
The Politics of Carnap's Non-Cognitivism and the Scientific World-Conception of Left-Wing Logical Empiricism

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Based on a reconstruction of the development of Rudolf Carnap's views from the Aufbau until the 1960s, this paper provides an account of the philosopher's understanding of non-cognitivism, which is here seen as in line with the so-called scientific world-conception of left-wing logical empiricism. The starting point of Carnap's conception is the claim that every human decision depends on certain attitudes that cannot be justified at a cognitive level, that are neither based on empirical facts nor logical reasoning. The key features of Carnap's non-cognitivism, however, go beyond this general basis and involve several fundamentally moral commitments, such as a commitment toward science, and the embracing of moral attitudes as the result of a long-term process of rational discourse. I argue that these commitments contained in Carnap's non-cognitivism/scientific world-conception establish a genuinely political worldview that is characteristic of left-wing logical empiricism and converges with socialism and democracy.

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1. Introduction

This paper claims that there is an intimate connection between Rudolf Carnap's meta-ethical views (Reisch 2005, pp. 47–53, 382–384; Mormann 2006, 2007; Richardson 2007; Uebel 2010a, 2012b; Siegetsleitner 2014, pp. 89–162; Carus 2021, 2022; Damböck 2021b, 2022a) and his political views, which, in turn, converge with the so-called scientific world-conception of left-wing logical empiricism (Uebel 2004b, 2010b, 2012b, 2020; Reisch 2005, Romizi 2009, Damböck 2018). To demonstrate this, I will first examine some of Carnap's early writings from the 1920s and 1930s (section 2) and then move on to the mature formulations of Carnap's non-cognitivism that he published in the 1960s (section 3). The resulting account confronts us with two questions that eventually go beyond mere Carnap exegesis: Can science in the politically and morally non-neutral reading of the scientific world-conception still be value-free (section 4)? Is there a consistent distinction between inner and outer scientific values (section 5)?

Parallel cases, such as A. J. Ayer, Richard M. Hare, and Charles L. Stevenson, will not be examined. Neither will I discuss possible implications of Carnap's views for recent meta-ethical discourse. Another important topic that cannot be addressed here is the relationship between Carnap's views on values and inductive decision-making (see section 3, Carnap 1962).

In order to avoid common misunderstandings, some remarks on the key notions "science as a value," "non-cognitivism," and "political" are necessary. Can science or the scientific attitude be understood as a value to which some are politically/morally committed while others are not? A common understanding of science within the Vienna Circle's scientific world-conception implies that the answer to this question must be negative. Science, this understanding says, is only an instrument, a means rather than an end. As a means, science (along with the scientific world-conception) is objectively binding, because it can be proven that given a certain aim *A*, the application of scientific means toward *A* is generally more efficient than the use of non-scientific alternatives. This underlines the objective superiority of science as an instrument. In this paper, I do not intend to question this. On the contrary, the scientific world-conception is viewed here, of course, as the acknowledgement that we ought to follow science's superior advice rather than read tea leaves, for instance. However, this commitment toward science, while being based on the objectively valid recognition of science's superiority as an instrument for human decision-making, must also face competing concepts that recommend discarding science. A religious fanatic, a stubborn denier of global warming, or a fascist will hardly give up their anti-rational views, even when we confront them with scientific evidence undermining their

world-views. The scientist may be right in that science is superior because it is based on verifiable facts rather than hoaxes, but what can be done if someone chooses to trust in a hoax rather than a fact? In matters of empirical facts and logic, the scientist is objectively right, and the hoax-believer is objectively wrong. But the scientist's knowledge appears to be rather useless, if they do not succeed in influencing/affecting the hoax-believer's attitude and emotional stance. Objectivity and sincerity are the great strengths of science. Yet these strengths only take effect if the scientists also manage to increase people's susceptibility to science. And this is how science becomes a political and moral matter in its own right.

The term "non-cognitive" seems to have been invented by Carnap himself. As far as I can tell, it first shows up in the following formulation: "The non-cognitive character of the questions which we have called here external questions was recognized and emphasized already by the Vienna Circle" (Carnap 1950b, p. 215). In Carnap 1944, while not yet using the term "*non-cognitive*," he points out that "the kind of meaning which we deny for absolute value statements is only cognitive (theoretical, assertive) meaning." Though the term non-cognitive was introduced rather late, the notion itself is already present in Carnap's works of the 1920s and 1930s, where Carnap distinguishes between statements that are either empirically or logically determinable (viz. scientific facts) and things that do not have this property (viz. values). For reasons that I clarify below (section 2.1), I will stick to Carnap's understanding of non-cognitive here, even though it is not identical to the common use of the term (viz. non-cognitive as a lack of truth-value).

In what sense can (or should) a philosophical or scientific account be a political matter? "Political" means that an attitude—in our case the scientific world-conception—is adopted and recommended for political and no longer merely scientific reasons. To adopt a certain attitude—say, to strive for simplicity, levelheadedness, and value freedom—is certainly often a rational choice. The scientist decides to choose simple solutions, to be sober and value-free, because they realize that this is the best way to achieve scientific results. Viewed from this perspective, the scientific world-conception and any other variety of a scientific attitude are apolitical (however, see section 5 where the relevance of real-world politics for science is highlighted). The scientific world-conception only becomes a political matter when the scientist regards the adoption of her attitudes as not only useful for the development of the scientific enterprise, but also as beneficial beyond the scientific ivory tower. The scientific world-conception is political insofar as it recommends adopting the scientific attitude not just within the laboratory but also in real life. The scientific attitude, therefore, becomes a style of life (*Lebensstil*) and an approach to reality that its

defenders connect with other political ideas, such as, for example, the ideas of socialism.

In terms of the political aspects in Carnap's work, a source of misunderstanding is that existing accounts of politics in the Vienna Circle often use weaker notions such as "politics in the broadest sense" (Uebel 2012b) or "politically engaged philosophy of science" (Romizi 2009). These readings suggest that the scientific world-conception is political only in a somewhat sophisticated sense that does not concern itself with "party politics." By contrast, as I will argue here by partly following Uebel (2020), the scientific world-conception of the "left wing" of the Vienna Circle (Uebel 2004a) is political, pretty much in the common sense of "party politics," because it connects science with socialist ideas.¹

Another source of misunderstanding is Carnap's own presentation, for it is Carnap who in his autobiography seemingly distances himself from "party politics" and highlights that in the Vienna Circle, political problems "were discussed privately, not in the Circle which was devoted to theoretical questions" (Carnap 1963b, pp. 82–3). Yet an analysis of recently investigated sources, such as Carnap's unpublished lectures, his correspondence and diaries, clearly changes the picture and identifies Carnap's philosophical intentions as far more explicitly political than is commonly assumed.²

Finally, the most significant sources of misunderstanding in regard to the political nature of Carnap's philosophy are some of his own published writings on non-cognitivism. A relatively complete account of his early views is to be found in his four-page article "Theoretical questions and practical decisions" (Carnap 1934). However, it is hardly possible to understand what Carnap means here, unless we read his text against the

1. I share with (Uebel 2020) the overall view that the left wing (especially Carnap and Neurath) needs to be separated from the rest of the Vienna Circle because the leftists developed a more radical and far more explicitly political program than mere "politics in the broadest sense." However, my reading of non-cognitivism is different from Uebel's, who shares the claim of Rainer Hegselmann that Neurath and Carnap "overlooked the inconsistency between [their] conceptions of theoretical and practical rationality" (Uebel 2020, p. 41n20; here quoting Hegselmann). My paper aims to demonstrate that there is no inconsistency involved here at all (see sections 4 and 5). Moreover, I take for granted here that Uebel (2010b, 2020) and Romizi (2009) correctly argue against the contrary claim made by Richardson (2009). They argue that there is a political mission in the (left-wing) Vienna Circle's philosophy of science. However, my argumentation goes even further than Uebel and Romizi's in that I claim that what Carnap (and Neurath) do is strongly linked to their concrete socialist views.

