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10 The Failed Reception of Voluntarism in Logical Empiricism

Abstract: The migration of logical empiricist philosophy has mostly been evaluated as a success. In this paper, I argue that a central element of logical empiricist philosophy failed to make an impact on post-war US philosophy, namely its voluntarist conception of rationality. I show that Carnap and Reichenbach from the 1930s onward shared a voluntarist conception of scientific philosophy. In their works both highlighted the ineliminable role that matters of volition play in scientific and ethical inquiry. These matters of volition cannot be constrained by reason. This voluntarist conception of rationality entails on the one hand that philosophy's clarifications are not universal, but relativized to the inquiry of its own time. On the other hand, voluntarism also entails that philosophy itself is not a descriptive enterprise, since reflections on aims, intentions and self-interpretations are involved. I argue that the first-generation American students of Carnap and Reichenbach largely missed this voluntarist aspect due to the intellectual and institutional migration of the logical empiricist movement.

10.1 To Be or Not to Be?

What is *Hamlet* about? No play in the oeuvre of Shakespeare, or perhaps in the history of literature, has been the object of more interpretations. Hamlet, prince of Denmark and heir to the throne, returns home. Unexpectedly, he finds his father deceased, his uncle on the throne and his mother remarried to the new king. Unable to make sense of what has happened in his absence, he meets the ghost of his father who reveals that his own brother murdered him. The ghost urges Hamlet to take vengeance, but throughout the play the prince fails to take action. Although this play is typically associated with existential philosophy, I will argue that *Hamlet* can also prove enlightening to understand logical empiricist philosophy, and especially its significance (or the absence thereof) in the development of professional U.S. philosophy in the decades after the Second World War.

There is no doubt that Rudolf Carnap and Hans Reichenbach were intellectually the most important migrants of the logical empiricist movement, given the influence of their work and teaching on scholars such as W. V. Quine (1970), Ernest Nagel (1978), Hilary Putnam (2008), Wesley Salmon (1997) and Adolf Grünbaum (1978), who all played important roles in the professional and intellectual evolution

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of American post-war philosophy in general and philosophy of science in particular. In the literature, the migration of logical empiricist philosophy has mostly been evaluated as a success (Hardcastle and Richardson 2003, Tuboly 2021, Verhaegh 2020). In this paper, I revisit Reichenbach and Carnap's shared philosophical project, which formed the background for their work in post-war US philosophy, and I will argue that this shared philosophical project found almost no fertile soil to flourish.

10.2 The Rise of Scientific Philosophy in the West

The end of the Second World War was an important moment in the history of the logical empiricist movement. By the end of 1945, many members had found positions in U.S. academia: Reichenbach at UCLA, Carnap in Chicago, Feigl in Minnesota, Hempel at Queens College, Richard von Mises and Philipp Frank at Harvard. Crucially, however, Otto Neurath had stayed behind on the old continent, in Oxford. Before the war, Neurath had been the central organizer of all the activities of the logical empiricist network, most notably five international conferences on the Unity of Science and the foundation of the monograph series *Encyclopedia for Unified Science.* Just when Neurath was planning to rekindle his organizational zeal and turn his gaze on the reconstruction of Europe, he died at the end of 1945. "We are all quite shocked at the news of Neurath's death," Hempel quickly reported to Carnap. He and Ernest Nagel "felt that this was the time when things ought to be started again." They "had counted on Neurath's contagious zeal and optimism to start the new development."[1]

Although the continued publication of the *Encyclopedia* was an obvious part of this "new development," Hempel and Nagel believed a meeting was necessary of the most important members of the logical empiricist network, to talk about the future of their intellectual and practical efforts. Only in July 1947, Carnap, Frank, Morris and Reichenbach founded the *Institute for the Unity of Science* as the official body to negotiate the continued publication of the *Encyclopedia for Unified Science* with Chicago University Press. However, the Institute was created with a greater ambition in mind, to "encourage the integration of knowledge by scientific methods and to conduct research in the psychological and sociological background of science."[2] These larger plans never materialized: the grand scale of Neu-

1 Hempel to Carnap, January 1, 1946, Rudolf Carnap Papers, Box 102, folder 46, item 04, Archives of Scientific Philosophy, University of Pittsburgh (hereafter, RCP).

2 Institute for the Unity of Science, July 31, 1947, Hans Reichenbach Papers, Box 18, folder 34, item 11, Archives of Scientific Philosophy, University of Pittsburgh (hereafter, HRP).

rath's envisaged never-ending *Encyclopedia* was abandoned, the institute failed to create its own research journal and it never succeeded in continuing the conference series of the pre-war period.

By 1947, it was clear that Neurath's zeal had been an essential part of the success of the logical empiricist network. The momentum that the network had built up in the 1930s through its organizational successes was fading away. At the same time, the necessity of the network itself was also less felt, since most of the members were getting entrenched in professional American philosophy. Still, in order to rekindle the lost momentum of their movement, Carnap envisaged an introductory book about logical empiricism with Carl Hempel. Carnap even wondered whether Hempel should work on his planned monograph for the Encyclopedia, *Fundamentals of Concept Formation in Empirical Science.*

> Perhaps as a coeditor of the Encyclopedia I should not say such a thing, but frankly speaking, I think your planned monograph would by far not be as important as the planned book. I believe that this book or generally a survey and introduction to empiricism is at present a very urgent need. I believe the lack of greater influence of empiricism in this country is chiefly due to the lack of such a book. And in the European countries the soil is just now ready to receive new seed, and it depends upon us whether it will be the rotten old seed of obsolete ideologies or something better that can develop in the future. I believe, any philosophical movement, in order to be successful, needs a bible, a book appealing to a wider public. It cannot live only by the meagre nourishment from specialized articles and books, good though they may be.[3]

