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Logical Positivism: The History of a 'Caricature'

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Abstract: Logical positivism is often characterized as a set of naïve doctrines on meaning, method, and metaphysics. In recent decades, however, historians have dismissed this view as a gross misinterpretation. This new scholarship raises a number of questions. When did the standard reading emerge? Why did it become so popular? And how could commentators have been so wrong? This paper reconstructs the history of a 'caricature' and rejects the hypothesis that it was developed by ill-informed Anglophone scholars who failed to appreciate the subtleties of European scientific philosophy. I argue that the received view has a more complicated history and was frequently promoted by the European positivists themselves. I show that it has roots in both American and European scientific philosophy and emerged as a result of the complex interplay between the two communities in the years before the intellectual migration.

I. Introduction

Logical positivism is often characterized as a radical version of empiricism. Members of the Vienna Circle, so the story goes, developed a strictly verificationist criterion of significance and used it to dismiss ethical, political, and metaphysical theorizing as meaningless. Combining a traditional, empiricist epistemology with the powerful new tools of mathematical logic, the positivists sought to develop a novel, and more rigorous philosophy of science. Ludwig Wittgenstein dissolved philosophical puzzles about the nature of logic in the *Tractatus Logico-Philosophicus*.[1] And Rudolf Carnap took new steps toward reducing science to sense experience in *Der logische Aufbau der Welt*, rejecting as meaningless any statement that cannot be translated into the epistemically privileged language of sensation.[2]

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In recent decades, historians have done much to correct this view. Instead of presenting logical positivism as a set of radical theses about meaning, method, and metaphysics, they have shown it to be a complex world conception with numerous philosophical and socio-cultural roots. They have described the received view as "seriously misguided", as an "almost total perversion of [the Circle's] actual attitude", and as a "caricature … that has long captured the popular imagination".[3] Logical positivism, most present-day historians agree, ought to be viewed as "*movement* rather than a set of doctrines".[4] The Vienna Circle and affiliated groups developed a "program for philosophy" in which the elimination of metaphysics and the verification principle were not "central dogmas" but attempts to find a new "form of philosophy".[5]

In excavating the scientific and socio-cultural context in which logical positivism emerged, historians have enriched our knowledge about the movement in at least three ways. First, they have shown that members of the Circle defended a wide variety of positions. The views of most positivists "changed considerably over time" and there was "no important position that all [of them] shared".[6] Otto Neurath and Philipp Frank, for example, defended more pragmatic and more naturalistic approaches to philosophy than the reductive verificationism with which the Circle is often associated.[7] The positivists were part of a single movement because they shared a particular attitude or world conception, not because they were committed to a specific set of philosophical theses. Nor did they exclusively focus on epistemological themes such as meaning and verification. Any reader of the first issues of *Erkenntnis* will recognize that they were primarily involved in technical discussions about topics that emerged in the special sciences (e.g., probability, general relativity, and the foundations of mathematics).

Second, historians have shown that it is inaccurate to view logical positivism as an exclusively empiricist project. The movement has roots in a range of intellectual traditions including neo-Kantianism, Machian positivism, the Brentano school, and French conventionalism.[8] Especially the *Aufbau* was far from the empiricist work some commentators have made it out to be. Carnap did not aim to ground science in sense experience but, conversely, to explain how knowledge can be objective *despite* its subjective origins.[9] He defended a neo-Kantian perspective on the logic of science, presupposing a constitutive but relativized conception of the apriori.[10]

Finally, historians have argued that it is a mistake to interpret logical positivism as a purely *philosophical* perspective. The Vienna Circle emerged in period of great political turmoil in which questions about science were deeply intertwined with socio-cultural debates. As such, the Circle's 1929 manifesto was not just a philosophical pamphlet. It was also a response to anti-scientific modes of thinking that were in vogue among Central European politicians and intellectuals. The positivists were influenced by a variety of cultural and political movements, including the *neue Sachlichkeit*, the German Youth Movement, and Red Vienna politics.[11]

This massive gap between the received view and the revised account raises a number of historical questions. When did the standard interpretation emerge? Why did it become so popular? And how could commentators have been so wrong? In response to these questions, historians have developed a variety of complementary answers. Michael Friedman argues that logical positivism came to be identified with a "simpleminded" version of empiricism as a

consequence of the "emigration and postwar assimilation … within the English-speaking world", noting that this process began with the publication of A. J. Ayer's "extraordinarily influential" *Language, Truth, and Logic*.[12] And several historians have noted that the received view was reinforced by postpositivist opponents, who used the "oversimplified picture" as a strawman once logical positivism fell out of fashion.[13] Thomas Kuhn protested the positivists' "naively empiricist conception of the growth of knowledge" in *The Structure of Scientific Revolutions* and W. V. Quine pushed a foundationalist interpretation of the *Aufbau* in "Two Dogmas of Empiricism".[14]

The aforementioned scholarship may lead one to conclude that the received view does not deserve the historian's attention. It might be thought that the standard reading was nothing but a misinterpretation developed by ill-informed Anglophone philosophers who failed to appreciate the intricacies of European scientific philosophy. This paper argues that this would be a mistake. Drawing on a variety of published and archival material, I argue that the standard view has a more complicated and more interesting history than one might expect.[15] I show that it goes back to the early 1930s, well before the publication of *Language, Truth, and Logic*, and that it was actively promoted by the European positivists themselves (section II). Instead of just discarding the received view as a misinterpretation, this paper develops a contextualized history of its genesis, arguing that it has roots in both Anglophone and European philosophy and emerged as a result of the interplay between the two communities in the early 1930s (sections III-V).[16]

In reconstructing the origins of the received view, I do not aim to dismiss the work that has been done by logical empiricism scholars. On the contrary, I believe that this literature has enriched our understanding of the Vienna Circle and affiliated groups. Instead, I want to take some steps toward *expanding* their program and develop an equally detailed history of the mixed community of Anglophone philosophers and European migrants that had to navigate their cultural and philosophical differences in the 1930s. Just as the Vienna Circle was a diverse group that can only be understood in context, I submit that there is an equally subtle story to be told about the emergence of American scientific philosophy.

II. Genesis

American philosophy is often identified with pragmatism. And pragmatism, in turn, is frequently characterized as an empiricist movement, combining a fallibilist epistemology with a verificationist criterion of significance. Inspired by Alexander Bain's theory of belief, C. S. Peirce developed his 'pragmatic maxim' and belief-doubt-belief model of inquiry, thereby paving the way for William James and John Dewey, who both defended an experimentalist epistemology and a sceptical approach to metaphysics. James held that many philosophical questions dissolve when subjected to the pragmatic test. Dewey replaced metaphysical speculation with a naturalized perspective on man, mind, and morality.

It should be no surprise, on this reading, that U.S. pragmatists mistook logical positivism for an empiricist school of philosophy. The Americans who were most interested in the Vienna Circle were either prominent pragmatists (C. I. Lewis, Dewey) or students of pragmatists (Quine, Charles Morris, and Ernest Nagel), so it is only natural that they focused

on themes that most resembled their own points of view. Logical positivism's "radical intellectual ambitions", Friedman writes, "could not be transplanted easily onto American soil" because the European immigrants "were embraced by more down-to-earth and pragmatically minded thinkers".[17] The Circle's philosophical and socio-political context was simply lost on U.S. philosophers who had been educated in a different intellectual climate. Key texts from the European period such as the *Aufbau* were not translated into English until the late 1960s and pragmatists did not have the proper background to grasp the metaphilosophical program that guided these works.

The problem with this narrative, though, is that it rests on a rather one-sided view of pragmatism. Mirroring the aforementioned argument about logical positivism, one might argue that pragmatism, too, was a complex intellectual movement with a variety of philosophical and socio-cultural roots. Peirce had been trained in the formal and the natural sciences; Dewey had Hegelian background, and James combined an experimental approach with a voluntarist philosophy that can be traced back to the French spiritualists. More importantly, there was a rich assortment of pragmatisms beyond the classic triumvirate of American philosophy, including the Chicago School (e.g. G. H. Mead; J. H. Tufts) and the Columbia naturalists (e.g. F. J. E. Woodbridge; J. H. Randall, jr.). Nor was pragmatism a purely American tradition. Recent work shows that pragmatist thought played a serious role in England as well.[18]

Second, it is incorrect to reduce pragmatism to an empiricist program. Though James famously wrote that the "true line of philosophic progress lies … not so much *through* Kant as round him" (1898, 269), scholars nowadays recognize that pragmatists, like logical positivists, had a more complex relation with (neo-)Kantianism than commonly thought.[19] Peirce started out as "a passionate devotee of Kant", James indirectly absorbed a Kantian perspective through his German education, and Lewis—arguably the most influential pragmatist of the 1920s—had a Kantian approach to epistemology.[20] The Harvard professor defended a relativized (or, pragmatic) conception of the a priori that was similar to the views Carnap and Reichenbach had been developing in Europe.

