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'Epistemology Naturalized' and the Vienna Circle

['Epistemologia Naturalizada' e o Círculo de Viena]

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Abstract: This paper considers W.V.O. Quine's inauguration of naturalistic epistemology at the 14th International Congress of Philosophy in Vienna in 1969 and argues that, contrary to his suggestions, naturalistic epistemology was practiced in the Vienna Circle already back in the days when he visited them fresh out of graduate school.
Keywords: Naturalistic Epistemology. Logical Empiricism. Quine. Carnap. Neurath.

Resumo: Este artigo analisa o início da epistemologia naturalista de W.V.O. Quine, no 14o Congresso Internacional de Filosofia em Viena, em 1969 e argumenta que, ao contrário de suas sugestões, a epistemologia naturalista já era praticada no Círculo de Viena no tempo em que ele o visitava, recém-saído da pós-graduação.
Palavras-chave: Epistemologia naturalista. Empirismo lógico. Quine. Carnap. Neurath.

1. Introduction

W.V.O. Quine's "Epistemology Naturalized" was presented as an invited address at the Fourteenth International Congress of Philosophy on 9^{th} September 1968 in Vienna, Austria. By an author who knew how to mark an occasion this paper did not disappoint. More than once before the philosophers of the Vienna Circle whom Quine had visited fresh out of graduate school, had served as foil for his own divergent ideas in his earlier publications. Mostly it had been particular tenets of Rudolf Carnap's, like the analytic/synthetic distinction or the distinction between internal and external questions, that Quine focused on. Now, however, it was time to work on a larger canvass, to pull together different strands in a programmatic pronouncement that was to set an entire branch of philosophy on a new path. How better to stage such a departure than by invoking, now as *genii loci*, his "teacher and friend" of old and his former colleagues in the Vienna Circle? So once more Quine set out to revisit the *Aufbau*, even the Circle's protocol sentence debate, in order

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to contrast his own radical reorientation of philosophy with theirs which, he suggested, was still stuck, for all of its revolutionary flavor, in traditional ways.

The story Quine related that day stuck pretty well and seemed to confirm the death of logical positivism or empiricism then already diagnosed in reference works.[1] The few scholars who brought news from dusty archives that matters weren't quite as neat as all that were told to get out more or simply ignored. Thus still today in even as normally reliable repositories of philosophical learning as the *Stanford Encyclopedia* one can read under " Naturalism in Epistemology" that " the logical empiricists approached epistemology, as other areas, as a matter of a priori 'rational reconstruction', in Carnap's famous phrase". With a brief reference to the *Aufbau* the case was closed. But is the *Aufbau* the only or even the most representative work of Carnap's and is Carnap the only philosopher of note or relevance in the Vienna Circle in the present context?[2] Both of these questions matter quite centrally for the issue of the relation between epistemological naturalism and logical positivism/empiricism for it largely turns on what the later Carnap got up to and what his colleagues on the so-called left wing of the Circle did.

When these questions are investigated more closely, it can be seen that by introducing naturalistic epistemology to the world in Vienna in 1968 Quine was not exactly taking coals to Newcastle-but he got pretty close. To be sure, the devastation that Austrofascism and Nazism had wrought on the academic landscape in Vienna ensured that even locals were not aware of this. In fact, it was not until the 1982 Moritz Schlick and Otto Neurath Centenarium conference, also in Vienna, that C. G. Hempel recalled Neurath as a naturalistic philosopher (1982).[3] Carnap's naturalism-or better: the naturalistic potential of Carnap's philosophy-took still longer to be uncovered, as we will see. I begin with what Quine told the 1968 Congress before surveying the lines of inquiry concerning Carnap that a full investigation would have to consult in depth. This includes a brief review of the case for Neurath's naturalism in relation to which Carnap's philosophy must be viewed to appreciate its naturalistic potential.

[1] See, e.g., Passmore (1967, p.52). I use "logical positivism" and "logical empiricism" interchangeably. As I understand it, the difference the terms denoted at the time were but passing local rivalries; see Uebel (2011).