Due to unknown circumstances, the ambition to sow the seed of logical empiricism in the fertile soil of the post-war period never materialized.[4] Carnap's bible remained an idle ambition. At the same time as Carnap's above plea, Hans Reichenbach pleaded—in a polemical style—before his colleagues at the APA to abandon traditional philosophy whose "individualistic creations" lacked the "absence of general agreement." The only path open to twentieth-century philosophy was "the adoption of the scientific method" (Reichenbach 1948, 346). By that time, both the rejection of tradition and the call to make philosophy scientific were tropes in logical empiricist philosophy, e. g. in the preface to the *Aufbau* (Carnap 1928, xiii – xiv), the Manifesto of the Vienna Circle (Carnap, Hahn, and Neurath 2010 [1929], sec. 2), in the opening statement of *Erkenntnis* (Reichenbach 1930), or in advertisement of the *Encyclopedia* (Neurath 1937, 270). If logical empiricism was to succeed in North America at the end of the 1940s, it had to succeed in de-

3 Carnap to Hempel, November 18, 1947, Carl Hempel Papers, Box 28, folder 5, Archives of Scientific Philosophy, University of Pittsburgh (hereafter, CHP).

4 Hempel's reply to Carnap, if there was one, is not available in the archives.

veloping these tropes into a fruitful philosophical project in which a younger generation could invest.

10.3 Was There a Shared Philosophical Project between Carnap and Reichenbach?

The various migrated members of the logical empiricist network did not have a shared set of philosophical ideas, and publicly only claimed to be united by a shared attitude (Tuboly 2021). In the case of Carnap and Reichenbach as well, there is a substantial difference in their philosophical methods. Below, these substantial differences will be ignored—despite their interpretive importance—in order to highlight the shared project that allowed them to understand each other as common advocates of a scientific philosophy.

The natural place to begin the search for the philosophical vision that Reichenbach and Carnap shared is the first international conference of the logical empiricist movement in 1935 which took place in Paris. There was so much confusion within the network of scholars gathered at the conference that there was no agreed name for their joint activity, let alone a shared understanding of that activity (Dewulf and Simons 2021). However, both Reichenbach and Carnap took the opportunity to clarify their visions of a "scientific philosophy" in front of an international audience—in French and German respectively. Both addresses were never translated into English, but were important programmatic statements.

Carnap and Reichenbach clarified their project by embedding it within a historical narrative. Although Reichenbach thought that history could not play a role in solving philosophical questions, it was important to see "the historical current of ideas that has brought us here, and that determines our place in the history of human thought" (Reichenbach 1936, 28).[5] That current began, as Reichenbach's story went, with the birth of the science of mechanics in the late renaissance and the remarkable research program that led to a consensus around Newtonian physics. This great intellectual innovation of the new science went hand in hand with an important reorientation of philosophical thought: instead of finding rational truths, philosophy would aim "to offer an interpretation of this new science" (Reichenbach 1936, 29).

Philosophers sought to understand how the mathematical geometry central to the new physics could be justified, if not by experience. Kant's solution was the category of synthetic a priori knowledge and the concomitant idea that reason

5 Translations, unless otherwise indicated, are my own.

could have "pretensions to prescribe rules to experience" (Reichenbach 1936, 30). With the advent of relativity theory and quantum mechanics in Reichenbach's own times, Kant's solution had to be replaced. This not only entailed that the proposed rules of reason turned out false, but also that philosophy's self-conception as a rule-giver perhaps had to be altered. "To understand the problems of our own times" (1936, 32), Reichenbach proposed to develop a new conception of the boundaries of man's rational powers. Logical empiricism was "the culmination of this development that extended through the centuries" (Reichenbach 1936, 35): a novel conception of rationality that no longer pretended to find fundamental principles about nature from pure reason alone. Philosophy had to become "scientific," not in virtue of being part of empirical research, but in virtue of its ability to offer an improved understanding of the bounds of reason in the face of the revolutionary developments in the contemporary, scientific enterprise.

In a similar vein, Carnap discussed the historical process that led to the scientific philosophy he was advertising at the conference. In the early-modern period, philosophy had abandoned metaphysical speculation of nature for an epistemological investigation of the conditions of possibility of empirical knowledge. Again, reason functioned as a law-giver for science (Carnap 1936, 36). However, in the first decades of the twentieth century, the Kantian solution for the interpretation of non-experiential content in physical theories had to be abandoned. If reason could not guarantee the validity of non-empirical principles in science, traditional epistemology was defunct. At the conference, Carnap called on his colleagues to abandon the problems of such epistemology and replace them purely with questions about the choice of language systems for scientific theories (Carnap 1936, 39). Just like Reichenbach, Carnap proposed a new conception of the boundaries of man's rational powers. Rational investigations could pertain to the forms of the language of science, or to the objects, processes and facts in a given language. "The investigation of the facts is the aim of the sciences [*Realwissenschaften*] empirical research; the investigation of the forms of language is the aim of logical, syntactical analysis. We cannot find a third realm of objects next to empirical and formal" (Carnap 1936, 40). These two investigations encompass the entire domain of human reason.