2. See Carnap (2022) as well as Damböck (2022b, 2022c), where several of the relevant unpublished lectures, letters, and manuscripts are discussed. Cf. <https://valep.vc.univie.ac.at/> where large parts of the Carnap papers are made available in electronic form.

background of unpublished sources such as his Bauhaus lectures (see section 2.2) and the protocols from the Neurath Circle (section 2.3). Furthermore, this text is nothing more than a snapshot and must be read against Carnap's mature views that significantly modify his early conception (section 3). Also, the 1934 article is still available in German only and initially appeared in a rather remote journal; it reads like a rough draft, seems rather condensed, and even Carnap scholars did not pay much attention to it (the most important exception being Richardson 2007).

The only widely available source outlining Carnap's mature views on non-cognitivism is his reply to Abraham Kaplan (Carnap 1963a). But even this text is not that easily accessible. On the one hand, it needs to be read against the background of Carnap's early writings because it is mainly conceived as a comment on his earlier views (see Carnap 1963a, p. 1000n52), pointing out where his conception had changed. On the other hand, the 1963 account focuses on formal considerations concerning the identification of "pure optatives." These considerations are important for Carnap's inductive logic and his overall framework of "explication" (Carnap 1950a, ch. I); however, they are by no means crucial for his moral philosophy. Again, the 1963 paper needs to be read alongside various other writings, such as interviews, diary entries, and unpublished lectures.

Up until now, almost all defenders and critics of Carnap's non-cognitivism only refer to his fragmentary remarks in *Philosophy and Logical Syntax* (Carnap 1935, pp. 22–6).³ For good reason, Carnap criticizes this text in his 1963 account: it "appeared to me long ago obsolete and unsatisfactory" (Carnap 1963a, p. 1000n52). The problem with this text is that it not just ignores the political background of Carnap's views but also skips the most important features of scientific reasoning on values that ought to take place before we adopt a certain attitude. In other texts on the topic Carnap highlights the key importance of (a) consistency questions—are my values mutually compatible at all?—and (b) causal questions—am I willing to buy all consequences that a particular decision might bring about? In the 1935 text, besides the identification of values as mere attitudes (rather than cognitively meaningful claims), he only mentions the relevance of "psychological and sociological investigations about [...] the origin of [...] actions from feelings and volitions" (Carnap 1935, p. 23). However, if our attitudes, as Carnap seems to suggest in this piece, do not depend on rational discourse of any kind—when we merely adopt them based on "feelings and volitions" and expect from others that they

3. Cf. Sattis (1987), Schröder (2010), and van Roojen (2018) who all only mention Carnap (1935).

simply do as they please as well, then it becomes unclear how these empirical investigations on values could be useful at all.⁴

To sum it up, the main problem of an adequate reception of Carnap's non-cognitivism is that the published accounts of his theory are highly incomplete. Therefore, I will shoot the movie again, so to speak, this time including the whole wealth of information we gain from Carnap's unpublished writings and other historical sources. In this regard, the present account is a direct follow-up to (Damböck 2021b, 2022a), where I contextualized Carnap's early views on values as he developed them against the background of the philosophy of his grandfather Friedrich Wilhelm Dörpfeld, the German Youth Movement, and his experiences of the First World War.

2. Non-Cognitivism in the Viennese and Prague Years

Recent research on the roots of Carnap's non-cognitivism uncovered important influences on his views (1) at the level of his protestant background (Carus 2021, 2022), including the influence of his grandfather, the Herbartian pedagogue Friedrich Wilhelm Dörpfeld (Heidelberger 2021, Damböck 2021b); and (2) in the context of the German Youth Movement, here relating his views with the meta-ethics of Hans Reichenbach and Hans Freyer (Damböck 2022c). In this paper, I will add to these pre-histories of Carnap's non-cognitivism that only cover the period until the early 1920s—an account of its history as it can be reconstructed from his published and unpublished works between the middle of the 1920s and the 1960s. Let us begin our examination with the *Aufbau*, Carnap's first major book (Carnap 1998).

2.1. Values in the *Aufbau* and Onwards: Preliminaries of Carnap's Non-Cognitivism

Carnap's *Der logische Aufbau der Welt*, hereafter *Aufbau*, was published in 1928, but mostly written before Carnap came to Vienna in 1926 (Damböck 2021a). In this work values play only a subordinate role. They are introduced, in a rather fragmentary way, in the final paragraph of Carnap's outline of a "constructional system" (1998, §152), and take up only

4. We may wonder what might have motivated Carnap to provide such a regrettably incomplete account in his 1935 book which served as his philosophical calling card for decades. One reason might be that this was the first text Carnap had ever written directly in English; this remained a rare example, as later, Carnap almost always wrote a German draft first and then translated it. Another reason might be a certain militancy that he developed in 1934 when facing the upcoming catastrophe of fascism. He tended to avoid political discussions with politically different-minded people and recommended to just adopt a sober scientific attitude and fight all those not willing to share the ideas of socialism (cf. Damböck, 2022b).

slightly more than one page. The “constructional system” of the *Aufbau* provides definitions for every concept, on the basis of what Carnap calls “elementary experiences.” These are all phenomenal experiences of a person, including sensory and inner experiences. Starting at the level of the private experiences of person X, the constructional system first defines every concept that is seen as belonging to this fundamental level (step one). Then, the constructional system moves step by step toward more complex levels of epistemic entities, roughly in the following way:

- Step two constructs all physical concepts by means of the experiences of X that concern colors, forms, sounds, and the like.
- Step three constructs all hetero-psychological concepts, viz. all concepts that belong to the private experiences of other minds, by means of X’s private experience of the behavior of others, together with the analogical conclusion that all minds relate to behavior similarly.
- Step four constructs mental objects (*geistige Gegenstände*), which represent intersubjectively instantiated social institutions and works of the human mind, via the identification of the intersubjective status of such objects at the level of their physical representation in books, sculptures, and social conventions.
- Step five constructs values as follows: The key idea is that values are objects that do not have the same intersubjective status as *geistige Gegenstände* and social conventions. Whereas social conventions—Carnap mentions, for instance, the convention to take one’s hat off (§150)—are intersubjectively instantiated modes of behavior that do not have the status of values, values are not intersubjectively determined but become defined at the level of private experience. Here, values become accessible via so-called “value experiences.”

Not only does Carnap move values down to the level of private experience, which is highly plausible in light of our knowledge about Carnap’s later non-cognitivism. But he also adds that this construction of values via private value experiences “should not be considered a psychologizing of values, just as the construction of physical objects from sense qualities does not amount to a psychologizing of the physical. In realistic language, values themselves are not experiential or psychological, but exist independently of being experienced” (1928, §152). Thomas Mormann interprets this statement as a commitment of Carnap toward Rickert’s account of south-west German Neo-Kantianism (Mormann 2006). Such an account would involve viewing values as being objective and absolute in that a certain historical era is represented by one absolute set of values. Rickert’s view is relativist insofar as these epoch-representing values might change over time; but given a particular epoch there is a definitive set of values

representing it. Thus values are not reflecting the attitudes of persons but of entire groups, epochs, ages. Georg Simmel, in line with Rickert, famously illustrates this objective and absolute approach to values by outlining ideological views that were widespread prior to World War I. While there might be ages for pacifism, 1913 clearly was not such an age for Simmel. If, in 1913, German citizens adopted pacifism, according to Simmel, they would be objectively wrong because they did not realize that the present age dictated an appreciation of war (cf. Simmel 1913, p. 151).