[2] See Rysview (2016). Which in other respects is very informative—also refers to Reichenbach's Experience and Prediction and his take on the distinction of the contexts of inquiry—discovery v. justification—as unproblematically representative. It isn't and it also matters for the question of the nature of the naturalism championed in the Circle, if any; see Uebel (2000).

[3] A few years later Dirk Koppelberg deepened the message: see his (1987) and (1990). On the state of Austrian philosophy in the 1950s see Haller (1983).

2. Quine on Carnap, 1968

Whatever else must be said about it, let me start by saying that "Epistemology Naturalized" is a magnificent paper: sufficiently broad in its historical sweep across the centuries to impress upon its audience the momentous occasion its proposals represent, yet detailed enough with its analogies to the abortive reductive programmes of the past to induce a conviction in the audience that the diagnosis presented is sound enough and holds a deep moral for philosophy if we ever want to escape the perennial doldrums.

So how did Quine portray the logical positivists of the Vienna Circle here? Well, he did not exactly misrepresent them-though he did make one egregious mistake-but he certainly did not tell the whole story. That as in his previous writings his main focus was Carnap is not surprising since, for better or worse Carnap *was* logical positivism for him; more to the point is that Quine's Carnap is not the whole of Carnap. Of course, it was not Quine's job to be comprehensive, but his selective focus does point up a very general feature of the common view of logical positivism-a feature concerning which the rhetorical scene-settings of Quine's papers (here and in "Two Dogmas") are not wholly innocent. That is that logical positivism is remembered for its early theoretical starting points, not for the mature positions reached later. (To see that this can be less than adequately informative, imagine Quine to be remembered only as a radical nominalist who wanted to do away with numbers.)

The next thing to note is that we must not read Quine as saying more than he actually did. Thus the *Stanford* article suggests that for Quine the Vienna Circle pursued the "Cartesian quest for certainty [as] a remote motivation of epistemology, both on its conceptual and its doctrinal side". This overlooks that Quine conceded that Carnap had abandoned this "as a lost cause" and was motivated instead "to elicit and clarify the sensory evidence for science" and so to "deepen our understanding of our discourse of the world" (QUINE, 1969, p. 74-5). Relatedly Quine spoke of Russell's external world programme, when he likened Carnap's *Aufbau* project to it, as aiming to "account for the external world as a logical construct of sense data" (CARNAP. 1969, p.74): there is notable room for interpretation in this formulation. With regard to Carnap then, perhaps even to Russell, Quine very carefully stopped short of attributing the traditional foundationalist project by stressing the elucidatory import of the reductive projects undertaken (and in addition cleared Carnap of infallibilist yearnings).

Now the first we hear of and about Carnap himself in "Epistemology Naturalized" is indeed as the author of the book that came "nearest" to realizing the Russellian external world pro-

gram (QUINE, 1969 p.74), *Der logische Aufbau der Welt* (translated as *The Logical Structure of the World*. Herafter: Aufbau, 1928). That's fair enough in a way, given the qualifications we just saw Quine slipping in. However, we must add that recent scholarship has conclusively established that there is far more to the *Aufbau* than that. Even if we discount its syncretist tendency to merge a great variety of disparate philosophical tendencies and focus only on its reductionist strategy of establishing a genealogy for all empirical concepts on the basis of that of remembered similarity alone, even then we must note that its overarching ambition was the attempt to prove that from such meager starting points an intersubjective world could be constructed. The aim was to demonstrate that "even though the subjective origin of all knowledge lies in the contents of experiences and their connections, it is still possible . . . to advance to an intersubjective, objective world, which can be conceptually comprehended and which is identical for all observers" (1928, §2, 7). To achieve this aim Carnap sought an exclusively structural characterization of all empirical concepts.[4]

Still Quine was right to point out (as in "Two Dogmas") that and why the *Aufbau's* reductive aim, whatever its ambitions, was frustrated at §126. The reduction of physical object discourse to talk of (constructed) sense data failed: there was no one-to-one mapping from the latter to the former. Yet this time Quine also pointed out what "Two Dogmas" did not-and what some readers of his address evidently missed-namely that it was not doctrinal certainty but merely translational reduction was Carnap's point.[5] To be sure, this still leaves entirely unaddressed what one may wish to obtain translational reduction for and unwary readers easily jump to the conclusion that it was for foundationalist designs. (Carnap's structuralist program demanded that a radical reductionism succeeded even more than a foundationalist one would.)

