Cheryl Misak

2 Lewis and the Exiled Empiricists

Abstract: The Second World War caused many of the finest minds in Austria and Germany to flee, largely to America. In the discipline of philosophy, the most profound effect was the arrival of the logical positivists. This paper explores the relationship between those logical positivists and the American pragmatist C. I. Lewis. It traces the important commonalties and differences between the two traditions and suggests that where the two traditions diverged, pragmatism took the better path. The paper also explores the tragic missed opportunity for American pragmatism when the country turned back Janina Hosiasson, leaving her to be murdered by the Nazis.

2.1 Introduction

The Second World War shattered lives. It also scattered talent, largely to America. In philosophy, some take the arrivals from Vienna and Berlin to have altered the intellectual landscape like an industrial-scale coal mine, stripping the land bare to expose a hard seam of logically minded scientific philosophy, permanently damaging the richness of the homegrown American philosophy called pragmatism. H. S. Thayer seems to have initiated this eclipse narrative in 1968 when he asked:

> How, then, did it happen that in the nineteen-forties pragmatism was so quickly eclipsed by the movement of logical positivism and analytic philosophy? The change was so complete that a decade later pragmatism was not even a respectable subject of interest in most departments of philosophy. (Thayer 1968, 559)

But the eclipse narrative is a false understanding of the relationship between the exiles and the pragmatists. There may be something to the story with respect to John Dewey, who never got the hang or the point of the new symbolic logic, which was central to logical positivism. While there was an early bond of respect between Dewey and the logical positivists, it soon frayed.

But the other great pragmatist of that generation, the Harvard philosopher Clarence Irving Lewis, was an excellent logician and could fully engage the new-

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comers. The exiled empiricists Rudolf Carnap, Carl Hempel, Herbert Feigl, Philipp Frank, and others met a brand of philosophy in Lewis that had commonalties with their own, with some important differences. Carnap, for instance, in correspondence about his volume in the *Library of Living Philosophers*, wanted a piece on "the influence on American philosophy by the European empiricists (who have emigrated here)."[1] In this paper I will draw out the influences, running in both directions, and suggest that, where the logical positivists did not end up following Lewis, they took wrong turns.

It is a complex story to tell. My own first attempt was in the 2013 *The American Pragmatists.*[2] I remain largely satisfied with my account of how the logical positivists (with their ally in England, Bertrand Russell) rejected the pragmatism of William James and how Dewey received the exiled empiricists (warily, at first agreeing to write a volume on value for the *Unified Encyclopedia of Science*, then turning away from the Circle, eventually so bitterly that he told his students not to read them). In this paper, I will expand on an important part of the story that I (and others) have not properly explored: the interaction between the exiled empiricists and Lewis.

The relative inattention to Lewis is a striking omission in the history of logical empiricism and American pragmatism.[3] For many of the luminaries in the next generation of American philosophers were the direct intellectual offspring of Lewis and the positivists: W. V. Quine, Nelson Goodman, Morton White, Wilfrid Sellars, and Arthur Pap. I will suggest that while they have genetic material of both their parents, some of the traits the next generation acquired from the logical positivists were not good ones—a penchant for reductionism, a preference for sparse metaphysical landscapes, and a disregard of ethics.[4]

2.2 Pragmatism

We must start with a quick summary of pragmatism. Peirce describes its birth:

> It was in the earliest seventies [1870s] that a knot of us young men in Old Cambridge, calling ourselves, half-ironically, half-defiantly, 'The Metaphysical Club,'—for agnosticism was then

1 Carnap to Feigl, Nov. 14, 1951, Rudolf Carnap Papers, UCLA, 01-CC03. Charles Morris wrote a piece for the volume called "Pragmatism and Positivism," which was perhaps intended to fill this bill.
2 Others have tackled it as well. See Verhaegh (2020) for an excellent recent account.
3 Some notable exceptions are Dayton (1995), Hookway (2008), O'Shea (2017), and Sinclair (2022).
4 White and Pap escaped these traits (see Misak 2022) and Goodman grew out of most of them (see Misak 2013).

> riding its high horse, and was frowning superbly upon all metaphysics—used to meet, sometimes in my study, sometimes in that of William James. … The type of our thought was decidedly British. I, alone of our number, had come upon the threshing-floor of philosophy through the doorway of Kant, and even my ideas were acquiring the English accent. (CP 5.12, 1907)[5]

When Peirce says "The type of our thought was decidedly British," he means that pragmatism took its inspiration from the empiricism of Locke, Berkeley, Hume, and Bain. The basic idea of British empiricism is that our beliefs must be connected to experience. There have been various ways of expressing this basic thought. *Reductionism* has it that our beliefs must be grounded in an indubitable foundation of experience. *Verificationism* has it that all meaningful beliefs must be such that some experience can show them to be true or false. Those two empiricist ideas were central to logical positivism. The expression given by *pragmatism* holds that the connection between belief and experience is less strict—meaningful beliefs and beliefs aimed at truth must be responsive to experience. Pragmatism also takes from Bain the idea that belief and action are intimately connected—the idea that belief is something upon which we are prepared to act.