Finally, it is a mistake to view pragmatism as an exclusively philosophical project. Pragmatism, again like logical positivism, was deeply intertwined with various social and political movements. The Chicago school was renowned for its work in educational reform; the Columbia naturalists were central figures in the New York cultural and political scene; and several pragmatists outside the philosophical mainstream (e.g. Jane Addams and Oliver Wendell Holmes) have earned a firm place in the pantheon of the progressive era.[21] Even the radical left was far from a taboo. Sidney Hook, a student of Dewey, was a prominent socialist and one of the organizers of the American Workers Party, combining pragmatism and Marxism in his (early) philosophical writings.

Considering this complex philosophical and socio-political background, it is not evident that American philosophers should have developed a reductive, verificationist reading of logical positivism. Perhaps it would have been more natural if they had recognized it as a broad intellectual movement instead of a strict set of philosophical theses; or if they had emphasized the similarities between pragmatism and Neurath's and Frank's variants of logical positivism.[22] Indeed, some American philosophers appear to have recognized these alternative connections. The warm reception of the Vienna Circle's social agenda in left-wing journals such as *Partisan Review* and Morris' zealous efforts to promote Neurath's Unity of Science

agenda show that the reductive empiricist reading was not an inevitable consequence of pragmatism's encounters with logical positivism.[23]

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Though there are several reasons to have expected a more subtle reception of logical positivism, the movement still came to be identified with verificationism, reductive phenomenalism, and militant opposition to ethical, political, metaphysical theorizing. This happened well before the publication of Ayer's *Language, Truth, and Logic* and the rise of postpositivist analytic philosophy, suggesting that these later developments did not give rise to a new interpretation but reinforced a perspective that had already taken root.

One of the first Anglophone articles about the new scientific philosophy was E. B. Ginsburg's "On the Logical Positivism of the Viennese Circle", published in the *Journal of Philosophy* in March 1932. Ginsburg, a Harvard student who had briefly studied in Vienna, aimed to describe logical positivism from an "American's" perspective and characterized it as (i) a "rehabilitation of the positivist repudiation of metaphysics", (ii) a conception of logic "as purely tautological", and (iii) a philosophy of science in which "there is only empirical knowledge which rests upon the directly given".[24] Ginsburg had an eye for the Circle's technical work in the foundations of physics but failed to recognize its pluralistic character or diverse philosophical roots. He criticized the positivists for their fixation on "a single dogmatic criterion of legitimacy" which he traced back to the *Aufbau*, ignoring Carnap's claim that there are multiple constitution systems, including ones that start from a physicalist basis.[25] Instead, he read the book as offering a dogmatic meaning criterion such that every "concept must find its fundamental position in accordance with its deduction from other concepts, and finally, from the empirically given".[26]

Ginsburg's analysis did not stand one its own. In the years leading up to the immigration of the late 1930s, many U.S. commentators developed similar readings. Though Neurath tried to promote an alternative perspective in an American article titled "Physicalism: The Philosophy of the Viennese Circle", there was virtually no attention for his non-reductive variant of logical positivism. Neurath advanced a holistic perspective on theory testing, writing that our scientific laws "can be wholly or partially modified" when "contradicted by experience".[27] But almost every American commentator, including some of the philosophers who would come to play a crucial role in the promotion of logical positivism, focused on Carnap's purported phenomenalist foundationalism. Morris accused Carnap of solipsism in reconstructing the intersubjective world from first-person experiences.[28] And Nagel criticized Carnap's reductive approach to theory testing, contrasting it with a more holistic perspective in which any experimental test is "significant only against the background of theoretical assumptions".[29]

Even Lewis, who defended a Kantian approach to epistemology himself, failed to recognize the principal aims of the *Aufbau*. In an address before the American Philosophical Association, he developed perhaps the most radical interpretation of the book. He suggested that Carnap dismissed every statement that cannot be *decisively* verified in *immediately* present sense experience and argued that such a view reduces to "absurdity":

> [if] no issue is meaningful unless it can be put to the test of decisive verification. And no verification can take place except in the immediately present experience of the subject. Then nothing can be meant except what is actually present in the experience… The result of any such train of thought is obvious; knowledge would collapse into the useless echo of data directly given to the mind at the moment.[30]

Though Lewis acknowledged that Carnap justified his solipsism as a methodological choice, he was convinced that the Circle's rejection of ethics and metaphysics was ultimately based on this deeply subjectivist assumption.[31]

More generally, Lewis' paper appears to have strongly contributed to the narrative that pragmatists and positivists primarily shared a verificationist theory of meaning. The fact that a Harvard professor and president of the American Philosophical Association used his presidential address to compare the two "empirical-meaning requirement[s]", likely played a crucial role in the American reception of the new movement.[32] Indeed, by 1934, a year after Lewis' address, J. B. Pratt could confidently assume that "all readers" of the *Journal of Philosophy* knew about logical positivism and its position that any meaningful proposition "(1) must be reducible to the most elementary terms that analysis can find, (2) must be reducible to the elementary terms of first-person experience, (3) and must be verifiable in these terms".[33] The reductive empiricist reading had become the standard reading.

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The received view is not just a product of American commentators who inadvertently developed a distorted image of logical positivism. On the contrary, the standard interpretation was stimulated, and to some extent even created, by the European positivists themselves. Though the Circle's 1929 manifesto emphasizes that its *Weltauffassung* is "characterised not so much by theses of its own, but rather by its basic attitude, its points of view and direction of research", one gets a rather different picture if one examines the positivists' Anglophone publications.[34] Especially the papers written for an American audience are often exclusively concerned with epistemological themes, stimulating the view that logical positivism was, above all, a rigid philosophical system.

The first article by a Vienna Circle member to appear in an American journal was "Logical Positivism: A New Movement in European Philosophy". The paper was co-authored by Herbert Feigl, a student of Schlick and the first positivist to move to the United States. With the benefit of hindsight, this article appears to have introduced much of the received view to the U.S. philosophical community. It places logical positivism in the "vigorous empirical tradition of Hume, Mill, Comte, and Mach" and characterizes it as a "union of empiricism with a sound theory of logic".[35] Blumberg and Feigl dub the problem of meaning "the central problem of epistemology" and argue that "the meaning of propositions is identical with the conditions of their verification", presenting Carnap's *Aufbau* as the most detailed example "of analyzing the meaning of scientific propositions by following them back to the given".[36] Though the article extensively discusses the contributions of Carnap and Schlick, it does not

even mention Neurath or Frank, two of the foremost representatives of an alternative approach to scientific philosophy.[37]

The impact of Blumberg and Feigl's paper can hardly be overstated. Not only does it coin the *term* 'logical positivism'—thereby advertising the movement as a philosophical 'ism'—for many Americans it was their first introduction to the Vienna Circle. Feigl was based at Harvard in the 1930-31 academic year and archival evidence shows that he had plenty of opportunity to promote his reading to some of the most prominent philosophers in the country. He presented his paper at the Harvard philosophy club and had the article read by Lewis, A. N. Whitehead, and H. M. Sheffer, advising American students such as Quine and Morris to visit the positivists in Europe.[38] In doing so, Feigl helped shape the logical positivism's image in the early 1930s. The Viennese émigré did not just convince Lewis that it was is "the most promising of present movements" on the continent, letters between the two reveal that Lewis regularly asked Feigl for advice in his writings about the movement.[39] Though the two extensively corresponded about the first drafts of Lewis' aforementioned presidential address, Feigl appears never to have warned him that his interpretation of the *Aufbau* was misguided.[40]

Feigl was not the only European scientific philosopher to contribute to the received view. Reichenbach's first American publications offer an equally stern image of the Vienna Circle. In a paper published in the *Journal of Philosophy*, the Berlin philosopher described the Circle as "a school of positivism" and the verificationist principle as its central dogma:

> Were I to be asked to sum up the ideas of this circle in a simple formula, I should say that it aims to show that every proposition has a verifiable meaning. It was this principle, emphasized in every publication of the circle, which drew Carnap to positivism.[41]

Carnap, Reichenbach continues, united this verificationist theory of meaning with a foundationalist epistemology, concluding that (i) "every proposition in science … is reducible merely to a complicated repetition of given impressions" and that (ii) all other statements are meaningless".[42] Reichenbach (unlike Feigl) does briefly discuss Neurath's contribution but presents the latter's arguments against phenomenalism as an "attack" on logical positivism, thereby amplifying the suggestion that logical positivism itself is a rigid philosophical system based on a fixed set of theses about meaning and justification.[43]

Carnap and Schlick, finally, stimulated the received view as well. Their first substantive papers in American journals were also attempts to spell out in detail their views on meaning and verification. Schlick confirmed that Lewis was right in maintaining that the "empirical-meaning requirement ... forms the basis of the whole philosophy of … the Vienna Circle", thereby reinforcing the suggestion that logical positivism is first and foremost a doctrine about meaning. And Carnap opened his article "Testability and Meaning" with the claim that "the question of meaning" and "the question of verification" are two of the "chief problems of the theory of knowledge".[44] Instead of correcting the U.S. interpretation of the *Aufbau*, he primarily presented his views as a "modification of the requirement of verifiability" in the light of, among others, Lewis's criticisms.[45] Combined with the growing attention for Popper's falsificationism in the English literature in the same period, Carnap's suggestion that he was merely replacing

verification with confirmation seems to have contributed to the view that logical positivists are mostly involved in debates about whether to adopt a verificationist, confirmationist, or falsificationist demarcation criterion.[46]