The central theme in both of these Paris addresses is the defense of new boundaries that Carnap and Reichenbach envisage for philosophy, quite explicitly in relation to Kant's conception of those boundaries. To some in the audience (and to some philosophers today), those boundaries were most likely puzzling. Philosophy could no longer investigate the a priori conditions for knowledge, nor could it function as a law-giver to experience in any way (no epistemological rules to guide research, no epistemological foundation). As a result of these boundaries, Reichenbach and Carnap both charted a novel path for philosophy that did not fit

anything that had come before: it was not metaphysics, not empirical research and not rationalist, empiricist or transcendental epistemology. They called it "scientific philosophy," "logical empiricism," "logical analysis" or "logic of science." But what is it?

Two traditional interpretations of the logical empiricism of Carnap and Reichenbach are problematic. First, one of the most common and influential early interpretations of Carnap, by W. V. Quine, took the project to be an update of traditional empiricism, crudely the idea that a theory of knowledge aims to create a warrant for knowledge by reducing it to sense-perception through logical operations (Quine 1969, 78).[6] However, Reichenbach and Carnap, in the 1930s are both clear that a traditional empiricism is not tenable. In his 1935 address, Carnap refutes the idea that knowledge can be reduced to sense-perception. "The structure, that we assign to an object in any description is not only dependent on the object itself, but also essentially dependent on the form of the language that we use to describe it" (Carnap 1936, 39). Since the form of the language is *fundamentally* "a matter of decision" (Carnap 1936, 40), it cannot be empirically warranted. In the same vein, Reichenbach sees Humean empiricism as a flawed project which sought to provide induction with a justification that was on a par with mathematical knowledge, whereas no such justification can be provided (Reichenbach 1936, 32).

An alternative interpretation of logical empiricism takes it to be some form of naturalism. Several early academic papers for a U.S. audience highlighted the affinity with American pragmatism in this regard (Morris 1935; Somerville 1936; see Tuboly 2021). There are three aspects of Carnap and Reichenbach's ideas in the 1930s that make such an interpretation plausible. First, both vehemently exclude from philosophical discourse any form of metaphysics that defends some type of a priori knowledge. Second, both claim that philosophy cannot offer any a priori guide for the scientific enterprise: philosophy cannot function as a lawgiver for rational investigations. These two aspects align with the general characteristic of naturalism to reject a special status for a priori knowledge, and to deny any higher realm of knowledge over and above scientific knowledge (Friedman 1995, 7; Verhaegh 2018, 2; Kocsic and Tuboly 2021, 9753). A third aspect is their joint call to make the philosophical community scientific. Reichenbach and Carnap frequently liken traditional philosophers to rhetoricians who persuade others to follow their invented system, which led to inevitable systems-wars between philo-

6 Ever since the work of Michael Friedman and Alan Richardson, Quine's interpretation might seem like a non-starter to begin with (Friedman 1999; Richardson 1998). But, the caricature of their philosophy as an extension of Humean empiricism with modern logic was endorsed by many early expositions, like Feigl and Blumberg's summary of logical positivism (Feigl and Blumberg 1931; see Verhaegh 2024).

sophical schools. Their scientific philosophy was supposed to offer a different model that would make philosophy into a unified field, just like the sciences. This again aligns well with the overall characteristic of naturalism to place philosophy and science in continuity with each other, especially methodologically.

Clearly, the scientific philosophy of Carnap and Reichenbach in the 1930s had many aspects which we now call naturalist. However, there is also a problem with such interpretation. Although Reichenbach and Carnap obviously think that philosophical inquiry isn't autonomous from empirical science, they do not place philosophical inquiry on a par with empirical, scientific inquiry. Reichenbach is clear that philosophy is aimed at offering an *interpretation* of scientific knowledge. Similarly, Carnap understands philosophy as the logical analysis of the scientific enterprise and takes great pain to distinguish the investigation of facts by empirical science from the investigation of language systems—two distinct domains of rational inquiry. Such a sharp distinction between the empirical and philosophical level of investigation problematizes the continuity between philosophy and science that is a hallmark of naturalism.

10.4 Voluntarism Unbound: Decisions Are Not Facts

The above-mentioned schism between philosophy and empirical research is related to an important theme in Carnap and Reichenbach's writings: the distinction between facts and decisions (Richardson 2007, 299). Ever since *Logische Syntax der Sprache*, Carnap claimed that "in logic there is no moral theory. Anyone is allowed to construct their logic, the form of their speech" (Carnap 1934a, 45). "A proposal for a new syntactical construction of a specific element in the language of science is, when viewed on principle, a freely decidable fixation [*eine frei wählbare Festzetung*]" (Carnap 1934a, 260). Decisions are not right or wrong, but fruitful or unfruitful. In a summary paper for an American audience, "On the Character of Philosophic Problems," Carnap explains that a philosophical position can only have the character of an *assertation* about a specific scientific language in use, or of a *proposal* to construct a scientific language in a particular way. If philosophers discuss the latter type of position, "one is not dealing with a discussion about true or false, but with a discussion as to whether this or that mode of expression is simpler or more pertinent [*zweckmäßiger*]" (Carnap 1934b, 15).

The distinction between matters of fact and matters of decision also features prominently in Reichenbach's introduction to *Experience and Prediction.* The critical task of philosophy, according to Reichenbach, is the analysis of science. To per-

form such analysis properly, one must make a distinction "without which the process of scientific knowledge cannot be understood." "Scientific method is not, in every step of its procedure, directed by the principle of validity; there are other steps which have the character of volitional decisions" (Reichenbach 1938, 8–9). Some decisions, e.g. a choice of the unit of measurement, yield equivalent scientific theories, while other decisions, e.g. the choice what scientific inquiry aims at, radically change the knowledge enterprise in which one is engaged. Reichenbach called these bifurcational decisions. All these decisions are radically different from statements: "the character of being true or false belongs to statements only, not to decisions" (Reichenbach 1938, 11). One can make a factual statement that a certain decision was made, one can make a logical statement about the fact that something is a decision, but decisions themselves still have a character of their own. "Logical analysis shows us that within the system of science there are certain points regarding which no question as to truth can be raised, but where a decision is to be made" (Reichenbach 1938, 12). Philosophy cannot dictate which decisions to take. From a rational point of view, one is free to choose. Philosophy can only investigate the consequences of decisions for the knowledge enterprise in which one is engaged, and, by doing that, philosophy offers clarification. This clarification exhausts what philosophy can do.

