbinger of just this. Polanyi, on the other hand, in his own view was developing a constructive philosophy, affirming fiduciary foundations of knowledge and common life as an alternative to the critical tradition of philosophy, which he blamed for having eroded the traditional values of science and Western culture and what he a little later forcefully identified as bringing "moral inversion."⁶⁸ Popper was correct that his letter had no discernible effect on Polanyi's thinking.

If Popper's views were, at least by implication, indicted by Polanyi's paper, the question arises as to why Polanyi did not straightforwardly name and critically discuss Popper's philosophy of science in "The Stability of Beliefs." We speculate that Polanyi probably had no wish dramatically to upend the relationship that he had with Popper and some of their common friends, including Karl and Ilona Polanyi; Polanyi may have considered his twenty year personal link to Popper complicated by the fact that members of their respective families had been killed by the Nazis. It seems likely that Polanyi would have known, from previous contact with Popper, what Popper's students testify to (discussed above), namely that Popper tenaciously resisted granting any credibility to views that differed from his own. If Watkins' report is accurate, this was the case in Polanyi's paper's discussion. Finally, as we have above suggested and our discussion of the Preface to *The Logic of Liberty* and the Gifford Lecture material implies, Polanyi seems to have been in this period preoccupied with working out his constructive alternative vision to the critical tradition (i.e., his "fiduciary philosophy" with its "post-critical perspective") rather than laboring his criticisms of the mainstream in an extended philosophical debate with Popper. The publication of *Personal Knowledge, Towards a Post-Critical Philosophy* in 1958 finally works out in some detail Polanyi's alternative to the critical tradition. The material in "The Stability of Beliefs" has been integrated into the broader discussion of *Personal Knowledge*.⁶⁹ What his *magnum opus* presaged to Popper was suggested in the bitter quotations from the English edition of *The Logic of Scientific Discovery* (1959) and *Realism and the Aim of Science* (1983) quoted in the opening section above. Apparently Thomas Kuhn and Paul Feyerabend did take a close look at Polanyi's *magnum opus*, and perhaps at "The Stability of Beliefs."⁷⁰ Their writing about a decade after *Personal Knowledge* brought an open revolution in the understanding of science.

V. Popper and Polanyi After 1952

Although there are letters in the Popper Archives that were written after 1952, most are concerned with practical projects (e.g., getting funding for a journal) or health.⁷¹ It appears that for about the last twenty years of Polanyi's life—if not all the way back to his 1952 presentation in London—Polanyi's relationship with Popper was strained. One Polanyi letter to Popper dated May 4, 1965 comes close to addressing directly the sharp differences in Popper's and Polanyi's views that both figures recognized. Polanyi says,

It seems possible that in the next few years we may become involved in controversy. This might indeed be the best way to clarify the relation between our views and give the public a better chance to form their own views of the whole area we jointly cover. Later decades may also profit from it.

I hope that we would both enjoy airing our differences, if it did come to it and for my part, I feel sure also that I would learn from it.⁷²

What little controversy there was in the last years of Polanyi and Popper's lives was largely underground. Polanyi seems to have regarded himself as a figure who had not received his due while Popper, as well as Thomas Kuhn, enjoyed undeserved glowing reputations. In August 1970, in a letter to Donald Campbell (professor of psychology at Northwestern University), Polanyi confided that:

My claims ... have been ignored consistently in the literature of professional philosophy ... I shall not go into details, but will mention as an example Kuhn's *Structure of Scientific Revolutions* (1962). I would say that its content largely repeats, without reference to their origins, the ideas I have developed in my previous ... books. If you have a copy of "Intellect and Hope" by Langford and Poteat, you will find on page 161 a whole list of "confirmations" of my ideas by Kuhn. As to the rest of this book, it seems to me that most of it is nonsense. The reputation which Kuhn has earned is comparable only with that of Karl Popper whose writings, so far as they deal with science, seem to me just plain nonsense. So you see ... I have been ... alienated from the philosophic literature about science ... What I think more broadly about my relation to the philosophy of science, I wish to explain only to you and shall not say it in public.⁷³

Despite the fact that Polanyi never published much suggesting what he thought about Popper (or Kuhn), he did write a December 16, 1971 letter to the then President of The Royal Society, Professor Alan Hodgkin (joint winner of the Nobel Prize for Medicine in 1963 with J. C. Eccles and Andrew Huxley), advising he was "strongly opposed to the election of Karl Popper to a Fellowship of the Royal Society."⁷⁴

Endnotes

¹Archival material quoted in this essay is with permission of the Karl Popper Library Klagenfurt, and the University of Chicago Library (Special Collections Research Center, Chicago, IL 60637 USA), where the Papers of Michael Polanyi and the Papers of Edward Shils are held. We appreciate the assistance of staff of the Hoover Institution Archives, in particular Carol Ledenham, who searched in archival material for what we believed to be lost elements of correspondence. Dr Manfred Lube, University of Klagenfurt, helpfully answered our queries. Staff in our respective university libraries went to great lengths to help us find historical materials used here. Walter Gulick (Montana State University Billings) and Martin Moleski, S.J. (Canisius College), along with Rafe Champion (independent scholar), provided us with substantive information and advice. Dr. Evelyn McBride, a native Austrian, refined our German to English translations of Popper's early letters to Polanyi. Dr. John Preston (University of Reading) provided a copy of his *Appraisal* article (1997, supplement) on Feyerabend and Polanyi. Professor Alan Musgrave (University of Otago) provided a copy of a relevant part of his PhD thesis. Dr. Peter Vickers (University of Leeds) examined archival material of the British Society for the Philosophy of Science to verify the date on which Polanyi read his paper, "The Stability of Beliefs," to the London Philosophy of Science group (P. Mullins, e-mail communication, February 12, 2010). Finally, we thank the two reviewers, who provided important suggestions improving the final draft of this essay.

²Andy Sanders (*Michael Polanyi's Post-Critical Epistemology* [Amsterdam: Rodopi, 1988], 185) some years ago pointed out this shot at Polanyi as part of his careful and thorough analysis of and response to the criticisms of Polanyi by Popperians (159-225).

³One of our reviewers suggested Popper perhaps took Polanyi's subtitle ("Towards Post-Critical Philosophy") for *Personal Knowledge* very personally as a public rejection of his critical rationalism. Perhaps

this is the case, but, as we argue below, Popper, by 1958, likely was already very aware of important differences with Polanyi about “critical rationalism.” Popper’s comment seems to imply that he knows “post-critical” is a term applied to an “age,” which is the way Polanyi used the term in LL (109). More generally, “post-critical philosophy” is concerned with Polanyi’s affirmation of belief.