On all these versions of empiricism, we get an anti-metaphysical, more scientific, method for doing philosophy. Here is Peirce: we "must look to the upshot of our concepts in order to rightly apprehend them": in order to get a complete grasp of a concept, we must connect it to that with which we have "dealings" (CP 5.3, 5.416). This method delivers down-to-earth concepts of, for instance, truth. Truth is not what is in the mind of God or what corresponds to a believer-independent world of objects. Truth is the best beliefs or habits we human beings could have—beliefs that would guide our actions successfully. Peirce required that success be connected to the force of experience:

> it is one of the essentials of belief, without which it would not be belief … that a man could hardly be considered sane who should wish that though the facts should remain lamentable, he should believe them to be such as he would wish them to be.[6]

A belief that is "determined by any circumstance extraneous to the facts" should be doubted (Peirce 1900–, Vol. 3, 253). Experience impinges upon us and we must take it seriously.

James wobbled on this point. He articulated the pragmatists account of truth thus:

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5 Here and hereafter, CP refers to Peirce 1931–58, cited as "CP volume.page."

6 MS 673, 11, 1911, Charles S. Peirce Papers, Houghton Library, Harvard University.

> any idea upon which we can ride … any idea that will carry us prosperously from any one part of our experience to any other part, linking things satisfactorily, working securely, simplifying, saving labor, is … true … (James 1975 [1907], 34)

But he at times disagreed with Peirce that a successful belief has to be connected to the facts:

> Satisfactorily, means more satisfactorily to ourselves, and individuals will emphasize their points of satisfaction differently. To a certain degree, therefore, everything here is plastic. (James 1975 [1907], 35)

In the "Will to Believe," James said that it might be rational to believe in God if that belief made one's life go better. Peirce and Lewis were not keen on this more subjective brand of pragmatism.

Peirce is right that he brought Kant to pragmatism. For one thing, he argued that all facts and experience come clothed in our concepts. As Dorothy Emmet put it, there is a difference between experience's being brute and stubborn, à la Peirce, and its being bare and naked, à la the logical positivists (Emmet 1994, 186). Another Kantian move concerns the regulative assumptions of inquiry. Central to pragmatism is a theory of inquiry that holds that an inquirer has a body of settled beliefs, which are in fact not doubted. Peirce argued that such beliefs take a variety of forms: they may be ordinary empirically confirmed beliefs, mathematical and logical beliefs, or deeply-engrained beliefs whose origins are intangible. There are also regulative assumptions of the practice of inquiry, things we must assume if we are to continue with it. For instance, we need to assume there is a truth of the matter to the question at hand, otherwise it would make no sense to inquire into it. But Peirce was clear that needing to assume something does not confer upon the assumption the status of necessity. Peirce wanted to naturalize Kant—do away with transcendental deductions and move to talking about the requirements of belief and inquiry. Peirce said he was "not one of those transcendental apothecaries … —they are so skilful in making up a bill—who call for a quantity of big admissions, as indispensable *Voraussetzungen* of logic" (CP 2.113, 1902).

We shall see that Lewis, Peirce's true successor in the next generation of pragmatists, developed a pragmatism with both the British and Kantian elements as well.

2.3 The Exodus

In the interwar period, the scientific empiricist philosophy of the Vienna and Berlin circles was branded dangerous and Jewish by the rising right-wing. These log-

ical positivists were on the whole a politically progressive group.[7] Their philosophy aimed to sweep away metaphysical and ideological authority in favor of scientific rigor and clarity. Most of the purported answers to age-old questions about essences, the Absolute, or the thing-in-itself were to be declared meaningless by showing that they are not reducible to observation. Ethics, religion, and politics were to be reimagined as scientific or factual statements about people's desires. This did not go over well and, at best, the careers of Vienna and Berlin Circle members would be hopeless. At worst, their very lives were at stake. Many fled to America, where the founders of American pragmatism were already dead, Peirce in 1914 and James in 1910. It was next generation of American pragmatists who greeted the émigrés: Dewey and Ernest Nagel at Columbia; Lewis and his former students Nelson Goodman, Morton White, V. W. O. Quine at Harvard.

Feigl was an early arrival. Antisemitism prevented him from getting a university post in Vienna after his doctorate and he went to Harvard in 1930 on a temporary Rockefeller Foundation grant, landing a job at the University of Iowa, and eventually moving to Minnesota. Others came when the political situation became more threatening. Carnap secured a job at the University of Chicago in 1936 and finished his career at UCLA, with periods at Harvard and at Princeton's Institute for Advanced Study. Hempel first visited Chicago to join Carnap in 1937, made his way to Queens College in New York, and then to Princeton for the bulk of his career. Reichenbach moved to UCLA in 1938 from a temporary perch in Turkey. Once safe in America, the exiles and the locals banded together to bring more people over. Philipp Frank was helped to Harvard in 1938 by Carnap and Nagel. A letter the Carnaps wrote to the Nagels describes the not-untypical arrangements:

> Frank writes us that he has a passage on the 'Europa' leaving Bremen on the 28th of September. I believe that means that he will be in New York around the 3rd of October. Does Ernest intend to meet him at the boat? Frank has some money deposited with us which he will need when he arrives. Will you let us know about your plans? And might we send you a check to be cashed by you and to be handed over to Frank?[8]

Such private help was a supplement to official arrangements of universities looking for talent and the Rockefeller Foundation, one of the major movers of displaced academics to America.

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7 See Edmonds (2020).

8 Letter from the Carnaps to the Nagels, Aug. 23, 1938. Ernest Nagel Papers, MS 0915, Box 1, Columbia University Archives (hereafter, ENP-CUA).