> We may point out the advantages of our proposed decision, and we may use it in our own expositions of related subjects; but never can we demand agreement to our proposal in the sense that we can demand it for statements which we have proven to be true. (Reichenbach 1938, 13)

Typical examples of such matters of decision are the units of measurement. In *An Introduction to the Philosophy of Science*, Carnap states that the choice of measuring standard is conventional. Reason does not guide one in that decision. To measure length and time, one is rationally free to choose "a rubber rod and a pulse beat and then paying the price by developing a fantastically complex physics to deal with a world of enormous irregularity" (Carnap 1966, 94). Similarly, the geometry of physical space cannot be decided by experiment and reason alone:

> Physicists could have kept Euclidean geometry and could have explained the new observations by introducing new correction factors into mechanical and optical laws. Instead, they chose to follow Einstein in his abandonment of Euclidean geometry. (Carnap 1966, 162)

Given these statements, the scientific philosophy of Reichenbach and Carnap can be characterized by these four basic points:

4.1. There is a fundamental distinction between matters of facts and matters of volitions/decisions.

4.2. Certain elements of a scientific theory are matters of volition.
4.3. Reason leaves matters of volition open to choice.
4.4. Evaluating decisions is related to practical ends that an actor takes to be engaged in.

Because these points entail that rational principles alone do not determine specific parts of scientific reasoning, the position can be labeled as a voluntarist conception of rationality. Our knowledge enterprise cannot be understood without taking practical ends into account—ends which result from free choices, unbound by reason. Accordingly, our knowledge enterprise cannot be the object of a theory aimed purely at describing how things are. There is no theory of science possible without taking intentions and aims into account and these cannot be grounded or justified by pure reason alone. This understanding of voluntarism has, more recently, been elaborated and defended by Bas van Fraassen, quite explicitly as an extension of Reichenbach's reconfiguration of empiricism (van Fraassen 2002, 223). Similarly to Carnap and Reichenbach's pleas for a scientific philosophy, van Fraassen's position also entails a non-traditional understanding of what a philosophical position is, namely not a truth-apt belief or statement, but a "stance" (van Fraassen 2002, 47).[7]

Carnap and Reichenbach's voluntarism also results in anti-foundationalism. The logic of science cannot justify some of the necessary building blocks of scientific theories, like its geometry. Since the late 1980s, through the work of Michael Friedman (1999), Alan Richardson (1998), Thomas Uebel (2007) and André Carus (2007), such an anti-foundationalist reading of logical empiricism has been defended against the Quinean interpretation of its philosophy as a modern revival of Humean foundationalist empiricism. In all these contemporary interpretations, the voluntarism is mostly discussed in the context of the non-empirical, constitutive principles in scientific theories, e.g. concerning space and time.

However, ineliminable choices and a role for the will can be found in the entire make-up of our cognitive enterprise. For Carnap, the question whether to conceive physical objects in quantitative terms, like Galilean physics, or in qualitative terms, like Aristotelian physics, is a matter of choice (Carnap 1966, 59). There is no abstract reason that rationally compels one to use a quantitative approach. Also, there is "no general rule how to choose which parts of scientific theories or observations to put into question in the face of contradiction—this is a free choice" (Carnap 1934, 245). So, there is no rationally binding framework to guide theory-

7 Richard Jeffrey was the first to dub Carnap's meta-philosophy a form of voluntarism (Jeffrey 1994, 847). André Carus has also investigated Carnap's philosophical development within a voluntarist conception of rationality (Carus 2007, 45).

change. For Reichenbach, the aims of science themselves "are, logically speaking, a question not of truth-character but of volitional decision, and the decision determined by the answer to this question belongs to the bifurcation type" (Reichenbach 1938, 10). This more radical voluntarism makes the historical transition from Aristotelian to Newtonian physics not rationally compulsive, but the result of different choices in the make-up of our epistemic world view, more akin to a conversion than to an argument.

Reichenbach and Carnap also applied their voluntarism to the moral world. Already in the 1930s, Carnap was a well-known ethical non-cognitivist: just like decisions about how to handle contradictions between experiment and theory, decisions about what action one should perform, are volitional, a matter of practical stance [*praktische Stellungname*] and do not have a truth value (Carnap 1934c, 177). Such practical stances are often the result of upbringing and external influence from others, but they are not set in stone. One's stance can be informed by factual information, but it cannot be justified in any theoretical way.[8] Reichenbach's 1948 APA address also features an attack on a philosophical ethics: "fundamental ethical principles can be accounted for by the philosopher as little as the axioms of physical space" (Reichenbach 1948, 340). All ethical imperatives are fundamentally "volitional decisions" (Reichenbach 1948, 345). Earlier philosophers, such as the rationalists or traditional empiricists sought to find a proof for the validity of inductive reasoning, just as they sought to establish ethics on an unquestionable basis. This philosophical aim was mistaken: reason cannot function as a law-giver, neither in the cognitive, nor in the moral domain (Reichenbach 1948, 334).