⁴Popper is perhaps on target in tagging Polanyi a fideist of sorts, but he seems altogether to have missed Polanyi’s emphasis upon the scientist’s “contact with reality” which for Polanyi means that present formulations will be superseded by further investigation of scientific successors (although Polanyi does not think scientists put forth claims as mere conjectures they will readily give up). It is difficult to read these criticisms of Polanyi as not a little post-mortem score settling. How closely Popper studied Polanyi’s writings is not clear but he apparently has read some things (see further discussion below). Polanyi’s May 4, 1965 letter to Popper (Box 339, Folder 1) in the Hoover Institution Popper Archives says that he was “glad that you have already conducted some seminars on my writings, as this will help me in communicating with your students.” As the discussion below shows, Popper likely began to recognize by the early fifties that Polanyi’s “post-critical” perspective was fundamentally at odds with his views.

⁵*Encounter* 38, 43-50. Quotations use page numbers from *Encounter*. The essay is also available in Richard Allen, ed., *Society, Economics and Philosophy, Selected Papers (of) Michael Polanyi* (New Brunswick and London: Transaction Publishers, 1997): 267-283 (hereafter cited as SEP). Stefania Jha (“The Bid to Transcend Popper and the Lakatos-Polanyi Connection,” *Perspectives on Science*, 14(3): 318-346) contends this essay originated as a lecture Lakatos invited Polanyi to deliver at the London School of Economics after Lakatos succeeded Popper at the LSE and became more openly sympathetic with Polanyi’s views. Jha suggests the lecture “highlighted for his [Polanyi’s] audience the differences between Popper’s position and his own” (335-336).

⁶In note 8 on p. 46, Polanyi cited *Logik der Forschung* (1934) and mentioned the English translation, *The Logic of Scientific Discovery* (1946—Polanyi’s date is apparently wrong since the translation was not published until 1959). He noted that in *Conjectures and Refutations* (1963) Popper had modified in some ways the position of the *Logik der Forschung*, but Polanyi said this “does not substantially affect the principles of ‘refutationalism.’” In the Papers of Michael Polanyi in the Department of Special Collections of the University of Chicago (Box 24, Folder 12), there are some notes and extracts from *The Logic of Scientific Discovery* (1959), from sections of Popper’s 1945 essay “The Poverty of Historicism III” (*Economica* New Series, 12 (46): 69-89), and from his 1949 essay “Towards a Rational Theory of Tradition” (in *The Rationalist Annual 1949*, F. Watts [ed.], vol. 66: 36-56) There is reasonably good evidence that Polanyi eventually knows in some detail Popper’s views, as we show below. As both of the above noted late Polanyi references to Popper suggest, Polanyi is aware that Popper’s views of science have become very popular. As our later discussion makes plain, Polanyi sees Popper’s reputation as undeserved because he believes Popper does not deeply understand scientific practice. There are other critical comments on Popper’s views in other Polanyi publications as well as unpublished Polanyi materials.

⁷As suggested above, Sanders has two carefully argued chapters (159-225) that examine in detail Allan Musgrave’s 1969 Popper-supervised dissertation which sharply attacks Polanyi. Sanders shows many of the charges of Popperians, if not Popper himself, reflect a limited understanding of Polanyi’s philosophical perspective. In fact Polanyi’s account of science is in many ways more nuanced than Popper’s and does share ground with Popper on certain points. Sanders points out that Polanyi often turned to the history of science as the arena of practice to make a case for his views. See also Sanders’ article “Popper, Polanyi and Methodology: A Reply to S. Richmond,” (*TAD* 22:2 (1995-96): 27-35) for further responses to Popperian views. Others have also provided comparisons between Polanyi and Popper’s views on particular topics; see, for example, Struan Jacobs, “Tradition in a Free Society: The Fideism of Michael Polanyi and the Rationalism of Karl Popper,”

TAD 36:2 (2009-2010): 8-25.

⁸In *Karl Popper: The Formative Years, 1902-1945: Politics and Philosophy in Interwar Vienna* (NY: CUP, 2000), Malachi Hacoen has recognized that there was a connection between Michael Polanyi and Popper but he says only that “In the postwar years, he [Polanyi] and Popper would write each other as if they were best friends, but neither thought much of the other’s philosophy” (215). Hacoen’s book is hereafter cited by author, year, and page in the text.

⁹Both were non-observant and critical of Zionism. See Hacoen’s 1999 article, “Dilemmas of Cosmopolitanism: Karl Popper and Central European Culture” (*Journal of Modern History*, 71: 105-149) and Paul Knepper’s 2005 essay, “Michael Polanyi and Jewish Identity” (*Philosophy of the Social Sciences*, 35(3): 263-293) as well as “Polanyi, ‘Jewish Problems’ and Zionism” (TAD 32:1 (2005-2006): 6-19).

¹⁰The authors acknowledge a degree of overlap between the following discussion and their article “Relations between Karl Popper and Michael Polanyi” published in *Studies in History and Philosophy of Science* (42 [2011]: 426-435). Both essays analyze archival correspondence and use it to frame the discussion. The SHPS discussion is briefer and more narrowly focused on issues likely of interest to an audience primarily concerned with the history of the philosophy of science. This essay’s broader discussion presumes an audience with interest in Polanyi’s thought. Section II, B (not part of the SHPS essay) treats the role of Hayek as a bridge figure between Polanyi and Popper. Section III, B and C (not part of the SHPS essay) provide a thorough analysis of the differences in social-political philosophy of Polanyi and Popper, focusing particularly on the way one can see Polanyi’s political philosophy emerging in writing such as his Preface of LL, where he rejects Popper’s “open society.” The differences between Popper’s and Polanyi’s philosophy of science, we emphasize here, are not finally independent of their differences in political philosophy. Although both figures were opponents of totalitarianism and supporters of liberalism and scientific progress, such a generality obscures more than it reveals. Here we also include treatment of some other interesting elements (not a part of the SHPS essay) such as Ian Jarvie’s unorthodox reading of Popper’s thought, which indirectly bears on some of Polanyi’s criticisms.

¹¹See Popper’s autobiography (55), which is included in Book 1 of *The Philosophy of Karl Popper*, Paul Authur Schlipp (ed.), Library of Living Philosophers, Vol. XIV, Books I and II (LaSalle, IL: Open Court Publishing Co., 1974). The Popper autobiography is hereafter cited in the text as Autobiography with page number. Other citations to material in this volume are in parenthesis by author (unless indicated in the context) by book and page.