III. Context: American scientific philosophy

The above discussion shows that the received view emerged earlier and was deeper entrenched than commonly suggested. Now let us turn to the question why *this* interpretation became the standard view. In order to find an answer, we have to expand our focus and examine the development of American scientific philosophy.[47]

We have seen that it is a mistake to ignore pragmatism's philosophical and socio-cultural diversity (§II). It is equally a mistake to identify U.S. philosophy with pragmatism. In the 1920s, there was a substantive community of scientific philosophers in America; and only a minority of them identified as pragmatists. In the words of Paul A. Schilpp, best known for his work as editor of the Library of Living Philosophers, there was a "tendency in recent American philosophy which, while perhaps not so definitely connected with the name of one or two great outstanding representatives, is, nevertheless … widely accepted and taught":

> I refer to what, for want of a better name, may perhaps most adequately be called and described as the philosophy of science… In the first instance it insists not only upon the use of the scientific method (so-called) in philosophy, but also denies the legitimacy of using any other method in philosophical investigation and research. In other words, it wants a scientific philosophy, and therefore delimits philosophy to the realms capable of yielding to purely scientific analysis.[48]

Schilpp was not the only one to observe the trend. In a paper titled "Contemporary American Philosophy", Frank Thilly noted the rise of "new movements" which "derive their inspiration from the methods and results of natural science … and seek … to avoid the metaphysical presuppositions of the older schools".[49]

This emerging movement did not just aim to make philosophy more 'scientific'. It also stimulated interdisciplinary research. Scientifically-minded philosophers often joined forces with philosophically-minded scientists and mathematicians, who were equally interested in the foundations of physics, geometry, and psychology. The rise of behaviorism prompted a cross-disciplinary discussion about the foundations of experimental psychology. Journals such as *Philosophical Review* and *Journal of Philosophy* published over seventy articles and reviews on special and general relativity in the 1920s.[50] And a diverse group of mathematicians, logicians, and philosophers (e.g. Huntington, Veblen, Langford, Sheffer, and Keyser) jointly contributed to a research program nowadays best known as "American postulate theory", employing the tools of formal logic to analyze mathematical axiom systems.[51] Partly inspired by Hilbert's program, this discussion paved the way for flourishing schools of mathematical logic at Princeton and Harvard, which both started producing a steady flow of capable logicians (e.g. Alonzo Church, Stephen Kleene, and J. Barkley Rosser; Susanne Langer, W. V. Quine, John Cooley, and W. T. Parry) from the late 1920 onwards.[52]

Examples like these illustrate how scientists and philosophers jointly contributed to a variety of foundational debates. According to Charles Morris, there were "many streams of activity" which contributed to "a wide convergence toward a unified philosophical science" in North America.[53] Even speculative philosophers, who had traditionally been suspicious of overly scientistic approaches to philosophy, recognized "the dependence of philosophy upon the findings of [the] special science[s]".[54] Instead of building a priori "air castles", they contributed to an intellectual climate that helped "welding mathematics, physics, and philosophy together".[55] Theodor de Laguna published several papers on the philosophy of geometry and is nowadays viewed as one of the founders of mereotopology and Filmer Northrop's macroscopic atom theory generated quite some attention as an alternative to Einstein's and Whitehead's cosmologies.[56] And though some analytically oriented scientific philosophers were sceptical about the value of metaphysical speculation, most of them could live with a speculative philosophy of science that had "its feet on the ground, however much its head may swim".[57]

Despite these shifts within American philosophy, it is difficult to distill from these discussions a unified conception of what scientific philosophy is or ought to be. Participants from various schools frequently attempted to explicate the function of philosophy in debates about the foundations of science but failed to reach consensus. The once fierce debates between idealists, realists, and pragmatists had made place for an "era of philosophical peace" because "science ha[d] given them something new to think about".[58] But they still had different conceptions of scientific philosophy. Pragmatists, naturalists, new realists, critical realists, speculative philosophers, behaviorists, neo-behaviorists, operationists, physicists, logicians, and mathematicians all participated in debates about the foundations of the natural, behavioral and formal sciences; but most of them held diverging views about the goals and methods of scientific philosophy. While neo-idealists wanted to use scientific findings to build a systematic philosophy of "the general characteristics of nature and fact as a whole", neo-realists presupposed a more piecemeal approach. Following Russell, they promoted logical analysis to deal with "one problem at a time" instead of attempting to "raise and answer all questions together".[59]

As a result of this diversity, American philosophers of science used a variety of labels to describe their endeavors, which might explain why the movement has been frequently overlooked by historians. Labels such as 'analysis of science', 'scientific philosophy', 'logic of science', 'mathematical philosophy', and 'philosophy of science' were used alongside each other, and everyone seems to have used these terms in slightly different ways. Keyser published an introduction to the work of the postulate theorists titled *Mathematical Philosophy*; Northrop talked about the analysis of 'first principles'; Cohen aimed to study 'scientific method'; and Bridgman pitched his book as an analysis of "the logic of" modern physics.[60] Something similar can be said about American journals. *The Monist* used the subtitle 'devoted to the philosophy of science' but *Journal of Philosophy* consistently promoted itself as a publication 'in the field of scientific philosophy'. It would take several decades, long after the logical positivists had settled in North America, before the field agreed on a common label (philosophy of science) and started employing it in a way resembling contemporary use.

Despite this intellectual fragmentation, there appear to have been two philosophers who had a particularly big influence on this diverse group of scholars. Many assumptions about the

goals and methods of scientific philosophy at the time can be traced back to the views of Whitehead and/or Russell. Not only had the two helped develop the formal tools that were frequently used in debates about the foundations of science.[61] They had also helped set the country's metaphilosophical agenda. Russell had first spent a semester in the United States in 1914 and had used this period to urge Americans to adopt a "truly scientific philosophy", promoting the view that all philosophical problems "in so far as they are genuinely philosophical" reduce to "problems of logic".[62] Whitehead became a Harvard professor a decade later and was primarily hailed for his work in the philosophy of science (Whitehead 1919; 1920).[63] His move to the United States would not have been possible without a campaign for his appointment by two dozen scientists who had formed a "group to meet regularly for … discussion of issues in the philosophy of science", showing the widespread appeal of the movement in North America.[64]

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I do not want to suggest that American scientific philosophers developed a program that could compete with German *wissenschaftliche Philosophie*. Contributors to debates about general relativity in Central Europe—e.g. Carnap, Cassirer, Reichenbach, Schlick, and Weyl—seem to have had a superior understanding of Einstein's theory when compared with U.S. commentators such as Akeley, Bridgman, Hoskyn, Lovejoy, and McGilvary. And though Harvard and Princeton had become centers of logic in the United States, Quine was probably right when he said that the real "action was in Europe" where the work of Gödel, Skolem, and von Neumann was revolutionizing the field.[65] Nor do I want to claim that American academics had a similar *conception* of scientific philosophy. There are clear differences between the Viennese world conception and the various foundational projects propagated by U.S. philosophers and scientists.

What I do want to argue, is that a better understanding of this movement can help shed new light on the reception of logical positivism. Scientific philosophies were flourishing in the 1920s and many American philosophers who helped promote the Vienna Circle were involved in these debates. Nagel and Quine, for example, were students of pragmatists but primarily identified as scientific philosophers who sought to overcome the flaws of their teachers. Nagel was a student of Dewey but had a much more technical approach to philosophy, dismissing his teacher's pragmatism as "very muddy" because it failed "to come to grips with the detailed structure of scientific theories".[66] Quine had taken some of Lewis' courses but was mostly a product of the Harvard logic school, along with contemporaries such as K. E. Rosinger, E. J. Nelson, and the aforementioned Langer, Cooley, and Parry. Most of them were students of Sheffer—"Russell's most enthusiastic representative at Harvard"—and were eagerly anticipating "a new philosophical era, that was to grow from logic and semantics".[67] Though Quine's mature epistemology is indebted to Lewis' work, archival evidence shows that he was not impressed by the latter's conceptual pragmatism in the first stages of his career. He believed it was methodologically flawed and viewed Carnap's syntax project as "[t]he way out of the jungle".[68] His dissertation was a generalization of *Principia Mathematica* and prompted

Whitehead to claim that Quine was his first student to "understand exactly" what he and Russell "had been up against" in their magnum opus.[69] Nagel's dissertation was titled *On the Logic of Measurement* and built on the views of Russell and Whitehead, too. He viewed Cambridge University the "holy of holies in philosophy" and published mostly technical work in the first years of his career.[70] This analytic focus might explain why Nagel, after a trip to Europe in 1934, wrote a two-part overview of "*analytic* philosophy in Europe", suggesting that the scholars he had met in Cambridge, Vienna, Prague, and Lwòw primarily shared Russell's method of "logical analysis".[71] Quine had visited Europe two years earlier and had spent his most fruitful period with Carnap in Prague. Back in the United States, Nagel and Quine became advocates for logical positivism and played a crucial role in helping European scientific philosophers find positions in North America.