By contrast, what Carnap says in the *Aufbau* is that values are given as “experiences of conscience, experiences of duty or of responsibility, etc.” (1928, §152) An ethical value arises when a person associates an action – for example, the assistance given to an old man crossing the street – with a feeling of responsibility, conscience, or duty. The key point here is that, for Carnap, values are identified at the auto-psychological rather than the intersubjective level, because they represent individual feelings and attitudes, whereas for Rickert (and Simmel), values are clearly representing super-individual entities, because they—much like the stars in the Platonic heaven—represent the normative status of an entire age (Mormann 2006, p. 182).⁵

In the *Aufbau*, Carnap is not defending a theory of values which, like Rickert's or Simmel's accounts, identifies values with historical epochs, but rather presents a theory that identifies them as individual value experiences that might very well diverge among different representatives of the same epoch or group. At the same time, the theory of values that Carnap presents in the *Aufbau* is rather rudimentary. The only conclusion that can be drawn here is that this theory is compatible with Carnap's later non-cognitivism, whereby I follow (Carus 2021) and reject Mormann, who claims that Carnap radically changed his mind somehow between the *Aufbau* and his meta-ethical writings of the early 1930s.

But what exactly is the non-cognitivism that Carnap defends from his Viennese years onward and possibly already embraced in the *Aufbau*? The key difference between Carnap's understanding of *non-cognitivism* in and beyond the *Aufbau* and varieties of moral *cognitivism* is that, for Carnap, moral statements (a) always consist of an aspect that cannot be epistemically justified, while epistemic justification (b) is possible only by means of logical derivation of a statement from true empirical statements or logical truths (see section 3). This view is similar but not identical to the more commonly

5. It also has to be noted that Carnap's non-cognitivism shares many of the Herbartian views of his grandfather Friedrich Wilhelm Dörpfeld (Dörpfeld 1895; Heidelberger 2021; Damböck 2021b). This becomes particularly clear in the conception of the *Aufbau*, for the idea that values are identified by means of specific experiences of conscience, responsibility, and the like is also to be found in Dörpfeld (1895, p. 16), a book that Carnap read in the early 1920s.

held understanding of non-cognitivism that regards moral statements as having no truth value (van Roojen 2018). It is important to consider the difference between these two seemingly identical notions of non-cognitivism, because there are certain varieties of non-cognitivism that share the feature of absence of a truth value with Carnap's notion while they still involve an epistemic justification of values. Importantly, this holds true for the moral philosophy of Carnap's Prague antipode Oscar Kraus, who not only characterized Carnap's "thesis of the nature of value statements as so dangerous for the morality of youth that he had seriously pondered the question whether it was not his duty to call on the state authorities to put me in jail" (Carnap 1963b, p. 82); he also, as is less known, defended the view that value statements are mere attitudes and therefore lack truth values, here following his teacher Franz Brentano. Kraus, in a discussion of Carnap's views (Kraus 1937, pp. 439–41), explicitly distances his theory from Carnap's in that he added the claim that only those valuations that emerge from "correct emotions" are acceptable (Kraus 1937, p. 440). For Kraus and Brentano, there must be a meta-procedure that can identify reliable persons with "correct emotions," which allows them to arrive at an epistemic justification of values. Because values are justified only by people having "correct emotions," they are not "true" in relation to an external reality (platonic heaven) but can only be justified by means of the individual having the correct emotion. While sharing with Carnap the overall claim of non-cognitivism, namely the claim that there is no external reality making value claims true or false, Kraus accuses Carnap of being "value blind" (1937, p. 441). For Kraus, Carnap cannot see the difference between correct and incorrect emotions and therefore arrives at value relativism.

For Carnap, on the other hand, it is not just the absence of a truth value that characterizes non-cognitivism but, more specifically, the absence of epistemic justification as such. He rejects the idea of correct emotions. As we will see in section 3.1 below, Carnap acknowledges that even when people act entirely rationally and agree in all scientific matters, they might still adopt diverging attitudes, whereas two Krausians having correct emotions must arrive at the same moral attitudes.

2.2. The Preface to the *Aufbau* and the Bauhaus Lectures: Science as a Political World-View

Some key features of Carnap's non-cognitivism seem to have originated in his time in Vienna,⁶ in the context of discussions that Carnap had with

6. This is compatible with the view of Carus (2021), who states that Carnap already defended a variety of non-cognitivism in his student days. What Carnap added in Vienna, however, is the political stance that I will describe in the course of this paper.

Otto Neurath and other members of the left wing of the Vienna Circle (Uebel 2004a). The first text to be considered here is the preface to the *Aufbau* (Carnap 1967, pp. xv–xviii), which was written three years after the main text, in May 1928, against the background of Carnap's exchange with the Bauhaus community—Sigfried Giedion, Laszlo Moholy-Nagy, and others—and Otto Neurath (Galison 1990; Dahms 2004, 2021; Sandner 2014, pp. 156–233; Damböck 2017, pp. 190–213; Bernhard 2021). The preface, which was welcomed by Neurath, who was “amazed and delighted about my [Carnap's, C.D.] open commitment” that “should attract younger people” (Carnap 2022, entry on 05-26-1928), and criticized by Schlick, who recommended “to moderate” it (Carnap 2022, entry on 05-30-1928), connects the entirely abstract and theoretical approach of the *Aufbau* with several more practical aspects. First, the preface emphasizes a “basic scientific attitude” whose “necessary result” is “that all of metaphysics is banished from philosophy, since its theses cannot be rationally justified” (Carnap 1967, p. xvii). The text identifies this adoption of a sober scientific attitude as nothing less than a moral stance:

The practical handling of philosophical problems and the discovery of their solutions does not have to be purely intellectual, but will always contain emotional elements and intuitive methods. The *justification*, however, has to take place before the forum of rationality and reason; here we must not refer to our intuition or emotional needs. We too, have “emotional needs” in philosophy, but they are filled by clarity of concepts, precision of methods, responsible theses, achievement through cooperation in which each individual takes his part. (Carnap 1967, p. xvii)

The question is whether we should spread science and the scientific attitude all through society and let them permeate our everyday life or limit them to the ivory tower while everyday life remains guided by traditional metaphysics and religion. Carnap's political recommendation is to embrace the first version. The adoption of the scientific attitude, for Carnap, involves an entirely new lifestyle that is scientific rather than metaphysical.⁷ Carnap's political program is to urge everybody – not just the scientists but also the workers and every other member of society – to adopt the scientific lifestyle and let themselves be guided by it. This all-encompassing nature of the scientific lifestyle is crucial for Carnap's

7. The background of these ideas is the German Youth Movement and its plea for a universal life reform, which had influenced Carnap as well as Hans Reichenbach and other logical empiricists (Damböck, Sandner, and Werner 2022).

philosophy. The preface to the *Aufbau* sets the stage here in that it connects science with all other aspects of modern life:

We feel that there is an inner kinship between the attitude on which our philosophical work is founded [viz., the scientific attitude, C.D.] and the intellectual attitude which presently manifests itself in entirely different walks of life; we feel this orientation in artistic movements, especially in architecture, and in movements which strive for meaningful forms of personal and collective life, of education, and of external organization in general. We feel all around us the same basic orientation, the same style of thinking and doing. (Carnap, 1967, p. xviii)

This key narrative of science as a political world-view, viz., a “style of thinking and doing” whose adoption is a non-cognitive stance, was picked up again by Carnap six years later (Carnap 1934). There, Carnap uses the illustrative and somewhat Marxist (Damböck 2021b) metaphor of metaphysics (viz. traditional philosophy) and theology as narcotics:

Theoretically it can only be shown that philosophical and religious metaphysics are in certain circumstances a narcotic, dangerous and harmful to reason. We reject this narcotic. If others enjoy partaking in it, we cannot refute them theoretically. That in no way means that it has to be a matter of indifference to us how people decide on this point. We can provide theoretical illumination regarding the origin of the narcotic. Beyond this, we can influence the practical decision that people make on this point through appeals, education, and example. Only we want to be clear that this influence lies outside the theoretical realm of science. (Carnap 1934, p. 260; trans. Richardson 2007, pp. 309–10).