2.4 Early Friendly Encounter with Lewis

While the exiles knew a little about Peirce and James before they arrived in America, one of the earliest and most substantial points of contact with the pragmatists was with Lewis.[9] From 1912, Lewis had been writing papers critical of the account of material implication in Russell and Whitehead's *Principia Mathematica*, a book that was important to the Vienna Circle. Lewis's *A Survey of Symbolic Logic* was published in 1918 and was well known (Carnap cites it in his 1928 *Der logische Aufbau der Welt*). In 1930, an American visitor to the Vienna Circle, Albert Blumberg, was likely the one who introduced *Mind and the World Order* to the Circle.[10] Feigl said that, before 1930, "Most of us in the Vienna Circle were largely ignorant of American philosophy" (Feigl 1969, 69). But from that year, they knew about Lewis's pragmatism.

Feigl met Lewis in 1930, during his year at Harvard. Lewis spotted the similarities between his brand of pragmatism and logical positivism straight away. He said in his replies in the volume of the *Library of Living Philosophers* devoted to him that "In ... the early documents of the neopositivists—particularly in Carnap's *Der logische Aufbau der Welt* ... I found an empiricism and an analytic method which were congenial to my own persuasions" (Lewis 1968a, 664). They shared the idea that verification by experience was key in knowledge and meaning. Lewis saw that they had to address a similar set of problems, for instance, how we can verify statements about the past. In *Mind and the World Order*, he argued that we must understand them as referring to the circumstances that *would* verify them. He was eager to point out that *Mind and the World Order* was published the year that the Vienna Circle was founded (Lewis 1968b, 664). That is, Lewis did not get his empiricism from the logical empiricists, but rather, his was a "pragmatic empiricism" born with Peirce (Lewis 1968b, 664; 1956 [1929], xi).

Lewis and Feigl got on well and Lewis actively helped Feigl secure an academic position. His letter of reference for him in 1931 ended thus:

> Feigl is one of the group—with Carnap, Reichenbach and Schlick—who represent the newly-formulated 'neo-positivism', which represents what we in America are sure to regard as the most promising of present movements in Continental philosophy. The manner in which this doctrine draws upon recent tendencies in exact science, and Dr. Feigl's particular competence

9 See Misak (2013).

10 See Christoph Limbeck-Lilienau(2010), who tells us that Blumberg had mentioned Lewis's 1929 book in his thesis.

> in these fields, have rendered his discussions in our little group at Emerson Hall particularly pleasant and profitable for us.[11]

The little group might well have been what Feigl referred to as the *Langer Zirkel.* Feigl wrote to Schlick in 1930:

> I was delighted to meet Susanne Langer, who is a professor here at Radcliffe College … She is an excellent woman and her versatility is admirable… She … speaks German as well as English…. We (i. e. a group of young people who are interested in logic and philosophy…) meet at her place every Monday evening for discussions on the Viennese model.[12]

The Langer Circle met at Langer's house, not in Emerson Hall. But notice that Lewis says "the little group at Emerson Hall," which could well mean that it was a group of Harvard philosophers who were based in Emerson Hall, but met somewhere other than Emerson Hall. In any event, it is clear that Lewis and Feigl had significant philosophical conversations in 1930. Lewis read a draft of Feigl's "Logical Positivism," co-authored with Albert Blumberg.[13] In December of that year, Feigl wrote to Schlick that Lewis's "conceptual pragmatism" is "barely distinguishable from our positivism" and said that *Mind and the World-Order* is "the best epistemology in the English literature."[14]

2.5 Lewis's Kantian Pragmatism

In *Mind and the World-Order*, Lewis, following Peirce, argued for a pragmatism that takes human inquiry as the starting point in philosophy, yet has that inquiry shaped by the brute force of experience. He rejected an ahistorical, transcendental, or metaphysical theory of truth, but was nonetheless committed to doing justice to the objective dimension of human inquiry. That objectivity is delivered to us through experience—simple feelings that impinge upon us, but which require interpretation before they become perceptual beliefs. Our body of beliefs is like a pyramid, with the most comprehensive, such as those of analytic definition and logic, at the top, and singular judgments at the bottom. Everything in our body

11 Correspondence, Lewis, C. I., 1931–1933, Box 7, Herbert Feigl Papers, University Archives, University of Minnesota (hereafter, HFP).

12 Quoted and translated by Verhaegh (2022). Feigl saw that Langer, with Lewis and Percy Bridgman, shared the logical positivist's tendencies. (Blumberg and Feigl 1931, 281).

13 See Verhaegh (2020).

14 Quoted and translated by Verhaegh (2020, 113).

of knowledge is connected in some way to experience through this network of beliefs, and everything is revisable.

While Lewis claimed that all experience "is either a specific quale (such as the immediacy of redness or loudness) or something analyzable into a complex of such," he did not hold, as did many of those in the European empiricist movement (Schlick, Russell, Wittgenstein), that all knowledge is built up of qualia about which we cannot be mistaken.[15] With Peirce, Lewis argued that we cannot get down to the first impressions of sense. What we have are our judgments of them. Knowledge is not built up from infallible atoms, but merely responds to the impinging of experience which is immediately interpreted. Lewis, like Peirce, had a Kantian inflection to his empiricism. Our concepts shape our experiences and certain of those concepts—those without which our practices of experience and inquiry could not continue—are to be assumed to be true. But everything in our body of belief is connected in some way to experience through this network of beliefs and any belief can fall to experience, as long as we are willing to make the ensuing revisions throughout the pyramid. That includes *a priori* beliefs such as logical truths and definitions. We are not quick to revise such beliefs, as the reverberations would be felt all the way down. But they nonetheless are revisable. In effect, Lewis was saying that there is no *a priori*, as it is traditionally conceived. There are no "self-illuminating propositions" which are true with certainty (Lewis 1970 [1923], 231). *A priori* statements are disconfirmable by experience—not directly, as is *The swan coming around the bend will be white* or *All swans are white.* But they can be shown to be mistaken, for instance, when the tide of experience makes us question a cherished assumption. Lewis was set against the quest for certainty and the constructivism/reductionism of the Vienna Circle.