Similar stories can be told about scientists and speculative philosophers who helped promote logical positivism in North America. The physicist Victor Lenzen, the neo-behaviorist E. C. Tolman, and the neo-idealist Northrop all contributed to the reception of logical positivism but primarily had backgrounds in scientific philosophy. Lenzen had been one of Russell's students at Harvard and later travelled to England to study with the master himself. Edward Tolman was a student of the neo-realist E. B. Holt, who had used Russell's logic to analyze the concept of consciousness.[72] And Northrop was a student of Whitehead who primarily worked on the implications of relativity theory and who introduced 'Philosophy of Science' to the Yale curriculum.[73] All of them made important contributions to the reception of logical positivism in one way or another. Lenzen published a number of early papers and reviews on what he deemed to be a "very important positivistic movement in Central Europe".[74] Tolman visited the Vienna Circle in 1933 and attempted to do for psychology what the "logical positivists . . . have already done . . . for physics".[75] Northrop travelled to Berlin to meet Reichenbach and concluded that the latter's work on relativity was exactly "the kind of thing we need in philosophy", helping the German professor with letters when he was searching for a position in America.[76]

What all these people shared, in sum, was a scientific conception of philosophy. Pragmatism played a role via Lewis, Morris, and the shades of Peirce and James, but this was not the only, let alone the central focus of the American response to logical positivism. In fact, even Lewis and Morris do not seem to have viewed the Vienna Circle through an exclusively pragmatist lens.[77] Morris discussed a broad range of affiliated movements in an overview paper on the state of "American Scientific Philosophy", arguing that it was primarily "the influence of Bertrand Russell" that "facilitated the building of intellectual bridges" between American and European philosophers of science.[78] And Lewis did not just focus on the connections between positivism and pragmatism in his aforementioned presidential address. Rather, he opened his lecture with the observation that a *variety* of developments had prompted attention for the "empirical-meaning requirement", including American neo-realism, Russellian neo-realism, operationism, and Whitehead's method of extensive abstraction.[79] Actually, Lewis had had been one of the first philosophers to have observed the rise of scientific philosophy in America. A decade before his address, Lewis had noted the emergence of a "new movement in Philosophy" sparked by the "revolutionary advances in logic, in mathematical, and in physical theory", such that "the partitions between these subjects have become thin or disappeared" as they all developed "in the direction of greater comprehensiveness and increased rigor".[80]

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Reconstructing the development of American scientific philosophy does not just help us situate the people who helped promote the Vienna Circle. A better understanding of this period also sheds new light on why logical positivism came to be identified with verificationism, reductive empiricism, and radical opposition to metaphysics. Several debates within the U.S. community were converging toward questions about meaning, and many of these reached a climax in the exact period when Americans first learned about 'the new movement in European philosophy'.

The most prominent example of such a discussion is the cross-disciplinary dialogue on the implications of special and general relativity. At first, American responses to Einstein's theory had been rather shallow. Physicists were fixed on the question whether relativity is sufficiently supported by experimental findings and philosophers focused on its compatibility with various metaphysical views on space and time.[81] In the late 1920s, however, the conversation gradually turned to questions about meaning. Arthur Lovejoy, one of the most prominent opponents of special relativity, read Einstein as a physicist-philosopher who had raised the question what "we really *mean* when we predicate the attribute 'simultaneity' of two or more events", and argued that the Swiss-German physicist relied on an implausibly strict "experimental theory of meaning".[82] His opponent E. B. McGilvary accepted Lovejoy's premise but drew the opposite conclusion, suggesting that Lovejoy had misunderstood Einstein's meaning criterion.[83] The best-known version of this interpretation came from the Harvard physicist P. W. Bridgman, who went so far as to claim that Einstein's perspective on what "concepts … are and should be" was his "greatest contribution" to science.[84] Whereas traditional physicists had defined concepts in terms of properties, thereby running the risk that some concepts (e.g. absolute time) do not designate anything in nature, Einstein proposed to define concepts in experimental terms, such that "we mean by any concept nothing more than a set of operations".[85]

Debates in the foundations of psychology were equally concerned with meaning. Bridgman's operationist approach had a tremendous impact on the field, encouraging experimental psychologists to argue that the continuous squabbles between different schools could be ended if the discipline adopted "a straightforward procedure for the definition and validation of concepts". The psychophysicist S. S. Stevens called for a "revolution" to end all revolutions, demanding operational definitions of all theoretical concepts in psychology.[86] And the recently graduated B. F. Skinner used Bridgman's approach to redefine key concepts of the behaviorist framework.[87] Their operationist perspectives were new, their focus on clear and shared definitions was not. Already in 1918, the American Psychological Association had appointed a special committee to "consider questions of psychological definitions" for fundamental terms in psychology. In response to complaints that "much of the confusion in recent discussion of psychological facts … seems due to mutual misunderstanding of the different meanings attached to the same terms", the committee produced longs lists of definitions of central psychological concepts throughout the interbellum.[88]

Finally, there was a substantive debate about meaning in philosophy proper, much of it sparked by Russell's "On Propositions: What They Are and How They Mean". Early in his career, Russell had "thought of language as [a] transparent … medium which could be employed without paying attention to it".[89] But he had begun to study the work of American

behaviorists and gradually developed a more naturalist perspective on language, concluding that philosophers had done too "little towards explaining the nature of the relation called 'meaning'".[90] Russell's remark hit a nerve. Both *Mind* and the *Aristotelian Society* organized symposia on "the problem of meaning" and Anglophone philosophy journals published dozens of papers on the topic in the early 1920s, including contributions by critical realists, pragmatists, idealists, and phenomenologists.[91]

Crucially, some of these discussions overlapped with debates about empirical reduction. The view that philosophers and scientists ought to adopt an empiricist theory of meaning was often interpreted in phenomenalist terms. If concepts are synonymous with sets of empirical findings, and if we interpret such findings as "complexes of sense data", we should be able to "build up the world … from the data of sense".[92] In doing so, philosophers were, again, inspired by Russell, who was widely viewed as having sketched such a program in his 1914 Lowell Lectures.[93] It is not surprising, therefore, that Carnap's *Aufbau* was also interpreted as a foundationalist project. Archival evidence reveals that several American philosophers read the book through a Russellian lens. The logician John Cooley described the *Aufbau* as a "very ingenious" work which attempted to "use the methods of symbolic logic to work out a strictly positivistic philosophy, more or less on the lines which Russell indicated".[94] C. I. Lewis wrote that Carnap, like Russell, sought to show that all meaningful terms are translatable in terms of constituents identifiable in actual experience.[95] And Quine, who came to popularize this reading in "Two Dogmas", already interpreted the *Aufbau* as a foundationalist project when he first studied the book in 1933. In a letter, he argued that Carnap "paved the way for carrying out in detail that to which Russell has merely pointed". Comparing Carnap's book with Whitehead and Russell's logicist project, he argued that the *Aufbau* had done for empiricism what the *Principia* had done for "the antecedent purely philosophical suggestion that mathematics is a form of logic".[96]

Finally, it also should not be a surprise that Americans focused on the positivists' opposition to *metaphysics*. U.S. scientific philosophy, we have seen, regularly flirted with anti-speculative positions and was sometimes even characterized as a discipline that aimed "to avoid … metaphysical presuppositions" altogether.[97] In practice, however, its contributors were informed by a variety of metaphysical frameworks. Lovejoy's rejection of special relativity was a consequence of his "temporal realism", whereas many of his opponents interpreted Einstein's theory as evidence for a neo-idealist cosmology.[98] And though the increased attention for empiricist theories of meaning put pressure on this speculative side of scientific philosophy, even full-fledged operationists did not draw the conclusion that all metaphysics is meaningless.[99] Logical positivism, on the other hand, appeared to carry these empiricist ideas to their natural conclusion, combining a scientific philosophy with a verificationist theory of meaning and a comprehensive rejection of metaphysical speculation. In doing so, their views became the focal point of a controversy that had already been brewing within U.S. scientific philosophy, effectively creating a wedge between analytic and speculative philosophers of science. The former group viewed logical positivism as an effective way to get rid of the "large residue of uncritical speculation in many writings which claim to be scientific".[100] The latter held that metaphysical speculation was conducive to "scientific discovery" and viewed the Vienna School as an obstacle to "the development of a philosophy which is scientific".[101]

IV. Context: European scientific philosophy

The logical positivists themselves, meanwhile, were well aware of these American developments. Though there were few official intercontinental visits until the late 1920s, there was plenty of communication between the two communities to allow a fruitful exchange of ideas.[102] European positivists were familiar with many of the above discussions and some of these debates even appear to have affected their development.