Another key text from the late 1920s illustrates Carnap’s non-cognitivism in connection with politics and the notion of a life reform: namely, the manuscript of a lecture on “Science and Life” [“Wissenschaft und Leben”] that Carnap delivered in the context of a lecture series at the Bauhaus Dessau in October 1929 (Dahms 2004, pp. 364–70; Bernhard 2021). This lecture revisits the life reformist motive from the *Aufbau*’s preface and the Vienna Circle manifesto (see the next section): “I work in science, you work in the creation of (visual) forms; both are just parts of *one single* life.”⁸ Carnap highlights the dichotomy between “science,”

8. Rudolf Carnap Papers, Archives for Scientific Philosophy, Hillman Library, University of Pittsburgh, signature RC 110-07-49, p. 1. This translation is quoted after Dahms (2004, p. 368). All further translations of this text provided here are my own.

which is responsible for the “finding of facts” [*Erkenntnis von Tatsachen*], and “valuations” [*Wertungen*]. Science can only tell us “what there is,” whereas “what I desire, wish and demand” [“was ich möchte, wünsche, fordere”]⁹, the “valuation itself cannot be found through theoretical knowledge, because it is not the capturing of a fact but *personal attitude*” [“Die Wertung kann nicht durch theoretische Einstellung gefunden werden, denn sie ist nicht Erfassung einer Tatsache, sondern *persönliche Einstellung*”].¹⁰

Reasoning and science, however, allow us (1) to “examine *the internal consequence* of a valuative attitude” [“*Die innere Konsequenz* einer wertenden Einstellung [kann] geprüft werden”]¹¹; (2) to examine the consequences of a valuative attitude that we might expect¹²; and (3) to identify “the *means* toward an intended aim” [“die *Mittel* zu einem gewollten Zweck”]¹³. Carnap concludes:

It is wrong

- 1) *to grant reasoning* a wider function (‘science must be the leader of life’); (the practical danger for this is small)
- 2) *to grant more influence to the irrational*, beyond its scope, namely, *in the rational*: If we do not want to commit fraud, then we must be double careful, whenever emotion and will want to misguide us
- 3) *to underestimate* the importance of science.

We can do without music and eroticism, but no human being can do without reflection, if he wants to live at all.¹⁴

The first point states that reasoning becomes relevant only after a non-cognitive goal has already been set: reasoning neither defines nor justifies the goal and is therefore not a leader of life. Second, however, it is equally wrong to grant the irrational an influence in instances where decisions can be reached in a scientific way. Whether everybody committed to science is willing to live in accord with Carnap’s final statement—that we can live without music and sex, but not without reason—may be questioned (we

9. Carnap Papers RC 110-07-49, p. 1.

10. Carnap Papers RC 110-07-49, p. 2.

11. Carnap Papers RC 110-07-49, p. 2.

12. Carnap Papers RC 110-07-49, p. 2.

13. Carnap Papers RC 110-07-49, p. 3.

14. “Verkehrt ist es, 1) dem Denken eine weitere Funktion einzuräumen (‘die Wissenschaft muss die Führerin im Leben sein’); (die praktische Gefahr hierfür ist klein) / 2) *dem Irrationalen einen Einfluss zu geben* jenseits seines Gebietes, nämlich *im Rationalen*: Wenn wir nicht selbst Betrug üben wollen, müssen wir in unserem Urteil doppelt vorsichtig sein, wo Gefühl und Wille uns verleiten wollen. / 3) die Bedeutung der Wissenschaft zu unterschätzen. / Musik oder Erotik können entbehrt werden, aber kein Mensch kann die Überlegung entbehren, wenn er überhaupt leben will.” (Carnap Papers RC 110-07-49, p. 4).

eventually would become extinct). However, it becomes clear that Carnap, already in 1929, held the view that the advocate of what he later called the scientific world-conception (see the next section) is obligated to draw clear boundaries between the realm of the cognitive (viz. what can be ascertained by science) and the realm of the non-cognitive (viz. what remains an individual valuative attitude). Moreover, rational considerations are relevant for valuative attitudes in at least three different ways: (1) regarding the consistency of valuative attitudes; (2) regarding the study of causal consequences of a possible practical decision; and (3) regarding discussions of means-end relationships.

2.3. The Vienna Circle's Manifesto and its Political Enhancement in the Neurath Circle

The ideas from the preface to the *Aufbau* were readopted and refined one year later in the Vienna Circle's manifesto, a text that was mainly written by Carnap and Neurath (Uebel 2012a) in praise of Moritz Schlick. The manuscript was prepared in summer 1929, shortly before Carnap started to work on the previously quoted Bauhaus lecture. What is new in this manifesto, as regards the theoretical and political aspects of Carnap's non-cognitivism, is the inclusion of an even more explicit political claim along with the designation of empiricism as the essence of what is now called the "scientific world-conception" [*wissenschaftliche Weltauffassung*]. The enemies of this attitude are those dark forces that "in many associations and sects, in books and journals, in lectures and university courses" lead to an "increase of metaphysical and theologizing leanings" (Stadler and Uebel 2012, p. 90). However, there is also a bright force: namely, a "group of combatants" that, "facing the new age, rejects these views and adopts empirical science as its basis," which is an attempt that directly connects empiricism with the people's "socialist attitudes [...]. In the past, *materialism* was the expression of this view; meanwhile, however, modern empiricism has left behind a number of inadequate forms in its development and has found a defensible form in the *scientific world-conception*" (Stadler and Uebel 2012, p. 90).

This narrative disconnects modern empiricism from materialism, varieties of Hegelianism as well as from traditional French positivism and British empiricism. It also establishes this new variety of empiricism, i.e., the scientific world-conception, as an alternative basis for socialism to replace the old materialist basis. This becomes obvious when consulting the protocol of a discussion that took place in spring 1930 in the so-called Neurath Circle (Sandner 2014, p. 223). This circle was established by Neurath and Carnap as a short-term addition to the Schlick Circle, because Schlick did not accept any political discourse in his discussion group: consequently, Schlick

boycotted the Neurath Circle. The key passage on non-cognitivism is found in a manuscript in the appendix to that protocol, entitled "III.4. Tat."¹⁵ The manuscript was probably intended as part of a current manuscript of Neurath's that later appeared with significant changes under the title *Empirische Soziologie* (Neurath 1931; Manninen 2003).