In *The Rise of Scientific Philosophy* (henceforth, *Rise*), Reichenbach develops this voluntarist ethics extensively: "logic does not compel me to do anything" (Reichenbach 1951, 294). Because reason cannot direct decisions, Reichenbach introduces the will, as the subjective source of all volition, that we find in ourselves.

> Acts of volition may concern various objects; we want food, shelter, friends, pleasure, and so forth. That we find in ourselves acts of volition, is a matter of fact; they are distinguished from perceptions or logical laws in that they appear as products of our own in a situation leaving us choice. I may go to the theater or I may not; it is my will to go. I may help another man or I may not; it is my will to help him. (Reichenbach 1951, 282)

Distorted forms of morality, that early-modern philosophers like Kant expounded, had concluded that our will, in order to be good, had to be in accord with some

8 For further discussion of Carnap's voluntarist ethics and its historical context, see Damböck (2022).

abstract, rational principle. Reichenbach's voluntarism was a call to "stand on our own feet and trust our volitions, not because they are secondary ones, but because they are our own volitions" (Reichenbach 1951, 291). The ultimate source of volitions had to be purely subjective, originating from the individual itself. Just like Carnap, Reichenbach believes that the will, even though it is a subjective driving force for one's actions, can be influenced by one's surroundings (Reichenbach 1951, 299). The malleability of our volitions is a good thing: individuals harmonize their actions by taking examples from others, discussing their actions with others, and by investigating the consequences of their decisions for their environment. The only role that the philosopher can play in the social harmonization of volitions is the same role as in the domain of science: to clarify which elements in our practical questions are fundamentally related to decisions, and which elements are related to empirical investigations.

Reichenbach's application of his voluntarism to both the cognitive and moral domain is a conscious reinterpretation of Kant's philosophical project. In the APA address, Reichenbach refers to this famous passage from the conclusion of the *Critique of Practical Reason* (Reichenbach 1948, 335):

> Two things fill the mind with ever new and increasing admiration and awe, the oftener and the more steadily we reflect on them: the starry heavens above and the moral law within. I have not to search for them and conjecture them as though they were veiled in darkness or were in the transcendent region beyond my horizon; I see them before me and connect them directly with the consciousness of my existence. (Kant 1996 [1788] 5:161)

For Kant, the source of our knowledge of the movement of the starry heavens and of the moral principles for action is autonomous, directly related to the eternal, necessary and constitutive principles for all cognitive and moral beliefs, which can be uncovered through rational reflection on ourselves as thinking subjects. Reichenbach's voluntarism also defends an autonomous source of knowledge in the epistemic and moral domain, but strips that autonomy of its universal and foundationalist pretensions. No universal guiding principles for science or ethics can be found through rational reflection. However, philosophy remains for Reichenbach a reflection on ourselves as cognitive and ethical agents, and this reflection shows the necessity of ineliminable choices that guide the formation of our beliefs in the epistemic and moral domain, but cannot be grounded in a proof or argument.

Carnap and Reichenbach's shared voluntarism can be summarized in the following four elements. These are not limited to the conventional aspects of scientific theories, like the previous four, but are now generalized to the role of reason in any possible human inquiry.

4 A. There is a fundamental distinction between matters of facts and matters of volition/decision.
4B. Reason leaves matters of volition open to choice.
4C. The aims of our scientific and ethical enterprise, which guide our inquiry in those domains, are matters of volition.
4D. In clarifying and interpreting scientific and ethical inquiry, philosophy cannot provide rules or principles that determine its aims and evaluate its progress.

Once one takes on this voluntarist conception of what rational reflection can achieve, one must also accept that this voluntarism applies to itself. Consequently, there is no argument that can prove this voluntarist conception of rationality. To take on such voluntarism, to reorient what you take the aim of philosophy to be, is itself more akin to a conversion, a repositioning of the will. There is no argument which proves that traditional philosophical goals are unattainable. There is no compelling proof to abandon the search for some epistemic or moral rules given by reason. Traditional philosophy has to be *overcome*, *renounced* or *rejected:*

> To those who cannot give up rationalist philosophy, scientific philosophy has not much to say. Rationalism is an emotional bias… To abandon the desire for the unattainable requires a revision of emotional weights. (Reichenbach 1951, 255)
>
> The philosopher, who had to renounce setting up the principles of physics, will be ready also to renounce setting up the fundamental ethical imperatives. (Reichenbach 1948, 345)
>
> What is required for a scientific philosophy is a reorientation of philosophic desires. (Reichenbach 1951, 305)
>
> We reject the use of the Narcotic [of metaphysical philosophy to solve ethical problems]. If others want to enjoy its pleasures, then I cannot refute them on a theoretical basis. But that doesn't mean I am neutral as to how people conceive their decisions. (Carnap 1935, 179)

The discussion of skepticism by Reichenbach is a good example of his defense of voluntarism. The empiricism of Hume was laudable in its rejection of a priori metaphysics, but ultimately failed and ended up in skepticism concerning all empirical knowledge, because Hume upheld the same philosophical desire as rationalist philosophers, to prove or ground our empirical knowledge on fundamental rational principles. These were "unattainable aims" (Reichenbach 1948, 343). The empiricist who turns skeptic does not draw the right moral from Hume's argument, which would be to give up the "rationalist creed" that the truth of knowledge-statements must be guaranteed through arguments (Reichenbach 1948, 338). Reichenbach's history of modern philosophy and science, which he constantly repeats from 1935 to 1951, is an attempt to nudge the reader in drawing the right moral from

the history of philosophy, i. e. giving up the rationalist creed. Reichenbach's history is not an argument: it does not provide a compelling reason to give up traditional philosophical projects.