The first contacts between American and European scientific philosophers were established in 1923, when Carnap visited New York for a few days on a trip to Mexico. The logician-philosopher informally attended a congress of the American Mathematical Society and had private meetings with a number of mathematicians, including some of the aforementioned postulate theorists (e.g. Huntington, Keyser, and J. W. Young). Carnap was surprised to learn about the rise of "mathematical philosophy" and wrote about it in a letter to Reichenbach. He described the growing "interest in … mathematical logic" within this "philosophical school of thought" and used the occasion to review the local literature. In his letter, Carnap included a list of Anglophone publications in philosophy of science, expressing his surprise about the amount of "valuable work that has been done and is important for us".[103]

A few years later, American academics also started to travel in the opposite direction. Especially Dickinson S. Miller and C. A. Strong, both involved in the American realist movement, exchanged ideas with their European colleagues. Miller frequently attended meetings of the Vienna Circle in 1926 and "provided stimulating epistemological discussions" by defending a "point of view [close] to neo-realism".[104] The retired Columbia professor had been a friend of William James but was skeptical about his pragmatism and favored a more analytic approach.[105] Strong was one of the founding philosophers of the critical realist movement and occasionally invited Feigl to talk about recent developments in physics. The philosopher-psychologist had contributed to the aforementioned debates on 'the meaning of meaning' and Russell's reductionist project.[106] He likely helped finance Feigl's year at Harvard when the latter was unable to find a position in the increasingly hostile German academic world.[107]

Once in the United States, Feigl had weekly meetings with Bridgman, whom he revered for his "astonishing theoretical knowledge and an even more admirable instinct when it comes to foundational questions".[108] He also regularly met with Lewis, who had just published a paper discussing Bridgman's and Eddington's empiricist theories of meaning.[109] But his most regular contact was Susanne Langer, a student of Whitehead who had written a dissertation titled "A Logical Analysis of Meaning" a few years before. Langer was convinced that Russell's "method of logical analysis" was the "only method" in philosophy and organized a regular logic discussion group, which Feigl dubbed the 'Langer Zirkel' in a letter to Schlick.[110] Incidentally, Langer is sometimes credited as the first philosopher to employ the term 'analytic philosophy' in a way closely resembling contemporary use. She rejected the label 'scientific philosophy' because of its experimental connotations and proposed to use the term 'logical' or 'analytic philosophy' instead.[111]

A year earlier, Schlick had spent a term at Stanford as a visiting professor and had used the occasion to study Bridgman's work.[112] Schlick reviewed the latter's *The Logic of Modern Physics* and later adopted some central aspects of the operationist framework in his own

thinking about meaning.[113] After his return to Vienna, he was confronted with similar verificationist ideas through a series of conversations with Wittgenstein, who had spent a year at Cambridge and was also influenced by Anglophone analytic philosophers.[114] Recent work has shown that these conversations severely impacted the Circle's development in 1930, when Waismann presented Wittgenstein's views in a sequence of Circle meetings.[115] Thomas Uebel has argued that even Carnap briefly came to adopt a foundationalist variant of verificationism in the wake of these discussions.[116] And though Carnap quickly abandoned such views after a debate with Neurath, this brief shift seems to have had a lasting effect on his interpretation of the *Aufbau* project. Even in his intellectual autobiography, written a quarter century later, Carnap claims that he wrote the *Aufbau* in a period when he "believed that the task of philosophy consists in reducing all knowledge to a basis in certainty".[117] It is likely that this shift explains why Carnap never attempted to correct the Russellian reading of his book.

Blumberg and Feigl's article, therefore, appeared at a moment when the Viennese were earnestly toying with many of the ideas espoused in their paper. Considering Blumberg's American background and Feigl's various contacts with American scientific philosophers throughout the 1920s (e.g. Strong, Miller, Bridgman, Lewis, Blumberg, Whitehead, Sheffer, and Langer), they must also have had a pretty solid understanding of the *American* intellectual climate. Their paper seems to have been an attempt to integrate the discussions Feigl witnessed in the last Circle meetings before he left Europe with their knowledge about the debates that were occupying U.S. scientific philosophers. Their solution seems to have been to present logical positivism as a (superior) position *within* this conversation. Instead of promoting the *wissenschaftliche Weltauffassung* as an intellectual stance that (1) rejects doctrinal philosophy and that (2) offers a more fruitful conception of what scientific philosophy is or ought to be, Feigl and Blumberg presented logical positivism as a philosophical 'ism' offering improved solutions to questions that were debated by American scientific philosophers (e.g. puzzles about meaning, phenomenalism, and the status of metaphysics) and that reflected some of the latest discussions in the Circle. They emphasized logical positivism's "sound theory of meaning", its rejection of metaphysical propositions, and its superior understanding of logic.[118] In doing so they presented logical positivism as a distinctively *philosophical* alternative to "realism and idealism", which relied on shady metaphysical presuppositions; as well as an alternative to pragmatism, which neglected "pure logic" by "confusing it with psychology".[119]

V. Conclusion

Pragmatism scholars and historians of logical empiricism typically tell two conflicting stories about the development of twentieth-century philosophy. The former tend to focus on the 'Golden Age of American Philosophy' and accuse European positivists of having replaced a rich and refined intellectual culture with an overly technical, analytic approach that contributed to the demise of public philosophy. Logical empiricism scholars emphasize the diverse community of scientific philosophers in Central Europe and blame the practically-oriented pragmatists for having reduced a radical yet subtle world conception to a set of naïve doctrines about meaning, method, and metaphysics.

Neither story is convincing. Historians of American philosophy overestimate the influence of the European refugees. It is a mistake to suppose that a small number of émigrés could overturn a philosophical culture that had dominated the conversation for more than thirty years. Logical positivism could only become a success because there had been a growing community of scientific philosophers *within* the United States. Though the Europeans may have accelerated this development, their views only had an impact because they were eagerly embraced by a community which itself promoted a scientific approach, a collaborative attitude, and (in some cases) an analytic method and a sceptical attitude toward metaphysics.

Logical empiricism scholars, on the other hand, tend to *under*estimate the influence of European scientific philosophers. In writing about or responding to the positivists, American philosophers were not just making up doctrines. They were closely following what people in Berlin and Vienna themselves had to say about their ideas. Most early commentators on logical positivism in the U.S. literature had been in direct contact with Carnap, Feigl, Schlick, and/or Reichenbach and they came to perceive their views as a distinct philosophical 'ism' because Blumberg and Feigl had defined their views in precisely this way. And though it is likely that some nuances got lost in translation when Americans started to write about these views, there is little evidence that their continental colleagues tried to correct the emerging standard reading about logical positivism. Nor did they help disseminate Neurath's and Frank's alternative conceptions of scientific philosophy. Instead of contributing to U.S. debates on science and society, or to the more technical discussions on the foundations of physics, psychology, and mathematics, most of their first American publications only helped solidify the received view.

This paper has presented an alternative and intellectually more inclusive narrative that aims to do justice to logical positivism's complex origin story. Instead of presenting American philosophers as passive recipients of an invasive, foreign philosophical culture; or European refugees as victims of a deeply flawed reception history, I have aimed to contextualize the genesis of the received view. I have argued that the standard reading has roots in both academic communities, sketching the development of U.S. scientific philosophy and the ways in which European positivists simulated, and to some extent even helped create, the standard interpretation. In addition, I have argued that all of this happened in the late 1920s and early 1930s, showing that the received view was well-established before the publication of *Language, Truth, and Logic* or the rise of postpositivist philosophy.[120]

In questioning existing narratives about the received view, I do not wish to rehabilitate it. On the contrary, I believe that historians have convincingly shown that it is mistake to identify logical empiricism with a single set of philosophical theses about meaning, method, and metaphysics. There simply were no doctrines that all scientific philosophers shared. Instead, I have tried to answer the question when and why the received view emerged, thereby proposing an alternative story about its development. I have argued that the standard story emerged because it facilitated communication between intellectual cultures that had worked in relative isolation since 1914. And I have argued that it had an important function for each of their *internal* developments. For Americans, it became the focal point of a variety of interdisciplinary discussions on the foundations of physics, mathematics, and psychology. Many of these debates had gradually been converging toward questions about meaning and logical positivism seemed to carry these ideas to their natural conclusion. Even philosophers and scientists who opposed these conclusions were genuinely interested in what the Viennese

had to say and they saw logical positivism as an open invitation to explain why its verificationist demands were too strict. For European scientific philosophers, the received view had an important function too. Members of the Vienna Circle had gradually acquainted themselves with Anglophone debates throughout the 1920s. They had regular contact with American colleagues (e.g. Keyser, Huntington, Miller, Strong, and Blumberg) and Schlick had been studying Bridgman's work to prepare for his term at Stanford. He adopted some aspects of the operationist framework; and strictly verificationist ideas came to dominate the Circle for a brief period in the wake of his conversations with Wittgenstein. And though these positions were quickly abandoned by people like Carnap and Neurath, they were a catalyst for the emerging split between left-wing and right-wing logical positivism. In addition, they accelerated the growing rift between the Vienna Circle and the Berlin group as Reichenbach and his colleagues were strongly opposed to reductive phenomenalism and strict verificationism.

Both in Europe and in the United States, in sum, the received view stimulated the internal development of scientific philosophy. Moreover, it helped bridge cultural barriers between these communities when the Europeans were forced to leave their home continent. As such, this study reveals that it can be fruitful to reconstruct the development of a 'caricature', even if it is a gross misinterpretation of a movement's actual position. Though it is mistake to identify logical positivism with a set of radically empiricist doctrines about meaning, method, and metaphysics, one can learn a great deal about the diverse community of American and European scientific philosophers if one examines when and why it came to be perceived as such.