Whether intended or not, other aspects of "Epistemology Naturalized" subtly encourages readers in this. Not too much seems objectionable in the description of the *Aufbau* just surveyed, but what, for instance, raises eyebrows is that Quine interspersed it with his weighty remark that an epistemologist's "scruples against circularity have little point once we have stopped dreaming of deducing science from observations" (QUINE, 1969, p.76)-as if it had been the point of Carnap's rational reconstructions to save science from skepticism. That, of course, is not something naturalistic epistemologists

[4]This reading of the *Aufbau* was pioneered by Friedman (1987) and (1991) and Richardson (1998), admittedly many years after Quine's foundationalist reading become common coin.

[5]Note also Quine's later disavowal of Carnap's concern with certainty at (1995, p.13).

endeavor to do, so Carnap is excluded from even applying for membership. And " scruples against circularity" even suggest a foundationalist sensibility.

A still stronger and even more consequential sleight of hand was effected when Quine opposed what he called the Circle's " verification theory of meaning" to the holism of theory testing to which, he said, the Vienna Circle " did not take . . . seriously enough" (QUINE, 1969, p.80). Of course, neither Carnap nor Neurath ever discussed the indeterminacy of translation and the ontological relativity which Quine portrayed as the outcome of his anti-mentalist attack on the conception of meaning, but this does not make them theorists who deny the holism of testing (never mind foundationalists). There is, to start with, Neurath's antifoundationalist coherentism-as documented in his simile of the sailors having to repair their boat at sea-that is as legendary as it is long-standing (more on this below). But Carnap too embraced such holism already very explicitly in *Logical Syntax*:

> Strictly speaking, there is no refutation (falsification) of hypotheses., for even if they should prove L-incompatible with certain protocol sentences, it remains possible in principle to uphold the hypothesis and to refuse to accept the protocol sentences. . . . Therefore testing concerns ultimately not a single hypothesis but the entire system of physics as a system of hypotheses (Duhem, Poincaré). (CARNAP, 1934/37, §82)

In total disregard of this passage Quine reprinted unchanged his claim from " Two Dogmas" that " the dogma of reductionism" lingers on even after Carnap abandoned his *Aufbau*-project-the insinuation being that it so lingers on in Carnap's own later views. According to Quine, it " survives in the supposition that each statement, taken in isolation from its fellows, can admit of confirmation or information at all" (QUINE, 1980, p.40-41). What is objectionable about this charge is that Carnap (and Neurath) had pronounced the holism of testing not just for theoretical sentences but also for observation or protocol sentences. With this they actually showed themselves to be considerably more holist than Quine himself who actually exempted observation sentences from the ravages of indeterminacy (QUINE, 969, p.81) and declared: " The observation sentence, situated at the sensory periphery of the body scientific, is the minimal verifiable aggregate; it has an empirical content all its own and wears it on its sleeve." (QUINE, 1969, p.89) Contrary to what Quine suggested, on account of their holism alone Carnap (and Neurath) should qualify at least as

honorary naturalists![6]

Now it may be objected that the emphasis of Quine's contrast here with Carnap and the logical positivists lies on the indeterminacy of translation and that the force of his contrast derives from this. Now that doctrine can indeed be usefully considered to be Quine's final reply to Carnap in their long debate about meaning and the adequacy of extensionalism generally, a reply given after Carnap had delivered, in 1955, the behavioral criteria for analyticity that Quine had long asked for.[7] But however much the indeterminacy of translation is part of Quine's philosophy, one must question whether indeterminacy is part of the standard kit of epistemological naturalists. On this account, Quine seems to have made more of a *de facto* difference of view that what it merited.