¹²See Mary Jo Nye’s discussion (“Historical Sources of Science-as-Practice: Michael Polanyi’s Berlin,” *Historical Studies in the Physical and Biological Sciences* 37:2: 409-434) of Polanyi’s emergence as a world class scientist in his thirteen years in Berlin; she argues that many of his later philosophical ideas about science are rooted in his experience in these years. Nye’s very new book, *Michael Polanyi and His Generation: Origins of the Social Construction of Science* (Chicago: University of Chicago Press, 2011) expands this thesis. There are many very interesting points in this book relevant to matters in this essay (including her discussion of Polanyi and Popper); because the book (cited hereafter as Nye 2011) came out just as the final version of this essay was prepared for publication, there are only a few references.

¹³Most of the letters quoted or summarized in this essay are from Box 339, Folder 1 of the Hoover Institution’s Popper Archive. If the date and author are given in the text, the box and folder of these Hoover Institution materials will not be cited in the notes or the text. Letters or other archival material not from the Hoover Institution collection (but from other archival collections) will be cited individually.

¹⁴See Felix Schaffer, “Vorgartenstrasse 203: Extracts from a Memoir” in the volume *Karl Polanyi in Vienna, The Contemporary Significance of the Great Transformation* (Montreal: Black Rose Books, 2000) edited by Kenneth McRobbie and Karl Polanyi’s daughter, Kari Polanyi Levitt for Schaffer’s discussion of

Karl's salon in which Popper participated in Vienna (328-346; see especially 331 where Popper is listed as a visitor to the salon).

¹⁵Karl Popper, *Die beiden Grundprobleme der Erkenntnistheorie: aufgrund von Ms. Aus d. Jahren 1930-33*, Troels Eggers Hansen (ed), (Tubingen: Mohr, 1979). This version attempts to pull together the various early Popper manuscripts. See the further discussion below.

¹⁶Karl Popper, *The Two Fundamental Problems of the Theory of Knowledge*, Andreas Pickel (trans.); Troels Eggers Hansen (ed.), (New York: Routledge, 2009).

¹⁷Hacohen (2000, 196) suggests that the first draft is written from Oct. 1931 to June, 1932

¹⁸Troels Eggers Hansen, who edited the 1979 German version of *Die beiden Grundprobleme der Erkenntnistheorie*, says that there were only four copies of the original manuscript and they were not identical (i.e., changes made in the master did not always get transferred). Also Popper apparently had various drafts of elements that seem to pre-date the late Spring 1932 "finished" first book. Some early materials have been lost. As noted above, there apparently were revisions in the summer of 1932, and the drafting of what is the second book on demarcation came thereafter. It seems safest to say that what Polanyi likely received and possibly reviewed was a lengthy, late manuscript still being revised of the first book focusing on induction. See Hansen's illuminating discussion of the manuscript in his "Editor's Postscript" in the English translation (485-497).

¹⁹We draw on the Polanyi biography (William Taussig Scott and Martin X. Moleski, S.J, *Michael Polanyi, Scientist and Philosopher* [Oxford: OUP, 2005]) here and later and simply cite it in the text as Scott and Moleski with page numbers in parenthesis. Nye's new book (2011) covers some of the same territory with at times interesting different nuances; we reference relevant chapters.

²⁰See Popper's discussion (Autobiography, 86) as well as our comments below. Popper suggests that it was after the March, 1938 Nazi occupation of Austria that he decided "I could no longer hold back whatever knowledge of political problems that I had acquired since 1919" (Autobiography, 90) and decided to put "The Poverty of Historicism" into publishable form. It was first published in *Economica* (at the time edited by Hayek) in three parts: "The Poverty of Historicism, I, *Economica* New Series, Vol. 11, No. 42 (May 1944) 86-103; "The Poverty of Historicism, II, *Economica* New Series, Vol. 11, No. 43 (August 1944) 119-137; "The Poverty of Historicism, III, *Economica* New Series, Vol. 12, No. 46 (May 1945) 69-89. Correspondence in both the Hayek archives and the Popper archives at the Hoover Institution make it clear that Hayek had a hand in re-shaping (editing and perhaps rewriting sections) and getting published both Popper's poverty of historicism essays and *The Open Society and Its Enemies*. Hayek simultaneously is working hard (often behind the scenes) in this period to get Popper appointed at London School of Economics.

²¹Karl Popper, *The Open Society and Its Enemies* (London: Routledge and Kegan Paul, 2002, 1st edition, 1945). Later editions of Popper's publications often were corrected and revised. References in the text in parenthesis (except where noted by the publication date for the 2002 edition) are to page numbers in the revised 1966 two volume edition published by Princeton University Press.

²²Karl Popper, *The Poverty of Historicism* (London: Routledge and Kegan Paul, 1957).

²³John Watkins, in his 1997 "Biographical Memoir of Karl Raimund Popper" (*Proceedings of the British Academy*, 94, 645-684), provides an extended and amusing account of how Popper came to be appointed, with Hayek's help, to a position at London School of Economics as well as Hayek's role in getting some early Popper writing published (657-660). Popper's sense of gratitude for Hayek's help was certainly due. As noted above, the Hayek-Popper correspondence clearly indicates the way in which Hayek is something of a *deus ex machina*-like presence shaping Popper's early career. Very late in his life, in an appreciative letter to Hayek, Popper suggests that, although Hayek is only three years his senior, he thinks of Hayek as a father figure (Popper to Hayek, April 30, 1984, Box 305, Folder 17 in the Popper Archives).

²⁴Eric Howard's yet unpublished paper "Why Didn't Hayek Finish Reading *Personal Knowledge*? An Investigation Into the Methodological and Philosophical Relationship Between Friedrich Hayek and Michael Polanyi," (presented Nov. 21-23, 2004 at the Southern Economic Association Annual Meeting, New Orleans, and re-presented in capsule as "A Joint Project: The Unique Epistemic Project of Friedrich Hayek and Michael Polanyi" at the "*Personal Knowledge At 50*" Conference at Loyola University, Chicago, on June 14, 2008) quotes a James M. Buchanan interview with Hayek in which Hayek acknowledges that he first met Polanyi at the 1938 Paris conference. Bruce Caldwell notes (*The Collected Works of F. A. Hayek*, vol. x *Socialism and War, Essays, Documents, Reviews* (Chicago: UC Press, 1995) in his Introduction that the conference was "to inquire into the prospects for democratic liberalism" (46).