According to Reichenbach's robust voluntarist meta-perspective, philosophical reflection is itself not factual. This meta-philosophy is perhaps most evident in one of his early popularizing texts, "Die Weltanschauung der Exakten Wissenschaften," written in 1928 for the non-academic journal *Die Böttcherstrasse.*[9] In this article, Reichenbach described the world view which had developed from modern science as the result of "a gradual redirection of emotions"—a strong voluntarist statement which he repeated in *Rise.* This worldview was itself not "another explicit conceptual structure." Reichenbach categorizes it as a "basic attitude, an intellectual stance, a habit of mind" that envelops the scientific enterprise (Reichenbach 1978 [1928], 241).

> Rational knowledge in our sense is not tantamount to categorization within the pre-established cubby-holes of a reason that governs a priori, but simply amounts to unconditional faith in the power of the human capacity for knowledge—within the framework of a critique of its own goals. Thus the rational element is itself subject to change; and it emerges with increasing clarity that the basic stance of science is a faith more akin to an instinct than to rational insight, to will than to knowledge. Thus the will, the tenacious, malleable, indefatigable, and yet eternally modifiable will, is probably the basic element that truly represents the world view standing behind the scientific investigation of nature. (Reichenbach 1978 [1928], 244)

In order for rational inquiry to avoid skeptic inactivity, given the absence of universal rules to guide its trajectory, one needs the courage to decide what one aims at and to accept that this aim itself cannot be grounded in any way. As an example of the necessity of ungrounded courage required in our knowledge enterprise, let us return to the plot of Shakespeare's *Hamlet.* Close to the end of *Rise*, Reichenbach added an "interlude" discussing the significance of Hamlet's soliloquy *to be or not to be*, to avenge his father or not. Reichenbach dissects Hamlet's inability to act as the result of a lack of epistemic courage. Hamlet only has indirect evidence that his uncle killed his father and so decides to procure more evidence by setting up a play for his uncle. The plot of this play tells the story of a king who is murdered. By probing the response of his uncle to the devised plot, Hamlet hopes to find evidence of his uncle's guilt. Even though his uncle is obviously disturbed by the play, Hamlet still has difficulties deciding whether his uncle killed his father. Although the new evidence increases the reasons to believe that his uncle is guilty, Hamlet fails to accept it. Reichenbach has his logical Hamlet complain: "I want certainty, but all the logician has for me is advice to make posits" (Reichenbach 1951, 251).

9 Richardson (2005, 84) discusses this text in relation to Reichenbach's transcendental heritage.

Reason alone cannot guide Hamlet: in order to act, courage is required. Because Hamlet desires a ground for his belief, guided by traditional epistemic desires of certainty and ultimate truth, just like early-modern philosophers, he ends up as a skeptic unable to do anything.[10] Reichenbach's moral is clear: reason or logic becomes useful in life only in combination with the courage to accept that belief and action ultimately spring from the will.

10.5 Voluntarism's Modern Anti-Naturalist Revival

In contemporary philosophy, Bas van Fraassen has explicitly taken up Reichenbach's voluntarist conception of rationality. In close parallel to Reichenbach, van Fraassen defends that traditional epistemology, either in rationalist or empiricist guise, is a defunct project that reached for the unattainable, namely a rational foundation of our knowledge claims. Instead of searching for such a foundation, van Fraassen offers a voluntarist picture of our rational capacities: "rationality is in some good sense empty; any truly coherent opinion is truly rational" (van Fraassen 2000, 273). Much more explicit than Reichenbach and Carnap ever did, van Fraassen identified that the challenge for such a voluntarism lies in showing how skepticism and debilitating relativism are avoided. To that end, van Fraassen invokes a non-naturalist version of Neurath's boat: as a thinking subject one never finds oneself without prior epistemic (and moral) commitments. Although rationality cannot constrain how to deal with one's beliefs beyond the avoidance of bare incoherence, previous commitments and our understanding of those commitments limit what we believe and how we approach those beliefs.

> For at any given time, an individual responds to his experience in terms of and on the basis of his prior opinion and understanding (much of which is built into the language in which he frames that response). This means that although there may be leeway and options, they are highly constrained by the way in which we come to the new experience or new evidence. (van Fraassen 2000, 278)

10 Alisdair MacIntyre uses the plot of *Hamlet* as an example to discuss the transitions between theoretical frameworks in the history of science. His moral is strikingly close to Reichenbach: no logical reason can compel such transition, and ultimately, no logical set of rules is sufficient to understand scientific progress (MacIntyre 1977). MacIntyre believes that the moral from *Hamlet* is the failure of logical empiricist philosophy of science, and he is seemingly unaware that Reichenbach already used the same play for a similar message.

By relativizing rationality in this way, voluntarism charts a course between *Nothing goes* and *Anything goes.* As thinking subjects, we cannot but understand ourselves from within our given cultural and scientific time-frame. Decisions are not arbitrary, because "they express both the history and the project which constitute the subject's current stance on the matter" (van Fraassen 2011, 160).