He argued that it is not the *a priori* that is compelling, but the *a posteriori:* "It is given experience, brute fact, the a posteriori element in knowledge which the mind must accept willy-nilly." The *a priori*, on the other hand, "represents an attitude in some sense freely taken, a stipulation of the mind itself, and a stipulation which might be made in some other way if it suited our bent or need" (Lewis 1970 [1923], 231). The *a priori* is the "uncompelled initiative of human thought"—the human-made net of categories and definitions without which we cannot "interrogate" or "capture" experience (Lewis 1970 [1923], 237).

We hold such "categorical principles" firm, even if experience seems to go against them, until we stop holding them firm because they no longer work or serve our purposes. Our *a priori* categories and definitions "are subject to alteration on pragmatic grounds when the expanding boundaries of experience reveal

15 See, for instance, Lewis 1956 [1929], 60).

their infelicity as intellectual instruments"; they "may be subject to gradual transition and even to fairly abrupt alteration" (Lewis 1956 [1929], 228). These changes might be brought on by the brute impinging of facts, but also by the developing mind. We investigate, revise, and re-invent our framework.

We have, for instance, discovered that there are several logics, each self-consistent on its own terms. The choice is a "pragmatic" one, the criteria for which will be drawn from our "human bent and intellectual convenience" (Lewis 1970 [1923], 233). Take the law of excluded middle (for any proposition either it or its negation is true). It

> formulates our decision that whatever is not designated by a certain term shall be designated by its negative. It declares our purpose to make, for every term, a complete dichotomy of experience, instead—as we might choose—of classifying on the basis of a tripartite division into opposites (as black and white) and the middle ground between the two. Our rejection of such tripartite division represents only our penchant for simplicity. (Lewis 1970 [1923], 232)

The laws of logic are "principles of procedure, the parliamentary rules of intelligent thought and speech" (Lewis 1970 [1923], 232). Like definitions, they are "addressed to ourselves" and "represent no operations of the objective world, but only our categories of mind." Both "are peculiarly social products, reached in the light of experiences which have much in common, and beaten out, like other pathways, by the coincidence of human purposes and the exigencies of human cooperation" (Lewis 1970 [1923], 239). Our conceptual framework thus both has the feel of a "fiat" and of "deliberate choice" (Lewis 1956 [1929], 213).

The a priori is not, however, "arbitrary in the sense of being capriciously determined" or in the sense that it answers to no criteria. (Lewis 1956 [1929], 237). Since knowledge has "a practical business to perform," all our concepts and interpretations answer to "our need to understand, in the face of an experience always more or less baffling, and … our need to control" (Lewis 1956 [1929], 237). Empirical judgments answer to the criterion of observation. Mathematics answers to self-consistency. Ethical judgments answer to something different. Lewis included ethics in our body of knowledge or under our cognitive scope, from the 1920s and later developed this line of thought, saying that in ethics, humans "are mostly served by cooperation with others" and that our ethical beliefs must answer to those requirements (Lewis 1956 [1929], 238). The philosopher "seeks to reveal those categorical criteria which the mind applies to what is given to it, and by correct delineation of these criteria to define the good, the right, the valid, and the real" (Lewis 1956 [1929], 36).

Lewis met the solipsism challenge to any empiricism head-on. We do not know whether the qualia or content of what is given to each mind is similar or not, but we do know that human beings have similar basic needs which will cause them to

take similar attitudes to what they experience and to act in similar ways. Our common world is thus created by common need.

2.6 Further Engagement of the Exiled Empiricists with Peirce and Lewis

Carnap said in 1936, the year he landed in America: "It seems to me there is agreement on the main points between the present views of the Vienna Circle ... and those of Pragmatism, as interpreted e. g. by Lewis" (Carnap 1937 [1936], 427). Peirce was the subject of a talk at the fifth International Conference for the Unity of Science, which Charles Morris and Quine organized at Harvard in 1939, the first of the conferences to be held in America. Nagel, who did not like to call himself a logical empiricist or a pragmatist, but who had strong connections with both, gave a masterful paper titled "Charles S. Peirce: Pioneer of Modern Empiricism." He pointed out the affinities between logical empiricism and pragmatism: the antipathy to metaphysical speculation, the emphasis on cooperative scientific research, and the fact that the pragmatic/verificationist maxims were "offered to philosophers in order to bring an end to disputes which no observation of facts could settle because they involved terms with no definite meaning" (Nagel 1936, 73).

Reichenbach saw the connection as well. He learned about Peirce's work from Sidney Hook, who sent him some of Peirce's papers in 1932. Reichenbach admired Peirce's work on induction (Reichenbach 1938 187–188) and saw that his own vindication of induction walked hand in hand with Peirce's idea that "Inductive inference cannot be dispensed with because we need it for the purpose of action" (Reichenbach 1938, 346). The only way of justifying induction is that it is required for the success of action. That is one of Peirce's regulative assumptions of inquiry. If we are to know anything at all, we must rely upon inductive inference.