The contrast Quine drew next between Carnap's declaring "the bankruptcy of epistemology" and the naturalistic attitude that Neurath's simile expressed for Quine is also misleading. When Carnap officially dropped epistemology for the logic of science in the mid-1930s he did not abandon concern with evidence for scientific assertions, rather he abandoned for good the standpoint of methodological solipsism he had adopted in the *Aufbau* and retained until he found a way of accommodating Neurath's incessant criticism of it without giving in to what he feared as "psychologism".[8] (In contemporary epistemology the standpoint Carnap abandoned is known as the thesis of the epistemic priority of experiential over physical knowledge; in its place he pursued a radically de-personalized accounts of propositional justification.) Aha, you may say, here is the smoking gun: Carnap's Fregean inheritance-surely anti-psychologism is incompatible with naturalism! Well yes, on its own it certainly is, but what is of crucial importance is the context or type of inquiry that anti-psychologism is applied to. Carnap applied it to the logic of science so it becomes a central issue how this logic of science is located in unified science generally. (I will come back to this.)

Finally, there are Quine's remarks on the Vienna Circle's debate about so-called protocol sentences-scientific evidence statements-over "what to count as observation sentences".

> One position was that they had the form of reports of sense impressions. Another was that they were statement of an elementary sort about the external world, e.g., 'A red cube is

[6]Notable enough, Quine's later "Two Dogmas Revisited" (1991) also failed to note that Carnap endorsed holism of testing.

[7]Quine's later "Two Dogmas Revisited" also failed to note that by (1955) Carnap had provided "empirical criteria for semantic concepts" as demanded (2004, p.61).

[8]See Carnap (1936a) and, for discussion, Richardson (1996) and Uebel (2018).

> standing on the table.' Another, Neurath's, was that they had the form of reports of relations between percipients and external things: 'Otto now sees a red cube on the table.' The worst of it was that there seemed to be no objective way of settling the matter: no way of making real sense of the question. (QUINE, 1969, p.85)

And Quine went on: " Let us now try to view the matter unreservedly in the context of the external world." Never mind that Quine telescoped many years of debate into two papers by Carnap and Neurath that were published in the same issue of *Erkenntnis* in December 1932. What does he mean by " unreservedly in the context of the external world"? That is precisely how Neurath viewed the matter (whose preferred protocols were also far more complicated than reported here).[9]

Only for Carnap was there "no objective way of settling the matter" because on this, his first exercise *avant la lettre* of his famed principle of logical tolerance[10] - he rightly noted that metatheoretical distinctions are underdetermined by the data we have form them. Pragmatic considerations helped make up Carnap's mind in late 1932 to declare that observance of methodologically solipsist strictures was no longer mandatory but merely optional.[11] These reasons were firmed up on purely logical grounds when he settled on his considered view of the matter in "Testability and Meaning". There Carnap stated explicitly that what he called the "phenomenological" language "is a purely subjective one, suitable for soliloquy only, while the intersubjective thing-language is suitable for use among different subjects" (CARNAP, 1936-37, p.10). While it was possible to design so-called reduction sentences that relate expressions of the thing-language to expressions in the phenomenal language, Carnap argued that it was impossible to construct the former on the basis of the latter or effect a " retranslation" of the former into the latter (CARNAP, 1936-37, p.464). For the reconstruction of the language of unified science, phenomenal languages were unsuitable. In consequence, the terms to be used in protocol sentences had to be both intersubjectively confirmable and intersubjectively observable.[12]

[9] For a detailed analysis of the Vienna Circle's protocol-sentence debate, see Uebel (2007). For Neurath's own view of protocol statements, see Neurath (1983) and Uebel (2009).

[10] "*The Principle of Tolerance: It is not our business to set up prohibitions, but to arrive at conventions*. . . . In logic, there are no morals. Everyone is at liberty to build up his own logic, i.e., his own form of language, as he wishes. All that is required of him is that, if he wishes to discuss it, he must state his methods clearly, and give syntactical rules instead of philosophical arguments. " Carnap (1934a/1937, §17).