Though this is obviously a text by Neurath, it strongly reflects the discussion in the group and connects Marxism to the non-cognitive worldview, in a way that was certainly shared and possibly even proposed by Carnap. Already in the protocol to the meeting of February 17, 1930, it is highlighted that "Marxism is an exclusively scientific matter. And is only concerned with the future." ["Der Marxismus ist eine ausschließlich wissenschaftliche Angelegenheit. Und hat nur mit der Zukunft zu tun."] This scientific orientation also implies that "The Marxist has no aims" ["Der Marxist hat keine Ziele"], which may sound surprising, if not contradictory. However, this is clarified in the following passage of the protocol: "In the theoretical statements of Marxism there are no objectives included. Statements about aims are relevant for Marxism only as objects." ["In den theoretischen Aussagen des Marxismus sind keine Zielvorstellungen enthalten. Zielsätze kommen für {den} Marxismus nur als Objekte in Betracht."]

This claim is a variation of Carnap and Neurath's moral philosophy of that time. What Marxism can provide, according to Neurath and Carnap, is knowledge about means-end relationships. If we specify a particular end X, then we can go to the Marxist alias social scientist and ask for the proper means toward X. Marxism, as it becomes further clarified in "III.5 Tat" is not in a position "to determine the actions of human beings" ["den Menschen in seiner Handlungsweise zu bestimmen"] but only "restricts the way in which the Marxist individual may justify their actions in a Marxist manner" ["begrenzt er doch die Art und Weise, wie der einzelne sein Tun, wenn er Marxist ist, marxistisch begründen mag"]. Whereas "the Christian or the nationalist" must "fulfill an overpowering requirement, without having to get an impression of the course of the world" ["eine übermächtige Forderung zu erfüllen {...}, ohne sich über den Weltlauf ein Bild machen zu müssen"], "Marxist reasoning makes it impossible to derive demands from reasoning and to create a 'Marxist ethics' in this way" ["die Marxistische Denkweise {macht} es unmöglich {...} aus dem Denken Forderungen herzuleiten und auf diese Weise eine 'marxistische Ethik' zu schaffen"]. The Marxist narrative from the Neurath Circle is

15. Teilnachlass Otto Neurath, Österreichisches Staatsarchiv, AdN 1433, 1–11, "Wiener Kreis Protokolle" and AdN 1433, pp. 17–21, "Weltanschauung der Tat, Weltanschauung."

important for Carnap's non-cognitivism because it highlights the fact that there is a principal difference between (a) non-cognitivism in general and (b) the scientific world-conception alias "Marxism." Whereas the scientific world-conception involves non-cognitivism, non-cognitivism in general would also be compatible with a rejection of the scientific world-conception.

It seems that Carnap had in mind here a specific case where a defense of non-cognitivism goes hand in hand with the explicit recommendation to reject the scientific world-conception; namely, the political philosophy of his former friend Hans Freyer, who in the late 1920s became a main actor of the conservative revolution in Germany. Freyer tied his non-cognitivism to a philosophy of the fascist state, where a strong *Führer* aims to make every citizen adopt his—viz, the *Führer's*—values, even when the *Führer's* values contradict the citizen's own feelings. The aim is to make the *Volk* follow the *Führer* through thick and thin, to make them listen to the propaganda and ignore their own feelings as well as any scientific advice.¹⁶

The political nature of the scientific world-conception becomes visible only when we connect it to the non-cognitivist view of the logical empiricist. Here, where the scientific world-conception itself becomes the moral attitude that seeks to spread science and rationality all through society, it propagates, as Carnap put it (Carnap 1937), to adopt logical rather than illogical reasoning. Logical reasoning, which involves "clarity," "consistency," and "adequacy of evidence" (Carnap 1937, pp. 108, 112, 115), allows us to make decisions in such a way that our actions logically converge with our moral attitudes. To adopt "illogical reasoning," in turn, is dangerous because it makes a person unresponsive to rational arguments and empirical evidence. Although the scientist/logical person perfectly knows that illogical reasoning is futile because it does not allow us to achieve our goals—due to science being objectively superior to non-science—the dangerous decision of the illogical person is to ignore this futility and decide to be happy with unachieved goals. (If we call that person stupid, s/he would respond: "yes but I love it to be like this.") Therefore, illogical reasoning has the character of mental illness. The logician becomes a politician by pointing to the problem as follows:

Logic must often play the role of the critic, especially in our own day. Its task is to serve as a spiritual hygiene, cautioning men against the disease of intellectual confusion. It has the ungrateful duty, whenever it finds symptoms of this disease, to pronounce the unwelcome diagnosis. But in what manner, it may be asked, shall we conduct the therapeutic treatment? The logician by himself has no remedy to

16. This is described in much more detail in Damböck (2022a).

offer, and must turn to psychologists and social scientists for aid. [...] Logic can point out the anomalies, but it is psychology which must find curative methods for them." (Carnap 1937, pp. 117–18)

As non-cognitivists that affirm the scientific world-conception, we commit ourselves to rationality as the fundamental guideline for all our practical decisions. If someone rejects this guideline and either consciously recommends, like Freyer, to reason and act illogically, or just reasons and acts illogically because they are not able to act otherwise, then, being non-cognitivists, we cannot convincingly argue against the illogical person's stance. We can only consistently hold up our fundamental norm, identify illogical reasoning whenever it takes place and hope that psychologists or sociologists might come up with curative measures.

3. The Full Account of the Meta-Ethical Story: Carnap (and Reichenbach) in the US

In this section, I will look at Carnap's mature approach toward non-cognitivism, which has its main, albeit incomplete, manifestation in *Abraham Kaplan on Value Judgments* (Carnap 1963a). Carnap's later views confront us with two refinements compared to his earlier approach from the 1930s. First, he adds to his earlier views on rationality as a lifestyle that we may not trust "momentary emotions," because they are not backed up in a long-term rational discourse (section 3.1). Second, he adopts more refined ideas on the roles of discussion, education, and society within the development of our moral views (section 3.2).

3.1. Non-Cognitive Attitudes Must be Genuine and Long-Term

In *Abraham Kaplan on Value Judgments*, Carnap rejects the term "emotivism" and rather suggests the use of "a more general term, e.g., 'non-cognitivism (with respect to value statements)'" (Carnap 1963a, p. 1000). Carnap sees this "in agreement with Dewey's conception [...] that a value statement expresses more than merely a momentary feeling of desire, liking, being satisfied, or the like, namely satisfaction in the long run" (Carnap 1963a, p. 1009). He recommends trusting only those moral attitudes that are unclouded by momentary feelings. It is not enough that our moral attitudes are consistent and we, at this moment, are willing to accept all their known consequences. We also should take our time to check whether we would come to the same conclusions tomorrow, because things might change. We might find tomorrow that today, despite being aware of all consequences of an attitude, we have still been biased by some transient emotional matters. Hence our attitudes should not only be grounded in rational discourse, but they should also be stable in the long term.

This is *the first fundamental attitude* of Carnap's mature non-cognitivism: A moral decision is acceptable only if it rests on genuine and long-term attitudes that passed all our consistency tests and stayed in effect even after certain transient emotions had disappeared.

This refined version of Carnap's rationality claim already seems to be rather close to the cognitivism of Oskar Kraus (see section 2.1). However, contrasting Kraus, who thinks that every person having "correct emotions" must inevitably arrive at the very same moral attitudes, Carnap does not come to this conclusion.

"It is logically possible that two persons A and B at a certain time agree in all beliefs, that their reasoning is in perfect accord with deductive and inductive standards, and that they nevertheless differ in an optative attitude component." (Carnap 1963a, p. 1008)

Certainly, Carnap's later views do draw closer to the Brentano tradition in that he now decidedly thinks that there is such a thing as an attitude that ought to be criticized for being merely "momentary" and lacking a groundedness in rational discourse. One might call such attitudes ill-formed or illogical, here somewhat resembling the predicate "incorrect" that Brentano and Kraus were using. However, there still remain significant differences. Carnap focuses on constraints for moral attitudes that are derived from science and only adds certain stability claims regarding long term attitudes and social discourse, whereas Kraus's and Brentano's emotional correctness seems to go far beyond this, being a quasi-religious or metaphysical feature.