²⁵See Hayek's letters to Polanyi, 1 May, 1941 (Box 4, Folder 6) and 1 July 1941 (Box 6, Folder 7) in Papers of Michael Polanyi, Department of Special Collections, University of Chicago Library. The earlier letter implies that Hayek asked Polanyi to do a review of Crowther's book which Hayek is reading and that Hayek has requested a review copy for Polanyi. The later letter suggests that if Polanyi thinks the book is "a good opportunity to discuss the general problems involved in his thesis, a review article would be *most* welcome." Hayek speculates about which issue the Polanyi piece can be published in and suggests that the November issue is a good target for a longer review article. This second letter makes it quite clear that Polanyi and Hayek have joined forces to oppose the set of British writers promoting "planned" science.

²⁶Michael Polanyi, "The Growth of Thought in Society," *Economica* 8, (1941): 428-456. See his discussion of "dynamic order," a term he adapts from Wolfgang Kohler (435ff), as well as "spontaneous ordering" (431-433) and "public liberty" (438ff) which we summarize below.

²⁷In "Faith, Tradition and Dynamic Order: Michael Polanyi's Liberal Thought from 1941-1951" (*History of European Ideas* 34 (2008): 120-131), we have carefully laid out the political philosophy (i.e., Polanyi's complex vision of liberalism) that begins to take shape in Polanyi's 1941 essay "The Growth of Thought In Society" but is amplified in *Science, Faith and Society* (1946) and the material that becomes *The Logic of Liberty* (1951) as well as some separately published essays in the forties. When the material of this period is viewed together, one can see the development of Polanyi's political philosophy or what might be called his social vision. We emphasize in the following discussion Polanyi's ideas about "public liberty" which he distinguishes from private freedoms; public liberty is a key element of dynamic orders. Polanyi's constructive political philosophizing is woven with an interesting historical/cultural analysis of the development of European and American societies that comes together in this period. See especially our discussion, 126-131.

²⁸Although he does not use the term "public liberty" in it, Polanyi's essay "Foundations of Academic Freedom," published in several places in 1946 and 1947 and then re-published in revised form as the third chapter of LL (1951), treats ideas about freedom that lead to our conception of "academic freedom." Much of the discussion is akin to discussions of "public liberty" in his 1941 essay and in other sections of LL. Polanyi tries to sort out what seems to be the nature and conditions in science and scholarship in general that make "the co-ordinative principle" (LL, 34) work.

²⁹Ian Jarvie (*The Republic of Science, The Emergence of Popper's Social View of Science 1935-1945* [Amsterdam: Rodopi, 2001]) contends that Popper "strived mightily in the final revisions of the notes to *The Open Society* and "The Poverty" [the poverty of historicism material published in *Economica*] to stress his areas of agreement with Hayek on the nature of the social" (89). In general, Jarvie provides an interesting interpretation of Popper's thought, which he presents as a counter to the mainstream view of Popper. Jarvie's interpretation is worth outlining here because of the way in which it puts Popper's and Polanyi's thought on the same page. Jarvie argues that Popper's early philosophy of science "has a social turn at its centre" and thus "contains a rudimentary sociology of knowledge" (9); Popper's interest in social and political issues predates his interest in the physical sciences (33). The poverty of historicism material and *The Open Society and Its*

Enemies, (i.e., Popper’s wartime political philosophy) extend Popper’s early “analysis of the social aspects of scientific method” (10). Popper did not, Jarvie ultimately claims, clearly understand that the views developed in his wartime political philosophy would require that he modify his view of science as a model for a rational politics in society. Jarvie argues that the poverty of historicism material is concerned with “methodological similarities and differences between the natural and social sciences” (142). *The Open Society and Its Enemies* is a “companion piece” in that it concerns “the demarcation between pseudo-social science (historicist prophecy) and genuine social science, including social technology” (142). Jarvie thus holds Popper develops a type of sociology of science that is a “sociology of methodological rules” (85): that is, Popper “sociologised” the “problem of demarcation” and offers a “constitutional model” of science as a special institution insofar as it practiced certain “methodological rules” (84). He suggests that “Popper abandoned falsifiability as an intellectual criterion and instead embedded it within a methodology, a set of decisions or choices about how to conduct enquiry articulated as rules” (79). Jarvie’s reading of Popper puts Popper closer to Polanyi. In fact, Jarvie argues that Popper and Polanyi are generally aligned in their sociological accounts of science, although there certainly are important differences; he makes an interesting case for this in his concluding chapter (212-231) focused around a comparison of Popper’s republic of science and Polanyi’s republic of science. Jarvie’s account of Polanyi would be much richer and more nuanced if he reviewed some of Polanyi political philosophy written up until the publication of *The Logic of Liberty* (1951). We argue below that Polanyi’s liberal political philosophy, emphasizing the growth of thought in science and other dynamic orders rooted in public liberty, is at odds with Popper’s “open society.” Polanyi becomes clear about this difference at the same time that his criticisms of Popper’s falsificationism become sharply focused and the elements of his constructive “fiduciary philosophy” jell. The material in his 1951 LL (particularly the Preface), in his 1951 and 1952 Gifford Lectures and his 1952 paper “The Stability of Belief” (a revised Gifford Lecture delivered to the London Philosophy of Science Group chaired by Popper) as well as the Popper-Polanyi correspondence make this clear. Jarvie apparently does not notice that Popper’s “open society” and Polanyi’s account of liberal society are at odds.

³⁰Hayek’s review appears in May of 1941 and Polanyi’s essay is in the Nov. 1941 *Economica*. Hayek’s review discusses not only Polanyi’s book but Colin Clark’s 1939 *A Critique of Russian Statistics*, a book which updated Polanyi *USSR Economics—Fundamental Data, System and Spirit* (1935). The comments on the other essays in *The Contempt of Freedom* are brief and general and point to Polanyi’s criticisms of planning, his interest in liberty and his attacks upon what Hayek regards as the treason of the intellectuals (i.e., Bernal and the Webbs), popular Hayek themes. It is possible that “The Growth of Thought in Society,” Polanyi’s vision of liberal society, was intended to broaden the horizons of some of his allies, like Hayek, as well as his opponents. It is an essay that emphasizes the growth of thought and its rootedness in many dynamic orders that protect “public liberty.” It is an essay that articulates Polanyi’s very specific ideas about “totalitarianism,” whether communist or fascist, as lacking public liberty. Some of his later letters to Hayek make clear that Polanyi regarded Hayek as a very effective trench fighter and an Austrian school economist but not always a thinker whose broader philosophical vision he could agree with. Polanyi often seems to prefer constructive philosophizing in which he articulates his own ideas rather than direct critical engagement with those with whom he sometimes disagrees like Hayek.