[11] Carnap declared it a merely pragmatic question which of "two methods for constructing the language of science which are both possible and justified" (1932c/1987, 457) are to be chosen: the one with a phenomenalist or the one with a physicalist basis.

[12] On the latter point there obtained a disagreement with Neurath; for its resolution see Uebel (2015).

Consider now what discipline Carnap there assigned to the job of determining what the intersubjectively confirmable "observable predicates" were that distinguished the protocol sentences: psychology! Could naturalists do better?

Now, as I said, Quine's founding paper for naturalistic epistemology does not misrepresent Carnap as a rabid anti-naturalist. But just as it does not let on that already for Neurath himself the boat simile was an emblem of naturalism, it also characterizes Carnap's position in ways that discourage anyone looking even only for traits of compatibility with naturalism in his philosophy of science. That said, more recently Quine again dropped previously made qualifications and breezily asserted that "[v]arious epistemologists, from Descartes to Carnap, had sought a foundation for natural science in mental entities, the flux of raw sense data" (2005, p.276), but I shall regard this as an aberration.

3. Quine on Carnap, 1951

Once we bring in "Two Dogmas", where Carnap is still more sharply characterized in oppositional terms, the prospect for recognizing any affinity of his-or his Vienna Circle colleagues-with naturalism is further diminished. Now it may be objected that "Two Dogmas" is itself pre-naturalistic Quine and so irrelevant, but the fluidity postulated there between not only science and common sense but especially scientific theorizing and ontology at least presages and contains *in nuce* his later naturalism.[13] In any case, Quine's portrayal of Carnap there is highly significant for that is the unspoken background of "Epistemology Naturalized".

We already noted the neglect on Quine's part of Carnap's post- *Aufbau* holism in the second part of "Two Dogmas". The first part likewise invidiously moulds readers' perceptions, now of Carnap's conception of analyticity. To begin with there's one of Quine's memorable *bon mots*. "Meaning is what essence becomes when it is divorced from the object of reference and wedded to the word." (1951/1980, p.22) However deflating of the anti-metaphysical ambitions of the neopositivists this may have been intended to be, what we must ask is whether it captures how Carnap thought of meaning: was he an essentialist about it? Likewise consider Quine's conclusion that drawing the analytic/synthetic distinction at all is "a metaphysical article of faith" (1951/1980, p.37): what's so metaphysical about analyticity for Carnap? Quine's answer presumably comes in his assertion that analytic statements "hold come what may" (1951/1980, p.43).

[13] On the development of Quine's naturalistic outlook mainly in the 1950s, see Verhaegh (2018).

But this is a far cry from Carnap's view who made very clear that analyticity "is not adequately characterized as 'held true come what may'" (CARNAP, 1963, p.921). We must, he stated, carefully distinguish

> between two kinds of readjustment in the case of a conflict with experience, namely, between a change in the language and a mere change in or addition of a truth-value ascribed to an indeterminate statement (i.e., a statement whose truth-value is not fixed by the rules of the language, say by the postulates of logic, mathematics and physics). A change of the first kind constitutes a radical alteration, sometimes a revolution, and it occurs only at certain historically decisive points in the development of science. On the other hand, changes of the second kind occur every minute. (1963, p.921)

Notable here is not only an anticipatory nod in the direction of Thomas Kuhn's *Structure of Scientific Revolutions* which Carnap was to read in manuscript as one of the editors of the International Encyclopedia of Unified Science and heartily approved of (it was first published as Number 2 of volume of II in 1962), but also that Carnap designated the first change as "a transition from a L_n to a new language L_{n+1}" (1963, p.921).[14] Even a single change of meaning was not a merely local affair but affected the whole language such that it would be incorrect to speak of the languages as being "the same" before and after. Moreover, for Carnap we are by no means condemned to stick with analytic statements "come what may" for we may switch from a language L_n where they possess that status to a new language L_{n+1} where they no longer possess it and may even be false.