But there was much that divided them. The first published critical engagement was Lewis's 1930 "Pragmatism and Current Thought," followed by his 1933 Presidential Address at the American Philosophical Association, published in 1934 as "Experience and Meaning." Lewis thought there were insurmountable problems with the phenomenalist foundation employed by Carnap and others in the logical positivist camp.[16] He noted that "if your hours as felt, are twice as long as mine,

16 In 1930, as Verhaegh (2020) has shown, the Vienna Circle was in agreement about the nature of the foundation. They took Wittgenstein's view in the *Tractatus*: all meaningful propositions can be reduced to elementary propositions, the form of which must conform to the form of the phenomena. Later there were disagreements.

your pounds twice as heavy" that makes no testable difference (Lewis 1930, 242–243). Carnap, in the *Aufbau*, had argued that classes of experience are constructed out of individual time slices of sensory experiences; then concepts such as blue are built up; then objects; then higher concepts. Lewis noted that Wittgenstein, in the *Tractatus*, also accepted the unacceptable solipsistic implication (Lewis 1970 [1934], 261–262).[17] But Lewis thought that the attempt to terminate knowledge claims in what is actually present to a person here and now (Carnap's "autopsychological basis") doesn't work, for knowledge and meaning would then "collapse into the useless echo of data directly given to the mind at the moment" (Lewis 1970 [1934], 263).[18]

The problem is that it is impossible to communicate such private qualitative content to others—the experiencer seems to be trapped in his or her own world. Lewis held that solipsism of the present moment has to be avoided by any theory, if it is to be compatible with the idea of the validity of knowledge. An empiricism that has meaning and truth bottoming out in phenomenological qualia cannot say how we actually get to the world beyond our experience of it. Since we are supposed to be talking and thinking about that world, this is a major problem. We have seen that Lewis addressed the challenge of solipsism by appealing to our shared basic needs. That is a distinctly pragmatist answer that the logical positivists, at least at this stage in their development, were unwilling to offer.

Lewis argued that the meaning of an expression is not reducible to immediate experience, rather, it consists in the expectation of a future possible experience (Lewis 1970 [1934], 268). Meaning resides in prediction or expectation. One salutary effect of this account of meaning it that it allows Lewis, unlike Carnap and the rest of the Vienna Circle, to include general propositions and inferred conclusions in our body of meaningful belief. The open generalization *All humans are mortal* goes beyond any actual experience, but, as Ramsey put it, it is a rule with which we meet the future.

17 Wittgenstein was silent about what elementary sentences were, but it was reasonable to interpret him as thinking they were along the lines of *blue, here and now.* Frank Ramsey, the pragmatist in Wittgenstein's orbit, made the same objection to Wittgenstein and Carnap. See Misak (2016, 226).
18 For Schlick and Carnap, it is only the qualia which are private, but the structure and relation between the qualia are communicable. There are major problems with the structuralist idea as well. See Newman (1928).

2.7 The Move towards Lewis

As Limbeck-Lilienau (2012) argues, immediately after the *Aufbau* was published, Carnap distinguished degrees of verifiability. He was already starting, that is, to revise the position Lewis was challenging. Carnap wrote a draft of a reply to Lewis, sent it to Schlick and Morris, and later incorporated it into the 1937 "Testability and Meaning." He called it his "Lewis paper" (Creath 1991, 190). Carnap's pragmatist move was first published in his 1934 *Logical Syntax of Language*, where he argued that when an increasing number of consequences of the hypothesis agree with experience, the hypothesis is increasingly confirmed (Carnap 1937 [1934], 318). Carnap's response to Lewis's charge is to allow for partial verification and for the meaningfulness of generalizations.

It was also in this book that Carnap's pragmatist principle of tolerance—his move to a pluralism about theoretical frameworks—made its debut.[19] He said that he had in the past "overlooked the fact that there is a multiplicity of possible languages" (Carnap 1937 [1934], 245). Internal questions, which can only be raised from within a linguistic framework, must be straightforwardly verifiable. An external framework of abstract concepts, beliefs, methodological principles, on the other hand, is chosen on pragmatic grounds. In the 1947 *Meaning and Necessity*, he put the point in distinctly pragmatist terms: We accept a framework on the grounds of whether it is "expedient, fruitful [or] conducive to the aim for which the language is intended" (Carnap 1956 [1947], 214). Our frameworks are tested by their success or failure in practical use. Here is Carnap sounding even more like Lewis:

> No rule of the physical language is definitive; all rules are laid down with the reservation that they may be altered as soon as it seems expedient to do so.... In this respect, there are only differences in degree; certain rules are more difficult to renounce than others. (Carnap 1937 [1934], 318 – 319)

Carnap said in an autobiographical essay that as a result of pragmatist influences, he put more emphasis on the social factor in knowledge and on the idea that a "conceptual system" involves practical decisions (Carnap 1963, 861). It is

19 See Richardson (2007), Uebel (2017) and Misak (2013) for the full argument about the pragmatist nature of the principle of tolerance. Richardson and I also note the striking similarity between Neurath's holism and pragmatism, but since Neurath was not one of the empiricists who ended up in America, this essay is silent on him.

clear that there is a direct and acknowledged link from Lewis to Carnap. But we shall see that a significant difference undercuts this agreement.