A similar relativization of philosophy is also present in Carnap and Reichenbach's writings. When they situated philosophy on the same level as science, they meant that the clarification offered by the philosopher cannot but start from the contemporary scientific practice for which such clarification was meant to be significant. At the end of *Syntax*, Carnap emphasized that "all work in the logic of science, in philosophy in general, is condemned to be fruitless, if it is not performed in close contact with the sciences [*Fachwissenschaften*]" (Carnap 1934, 260). Therefore, philosophers work on "the same field" [*auf demselben Feld*] as the scientist, even though there is a different division of attention [*Aufmerksamkeitsverteilung*]. Philosophers have the language of science as their objects of study, and in order to perform relevant interpretive work for the scientific enterprise, the philosopher's clarification must start from the contemporary understanding of science and its history. In his APA address, Reichenbach makes this clear as well: the analysis of knowledge can no longer start from the abstract, instead it starts from the scientific practice which we find ourselves in and which we value. "In so doing, the philosopher will know that all he can strive for is a philosophy of the knowledge of his time" (Reichenbach 1948, 345). In the German context of Carnap and Reichenbach's early work, such relativization of philosophy's aim had already been part of the Marburg Neo-Kantian tradition which took the contemporary sciences as facts whose preconditions it is the task of philosophy to study (Heis 2013, 73).

Van Fraassen explicitly discusses voluntarism in opposition to Quinean naturalism.[11] The latter is a type of objectifying epistemology, a factual theory writing project about cognitive functioning in which neither value judgments, nor an intentional subject play any role (van Fraassen 2002, 76). Given the constant emphasis on the non-factual nature of philosophy in Reichenbach and Carnap's writings, the opposition with objectifying epistemology is a good characteristic to distinguish their meta-philosophy from naturalism as well. Alan Richardson has already discussed the similarity between van Fraassen's voluntarist reinterpretation of empiricism and the anti-naturalism inherent in Reichenbach and Carnap (Richardson

11 Michael Friedman's historical work on Reichenbach and Carnap was also aimed to oppose such naturalism—see Friedman's own APA address (Friedman 1995). Whether Friedman or van Fraassen are correct in their understanding of Quinean naturalism as a factual theory about our cognition, is a separate matter.

2005; 2011). There is one question that Richardson addressed and was so far ignored: "exactly who is making these decisions?" (Richardson 2005, 79) As Richardson pointed out, Carnap after 1935 mostly refused to use vocabulary about the thinking subject or the source of decision/volition, and largely sticks to some extra-systematic 'we' that cannot be spoken of in philosophy (Richardson 2005, 86). In contrast, Reichenbach had no scruples talking about a willing subject, but he had no philosophical details to add. Fundamentally, philosophy according to Carnap and Reichenbach only has the resource to reflect on those aspects of our moral and epistemic enterprise which are decisions, and to point out *that* there always is a responsibility concerning the aims of inquiry which cannot be removed by some process of reasoning. In the same way, Carnap and Reichenbach do not have an argument for their voluntarist conception of human reason, and its concomitant reorientation of the aim of philosophy. They can only show their commitment to make sense of science in its historical process, express their conviction of the importance to reorient the task of philosophy, and narrate how they place their commitment as a response to the history of philosophy and science as they understand it—which is the central historical message in their Paris addresses.

10.6 Voluntarism Neglected: The American Students

If Reichenbach and Carnap shared an overall voluntarist conception of rationality that redefined the boundaries of philosophical discourse and put central emphasis on the ineliminable element of volition involved in our ethical and cognitive undertakings as thinking subjects, then why was this not at the heart of further development of the logical empiricist project after the Second World War? One issue, that Carnap identified early on, was the lack of any "bible" that could have guided the reception of the overall project of logical empiricist philosophy. Only Reichenbach's *Rise* was a candidate for such a bible, but the book suffered from some fatal flaws. As Carnap expressed to Reichenbach, he had enjoyed reading the book, but "in its present form it is of course chiefly meant for laymen."[12] Such format limited its value and its potential.

Despite Reichenbach's emphasis on the precision of his scientific philosophy, his book was a rhetorical exercise filled with ambiguous statements. In the conclusion, Reichenbach lamented that the glorification of philosophy's past had undermined the philosophical potency of the present generation, and consequently

12 Carnap to Reichenbach, September 19, 1951, HRP, Box 37, folder 17.

many students of philosophy had adopted a philosophic relativism and believed there to be no philosophical truth. Scientific philosophy was praised as the antidote: it arrived at conclusions "as precise, as elaborate, and as reliable as the results of the science of our time" (Reichenbach 1951, 325). The implication of this lament would be not only that there is philosophical truth, but that scientific philosophy is the best avenue to reach it. However, this is a very misleading way to put things. Reichenbach had just argued throughout the entire book that philosophers mistakenly through the centuries had attempted to derive truths or provide foundations for truth. The whole point of scientific philosophy's reconfiguration of what philosophy aims at was to abandon the search for such foundational truth.

The reception of *Rise*, in the academic literature, was mostly negative. In the *Scientific American*, Ernest Nagel complained that Reichenbach's history of early-modern philosophy was misleading (Nagel 1951, 70). Nagel could not find a consistent understanding of scientific philosophy, other than that it rejects traditional approaches to philosophy and accepts Reichenbach's own theories. He also lamented Reichenbach's swooping claims about the superiority of his own frequency interpretation of probability as an aggressive overestimation of his own intellectual capacity (Nagel 1951, 71). Nagel never came close to a voluntarist interpretation of *Rise* as described above. Similarly, in *Philosophical Review*, Norman Malcolm could not wrap his head around the status of scientific philosophy. The supposed solution to philosophical problems on offer in the book were neither the result of empirical methods, nor did the solutions achieve a similar consensus as solutions to scientific problems (Malcolm 1951). Malcolm believed that Reichenbach's scientific philosophy understood the knowledge of physics and symbolic logic as a necessary condition to discuss *traditional* philosophical problems, which, according to Malcolm, was obviously false. Again, the review failed to bring out the voluntarist project and its concomitant novel boundaries of rationality. Overall, professional philosophers had a hard time taking Reichenbach's book seriously: important journals like *The Journal of Philosophy* and *Philosophy of Science* did not even publish a review. It is safe to conclude that the *outward* reception of the voluntarist project of Carnap and Reichenbach after the Second World War was non-existent. However, the younger generation that was trained or heavily influenced by Carnap and Reichenbach also did not pick it up.