³¹See Scott and Moleski’s discussion of the Society (203). Some of the Polanyi letters to Popper in the Hoover Archives (e.g., 20 July 1950 and 21 September 1951) refer to Mont Pelerin conferences: the 20 July 1950 Polanyi letter to Popper anticipates meeting Popper at the upcoming conference in the Netherlands; the 21 September 1951 Polanyi letter to Popper laments Popper’s absence at a recent conference; Polanyi says Popper’s voice was needed in a philosophic discussion of totalitarianism. Some of the correspondence between Polanyi and Hayek in both the Polanyi archives and the Hayek collection in the Hoover Archives indicates that Polanyi at one point considered withdrawing from the Mont Pelerin group as a result of differences with

Hayek and others.

³²For example, Ilona Polanyi's 17 August (year unclear) letter to Karl Popper and his wife asks if she can stay with the Poppers when she is in London for a week, if other arrangements don't materialize. Karl Polanyi's letter to Popper, apparently written on June 14, 1947, discusses his decision to teach at Columbia University rather than Chicago; Ilona Polanyi's August 2, 1949 letter to Popper asks him to intervene on behalf of a LSE student who has been treated unjustly by the Registrar.

³³Popper provides his itinerary in *Autobiography*, 96.

³⁴Watkins confirms that, after *The Open Society And Its Enemies* was published in mid-November of 1945, it was widely discussed even before Popper arrived in January 1946; although Watkins does not mention the trip to Manchester, Popper had several opportunities to make presentations soon after he arrived (Watkins, 660).

³⁵This is likely to be Popper's "Logic without Assumptions," *Proceedings of the Aristotelian Society, New Series, Volume XLVII (1946-47)*, [London: Harrison and Sons, Ltd., 1947]: 251-292. The other paper in question may have been Popper's "New Foundations for Logic," *Mind, New Series* 56:223: 193-235.

³⁶This October 11, 1949 letter from Polanyi to Popper is from the Papers of Michael Polanyi, Box 5, Folder 6, in the Department of Special Collections at the University of Chicago.

³⁷A October 13, 1949 postcard confirmed a noon meeting with Popper in his office to be followed by lunch. A November 9, 1949 letter thanked Popper for his help which was apparently concerned with a point in logic: "It all came very much as I was led to expect from what you said. Newman [a colleague - Professor of Pure Mathematics—of Polanyi, at Manchester—see <http://www.turing.org.uk/turing/scrapbook/manmach.html>] and Turing declared that they could construct a machine which would extend indefinitely the production of Godelian sentences." Polanyi indicated that he was now thinking more carefully about the question under consideration and, having written up his views, "will send you a copy in the hope that you might let me have your reaction to it." The letter ended with a comment about a projected trip to London in the middle of the month and the promise of a phone call to Popper's home to set up a common meal.

³⁸The correspondence from the late forties discussed here and that from the early fifties discussed below imply that Polanyi and Popper are somewhat comfortable with each other and are interested in each other's work. In his posthumous *A Fragment of a Sociological Autobiography* (Steven Grosby, ed., New Brunswick and London: Transaction, 2006), Edward Shils reported that he met Polanyi in the autumn of 1946 (78). He found that Polanyi was uninterested in the problem of secrecy (one of Shils' interests which Polanyi declined to discuss with him) and that Polanyi "did not want to hear anything about Karl Mannheim or Karl Popper" (79). Shils reports that, after teaching an LSE seminar with Popper, he suggested to Polanyi that Popper might join them for dinner but Polanyi "was deaf to that. Thereafter I ceased to mention Popper to him. I got on exceptionally well with him" (79). Although Shils does not indicate the date of his seminar, it very likely was in late 1946 or very early in 1947 since Mannheim dies January 9, 1947. Shils' comment implying Polanyi wanted to avoid Popper in this period is puzzling, given the ambience of letters of 1948, 1949 and early 1950 discussed above and below. Before Mannheim's death, Polanyi had been working with Mannheim (the Routledge series editor) on the originally projected version of LL. But there are few records of Polanyi's contact with Mannheim after he signs his book contract in the fall of 1945. See the present authors' detailed discussion of Polanyi's relationship with Mannheim in "Polanyi and Mannheim," *TAD* 32:1 (2005-06): 20-43.

³⁹It is unclear what the referenced Popper paper on mind and machine is, but it seems likely that Polanyi's reference to his own preoccupation with this area is a reference to his participation in an October 1949 Manchester conference entitled "The Mind and the Computing Machine." Polanyi presented a paper "Can Man be Represented by a Machine?" which Scott and Moleski indicate "drew on the ideas of Godel

and Tarski to show that the use of intuition and judgment, which is essential to even the most formal of logical procedures, cannot be represented by any kind of mechanism” (215). In 1951, Polanyi published “The Hypothesis of Cybernetics” (*The British Journal for the Philosophy of Science*, II Feb. 1951: 321-325, in SEP, 309-312) which was related to his 1949 work. Scott and Moleski describe this essay as “part of a discussion on calculators simulating minds... Polanyi pointed out that all our formalized thinking rests on unspecifiable judgments about symbols and operations” (217). Popper chaired the editorial committee of *The British Journal for the Philosophy of Science* at the time the decision was made to publish this paper in the journal. At the beginning of “The Hypothesis of Cybernetics” Polanyi said his “notes formulated some time ago on the question whether machines can be said to think may supplement the discussion of cybernetics conducted in this *Journal*” (SEP, 309) and he listed articles that had appeared in earlier issues of the *Journal*, including an article by Popper in vol. 1.

⁴⁰“Economic and Intellectual Liberties,” *Zeitschrift für die gesamte Staatswissenschaft* v. 106, n. 3: 411-447. If Popper carefully read this essay when he proposed his revisions, he certainly would have understood that Polanyi was developing ideas about the important function of “public liberty” in systems of spontaneous order in society. The content of Polanyi’s later June 7, 1951 letter to Popper (discussed below) indicating that his account of liberalism is different than that of Popper may not have been news to Popper.

⁴¹Notes have been updated to reference materials republished in *The Logic of Liberty*; that is, the journal version cites the original publication information from which much of the material in the book was drawn.