Besides this epistemic difference, there is also a fundamental ontological difference, for Carnap is and remains a value relativist. In contrast to any form of moral absolutism or realism, Carnap claims that there is always the possibility of moral disagreement. Carnap views these two parameters, i.e., the focus on long-term attitudes and the possibility of moral disagreement, as direct reactions to the naturalist value theory of John Dewey (Dewey 1939; da Cunha 2010). On the one hand, he agrees with Dewey that we should focus on long-term attitudes: "I emphasize that a value judgment does not express momentary emotions but weighing of consequences, as Dewey had stressed." On the other hand, the possibility of moral disagreement is an argument that Carnap holds against Dewey's naturalism: "[W]hen all factual questions are settled[,] then there still might remain differences in value; then it only remains education."¹⁷

17. Carnap (in preparation), entry on January 14, 1959. "Ich betone, nicht die gegenwärtigen Emotionen werden im Werturteil ausgedrückt, sondern Abwägung der Konsequenzen, wie Dewey betont hat. [W]enn alle faktischen Fragen beglichen sind[,] dann können doch Wertunterschiede bestehen; dann bleibt nur übrig, education."

Recall our reference to Simmel above, who clearly holds a naturalist view. According to Simmel (and Dewey, at least in Carnap's view), values are a matter of attitudes that represent and stem from a certain state of historical reality. If one belongs to that state, then one must necessarily share the moral attitudes that characterize it—otherwise one would simply be wrong. This conclusion is exactly what Carnap rejects. Even if a value is commonly established in our current social environment (and shared by many scientifically minded persons), it is not necessarily irrational or wrong to reject it. As Carnap (and Reichenbach: see the next section) learned from the German Youth Movement (Damböck 2022b), it is often a good thing to reject the values that society imposes upon us, because only then does cultural progress become possible.

3.2. The Role of Discussion and Naturalism

Why is a naturalist attitude relevant for the non-cognitivist? Why is it useful for the non-cognitivist to study historical, sociological, and psychological aspects of values? Though Carnap puts such investigations on top of his list of relevant empirical questions in moral discourse (Carnap 1963a, p. 999), he says close to nothing about the way in which these empirical questions might affect moral reasoning. In order to gain insight into the left-wing logical empiricists' take on this, one has to look at Reichenbach's views that are very illustrative here (Reichenbach 1951, pp. 276–302). When asked why the non-cognitivist should study the moral attitudes of their group, Reichenbach answers that this is the case because moral attitudes “are imposed upon us by the social group to which we belong, in other words, [...] they are originally group volitions” (Reichenbach 1951, p. 285). For the non-cognitivist, this does not lead to a naïve naturalism, to be sure, for the non-cognitivist realizes that our moral attitudes are ultimately our own. As for the group volitions from which we initially import our own volitions and attitudes: this simply implies that we need to free ourselves and adopt genuine attitudes—“let us stand on our own feet and trust our volitions. [...] Only a distorted morality can argue that our will is bad if it is not the response to a command from another source” (Reichenbach 1951, pp. 291–2).

The overcoming of secondary sources and the adoption of one's own will, however, are only one side of the coin. There remains the fact that we belong to our social group and first inherit our values from it. What we then do is to reason about values and see what happens. Do our genuine attitudes change during this process of reasoning? Or do they remain unchanged after having been freed from any uncritical adoptions of group volitions? This is the private dimension of our group interactions. In a next step, the group will also react to our insights. There are other individuals

in the group who might be going through a similar process of rational consideration. And there may still be some who reject rationality at various levels. Now, for whatever reason, I might decide to discuss this with my fellow group members. For instance, my aim could be to convince them to adopt rational discourse. Or I might simply be interested in the moral attitudes of group members who have already participated in such rational discourse. How exactly did they proceed in their development of genuine attitudes? What are the results of this process? If it turns out that their attitudes diverge from mine, then my rational reaction might be that I try to convince them, at least in those cases where I regard certain consequences of their attitudes as harmful.

What arises here as the second fundamental attitude of Carnap's and the left-wing logical empiricists' non-cognitivism is what Reichenbach calls the "democratic principle," which is opposed to the "anarchist principle" that "everybody has the right to do what he wants" (Reichenbach 1951, p. 295). Whereas the anarchist is the non-cognitivist who ignores the social dimension and thinks that moral decisions are an exclusively private undertaking, the advocate of the democratic principle, by contrast, holds the following: "*Everybody is entitled to set up his own moral imperatives and to demand that everyone follow these imperatives*" (Reichenbach 1951, p. 295; emphasis in original). If everybody follows this principle, there will inevitably emerge a rich discourse about values. There will be situations where I succeed in convincing my fellows in that they become more rational or adopt some of my own attitudes. There will also be situations where the group influences me, and the discussion leads me to change some of my own attitudes:

Even fundamental volitions are accessible to group influence, and will change under the suggestive power of an environment that exemplifies other volitions and their consequences. [...] This is not meant to imply that the empiricist is a man of easy compromise. Much as he is willing to learn from the group, he is also prepared to steer the group in the direction of his own volitions. He knows that social progress is often due to the persistence of individuals who were stronger than the group; and he will try, and try again, to modify the group as much as he can. The interplay of group and individual has effects both on the individual and on the group. (Reichenbach 1951, p. 300)

This social attitude that sees "human society" as a "product of mutual adjustment" regarding values (Reichenbach 1951, p. 300) was also assumed by Carnap. It is not easy to demonstrate this on the basis of his published work, but there are indications in some of Carnap's later

writings. For example, two of his later German interviews both culminate in an appreciation of values as being “among the most important problems and conversation topics for human beings – and not just philosophers” (Carnap and Hochkeppel 1967, p. 55; 1993, p. 147; cf. Uebel 2005, 2012b). In these interviews as well as in his reply to Kaplan, Carnap highlights his appreciation for two non-cognitivists who thoroughly dealt with the matter of value disagreement and discussion; namely, Charles L. Stevenson and Reichenbach (Carnap 1963a, p. 1013; Carnap and Hochkeppel 1967, p. 54; Stevenson 1944). Also relevant is Carnap's draft for a talk on “theoretical questions and practical decisions” that he prepared in 1955, where he obviously reiterates aspects of Reichenbach's 1951 book. In this text, the 1934 matter of means-end relationships is complemented with “the question of an end or of basic values”:

Here, scientific proof is not possible but only influence (persuasion for a concrete aim), education (i.e., influence on the development of the character, not on a single decision but rather the permanent tendency to act in a particular way); influence from environment, friends, teachers, priests, leaders etc. [...] If we have no common aim, then theoretical arguments are not suitable but only influence, education, finally fighting.¹⁸

If someone is not sharing our moral attitudes, in spite of the fact that they share all our scientific beliefs, we can only try to influence them via discussion or “education.” If the disagreement between us remains and concerns a crucial matter, we finally might have no other way but to fight our opponent. There are further sources that demonstrate that Carnap's views on the role of discussion are in line with those of Reichenbach, though none of these sources can be discussed here. First, there are Carnap's correspondence and his later diaries. And second, there is research material on Carnap's and Reichenbach's early views as being developed against the background of the German Youth Movement (Damböck 2022a; Padovani 2022; Damböck and Werner 2022; Damböck, Sandner, and Werner 2022).