Philipp Frank also adopted something like Lewis's holism, arguing that the meaning and the truth of a statement are matters of the statement fitting into a system—into a theory. He argued that theories are under-determined by the data—more than one theory can account for what we experience—hence the choice of theory involves considerations such as social utility.[20]

Arthur Pap was even more Lewisian. He occupies an interesting place in the story of the exiled empiricists, tending (falsely) to be more identified with logical positivism than pragmatism. Pap's family fled Europe in 1941, when Arthur was 19. He hadn't encountered the new scientific philosophy during his high schooling in Zurich—he was a Hegelian when he arrived in New York, ready for his undergraduate studies and then a PhD at Columbia in 1944. Pap was influenced by the logical positivists—by Charles Stevenson, who argued that ethical terms do not have cognitive or observational meaning, but are mere expressions of emotions and Carnap, with whom he became friendly with in 1947 while they were both instructors at the University of Chicago. In 1952–53, after translating Viktor Kraft's history of the Vienna Circle, Pap went on a Fulbright to the University of Vienna.

But Pap was more heavily influenced by pragmatism. His PhD thesis, supervised by Ernest Nagel, was published in 1946 as *The A Priori in Physical Theory*.[21] In it, Pap acknowledged his indebtedness to Lewis's pragmatic account of the a priori. Necessity is not an all-or-nothing game that radical Platonists (voting "all") and radical empiricists (voting "nothing") would have us believe—"both the empiricist and the rationalist fail to account for the interaction of empirical and formal knowledge" (Pap 1943, 458). Pap put forward a "hypothetical" conception of necessity—one that treats necessity as being a "prospective" and "functional" condition for something else (Pap 1943, 449). A hypothetical necessity is not a self-evident axiom that stands without alternatives. The "determination of the *essential* or def-

20 See Frank (1951, 19) and (1950).

21 Nagel was also an early exile who had a foot in both pragmatist and logical positivist camps. He emigrated from present-day Slovakia to the United States at the age of ten and received a BSc from the City College of New York in 1923, and a PhD from Columbia 1931. In letters to Sidney Hook in 1945, he wondered (at length): "I should like to know whether I am a naturalist or not. I gather that the chief qualification is respect for scientific method. The doubts begin to arise when I ask … what this method means. Apparently one of the requirements is that any 'responsibly held' proposition should be 'publicly verifiable'" (ENP-CUA, MS Coll 0915, Box 1, 24). It was the verificationist requirement of the logical positivists that made him wary. He preferred the Lewisian position and argued that "any verifying process has evidential value only *within* a framework of pre-existing knowledge" (Nagel 1956 [1954], 5).

initory properties of kinds … is not a discovery, but a choice" and that choice is based on "pragmatic reasons" (Pap 1943, 452).

Scientific change, on Pap's view, is grounded on "the best possibility," "best relative to the functional or teleological context in which it arises" (Pap 1943, 450):

> Thus the ptolemaic hypothesis was good for explaining the astronomical facts or phenomena; its rejection in favour of the Copernican Hypothesis had no logical ground, but only a functional ground: the latter did the job better than it, being simpler and hence more convenient. (Pap 1943, 451)

Pap argued that as principles of science become accepted, they become fixed definitions and criteria for further inquiry. This is a core insight of all pragmatists, from Peirce onwards: we need a body of belief, not doubted, by which to judge other beliefs and by which to make sense of experience. But that whole body of belief is fallible. Pap added that what was once empirical can become *a priori* and vice versa, and that too is open to change down the road.

Pap was set against the logical positivist's "static" model of science, in favor of the pragmatist's "dynamic" model (Pap 1946, vii). As David Stump puts it, the main idea in Pap's functional a priori is that "one considers the role that a sentence is playing in a physical theory, rather than its origin" (Stump 2011, 279). That is as nice a way as any of summing up a crucial difference between the Vienna Circle (with its focus on origin) and pragmatism (with its focus on function).

In what follows, I shall outline what I take to be the further salient differences between the Lewis position and that of the logical positivist. If I had enough time and space, I would argue that Lewis comes out better on each and every one.

2.8 Five Points of Disagreement

Lewis disagreed with the exiled empiricists on some important and related matters. First is the one identified by Pap: Lewis focuses on the function of our statements, rather than on their origins being grounded in the certainty of experience. Not all the logical positivists held that, but those who did were wrong, argued Lewis.

The second is Lewis's antipathy to the idea that knowledge is reducible to experience. As Lewis puts it, the pragmatist asks "What empirical confrontations would confirm this statement?" whereas Carnap asks "To what class of observable predicates is this term reducible?" and "What other terms are synonymous with this one?" (Lewis 1970 [1941], 95). The logical positivist's project is to try to eliminate or reduce away what they considered inflated entities in favor of a sparse and sci-

entific landscape. But Lewis thinks that "words and sentences without associated imagery are marks and noises without significance" (Lewis 1970, [1941], 96). In wanting to "logicize all problems, [the logical positivists] try to get rid of some of the most important problems in philosophy and life" (Lewis 1970 [1941], 96).

One of the things that is reduced away on the logical positivist's project are value statements, and this was what Lewis identified as the "strongest" difference between them and him. In 1933, he was writing to Feigl, worrying that "a plain implication of the Circle's theory of meaning is that ethics can be only descriptive—a sort of branch of sociology or behavioristic psychology."[22] He later said that "one of the strangest aberrations ever to visit the mind of man" is the idea that value-predictions are not about matters of fact but are merely expressions of emotion and hence are not true or false (Lewis 1970 [1941], 107; 1971 [1946], 366). The fact that human beings are the judges of what is right and wrong does not mean that "the evaluations which the fool makes in his folly are on a par with those of the sage in his wisdom." Human beings "stand in need of all that can be learned from the experience of life in this natural world" (Lewis 1971 [1946], 398–399); "empiricism in epistemology and naturalism in ethics do not imply relativism and cynicism" (Lewis 1971 [1946], viii).