⁴²A copy in Edward Shils’ files of a January 16, 1950 letter from Polanyi’s secretary to Popper indicates “Economics and Intellectual Liberties” is enclosed for Popper. In a January 31, 1950 letter to Shils, Polanyi indicates that Popper has provided minor corrections for “Economics and Intellectual Liberties.” Polanyi advised Shils that he had the only copy and he asked Shils to return the essay so that he could make changes. These letters imply that early in 1950 Polanyi is revising “Economic and Intellectual Liberty” and probably is also in the final stages of preparing the materials to be published in *The Logic of Liberty*. An undated (but almost certainly 1949) Polanyi letter to Shils about the topic of Polanyi’s upcoming spring 1950 lectures at the University of Chicago says “It would be easy to talk on the lines: ‘The Structure of Liberty.’ But my true interest lies in getting my basic position clear which would be hinted in a title like ‘Towards a post-critical age.’” It is of interest that the January 31, 1950 letter to Shils identifies Popper’s revisions as minor. Unless Popper made further suggestions after January 1950 for revisions to “Economic and Intellectual Liberties” (which is almost identical to “The Manageability of Social Tasks”), Polanyi’s later June 7, 1951 letter to Popper seems to exaggerate the importance of Popper’s contribution to revising what became the last chapter of *The Logic of Liberty*. All the correspondence with Shils noted above is in The Edward Shils Archives, Box 4, Michael Polanyi Folder, Department of Special Collections, University of Chicago.

⁴³See note 29 above for the broader outline of Jarvie’s reading of the centrality of Popper’s social philosophy and the tension between this social philosophy and Popper’s philosophy of science.

⁴⁴As noted above, “closed societies” are linked also to societies with magical worldviews. As one of our reviewers pointed out, this may have been something Polanyi found particularly objectionable in Popper’s book. At the least, as the discussion below makes clear, in one of his Gifford lectures and in the revised version of this lecture presented in London in 1952 in the Philosophy of Science group chaired by Popper, Polanyi overtly links the operation and stability of Azande belief (drawing on Evans-Pritchard’s study) and scientific belief.

⁴⁵Popper’s “open society” embraces something closer to what Berlin called a “negative” concept of freedom, focusing on the absence of restraint, whereas Polanyi’s “public” liberty is closer to a “positive” concept of freedom. See Marjorie Grene’s (*A Philosophical Testament* [La Salle, IL: Open Court, 1995])

discussion of Berlin and Polanyi's views where she summarizes her own very Polanyian "positive" concept of freedom as focused on "being a center of actions, being able to act coherently and consistently in accordance with standards that one willingly accepts, that by implication, one has imposed on oneself" (182). See also D. M. Yeager's "Confronting the Minotaur: Moral Inversion and Polanyi's Moral Philosophy" (*TAD* 29:1 [2002-2003]: 22-48), for discussion of Polanyi's emerging cultural critique and its connection with certain ideas about freedom.

⁴⁶The opening 2 ½ pages of Chapter 12 ("Mutual Authority") of Polanyi and Prosch's 1974 *Meaning* (182-184) returns to issues discussed here concerned with Polanyi's version of liberalism and how it differs from Popper's "open society." That is, Popper's liberalism and the "open society" are overtly criticized in ways that fit with what we have outlined above. There is also another reference (*Meaning*, 214) in Chapter 13 ("The Free Society") to the ways in which an "open society" is not to be confused with a free, liberal society in which there is independence of thought in science, art and law. The material at the beginning of Chapter 12 suggests that Prosch understands the difference in political philosophy with Popper since Prosch is clearly recycling material in LL and perhaps other sources; after the opening pages, this chapter draws on TD, 63-79, as Prosch acknowledges (*Meaning*, xiii). For a more general discussion of Prosch's role in pulling together *Meaning*, see Phil Mullins and Marty Moleski, S.J., "Harry Prosch: A Memorial Re-Appraisal of the *Meaning* Controversy" *TAD* 32:2 (2005-2006): 8-24.

⁴⁷See Polanyi's explanation of the subtitle "Towards a Post-Critical Philosophy" of *Personal Knowledge* (PK, 265), as well as Polanyi's comments about the nature of philosophical reflection (PK, 267). It is noteworthy that in *The Logic of Liberty* (1951) Polanyi speaks of "a new intellectual period, which I would call the post-critical age of Western civilization." He notes that in this new age "liberalism . . . is becoming conscious of its fiduciary foundations and is forming an alliance with other beliefs, kindred to its own" (LL, 109).

⁴⁸Mark T. Mitchell, *Michael Polanyi, The Art of Knowing* (Wilmington, Delaware: ISI Books, 2006): xiii.

⁴⁹Polanyi's letter of 21 September 1951 reported to Popper that one of Popper's objections to Einstein's work on the diffusion constant appeared to be warranted according to new research. Polanyi speculated about future trips to London, hoping "to arrange to meet you . . . for friendly discussion of the many problems in which I would value your advice."

⁵⁰Although the published essay indicates the paper was given March 6, 1952, both research for the Polanyi biography (Scott and Moleski, 220) and recent examination of archival material of the British Society for the Philosophy of Science by Peter Vickers (e-mail to Mullins on 2/12/2010) indicate the meeting was postponed until June 9, 1952. Watkins (668) indicates Popper chaired the session.

⁵¹*Ethics*, 61:1 (October, 1950): 27-37.

⁵²The only manuscript of Polanyi's Gifford Lectures is a text that has in some sections been revised, retyped and re-dated with some dates as late as 1954. Polanyi gave this manuscript to Marjorie Grene in May 1957, and it is now part of the Rare Book, Manuscript and Special Collections Library, Perkins Library, Duke University. A copy of the manuscript is available from the Perkins Library as microfilm #222-1-2, including an instructive introduction by Gerald Smith. A "Syllabus" for Polanyi's First Series of Gifford Lectures, including lecture titles, dates and a one-page précis of each lecture, is available in Box 33, Folder 1, Papers of Michael Polanyi, Special Collections Research Center, University of Chicago Library. Quotations in this paragraph and the next, unless otherwise indicated, are from the Syllabus. As we note below, the date on the Duke manuscript is a few days off the date listed in the Syllabus for the eighth lecture. It seem unlikely that the Duke version of the lecture is a version later than the First Series Gifford lecture even if the date does not agree with the Syllabus.