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[1] Ludwig Wittgenstein, "Tractatus Logico-Philosophicus," *Annalen der Naturphilosophie*, 1921, *14*:195-262.

[2] Rudolf Carnap, *Der Logische Aufbau der Welt* (Berlin-Schlachtensee: Weltkreis-Verlag, 1928).

[3] André W. Carus, *Carnap and Twentieth-Century Thought: Explication as Enlightenment* (Cambridge: Cambridge University Press, 2007), p. 7; Michael Friedman, *Reconsidering Logical Positivism* (Cambridge: Cambridge University Press, 1999), p. 3; Thomas Uebel, "Verificationism and (Some of) its Discontents," *Journal for the History of Analytical Philosophy,* 2019, *7*:1-31, on p. 20.

[4] Richard Creath, "Logical Empiricism," *The Stanford Encyclopedia of Philosophy* (Winter 2022 edition), eds. Edward N. Zalta & Uri Nodelman, https://plato.stanford.edu/archives/win2022/entries/logical-empiricism/.

[5] Richardson & Uebel (2007), "Introduction," on p. 3. Typically, historians prefer the label 'logical empiricism' to describe the movement. In this paper, I use the label 'logical positivism' because this is the label most commonly used by philosophers who subscribe to the received

view. I will refer to group of historians who dismiss the received view as 'logical empiricism scholars'. Historically, the distinction between the two labels is more complicated. See Thomas Uebel, ""Logical Positivism"—"Logical Empiricism": What's in a Name," *Perspectives on Science,* 2013, *21*:58-99.

[6] Creath (2017), "Logical Empiricism".

[7] Thomas Uebel, "Vienna Circle," *The Stanford Encyclopedia of Philosophy* (Winter 2022 edition), eds. Edward N. Zalta & Uri Nodelman, https://plato.stanford.edu/archives/win2022/entries/vienna-circle.

[8] Friedman, *Reconsidering Logical Positivism*; Friedrich Stadler, ed., *Ernst Mach: Life, Work, Influence* (Cham: Springer, 2019); Barry Smith, *Austrian Philosophy: The Legacy of Franz Brentano* (New York: Open Court, 1994, ed.); Anastasios Brenner, "The French Connection: Conventionalism and the Vienna Circle," in *History of Philosophy of Science: New Trends and Perspectives*, eds. Michael Heidelberger and Stadler (Dordrecht: Springer, 2002).

[9] Alan Richardson, *Carnap's Construction of the World* (Cambridge: Cambridge University Press, 1998).

[10] Friedman, *Reconsidering Logical Positivism.*

[11] Peter Galison, "Aufbau/Bauhaus: Logical Positivism and Architectural Modernism," *Critical Inquiry*, 1990, *16*:709-52; Christian Damböck, Günther Sandner, and Meike Werner, eds., *Logical Empiricism, Life Reform, and the German Youth Movement* (Cham: Springer, 2022); Donata Romizi, "The Vienna Circle's "Scientific World-Conception": Philosophy of Science in the Political Arena," *HOPOS: The Journal of the International Society for the History of Philosophy of Science*, 2012, *2*:205-42.

[12] Alfred J. Ayer, *Language, Truth, and Logic* (London: Gollancz, 1936); Friedman, *Reconsidering Logical Positivism*, p. xiv.

[13] Thomas Uebel & Christoph Limbeck-Lilienau, "Introduction," in *The Routledge Handbook of Logical Empiricism* (Abingdon: Routledge, 2022), on p. 1.

[14] Friedman, *Reconsidering Logical Positivism*, p. xv; Richardson, *Carnap's Construction of the World*.

[15] Archival sources include material from the Rudolf Carnap Papers at the Archives of Scientific Philosophy, University of Pittsburgh (hereafter, RCP), the Herbert Feigl Papers at the University of Minnesota Archives (HFP), the Sidney Hook Papers at the Hoover Institution Library & Archives, Stanford University (SHP), the C. I. Lewis Papers at Stanford University (CILP), the W. V. Quine Papers at Houghton Library, Harvard University (WVQP), the Hans Reichenbach Papers at the Archives of Scientific Philosophy (HRP), the Bertrand Russell Papers at the Bertrand Russell Research Centre, McMaster University (BRP), and the Moritz Schlick Papers at the *Wiener Kreis Archiv* in Haarlem (MSP).

[16] This paper primarily focuses on the interplay between European and American scientific philosophers. Its conclusions do not necessarily apply to the situation in the United Kingdom, though we will briefly discuss the British context in section III.

[17] Friedman, *Reconsidering Logical Positivism*, p. xiii

[18] Cheryl Misak & Huw Price, eds., *The Practical Turn: Pragmatism in Britain in the Long Twentieth Century* (Oxford: Oxford University Press, 2014).

[19] Gabriele Gava & Robert Stern, eds., *Pragmatism, Kant, and Transcendental Philosophy* (New York: Routledge, 2016).

[20] Charles Sanders Peirce, *Collected Papers of Charles Sanders Peirce*, eds. Charles Hartshorne and Paul Weiss, (Cambridge, MA: Harvard University Press, 1931-1935), CP 4.2; Clarence I. Lewis, "A Pragmatic Conception of the A Priori," *Journal of Philosophy*, 1923, *20*:169-77.

[21] Andrew Feffer, *The Chicago Pragmatists and American Progressivism* (Cornell University Press, 2018); George Reisch, *How the Cold War Transformed Philosophy of Science* (Cambridge: Cambridge University Press, 2005).

[22] Adam T. Tuboly, "To the Icy Slopes in the Melting Pot: Forging Logical Empiricisms in the Context of American Pragmatisms," *HOPOS: The Journal of the International Society for the History of Philosophy of Science*, 2021, *11*:27-71.

[23] Reisch, *How the Cold War Transformed Philosophy of Science*.

[24] Edward B. Ginsburg, "On the Logical Positivism of the Viennese Circle," *Journal of Philosophy,* 1932, *29*:121-129, on pp. 121-2

[25] Ibid., 126-7; Carnap, *Der Logische Aufbau der Welt*, §§62-3.

[26] Ginsburg, "On the Logical Positivism of the Viennese Circle," p. 126.

[27] Otto Neurath, "Physicalism: The Philosophy of the Vienna Circle," *The Monist*, 1931, *41*:618-23, on p. 620.

[28] Charles W. Morris, "Pragmatism and Metaphysics," *Philosophical Review,* 1934, *43*:549-564, on p. 550.

[29] Ernest Nagel, "Verifiability, Truth, and Verification, *Journal of Philosophy,* 1934, *31*:141-148, on p. 146.

[30] Clarence I. Lewis, "Experience and Meaning," *The Philosophical Review,* 1934, *43*:125-146, on p. 131.

[31] Ibid., 127.

[32] Ibid., 125-7.

[33] James B. Pratt, "Logical Positivism and Professor Lewis," *Journal of Philosophy*, 1934, *31*:701-10, on pp. 701-2.

[34] Hans Hahn, Otto Neurath, & Rudolf Carnap, *Wissenschaftliche Weltauffassung: Der Wiener Kreis*, transl. Paul Foulkes & Marie Neurath, in *Empiricism and Sociology*, eds., Robert S. Cohen and Marie Neurath (Dordrecht: Reidel, 1929/1983), pp. 299-318, on pp. 305-6.

[35] Albert E. Blumberg & Herbert Feigl, "Logical Positivism: A New Movement in European Philosophy," *Journal of Philosophy,* 1931, *28*:281-296, on p. 282.

[36] Ibid., 292-3.

[37] Thomas Uebel, ""Logical Positivism"—"Logical Empiricism", on p. 66; Sander Verhaegh, "The American Reception of Logical Positivism: First Encounters, 1929-1932," *HOPOS: The Journal of the International Society for the History of Philosophy of Science*, 2020, *10*:106-42, §6. In claiming that Blumberg and Feigl aided and abetted the received view, I do not want to suggest that they believed that all logical positivists subscribed to views outlined in their paper.

[38] Feigl to Schlick, April 5, 1931, MSP, 99/Fei-19; Feigl to Quine, December 29 1931, WVQP, Item 345; Rudolf Haller, "On Herbert Feigl," in *Logical Empiricism in North America*, eds. Gary Hardcastle & Alan Richardson (Minneapolis: University of Minnesota Press, 2003), pp. 115-128, on p. 125.

[39] Lewis to Feigl, April 14, 1931, HFP, 03-53-01.

[40] Feigl-Lewis correspondence, October 9-23, 1933; HFP, 03-53-05/6/7.