18. Rudolf Carnap Papers, Archives for Scientific Philosophy, Hillman Library, University of Pittsburgh. The document which has the signature RC 085-73-02 and is dated April 16, 1955, is a shorthand sketch that was transcribed by Dr. Brigitte Parakenings: “Hier kann man nicht beweisen, wie in der Wissenschaft, sondern nur beeinflussen (persuasion für ein konkretes Ziel), Erziehung (d.h. Beeinflussung der Entwicklung des Charakters, nicht eines einzelnen Beschlusses, sondern der permanenten Tendenzen in gewisser Weise zu handeln); Einfluss von Umgebung, Freunden, Lehrern, Priestern, Führern, usw. [...] Wenn wir kein gemeinsames Ziel haben, sind nicht theoretische Argumente möglich, sondern nur Beeinflussung, education, schließlich fighting.”

4. Scientific Values in Society: Scientific World-Conception = Social Democracy

Our observations in this paper inevitably lead to a puzzle. In what sense can a left-wing logical empiricist who, like Carnap, commits themselves to several specific attitudes regarding science, society, and genuine values, still regard themselves as a defender of “value-free” science? The German sociologist Max Weber (Weber 1919), in reaction to scientists who had abused the classroom for the distribution of war propaganda, explained that a scientist should abstain from political commitment, at least as long as they act as a scientist and not as a private individual or citizen. In the laboratory and the classroom, the scientist should adopt a sober style and produce facts rather than political attitudes. This stance, surely, is already close to the general outline of non-cognitivism, for the latter denies that any moral commitment can be justified either on empirical or logical grounds. Science, in turn, is concerned with empirical and logical considerations alone and may not involve any moral commitment (however, see also the next section where we consider the important point of permissible and even necessary intra-scientific moral commitments). Does this not lead to a fundamental aporia, since our commitment toward science is a moral commitment in its own right?

First, regarding the general outline of non-cognitivism, there is no aporia here. To defend science would be aporetic only if the scientist claims that their commitment toward science is justified by science itself. The scientific world-conception, by contrast, highlights that a commitment toward science is a value that originates at an extra-scientific level. Non-cognitivism is only required to ensure that our moral recommendations are neither empirical nor logical claims but rather non-cognitive attitudes.

Second, neither is there an aporia involved at the level of the recommendation of a value-free stance in science, which here means a view of science as a fact producing business. The point is that the scientist is unable to be value-free when it comes to their own results. It would be rather silly for a scientist to adopt the following view while communicating their results: “Here you get several facts and logical deductions that I produced as a scientist. However, whether or not you accept them and take them into account is your business, I remain neutral in that regard.” What we would expect from a scientist instead is a statement like the following: “Here you get several facts and logical deductions that I produced as a scientist. I demand that you take them seriously because these are facts and not just attitudes.” In other words, to defend the scientific world-conception and to adopt a commitment toward science as a fundamental value is something that we expect from a scientist. Otherwise, they would appear to be unable to tell the difference between their contributions—i.e., facts—and mere attitudes.

For some scientists it might still be hard to accept that they, as scientists, are called upon to adopt a commitment toward science as a political stance. What exactly does it mean to defend the scientific world-conception? How far does the “ideology” go? What Carnap and the left logical empiricists offer here is a rich account that involves far more than one might think. This becomes obvious when recalling the two fundamental political attitudes of Carnap’s mature non-cognitivism.

First attitude: Our moral attitudes should have the epistemic status of long-term attitudes that withstood every confrontation with logical and empirical arguments. Momentary emotions should be removed, and we should always pay attention to consistency questions and ask ourselves whether we would be willing to accept every possible consequence of a decision we make. The scientific world-conception only accepts genuine attitudes because it propagates science as a lifestyle that should be adopted always and everywhere. Here, the scientific world-conception leads to the notion of a fundamental life reform (cf. section 2.2) whose aim is to seamlessly establish science as a guideline in life.

Second Attitude: Our moral attitudes should be defended and mutually adjusted within our respective social groups. This approach is, of course, somewhat surprising for a logician like Carnap. On the other hand, it does not seem like this attitude would in any way violate the value-free stance of the scientist. Rather, it is the opposite of this attitude—namely, what Reichenbach called “anarchism”—that tends to be at odds with a scientific world-conception. A scientifically-minded non-cognitivist is expected to take the attitudes of his fellow group members quite seriously. It seems plausible that Hans Kelsen is correct here in identifying a deep connection between science and democracy, which involves non-cognitivism, while an anti-scientific standpoint converges with autocracy and value absolutism (Kelsen 1937).

These considerations clarify that and why there is no aporia involved here. Scientists and all other advocates of the scientific world-conception can and should propagate the latter as a fundamental moral and political stance that only concerns the formal level of its—i.e., the scientific world-conception’s—establishment. At the same time, all other moral attitudes are left to the private individual, whose profession may be that of a scientist, worker, priest, artist, or politician. Thus, Carnap’s non-cognitivism involves a twofold strategy for how science might become adopted in all areas of life. First, inside the scientific enterprise, the scientific world-conception ought to be accompanied by a value-free stance: only facts here, no attitudes. Outside of this realm of the laboratory and the classroom, the adoption of the scientific world-conception involves the requirement that everybody should deal with their own attitudes in exactly the way that was described here: one

should (a) trust only one's genuine moral attitudes that withstood the long-term confrontation with logical and empirical evidence, and (b) always be ready for discussion with others in case of moral disagreement.

Finally, if one accepts this to be a political side of the scientific world-conception, there might still remain the argument that this side is political only in a restricted way, while not involving any "party politics." It is evident that the scientific world-conception is incompatible with Freyer's fascist conception of a *Führer* state, for the latter involves propaganda and suppression of rational discourse. Yet one might still think that the only consequence of the scientific world-conception here, for Carnap, is a defense of an open and democratic society, while it is left to the individual whether or not they adopt social democracy or a more conservative stance. But Carnap seems to see a closer relationship here between the scientific world-conception and social democracy.

A Christian democrat is not able to adopt a stance on values that keeps them open for innovation and discourse. Rather, they need to stick to their eternal Christian values. A Neo-Liberal, on the other hand, despite being open to moral innovation, is certainly against all kinds of centralized organization and planning, and therefore must reject certain parts of the scientific world-conception. Thus, it is only social democracy (or Marxism, in the wording of the 1930s) that fully converges with the scientific world-conception. This cannot be proven by science, of course, but it is Carnap's political attitude. What he overcautiously called "scientific humanism" is in fact a paraphrase of the equation of the scientific world-conception with social democracy:

[N]early all of us shared the following three views. [...] The first is the view that man has no supernatural protectors or enemies and that therefore whatever can be done to improve life is the task of man himself. Second, we had the conviction that mankind is able to change the conditions of life in such a way that many of the sufferings of today may be avoided and that the external and the internal situation of life for the individual, the community, and finally for humanity will be essentially improved. The third is the view that all deliberate action presupposes knowledge of the world, that the scientific method is the best method of acquiring knowledge and that therefore science must be regarded as one of the most valuable instruments for the improvement of life. [T]he great problems [...] cannot possibly be solved by 'the free interplay of forces,' but require rational planning. For the organization of economy this means socialism in some form; for the organization of the world it means a gradual development towards a world government. (Carnap 1963b, p. 83)

Neither a fascist nor a Christian democrat nor even a neo-liberal thinker will be in a position to share every detail of this view. To adopt this “scientific humanism,” one must not only accept the scientific attitude and democracy, but also key ideas of socialism. There is no indication that Carnap thought that these different sides of the scientific world-conception—the more intra-scientific one that converges with clarity, soberness, and trust in scientific facts, and the real-world political side that involves conscious planning and centralized organization—could be separated.