In consequence, the only way in which, according to Carnap, analytic statements "hold come what may" is exceedingly Pickwickean. It is the case, of course, that analytic sentences constitute the logical and semantic framework of a language and so cannot be changed as part of that language, but this does not mean that we cannot change our language.[15] Very misleadingly, by failing to note this-never mind that Carnap also happily entertained the thought that changes in scientific theorizing may leave us with incommensurable languages already in the mid-1930s[16] – Quine allowed readers

[14]Carnap's replies in the much-delayed Schilpp volume were written in the mid-1950. On Carnap's reaction Kuhn's Structure, see Reisch (1991).

[15]Compare Carnap's own response in (1990,p. 431-432).

[16]See Carnap (1936b), later translated as part of Carnap (1947).

to continue to think of Carnap's analyticities in the traditional fashion as eternal truths of reason when very clearly they were not. They were highly specific to the very language whose terms they characterized.

Let me also stress that Carnap's answer in the Schilpp volume does not represent a new strategy that he hit upon only at an advanced stage of his debate with Quine. Already the passage quoted earlier from *Logical Syntax* continues:

> No determination of the physical language is finally secured: all determinations are made only with the proviso that one can alter them in circumstances in which this seems practical. This holds not only for the P-determinations, but also for the L-determinations including mathematics. ...it can happen, that on the occasion of new protocol sentences the language gets altered in such a way that [a previously analytical sentence] S1 is no longer analytic. (1934/37, §82)

From the time when Quine first came to know him-he visited in Prague when *Logical Syntax* was being written-Carnap never thought of analytic truths as eternal truths of reason.[17] One cannot help wondering why Quine never corrected this mischaracterization or related ones, but what matters here for us is how Quine's mischaracterization of Carnap's conception of analyticity feeds into what concerns us. Inviolable truths of reason are precisely what no naturalistic epistemologist can tolerate. And as we can see, neither could Carnap already in the first half of the 1930s.

Now it may also be wondered, of course, whether naturalistic epistemology can tolerate any form of the analytic/synthetic distinction. It will certainly be objected that Quine's own version cannot, but it has been argued that Quine himself ended up admitting analyticity.[18] Indeed, Quine himself remarked in 1990: "I recognize the notion of analyticity in its obvious and useful but epistemologically insignificant applications" (1991/2005, 61). The significance he still repudiated was precisely the significance he continued to describe as motivating Carnap: accounting for mathematical truth. Thus Quine ascribed to Carnap the concern to account for "certainty in logic and in all of mathematics" (1963, p.386). But is this fair again to attribute such foundationalist ambitions?

Admittedly, Carnap's talk at the Se-

[17] While this late chapter of Logical Syntax may not have emerged from Ina's typewriter yet while Quine was visiting, it is most unlikely that then Carnap thought differently still.

[18] See, e.g., Creath (2004).

cond Conference for the Epistemology of the Exact Science in Königsberg in September 1930 discussed logicism as program addressed to the "insecurity" in the "safest of all sciences" (1931/1964, p.41), but that is not an endorsement of the foundationalist ambition, even though he discussed making logicism safe for nonpredicative definitions. Moreover, Carnap's paper was published before he had the time to digest the full consequences of Kurt Gödel's incompleteness result that was first presented informally during the closing discussions at the end of that conference, a result is widely understood to have killed off any hope for demonstrably secure foundations even in mathematics. So holding this early passage against Carnap some twenty years later would be unfair-as is, it seems, Quine's related charge.[19]

4. Analyticity for Naturalists?

But why care for analyticities if not to hope to employ them to ground our knowledge claims? I think we have to take seriously Carnap's own suggestion that that the analytic/synthetic distinction-like indeed the fact/value distinction-is an analytical one introduced for purposes of reconstructive perspicuity, not one that straightforwardly describes cognitive processes as they happen or even provides epistemological foundations. Needless to say, putting matters this way-a distinction introduced for reconstructive perspicuity-may not sound very promising for naturalism at first. Nevertheless, spelling out its implications is essential to disarming objections based on the supposed contrast between naturalism and the analytic/synthetic distinction and to making good our claim for Carnap's philosophical endeavours being at least compatible with naturalism.