⁵³In *Personal Knowledge* (1958), the book identified as growing out of Polanyi's Gifford Lectures, in the 1964 Preface to the Torchbook edition, Polanyi says (in the same spirit as these suggestions in the Gifford material) that he faced in his book "the task of justifying the holding of unproven traditional beliefs" (ix).

⁵⁴Quotations from and references to the essay use the *British Journal for the Philosophy of Science* (3:11 [November, 1952]: 217-232) copy for citations since it provides pagination. The published essay minus pagination is on the Polanyi Society web site (<http://www.missouriwestern.edu/orgs/polanyi/mp-stability.htm>). Particularly some elements at the beginning and the end of the published essay differ from the Duke version of the eighth lecture of the First Series Gifford Lectures whose typescript, interestingly, dates the lecture as May 23, 1951 rather than the May 30, 1951 date provided by the First Series Syllabus. The longer lecture apparently had to be cut and Polanyi elected to trim discussion of topics like deduction. But the overlap is, nevertheless, great between the Duke version of the lecture and the later published essay. Clearly, Polanyi embellished the later London rendition of the lecture, making the essay somewhat more dramatic by including psychoanalysis and Marxism in the discussion as "conceptual frameworks" (two topics Popper has also criticized) as well as scientific beliefs and Zande beliefs.

⁵⁵Early in his essay, Polanyi makes clear that "I must call science a belief which I share. This accreditive expression can be expanded indefinitely by giving my reasons for believing in science and elaborating the nature of this belief; but it can never be exhaustively justified by statements of fact" (219). This leads to a short discussion of the terminology used in the essay. Clearly, Polanyi used the term "belief" rather than "knowledge" quite deliberately; he says this choice is in order to emphasize "the intention of keeping always open in our minds a broad and patent access to the personal origins of our convictions" (219). He acknowledged that he "must pass over the epistemological problems," which may imply that he recognizes and dissents from the long tradition of thought in Western philosophy of separating "belief" and "knowledge" (219). He suggested his "conceptual reform" will "eliminate the difficulties inherent in the various theories of truth, whether they rest on correspondence, coherence or utility" (219). He ends his short digression on terminology by saying "this general statement of my position may induce readers to bear with this discourse a little longer, as I proceed with it" (219). All of this suggests that Polanyi was quite aware that his paper developed views that philosophers more in the mainstream would find objectionable.

⁵⁶The centrality of discovery is clear from Polanyi's earliest writing (see some of the essays in *The Contempt of Freedom* as well as *Science, Faith and Society* and some of the essays in *The Logic of Liberty*) in which science is portrayed as a growing organism of thought whose growth depends on independent researchers to add to the existing ideas by their innovative new theories. Later discussion in "The Stability of Beliefs" also focuses on the power of discovery in expanding the scientific framework (see below).

⁵⁷Polanyi extends his discussion of Arrhenius' theory of electrolytic dissociation to show how it was quickly accepted and "its further history offers an excellent example for the extraordinary stability of scientific conception in the face of invalidating factual evidence" (228).

⁵⁸Polanyi's terminology is rather loose. He seems to regard a "conceptual framework" as a more or less cognitive scheme (coherent to those who dwell in it) that is rooted in a very broad set of shared beliefs most of which at any given time are implicit and not before the mind's eye of a person. Confident use of language brings with it such an outlook and clearly not all outlooks can be reconciled. In this article, "conceptual framework" is, of course, terminology that Polanyi thinks can be applied to science, psychoanalysis, Marxian views as well as Zande belief and practice. Polanyi later works out his account of subsidiary and focal awareness (he begins work on this in his Gifford Lectures) and tacit and explicit knowledge and the from-to structure of knowing; such ideas give a firmer ground to notions about a "conceptual framework." Some of these refinements grow out of Polanyi re-casting of ideas found in Gestalt accounts of perception. Polanyi does cite anthropological literature in "The Stability of Beliefs" and some other articles from the same period (e.g. "Scientific Beliefs"

cited above) and, since most of “The Stability of Beliefs” is incorporated into *Personal Knowledge* (1958), citations appear here also. But the development of his own Gestalt-related account for the operation of “implicit beliefs” and “conceptual frameworks” leads Polanyi later frequently to point to Gestalt literature rather than primarily anthropology and accounts of language as an important background source of his views. See the discussion in Mullins’ “Michael Polanyi’s Use of Gestalt Psychology” in *Knowing and Being, Perspectives on the Philosophy of Michael Polanyi* (Tihamer Margitay [ed.], Newcastle upon Tyre: Cambridge Scholars Press, 2010), 10-29.

⁵⁹As we have noted, Polanyi uses Evans-Pritchard and the Azande in his First Series Gifford Lectures but also in his 1950 essay “Scientific Beliefs.” It is unclear when Polanyi became interested in Evans-Pritchard’s study but, as we have noted, Popper’s *The Open Society and Its Enemies* picks out tribal societies as typifying closed societies. We have suggested above that it seems likely that Polanyi found misleading the contrast between closed and open societies that Popper uses. Polanyi’s point in “The Stability of Beliefs” is that belief works in much the same way in such a “closed society” like Zande society and in an “open society” such as the modern republic of science.

⁶⁰At some point after the publication of “The Stability of Beliefs,” Polanyi worked out distinctions between “critical,” “uncritical” and “acritical.” What he was focusing on in the 1952 paper is *implicit* belief frameworks which he would later suggest are “tacitly held” and, insofar as they continue to be used or “dwelt in,” are “acritical.” This distinction Polanyi worked out reasonably clearly in *Personal Knowledge* (264ff).

⁶¹Polanyi here qualified this view somewhat when he suggested that adherents may lose faith in their framework, sensing “that its powers were excessive and specious” (218).

⁶²See *Logic of Scientific Discovery*, pp. 82-84 where this is the English translation used for the German in the letter.

⁶³“Faith in reason” is a major motif in Popper’s reading of fifth century Athens in his chapter “The Open Society” in *The Open Society and Its Enemies*. He, for example, proclaims “the new faith in reason, freedom and the brotherhood of all men” as found in Athens as “the only possible faith, of the open society” (1966, 184).

⁶⁴Jarvie also has noted this Popper letter which he links to his claim that Popper’s interest is in the “social practices [of science] and that institutionalizing these in articulated rules facilitated debate” (77). Jarvie affirms that Popper in his letter conceded that a structural difference “could be epicyclically explained away”: “It seems that he is saying the structural difference lies just in the system eschewing such epicyclical and convenient evasions” (77, note 30).