Another difference is the treatment of analytic or what Lewis calls *a priori* statements. The logical positivists needed a sharp analytic/synthetic distinction, as they had to explain how definitional truths and the truths of logic and mathematics were legitimate on their picture. Their solution was that such truths are analytically true—they are not about the world, and so they are not subject to empirical verification and need not meet the verification requirement. Lewis, we have seen, did not think that definitional, mathematical, and logical truths are cordoned off from empirical inquiry. They are part of our corpus of knowledge, subject to revision by experience.

Quine, in his 1951 "Two Dogmas of Empiricism," attacked Carnap over the matter of analyticity and dragged Lewis into the dispute. Quine argued that, contrary to the dogma of the analytic-synthetic distinction, no statement is immune from revision. Our sentences form a web of belief, and each sentence is more or less revisable, depending upon how peripheral or central its position is in the web. There is only an *appearance* of some sentences being analytic because they are in the center of the web and so are given up, if ever, only under extreme pressure from the peripheral forces of experience. But no sentence is immune from revision and so no sentence is analytic. As Carnap put it, when it came to the analytic,

22 Feigl Papers, HFP, Box 7. Lewis's comment seems to have been about Schlick's *Questions of Ethics*.

Quine thought that "at best, a distinction of degree could be made," not a distinction of kind (Carnap 1963, 64–65). Quine's account of knowledge and the *a priori* picture is lifted straight out of Lewis's *Mind and the World Order*, without attribution. He blithely set out Lewis's epistemology as his own and then attacked him, along with the Vienna Circle, on the matter of the analytic. Joining in the attack were two of Lewis's other students, Morton White and Nelson Goodman. As White told me late in life, they were not fond of their teacher.[23]

The final disagreement between Lewis and the exiled empiricists has to do with frameworks. Carnap thought that analytic statements could be revised, but not by experience and not in the course of inquiry. Questions internal to a language are subject to rational assessment in terms of the rules of that language. Once we are working within a language, we can engage in the project of constructing our theories from pure, primary, materials. But questions external to the framework—whether to adopt a phenomenalistic or physicalistic language or whether to adopt classical or intuitionist logic—are not resolved by the rules of the language. [24] They are a matter of choice and are "non-cognitive," because meaning lies only within a framework (Carnap 1956 [1947], 214). Carnap, that is, thought that pragmatic factors, such as simplicity and usefulness, play a role in the choice of language, but not in decisions about what scientific theory within a language to accept. We can make a radical change only by choosing a different language. Lewis thought that rules and definitions are part of our web of belief, not something meaningless that stand outside it. He argued that we can make a radical change *within our framework*—for instance, by changing a law of logic—without it becoming quite literally a different language. For Lewis, choice is ever present in ordinary scientific revision. We do not need a revolution in order to employ the values of simplicity, fit for purpose, and so on.

Lewis surely has the better, more realistic, position here. Carnap's suggestion that we can switch frameworks employs an odd sense of *can*. We do not in fact switch frameworks. What would it be to do so? Moreover, as Russell first noted, Carnap's pluralism about frameworks is in tension with his aim, an aim internal to his own framework, of coming to objective and grounded true beliefs. Pluralism about frameworks unhooks truth from reality. As Russell put it, "Various questions which I should regard as questions of fact are, for [Carnap], questions as to the

23 "C. I. Lewis was not a nice man," he told me. See White (1999). In Misak (2013) and (2020), I explore more fully this rather shocking moment in the history of philosophy.

24 Lewis was unhappy with Carnap's switch to the choice of a physical language as the foundational base in 1932, which seemed to Lewis a mere "semantic ghost of direct experience" (1968b, 664). It is the language of experience, rather than the language of physics, that is important (1970 [1941], 103).

choice of language" (Russell 1997 [1945], 154). Another way of putting this disagreement is that the pragmatist thinks that there is only one framework, which we all inhabit. As Donald Davidson argued, if you can communicate across conceptual schemes, then there is only one of them.

Towards the end of his career Lewis, tired and frustrated with being taken as a reductionist logical empiricist who bought into the myth of the given, became hostile to logical positivism. He was now convinced that where the positivists disagreed with him—especially regarding reductionism and ethics—they were having a deleterious effect on the new generation of students.[25]

2.9 One Who Didn't Make It: Janina Hosiasson

I have argued elsewhere that the most compelling lineage of pragmatism moves from Peirce to his successors Lewis and the British pragmatist Frank Ramsey. Because Ramsey died at the age of 26 in 1930, his work unfinished and hard to interpret, he has been taken to be part of the Vienna Circle. (His undergraduate thesis, "The Foundations of Mathematics" included a move the Circle took to be part of "the turning point in philosophy"—the argument that mathematics, as well as logic was tautologous or analytic.) But Ramsey was explicit that he was a kind of a Peircean pragmatist.[26]

Ramsey's great addition to Peirce and Lewis is that once we think of belief in terms of habit, we can understand and measure partial belief. Peirce had argued that "our beliefs should be such as may truly guide our actions so as to satisfy our desires" (CP 5.375). Ramsey provided us a way of thinking about how belief, desire, and action are connected. He imagines a hill walker who needs to make a decision:

> I am at a cross-roads and do not know the way; but I rather think one of the two ways is right. I propose therefore to go that way but keep my eyes open for someone to ask; if now I see someone half a mile away over the fields, whether I turn aside to ask him will depend on the relative inconvenience of going out of my way to cross the fields or of continuing on the wrong road if it is the wrong road. But it will also depend on how confident I am that I am right; and clearly the more confident I am of this the less distance I should be willing to go from the road to check my opinion. (Ramsey 1990 [1926], 70–71)

25 Christian Damböck has some interesting work in progress where he argues that the later Carnap's position on all points of apparent disagreement (reductionism, value, framework, analytic) was actually much closer to Lewis's than he or Lewis saw. If Damböck is right, Carnap was for some reason reluctant to make that clear.