[41] Hans Reichenbach, "Logistic Empiricism in Germany and the Present State of Its Problems," *Journal of Philosophy,* 1936, *33*:141–60, on p. 143.
[42] Ibid., 148-9.
[43] Ibid., 150.
[44] Moritz Schlick, "Meaning and Verification," in *Moritz Schlick: Philosophical Papers*, Vol. 2: 1925-1936, eds. Henk Mulder and Barbara van de Velde-Schlick (Dordrecht-Reidel, 1936/1979), pp. 456-481, on p. 343; Rudolf Carnap, "Testability and Meaning," *Philosophy of Science,* 1936, *3*:419-471, on p. 420.
[45] Carnap, "Testability and Meaning," p. 422.
[46] E.g. Ernest Nagel, "Review of *Logik der Forschung* by Karl Popper," *Journal of Philosophy*, 1935, *32*:107-8; Julius R. Weinberg, "Review of *Logik der Forschung* by Karl Popper," *The Philosophical Review*, 1935, *45*:511-4; Béla von Juhos, " Some Modes of Speech of Empirical Science," *Analysis*, 1936, *3*:65-74; Helen Knight, "Philosophy in Germany," *Philosophy*, 1936, *11*:91-4. Carnap, "Testability and Meaning," §3.
[47] In doing so, I am indebted to Alan Richardson's suggestion that 'scientific philosophy' is a useful category to study the development of early 20th-century science and philosophy, even though he predominantly focuses on European scientific philosophy himself. Alan Richardson, "Toward a History of Scientific Philosophy," *Perspectives on Science*, 1997, *5*:418-51; Richardson, "Scientific Philosophy as a Topic for History of Science," *Isis*, 2008, *99*:88-96.
[48] Paul A. Schilpp, "Survey of American Philosophy," *Journal of Philosophical Studies*, 1930, *5*:270-8, on p. 276.
[49] Frank Thilly, "Contemporary American Philosophy," *The Philosophical Review*, 1926, *35*:522-38, on p. 522.
[50] Sander Verhaegh, "The Reception of Relativity in American Philosophy," *Philosophy of Science*, forthcoming.
[51] Michael Scanlan, "Who were the American Postulate Theorists," *Journal of Symbolic Logic*, 1991, *56*:981-1002.
[52] Indeed, Roy Wood Sellars could write about the "efflorescence of mathematical logic so characteristic of Harvard by 1927. Sellars, "Current Realism in Great Britain and United States," *The Monist*, 1927, *37*:503-20, on p. 513. William Aspray reconstructs the rise of the Princeton school of logic. Aspray, "Oswald Veblen and the Origins of Mathematical Logic at Princeton," *Perspectives on the History of Mathematical Logic*, ed. In: Thomas Drucker (Basel: Birkhäuser, 1991), pp. 54-70.
[53] Charles W. Morris, "Some Aspects of Recent American Scientific Philosophy," *Erkenntnis*, 1935, *5*:142-51, on pp. 147-8.
[54] Filmer S. C. Northrop, "Relativity and the Relation of Science to Philosophy," *The Monist*, 1925, *35*:1-26, on p. 6. Joel Katzav and Krist Vaesen give an overview of American philosophy of science in the speculative tradition. Katzav & Vaesen, "The Rise of Logical Empiricist Philosophy of Science and the Fate of Speculative Philosophy of Science", *HOPOS: The Journal of the International Society for the History of Philosophy of Science*, 2022, *12*:327-58.
[55] Wolf Gordin, "The Philosophy of Relativity," *Journal of Philosophy*, 1926, *23*:517-24, on p. 518.
[56] Theodore De Laguna, "The Nature of Space–I," *Journal of Philosophy*, 1922, *19*:393–407;

Theodore De Laguna, "Point, Line, and Surface as Sets of Solids," *Journal of Philosophy*, 1922, *19*:449–461; Ian Pratt-Hartman, "First-Order Mereotopology," in *Handbook of Spatial Logics*, eds. Marco Aiello, Pratt-Hartmann & Johan van Benthem (Dordrecht: Springer, 2007), pp.. 13-98. Filmer S. C. Northrop, "The Theory of Relativity and the First Principles of Science," *Journal of Philosophy*, 1928, 25:421-35.

[57] Harry T. Costello, "Review of *Contemporary American Philosophy: Personal Statements* by G. P. Adams and W. P. Montague," *Journal of Philosophy*, 1931, *28*:244-49, on p. 245.

[58] Ralph B. Perry, "Peace Without Victory—in Philosophy," *Philosophy*, 1928, *3*:300-12, on pp. 311-2.

[59] Northrop, "Relativity and the Relation of Science to Philosophy," p. 2; Edwin B. Holt, Walter T. Marvin, William P. Montague, Ralph B. Perry, Walter B. Pitkin & Edward G. Spaulding, *The New Realism*. (New York: Macmillan, 1912), on p. 26.

[60] Cassius J. Keyser, *Mathematical Philosophy* (New York: E. P. Dutton & Company, 1922); Northrop, "The Theory of Relativity and the First Principles of Science"; Morris R. Cohen & Ernest Nagel, *An Introduction to Logic and Scientific Method* (New York: Harcourt, Brace & World, 1934); Percy W. Bridgman, *The Logic of Modern Physics* (New York: Macmillan, 1927).

[61] When Russell visited the United States in 1929, he joked to his wife that even departments in Texas were "full of people who have read all three vols. of *Principia Mathematica*". November 13, 1929, BRA, RA3, 1037.

[62] Bertrand Russell, "Mysticism and Logic," *Hibbert Journal*, 1914, *12*:780-803, on p. 32; Russell, *Our Knowledge of the External World as a Field for Scientific Method in Philosophy*. (Chicago: Open Court, 1914), on p. 26.

[63] Especially Whitehead's work on relativity was frequently discussed in U.S. journals. A substantive portion of the aforementioned literature on the implications of relativity explicitly builds on or responds to Whitehead's work. Katzav and Vaesen call Whitehead's work an exemplar for American philosophers of science in the speculative tradition. Katzav & Vaesen, "The Rise of Logical Empiricist Philosophy of Science," p. 337.

[64] Victor Lowe, *Alfred North Whitehead*. Volume Two: The Man and His Work, 1910-1947 (Baltimore: Johns Hopkins University Press, 1990), on pp. 132-3.

[65] Willard V. O. Quine, "Autobiography of W. V. Quine," in *The Philosophy of W. V. Quine*, eds. Lewis Hahn and Paul Schilpp (La Salle, IL: Open Court, 1986), pp. 1-46, on p. 9.

[66] Nagel to Hook, December 3, 1934, SHP, 22.08.

[67] Juliet Floyd, "Sheffer, Lewis, and the 'Logocentric Predicament'," in *C. I. Lewis: The A Priori and the Given*, eds. Quentin Kammer, Jean-Philippe Narboux, Henri Wagner (New York: Routledge, 2021), pp. 27-103, on p. 33; Susanne K. Langer, "Henry M. Sheffer 1883–1964," *Philosophy and Phenomenological Research,* 1964, *25*:305–7, on p. 306.

[68] Quine to Cooley, April 4, 1933, WVQP, Item 260.

[69] Notes on an Interview with A. N. Whitehead, March 16, 1931, WVQP, Item 1215.

[70] Nagel to Hook, May 18, 1935, SHP, 22.08.

[71] Ernest Nagel, "Impressions and Appraisals of Analytic Philosophy in Europe. I," *Journal of Philosophy,* 1936, *33*:5-24, on p. 6; "Impressions and Appraisals of Analytic Philosophy in Europe. II," *Journal of Philosophy*, 1936, *33*(2), 29-53, p. 29.

[72] Edward B. Holt, *The Concept of Consciousness* (New York: Macmillan, 1914)

[73] E.g. Northrop, "Relativity and the Relation of Science to Philosophy"; Northrop, "The Theory of Relativity and the First Principles of Science".
[74] Victor F. Lenzen, "Review of *Philosophical Aspects of Modern Science* by C. E. M. Joad," *Journal of Philosophy*, 1932, *29*:583-585, on p. 585.
[75] Edward C. Tolman, "Psychology versus Immediate Experience," *Philosophy of Science,* 1935, *2*:356-380, on pp. 363–64.
[76] Northrop to Reichenbach, Jan. 5, 1932, HRP, 014-57-12. See also Filmer S. C. Northrop, "Review: *Philosophie der Raum-Zeit-Lehre* by Hans Reichenback," *Philosophical Review,* 1931, *40*:281-285.
[77] See, e.g., Alan Richardson, "Logical Empiricism, American Pragmatism, and the Fate of Scientific Philosophy in America," in *Logical Empiricism in North America*, eds. Gary Hardcastle & Richardson (Minneapolis: University of Minnesota Press, 2003), pp. 1-24.
[78] Morris, "Some Aspects of Recent American Scientific Philosophy," p. 148.
[79] Lewis, "Experience and Meaning," p. 125.
[80] Clarence I. Lewis, "Review of *Scientific Thought* by C. D. Broad," *Philosophical Review*, 1925, *34*:406-11, on p. 410.
[81] H. R. Smart, who reviewed several books on relativity for *Philosophical Review*, best captured the atmosphere in claiming that philosophers from a different schools welcomed relativity as a "vindication of their particular philosophical doctrines—and consequently, as an implicit refutation of the doctrines of other thinkers". Smart, "Review of *La Déduction Relativiste* by E. Myerson," *Philosophical Review*, 1925, *34*:511-3, on p. 511. See Verhaegh, "The Reception of Relativity in American Philosophy."
[82] Arthur O. Lovejoy, The Dialectical Argument Against Absolute Simultaneity (I), *Journal of Philosophy,* 1930, *27*:617-632, on p. 619.
[83] Evander B. McGilvary, "Dialectical Arguments Against Relative Simultaneity," *Journal of Philosophy,* 1931, *28*:421-435, on p. 427.
[84] Bridgman, *The Logic of Modern Physics*, p. 4.
[85] Ibid., 5
[86] Stanley S. Stevens, "The Operational Basis of Psychology," *American Journal of Psychology,* 1935, *47*:323–330, on p. 323.
[87] Burrhus F. Skinner, "The Concept of the Reflex in the Description of Behavior," *Journal of General Psychology,* 1931, *5*:427-458.
[88] E.g. Howard C. Warren, Mary W. Calkins, Knight Dunlap, H. Norman Gardiner & Christian A. Ruckmick, "Definitions and Limitations of Psychological Terms," *Psychological Bulletin,* 1918, *15*:89–95, on p. 89; Calkins, Howard, Dunlap, Gardinar & Ruckmick, "Definitions and Limitations of Psychological Terms, II," *Psychological Bulletin,* 1922, *19*:230–233; Howard, Calkins, Dunlap, Gardinar & Ruckmick, "Definitions and Limitations of Psychological Terms, III," *Psychological Bulletin,* 1925, *22*:370–374.
[89] Bertrand Russell, *My Philosophical Development* (London: George Allen and Unwin, 1959), on p. 14.
[90] Bertrand Russell, "On Propositions: What They are and How They Mean," *Aristotelian Society Supplementary Volume*, 1919, *2*:1-43, on p. 7.
[91] E.g. Charles A. Strong, "The Meaning of 'Meaning'", *Mind*, 1921, *30*:313-6; Strong, "Mr. Russell's Theory of the External World," *Mind*, 1922, *31*:307-20; Ferdinand C. S. Schiller,