⁶⁵It is of interest that Popper focused only on applying or abstaining from applying the “epicyclic method” (i.e., on Polanyi’s second element, the self-expanding capacity of interpretive systems) and that he seems to take this to be the key to affirming or denying “structural differences.” Popper’s letter does not take up Polanyi’s claims (1) that objections (such as those of Evans Pritchard to Zande belief) are met successfully because they can be addressed one by one (i.e., the principle of circularity or the way other elements of a belief system undermine single objections, Polanyi’s first point) or (2) that a “principle of suppressed nucleation” operates in a system of belief to prevent alternative conceptualization and the accumulation of evidence based in such concepts.

⁶⁶Popper’s point, as one of our reviewers suggests, may be a simple affirmation of the idea that his critical rationalism holds there is a special position, one not outside the system of belief being examined, from which reason and belief can be judged. But if this is Popper’s argument, it is an argument that simply ignores the issues Polanyi is trying to raise.

⁶⁷Brian Magee, *Confessions of a Philosopher* (London: Phoenix, 1998): 231. See also Joseph Agassi, *A Philosopher’s Apprentice*, (Amsterdam: Rodopi, 2008), 33 and 287).

⁶⁸See Yeager's discussion (cited above) tracing the development and articulation of this Polanyi theme.

⁶⁹"The Stability of Beliefs" was incorporated by Polanyi in subsections ("Implicit Beliefs," and "Three Aspects of Stability") of chapter 9 of *Personal Knowledge* (286-292), with some elements included in other chapter sections. Polanyi in *Personal Knowledge* criticized falsificationism, but he mentioned Popper by name only once and that was in the context of explaining the difficulties associated with defining mathematics, noting a point made by Popper in an article of 1951 that for each significant mathematical theorem inferred from a set of selected axioms an infinite number of trivial theorems can also be derived (188).

⁷⁰There has been an extensive discussion of (1) how much Kuhn drew, consciously or unconsciously, from Polanyi, and (2) how much philosophical ground Kuhn and Polanyi actually share. The following is a list (not an exhaustive one) of recent literature treating one or both of these issues: Struan Jacobs, "Michael Polanyi and Thomas Kuhn: Priority and Credit," *TAD* 33:2 [2006-2007]: 25-36; Struan Jacobs, "Michael Polanyi, Tacit Cognitive Relativist," *The Heythrop Journal* XLII (2001): 463-479; Struan Jacobs, "Polanyi's Presagement of the Incommensurability Concept," *Studies in History and Philosophy of Science* 33 (2002): 105-120; Maben Poirier, "A Comment on Polanyi and Kuhn," *The Thomist* 53 (1989) 259-279; Struan Jacobs, "Two Sources of Michael Polanyi's Prototypal Notion of Incommensurability: Evans-Prichard on Azande Witchcraft and St. Augustine On Conversion," *History of the Human Sciences* v. 16, n. 2 (2003): 57-76; Maben Poirier, "The Polanyi-Kuhn Issue," *TAD* 33:2 (2006-2007): 55-65; Aaron Milavec, "Public Recognition, Vanity, and the Quest for Truth: Reflection on 'Polanyi vs. Kuhn'" *TAD* 33:2 (2006-2007): 37-48; Martin X. Moleski, S. J., "Polanyi vs. Kuhn: Worldviews Apart," *TAD* 33:2 (2006-2007): 8-24; Richard Henry Schmitt, "Darwin, Kuhn, and Polanyi: A Comment on 'Polanyi vs. Kuhn: Worlds Apart'" *TAD* 33:2 (2006-2007): 49-55. John Preston ("Feyerabend's Polanyian Turns," *Appraisal*. Vol. 1 Supplementary Issue, Part I 1997: S31-36) analyses similarities of Polanyi and Feyerabend and possible debts of Feyerabend to Polanyi. He says that Feyerabend acknowledged that he at some unknown point read and was influenced by "The Stability of Beliefs" (S30). He thinks some elements of Polanyi's case "prefigure not only Feyerabend's famous 'theoretical pluralism,' but also his argument for it" (S31). Preston, however, thinks Feyerabend's early ideas are something of a muddle drawing on several sources; his later thought rejects certain of Popper's ideas, better absorbs certain of Polanyi's claims as well as those of Mach and is more influenced by historical case studies (S32-35). One might also include Imre Lakatos in this group. Stephania Jha's 2006 essay cited above (note 5) treats in some detail links between Polanyi and Lakatos. See also Richard Schmitt's *TAD* review (34:1 [2007-2008]: 51-53 of the Jha essay and the full issue of *Perspectives on Science* devoted to Lakatos' thought.

⁷¹Clearly some cooperation and concern continued between Polanyi and Popper. One of the most interesting small projects was Polanyi's unsuccessful effort to recruit Joseph Agassi, a member of Popper's circle, to come to Manchester in the mid-fifties. In Polanyi's letter to Popper of December 9, 1954, he notes, "I am writing to Agassi to tell him that I am still as keen as ever to proceed with the project of getting him to Manchester next year." Agassi later makes clear that he was a critical admirer of Polanyi's thought; he dedicated his 1981 essay-collection, *Science and Society* (Dordrecht: D. Reidel), "to the memory of Michael Polanyi" (xx). See also Agassi's more recent comments (*A Philosopher's Apprentice* [Amsterdam: Rodopi, 2008], where he declares Polanyi and Popper the "two greatest and clearest philosophers of the mid-twentieth century" (143). He comments later that "the dedication of my *Science and Society* to his [Polanyi's] memory is expiation to some extent," noting that Polanyi "was a model gentleman, a truly open person" who offered him "an assistantship before Popper did" and "wanted me to help him as he put his celebrated *Personal Knowledge* (sic) in its final shape" (179).

⁷²Jha's 2006 article (cited above) treating Lakatos' "Polanyian turn" (342) points out that this Polanyi letter was written after Popper instructed Lakatos to "dis-invite Polanyi" (329) to a 1965 symposium that Lakatos organized to discuss Popper and Kuhn's views. Jha argues Lakatos' attempt to include Polanyi indicated that Lakatos "wanted an open debate between them" (331).

⁷³Moleski kindly drew our attention to this letter (Box 8: Folder 13, Papers of Michael Polanyi, Special Collections Research Center, University of Chicago Library) and advised that Polanyi opposed Popper's election to the Royal Society (see below).

⁷⁴Box 10, Folder 6, Papers of Michael Polanyi, Special Collections Research Center, University of Chicago Library.