26 See Misak (2016) and (2022) for the full story.

When the walker heads off to the right, he has some degree of belief or confidence, however he might have come to it, that this is the correct road, as well as some preferences about the relative inconveniences of getting lost and of going out of the way to ask directions. In order to make sense of probability in such contexts, we need to be able to measure degrees of belief.

The received view was that "belief and other psychological variables are not measurable" or, if they are measurable, we must try to measure them introspectively, with each person looking inside his own mind and assessing the intensity of feeling that accompanies his belief (Ramsey 1990 [1926], 62). Ramsey thought the introspective method could not provide enlightenment. Our perceptions of what goes on inside our minds are not only hard to access and study, but they are also unreliable. Even if we *could* ascribe numbers to intensity of feelings, we would get wildly inaccurate measurements. For instance, the beliefs we hold most strongly—the ones we take for granted—are often "accompanied by practically no feeling at all" (Ramsey 1990 [1926], 65). But if we think of belief as habit, we have something to go on. We assess habits in terms of their success. Ramsey's subjective account of probability showed how degrees of belief conform to the logic of the probability calculus, giving rise to rational decision theory (although he himself thought that a too-highly idealized model for human rationality).

Pragmatists have only recently cottoned on to the fact that Ramsey was one of them and that he brings significant insight to pragmatism. This realization could have unfolded in America much earlier, had there not been a tragic missed opportunity. The brilliant Polish theorist of subjective probability (and Jewish communist), Janina Hosiasson, had spent 1929–30 in Cambridge, during and after Ramsey's sudden illness and death. While in Cambridge, she realized that she and Ramsey had come to the same theory of probability and method for measuring partial belief. In 1931 she published "Why Do We Prefer Probabilities Relative to Many Data?," which argues for something very much like Ramsey's idea of mathematical expectation and noted that her position made sense only from a pragmatist perspective. Partial beliefs can be represented as probabilities and that the way people make decisions based on their partial beliefs is by maximizing expected utility. It follows that the way we can measure people's partial beliefs is by studying their habits or betting strategies.

Hosiasson returned to Europe and when the war came, she needed to flee. Feigl, Hempel, Nagel, Sidney Hook, G. E. Moore (then waiting out the war at Smith College), and others tried to bring her to the New School for Social Research, via a Rockefeller grant. As her letters of support put it, she was "gravely in need of

assistance."[27] Her CV, written by someone on her behalf, lists under "Additional Remarks": "Starving; endangered." On October 18, 1940, the Rockefeller Foundation wrote to the New School to say that they were "not inclined at the present time" to consider a grant for Hosiasson. An appeal was lodged, but it was turned down. Quine weighed in with his support, saying that Hosiasson held "a distinguished place in the annals of [the] important topic" of probability theory and inductive inference. In 1941, the group contacted individual presidents of universities with the suggestion that Tarski would personally find funds for two years to support Hosiasson, at no cost to whatever university would take her. They had success at the University of Washington. The Rockefeller Foundation, however, wrote to the president, asking whether the University could make a commitment of a continuing appointment. Hearing that it could not, the matter was over. Letters amongst her supporters continued to fly, but this was in effect the end of Janina Hosiasson. She stayed on the run from the Nazis, but was arrested in 1941 and shot in 1942. Astonishingly, she managed to write and publish (excellent) papers during this time. Had Hosiasson made it to America, she would have transformed the empiricisms of all parties, for she would have brought a sophisticated account of partial belief to America. As it transpired, this version of pragmatism, which would have been congenial to logical positivism, got buried when Ramsey and Hosiasson met their early deaths and is only being excavated now.

2.10 Conclusion

In one sense, the eclipse narrative is true: the émigrés eclipsed Deweyan pragmatism, until it was resurrected by Rorty in the 1970s. But Lewis's pragmatism survived in the work of Pap, Quine, Goodman, and White.[28] And parts of it survived in Carnap's position, although I have suggested in this paper that while Carnap learned some important things from Lewis, he did not go far enough with Lewis on the path of pragmatism.

The tragedies and vagaries of human existence influence the course of thought as well as the course of lives. Lewis's students didn't like him and so they attacked him after adopting his position and (except for White), refused to call themselves pragmatists. Ramsey died at the age of 26 and Pap at 38, their pragmatist positions

27 The passages in this paragraph are from the archive collected by Marta Sznajder, who will publish the full story of Hosiasson. While we wait for the larger work, see Sznajder (2022). I thank her for sharing the material with me.

28 Goodman's vindication of induction is pragmatist in all but name and White was explicitly pragmatist, although he tended not mention Lewis.

not brought to fruition. Hosiasson's pragmatism was buried when she was murdered by the Nazis. Philosophy in Germany and Austria suffered from losing their brain trust during the war. As Feigl wrote to Nagel in September 1954 "Vienna philosophy is [other than Paul Feyerabend] in terrible shape."[29] Feyerabend, who as a young man served in the Austrian army, would also leave Vienna the following year, eventually landing at Berkeley.

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29 Feigl to Nagel, Sept. 16, 1954 (ENP-CUA, MS Coll 0915, Box 1).

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