A good example of the complete absence of voluntarism in the *inner* reception of Carnap and Reichenbach is Carl Hempel. In his *Philosophy of Natural Science*—probably the most influential textbook of philosophy of science in the post-war period—there is no trace of any voluntarism. Whereas Reichenbach gave the element of decision a central place in his critical analysis of knowledge in *Experience and Predicition*, Hempel makes no mention of it. He presents the philosophy of science more or less as a theoretical representation of scientific inquiry, some kind of fac-

tual theory of science (Hempel 1966, 2). He also presents the descriptive and explanatory aims of science as matters of fact that can be taken for granted (Hempel 1966, 47).

Another example of a student of Reichenbach who completely ignored the voluntarism, is Wesley Salmon. In an overview of the intellectual inheritance of Reichenbach and Carnap, Salmon summarized the "spirit of logical empiricism" as a philosophical analysis of a particular scientific concept or theory that is grounded in the latest state-of-the-art developments and uses the best available logic and mathematics to deal with the issues at hand. There is no mention of an overarching non-foundationalist conception of rationality (Salmon 1997, 346). Hilary Putnam, who studied under Reichenbach alongside Salmon, believed that philosophy, in Reichenbach's view, aims at conceptually clarifying scientific theories. However, the clarification serves a fairly traditional philosophical purpose, to enlighten metaphysical issues concerning the nature of space, time and causality by uncovering what scientific theories say about them (Putnam 2008, 104). Putnam generally interpreted both Reichenbach and Carnap as philosophers who offered a metaphysical picture of the world, but employed science to create that picture, unlike earlier philosophers (Putnam 1991). Putnam understood Carnap's work in inductive logic as an attempt to provide an algorithm for proving all valid formulas in inductive logic and so formalize the one and only scientific method (Putnam 1983, 198).

10.7 The Eclipse of Scientific Philosophy

The first generation of U.S. philosophers like Hempel, Salmon or Putnam missed the voluntarist conception of reason that was part of the scientific philosophy as advertised by their teachers. Only the second generation of students inspired by logical empiricism, like Bas van Fraassen and Michael Friedman, returned to the voluntarist aspects and elaborated on them. The failure of Carnap and Reichenbach to adequately convey the overarching meta-philosophical project to the American students who followed in their wake should be understood in the context of migration. To survive as a project in the period of migration, scientific philosophy had to make the new boundaries for philosophy in its relation to science both institutionally and intellectually significant. Migration created many intellectual and institutional pressures that prevented success.

From an intellectual point of view, the project of Carnap and Reichenbach, as characterized by 4.A – D, was originally developed within the landscape of interbellum German philosophy. Neo-Kantian philosophers, like Herman Cohen and Ernst Cassirer, had already reconceived the status of synthetic a priori knowledge by

reorienting philosophy's critical task directly in relation to scientific developments of their time. The voluntarism of Carnap and Reichenbach maintained not only this relativization of philosophy's task, but also the non-factual status of philosophy's critical clarification.[13] Whereas the former characteristic suited well with the American naturalist and pragmatist tradition in general, the latter was closely tied to a post-Kantian, anti-naturalist conception of philosophy as non-metaphysical and non-factual. American students of the post-war period were never familiarized with such a meta-philosophy and did not read the German work of Carnap and Reichenbach.

Moreover, Carnap and Reichenbach themselves in the 1950s were unsuccessful in conveying it. Reichenbach's attempt at meta-philosophy, both in his APA address and in *Rise*, was filled with polemical remarks to such a degree that almost no reader engaged with the voluntarist conception of reason. This failed reception could have turned out different. In the summer of 1945, Reichenbach was making provisions for Ernst Cassirer to stay at UCLA, and he was looking forward to introduce his students to Cassirer's seminar.[14] If students like Salmon and Putnam could have become familiar to the Neo-Kantian background of Reichenbach's ideas and its non-naturalist conception of reason, American philosophy might have taken a different intellectual turn. Similarly, if Carnap had decided to drop his technical work on inductive logic and had instead produced an accessible introduction to his meta-philosophy, the technical interpretation of his work also could have taken different routes.

At the institutional level, the 1930s had shown successes for the logical empiricist network, in the international and interdisciplinary conferences and in the Encyclopedia project. Neither of these two early successes were continued after the war. The American *Institute for the Unity of Science* proved unsuccessful in promoting the novel type of intellectual work that scientific philosophy stood for: to provide clarification and integration of the scientific enterprise. If Reichenbach had not died in 1953, perhaps the *Institute* would not have gone quietly into the night during the 1950s.

Even though the voluntarism inherent in scientific philosophy was not taken up in the post-war period, the logical and science-oriented nature of Carnap and Reichenbach's philosophy proved a lasting resource for the analytic tradition. Through the more recent historical and interpretative work, the voluntarist conception of reason even returned to play its role within that tradition. Ultimately,

13 I have not discussed the intellectual origins of Carnap and Reichenbach's voluntarism in detail. For a discussion of voluntarism in the context of early twentieth-century German philosophy and its representation in the work Moritz Schlick, see Textor (2021).

14 Cassirer to Reichenbach, April 10, 1945, HRP Box 37, folder 5, item 5.

"what matters is that we for ourselves create the consciousness of the transition which is already taking place, in order to execute it with clarity and method" (Carnap 1936, 41).

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