5. Appendix: Real-World Values in Science

The original meaning of value freedom in science as demanded by Max Weber—i.e., scientists may not use the classroom for political propaganda—interferes with a notion that became prominent during the Cold War and in some ways contradicts Weber's account. Weber only meant that the scientist is not permitted to talk as a scientist about matters of everyday politics that have nothing to do with their own scientific business. The value freedom of cold warriors as criticized in recent history and the sociology of science (Longino 1990; Douglas 2016) adopts the idea that the scientific enterprise may not be affected by any intrinsic political or moral issues at all. The scientist, according to this newer view, is a fact finder who lives in the ivory tower of rationality and is entirely detached from value disputes of any kind. A philosophical variation of this second form of value freedom would be an extreme form of scientific realism which denies that the activities of the scientist may involve any normative commitment. Scientists produce empirical hypotheses, test and then either corroborate or falsify them. This view, which is close to Popperian falsificationism, was always rejected by the left wing of the Vienna Circle (Neurath 1935). That science has an important attitude component and always includes a (moral) commitment of some kind was forcefully defended in (Carnap 1950b), where Carnap emphasizes that the fundamental conventions of science, scientific theories and logical frameworks, ultimately rest on practical decisions that depend on pragmatic considerations about their “fruitfulness,” i.e., their “efficiency as instruments, the ratio of the results achieved to the amount and complexity of the efforts required” (Carnap 1950b, pp. 220–21). The attitudes that make us adopt or reject a “linguistic framework” are as non-cognitive as moral attitudes (Carnap 1950b, p. 215). Although the fruitfulness or efficiency of a scientific framework adds an aspect of empirical corroboration,¹⁹ it remains a matter of the subjective decision of the scientist what they eventually regard as fruitful or favorable. That is why Carnap draws this strong parallel here and calls

19. Thanks to a reviewer of this paper for pointing this out.

“external questions,” viz., questions of framework adoption, non-cognitive. As in any other practical decision, the decision for or against a scientific framework rests on a wealth of empirical and logical facts. However, there remains some crucially important non-cognitive epsilon of mere attitude here, and therefore framework decisions resemble moral decisions.

If the adoption of scientific frameworks, which include fundamental principles and axioms, as well as scientific theories that go beyond mere empirical facts, is a non-cognitive question of attitude, in what sense can we still hope to keep science free of values? If, in other words, science is through and through a value-driven matter, in what sense can this enterprise at the same time consider refraining from any moral and political commitment? To answer this, it is very important to adopt the distinction made at the beginning of this section. If we follow the strategy of left logical empiricism, then the following statement holds true: The duty of the scientist, here completely in line with Weber’s principle of value freedom, is to restrict themselves, as a scientist, to considerations of those values that matter for their scientific enterprise. This includes epistemic values such as truth, lack of bias, and fruitfulness. In light of recent developments in the philosophy of science, the latter might also include feminist considerations about the epistemic benefit brought about by the work of female scientists, as well as considerations about a possible benefit from the employment of a diverse community of researchers, rather than a mere group of white male heterosexual protestants. As long as intra-scientific values concern epistemic benefit or loss while being relatively independent of questions of real-world politics, they are clearly epistemic values, in the sense of (Carnap 1950b).

But intra-scientific values also include matters of real-world politics that arise within the scientific enterprise relatively independent from questions of epistemic benefits and losses. The scientist as an employee, the scientific experiment as an undertaking that involves considerations about ecology, human and animal rights, as well as a wealth of matters that arise in connection with political bias, corruption, and fraud in science are all political aspects. Science is here by no means an exception, but rather functions as an integral part of society and real-world politics; therefore, it must follow the respective rules and regulations. Some or all of these values might still indirectly involve epistemic gains and losses, but these are here enforced by society’s rules that must not be bypassed by science. Let me just illustrate this point by means of the example of feminist philosophy of science. We need to separate the question if female scientists are doing science differently or even better, which is clearly an epistemic value question, from the question of female employment (referring to aspects such as an increase in the number of female scientists, equal payment, etc.), which in itself is not

a question of epistemic value but a political question. Science is asked to deal with both questions, whereas Carnap and his allies seem to have put their finger only on the epistemic values (and only a fraction of them).

The relevance of real-world values that surround the overall matter of values in science is hardly appreciated in the theoretical writings of Carnap, Neurath, or Reichenbach. But we can try to amend their conception and add the newer findings of science as real-world politics. This brings about the following model. There are (a) epistemic values as an intra-scientific matter (truth, fruitfulness), (b) real-world values that matter in science because they concern the role of the scientist, (c) other real-world values that concern political questions that are not directly relevant for what the scientist does and therefore should not be touched by the scientist. The resulting distribution of responsibility and permission in regards to dealing with any of these value types by either the expert or the private individual is illustrated in the matrix below:

Is responsible and permitted to deal with ...	The expert (the scientist in their own field of expertise):	The non-expert (every individual, including scientists acting as private individuals):
... epistemic values, such as empirical adequacy, truth, elegance, or fruitfulness	YES	NO
... real-world values that matter in science because they concern the role of the scientist, the ethics of experimentation, and the like	YES	YES
... real-world values that concern the whole of society as it moves forward outside the scientific ivory tower	NO	YES

The first line of the matrix states that epistemic values are a matter for the expert only. The questions of whether or not a certain theoretical framework should be adopted and whether a certain scientific claim is true or false can be answered by the scientist only. Laypeople are not permitted to question scientific results, simply because they are not qualified to do so. The same holds true for all scientists who are not experts in the field in question. Think of the story of about the physicists who tried to obscure specialist findings regarding the consequences of tobacco smoke, global warming, and other issues (Oreskes and Conway 2010): they were not

permitted to question these results, simply because they were not experts in the respective fields.

The middle line of the matrix is rather uncontroversial today: as far as science is one social enterprise among others, it should also be subject to all relevant real-world political and moral considerations, rules, and decisions. However, this should not undermine our empiricist world-view, which connects two additional and crucially-important branches with the whole value-driven business of science, namely, (a) the idea that epistemic values are an exclusive business for the experts; and (b) that experts, in turn, should refrain from any political commitment in matters of real-world politics. The latter is stated in the third line of the matrix.

Science is responsible to deal with all matters of real-world politics that are directly relevant for its status as a social activity. Female employment is relevant here, because it is an overall political matter, and so are tobacco smoke (because scientists may die from smoking or secondhand smoking) and global warming (a scientist's activities may affect the CO₂ balance). But scientists, in their role as scientists, are neither responsible nor permitted to propagate measures and normative claims regarding such real-world politics. These rules do not only matter for scientists engaging in highly theoretical research, but also for those scientists being concerned with entirely practical matters. Scientists tell us that (secondhand) smoking makes us die early, but what (if any) kind of measures we should take against smoking is ultimately a matter of politics, viz. a practical decision, which should be informed by scientific evidence but also by an attitude that goes beyond the field of science. The same holds true for global warming. If we take Weber and the left-wing of the Vienna Circle seriously, then it is not the duty of the climate scientists to prescribe concrete measures against global warming. Rather, what the climate scientists are supposed to do is give us the facts about global warming and the probable outcome of different scenarios. The politicians are then asked to use these facts to develop a scientifically informed practical decision. Scientists provide important advice here, but, strictly speaking, they are not permitted to recommend concrete normative decisions: they contribute (logical and empirical) facts, not values.

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