Consider his response to the rhetorical question whether he would be prepared to abandon his defense of ethical non-cognitivism by means of the doctrine of pure "optatives" (statements expressing desired states of affairs that imply no factual statements beyond this), if it were found by empirical investigation that no humanly known language does contain them.

> Would I, in view of these scientific results, abandon the thesis of pure optatives? I think I would not; just as I would not abandon the thesis of the analytic character of the theorems of logic or of arithmetic if a psychological investigation were to reveal that the majority of people interpret these theorems as containing certain fac-

[19] I thank my colleague Fraser MacBride for reminding me of this passage.

> tual components. A *philosophical* thesis on logic or language, in contrast to a psychological or linguistic thesis, is not intended to assert anything about the speaking or thinking habits of the majority of people, but rather something about possible kinds of meanings and the relations between these meanings. In other words, a philosophical thesis does not talk about the haphazard features of natural languages, but about meaning relations, which can best be represented with the help of a constructed language. The thesis on arithmetic, mentioned above, says that it is possible to construct a system of arithmetic in such a way that its theorems (which correspond to the customarily accepted theorems of arithmetic) are analytic statements. Analogously, the thesis of pure optatives is meant as saying that it is possible to construct a language in such a way that it contains pure optatives. A discussion about a thesis of this kind seems to me much more in accord with the spirit of analytic philosophy than a discussion about a thesis interpreted as a psychological empirical assertion. (CARNAP, 1963, p.1003, orig. emphasis)

Now on the face of it, Carnap may only seem to complicate matters. What are these "meanings" beyond the "haphazard features of natural language"? Importantly, they are not the Platonic entities disparaged by Quine but whatever is fixed by the deductive logical relations that obtain between sentences.[20] What Carnap is offering are logical constructions of conceptual networks by spelling out their semantic entailments (admittedly using intensional tools that Quine would not approve of). But logical constructions for what purpose?

Clearly, Carnap's point was not to supply psychological explanations, but by putting forward his "philosophical thesis" he also did not mean to provide appeals to essences or types of transcendentally argued for realities. In fact, he did not put forward explanations at all, but merely laid out what must be agreed upon between speakers, implicitly or explicitly, so that they can reach rational agreement about the truth values of their assertions.[21] Since this point bears expansion we may say that what Carnap meant to provide logico-linguistic framework for was conceptual *explorations*. To put it slightly

[20] As Carnap stated in this very context: "'To have the same meaning' is here always understood, not in the strong sense of synonymy, but in the weaker sense of logical or analytic equivalence." (1963, p.1004)

[21] See Ebbs (1997, Ch. 4) and (2001).

anachronistically, the point of his logical constructions was to investigate possibilities of alternative conceptualizations of contested concepts.[22] This brings us to Carnap's concern with "explication", as he called it in later years.[23] So our question becomes: is explication incompatible with naturalistic epistemology?

Before turning to answer this question, let me also note that once we take this perspective of the ameliorative language constructor on board, we can see that, relatedly, the term "epistemology" has a different weight for Quine and Carnap. Quine as a naturalist wants psychologically real explanations whereas Carnap aims for reflective clarity that might, in the fullness of time, inform one's agency. The issue of the compatibility of epistemological naturalism with some non-essentialist form of the analytic/synthetic distinction requires reconsideration of precisely what kind of inquiries naturalism allows for. The naturalism that Carnap's philosophy of science allows for may differ from Quine's. It is important to note, however, that no irremediable contrast obtains between them over the methodology of providing explications.