"The Meaning of 'Meaning'", *Mind*, 1920, *29*:385-97; Alfred C. Ewing, "The Problem of Meaning," *Proceedings of the Aristotelian Society, Supplementary Volumes,* 1927, *7*:98-123; R. F. Alfred Hoernle, "A Plea for a Phenomenology of Meaning," *Proceedings of the Aristotelian Society*, 1921, *21*:71-89. Another stimulus for this debate was Charles K. Ogden & Ivor A Richards, *The Meaning of Meaning* (London: Kegan Paul, 1923).

[92] James L. Mursell, "An Analysis of the Concept of Meaning," *Philosophical Review*, 1920, *29*:256-68.

[93] H. A. Prichard had argued that *Our Knowledge of the External World* advanced "an empiricism … so extreme" that the distinction between what is "verbal and real … ceased to have any importance for him" and De Laguna noted that philosophers frequently "identified Mr. Russell's standpoint with Berkeley's". Prichard, "Mr. Bertrand Russell on our Knowledge of the External World," *Mind*, 1915, *24*:145-85, on p. 185n1. Theodore De Laguna, "The Logical-Analytic Method in Philosophy," *Journal of Philosophy, Psychology and Scientific Methods*, 1916, *12*:449-62, on p. 455. Many present-day commentators reject this reading. E.g. Christopher Pincock, "Carnap, Russell, and the External World," *The Cambridge Companion to Carnap*, eds., Michael Friedman & Richard Creath (Cambridge: Cambridge University Press, 2007), pp. 106–28.

[94] Cooley to Quine, August 6, 1932, WVQP, Item 260.

[95] "A Summary of Carnap's Logische Aufbau der Welt", CILP, Box 18, Folder 4.

[96] Quine to Cooley, April 4, 1933, WVQP, Item 26.

[97] Thilly, "Contemporary American Philosophy," p. 522.

[98] Paul Kurz, *American Philosophy in the 20th Century* (New York: MacMillan, 1966), on p. 354. In 1922, the Aristotelian Society organized a debate on the "idealistic interpretation of Einstein's theory", discussing the question whether the "principle of relativity … is in complete accord with the neo-idealist doctrine in philosophy". Herbert W. Carr, Ralph Sampson & Alfred N. Whitehead, "Symposium: The Problem of Simultaneity," *Proceedings of the Aristotelian Society*, *Supplementary Volumes*, 1922, *22*:123-38, on p. 123.

[99] See, e.g., Bridgman, "*The Logic of Modern Physics*," p. xi: "We shall accept as significant our common sense judgment that there is a world external to us … In spite .. of the best intentions, we shall not be able to eliminate completely considerations savoring of the metaphysical". Peirce, whose philosophy rapidly became more popular following the posthumous publication of a volume of essays in 1923 is also an example of someone who was viewed as combining a verificationist theory with "daring metaphysical speculations". See Clarence I. Lewis, "Review of *Chance, Love, and Logic* by C. S. Peirce," *Journal of Philosophy*, 1924, *21*:71-4, on p. 73.

[100] Morris, "Some Aspects of Recent American Scientific Philosophy," p. 149.

[101] Northrop to Reichenbach, Feb. 22, 1933, HRP, 014-57-02.

[102] The lack of official invitations to lecture and participate in conferences was an after-effect of World War I. Allied academics started boycotting colleagues from Central countries after prominent German intellectuals had signed a declaration in support of the war effort. This boycott officially lasted until 1926. Siegfried Grundmann, "Der Boykott der deutschen Wissenschaft nach dem ersten Weltkrieg," *Wissenschaftliche Zeitschrift der Technischen Universität Dresden*, 1965, *14*:799-806.

[103] Carnap to Reichenbach, May 7, 1923, HRP, 016-28-12. See Sander Verhaegh, "Coming to America: Carnap, Reichenbach and the Great Intellectual Migration. Part I: Rudolf Carnap," *Journal for the History of Analytical Philosophy,* 2020, *8*:1-23.
[104] Feigl to Easton, Nov. 17, 1967, HFP, 02-110-01.
[105] Mark Moller, "Miller, Dickinson Sergeant (1869-1963)," in *The Dictionary of Modern American Philosophers*, ed., John R. Shook (Bristol: Thoemmes Press, 2005), pp. 1694-5, on p. 1694.
[106] Strong, "The Meaning of 'Meaning'"; Strong, "Mr. Russell's Theory of the External World."
[107] Feigl's trip was funded by a Rockefeller grant and Strong was Rockefeller's son-in-law.
[108] Feigl to Schlick, December 6, 1930, MSP, 99/Fei-17.
[109] Clarence I. Lewis, "Pragmatism and Current Thought," *Journal of Philosophy,* 1930, *27*:238-246.
[110] December 6, 1930, MSP, 99/Fei-17.
[111] Susanne K. Langer, *The Practice of Philosophy* (New York: Henry Holt, 1930), on p. 17.
[112] See, e.g., "P. W. Bridgman, The New Vision of Science," MSP, 422/A.255; "P. W. Bridgman, The Logic of Modern Physics," MSP, 422/A.254.
[113] Moritz Schlick, "Rezension von *The Logic of Modern Physics*, P. W. Bridgman," *Naturwissenschaften*, 1929, *17*:549-50; Moritz Schlick, "Form and Content: An Introduction to Philosophical Thinking," in *Philosophical Papers*, Vol. 2, 1925–1936, ed., Henk Mulder and Barbara van de Velde-Schlick (Dordrecht: Reidel, 1932/1979), pp. 285–369. In addition, he seems to have been an admirer of Langer's work. In a letter, he described her book as expounding "the true kind of philosophy" and he adopted her definition of philosophy as "the pursuit of meaning" in a paper titled "The Future of Philosophy". Schlick to Holt, March 22, 1931, MSP, 103/Holt- 1. Schlick, "The Future of Philosophy," *Lectures in Philosophy*, ed., Paul A. Schilpp (Stockton: College of the Pacific, 1932), pp. 45-64. See Sander Verhaegh, "Susanne Langer and the American Development of Analytic Philosophy", in *Women in the History of Analytic Philosophy*, eds., Jeanne Peijnenburg and Verhaegh (Cham: Springer, 2022), pp. 223-45.
[114] Brian McGuiness, *Wittgenstein and the Vienna Circle*, (Oxford: Basil Blackwell, 1979); Most notably Frank Ramsey. See Cheryl Misak, *Cambridge Pragmatism: From Peirce and James to Ramsey and Wittgenstein* (Oxford: Oxford University Press, 2016).
[115] Thomas Uebel, *Empiricism at the Crossroads: The Vienna Circle's Protocol-Sentence Debate* (Chicago: Open Court, 2007).
[116] Uebel, *Empiricism at the Crossroads,* p. 191n.
[117] Rudolf Carnap, "Intellectual Autobiography," in *The Philosophy of Rudolf Carnap*, ed., Paul A. Schilpp (La Salle: Open Court, 1963), pp. 1–84, on p. 50.
[118] Blumberg & Feigl, "Logical Positivism," p. 287.
[119] Ibid., 294-5.
[120] I use the phrases "origin story", "genesis" and "roots" because I have primarily focused on the *emergence* of the received view. Naturally, Ayer's publications and the rise of post-positivist philosophy greatly influenced the development of the standard interpretation after its genesis in the early 1930s.