It is common for anti-naturalists to charge Quine with abandoning epistemology for merely causal input-output investigations.[24] But quite apart from the fact that Quine's input-output investigations are on a much larger scale than psychology could attempt, tracing the path from sensory input to entire scientific theories, this charge is entirely mistaken. True, Quine rejected the construal of norms in epistemology as categorical, but this did not stop him from recognizing them by viewing them as hypothetical and instrumental instead. Thus he stated explicitly:

> "For me, epistemology is a branch of engineering. It is the technology of truth-seeking, or, in a more cautiously epistemological term, prediction. Like any technology, it makes free use of whatever scientific findings may suit its purpose. It draws on mathematics in computing standard deviation and probable error and in scouting the gambler's fallacy. It draws on experimental psychology in scouting wishful thinking. It draws upon neurology and physics, in a general way, in discounting testimony from the occult or parapsychological sources. There is no question here of ultimate value, as in morals; it is a matter of effi-

[22]The allusion is to Gallie (1955-56), but for Carnap the concepts in question need not be contested "essentially" nor are they mostly political or moral ones: quite typically he was interested in epistemological or metatheoretical concepts.

[23]See Carnap (1950, Ch.1). For an extensive discussion of Carnap's explicationism on a broad canvass, see Carus (2007, Ch. 11).

[24]See, e.g., Kim (1988) and Putnam (1992).

> cacy for an ulterior end, truth or prediction. The normative here, as elsewhere in engineering, becomes descriptive when the terminal parameter is expressed." (QUINE, 1986, p.664-5)[25]

Quine was far from rejecting normative questions. And given that he did not and instead viewed epistemology as a branch of engineering there is little reason-indeed no reason whatsoever-to think that Carnapian elucidations are barred from naturalistic epistemology in principle. Elucidations are instances of Carnapian conceptual engineering.

The question that does arise, rather, is just how we could and perhaps should conceptualize doing philosophy by starting, not from some supposedly indubitable fixed points of reason, but from within our current state of knowledge and ignorance, our current science. The question that arises is just what form and aim naturalism in philosophy could and should take. That Quine, despite all his pioneering work, does not possess a monopoly claim on this is widely acknowledged among contemporary practitioners of naturalistic epistemology.[26] What investigations like the present one suggest is that Carnap, together with selected Vienna Circle colleagues, offers a valuable contribution that has been overlooked for too long.

5. Carnap in Context: The Bipartite Metatheory Conception.

Suppose you followed me at least so far as to agree that "Epistemology Naturalized" and sundry other writings by Quine obscure the very possibility that among his neopositivist elders some form of naturalistic epistemology was not only thinkable, perhaps even was practiced. Now this would only be worth stressing if that possibility were salient, even more so if it had been actualized. So am I foolhardy enough to claim, not only that the possibility of neopositivist naturalism is salient, but that it also was actualized?

Truth to tell, it would be hard for me to do otherwise. I've long been in print as claiming the latter.[27] So to round up let me briefly put my case for either point. Note to begin with Quine's own characterization of naturalism: "the recognition that it is within science itself, and not in some prior philosophy, that reality is to be identified and described" (1981, p.21). If we go easy on the

[25]Consider also: "Insofar as theoretical epistemology gets naturalized into a chapter of theoretical science, so normative epistemology gets naturalized into a chapter of engineering: the technology of anticipating sensory stimulation." (QUINE, 1990, p.19)

[26]Comparison with contemporary versions already suggests that Quine's holds no monopoly; see already Maffie (1990a) and (1990b).

[27]See Uebel (1991).

term "reality" and bracket ontology, it is clear that our neopositivists are fully on board. The rejection of First Philosophy was definitive of just about all philosophies that emerged from the Vienna Circle. But, of course, not every member of the Vienna Circle can plausibly be claimed to be of a naturalistic persuasion, however "scientistic" their overall outlook may be considered to be. The relevant suspects are to be found on the so-called "left wing" of the Circle-comprising besides Carnap and Neurath also Hans Hahn and Philipp Frank-not among the "more conservative wing" around Schlick and Friedrich Waismann.[28]

So let's first turn to Neurath for a representative quotation of his naturalism.

> The possibility of science becomes apparent in science itself. ...Within a consistent physicalism there can be no 'theory of knowledge', at least not in the traditional form. It could only consist of defense actions against metaphysics, i.e. unmasking meaningless terms. Some problems of the theory of knowledge will perhaps be transformable into empirical questions so that they can find a place within unified science. (1932a, 61 and 67)

I trust the difference of idiom does not detract from the naturalistic message. Now you may wonder whether Neurath's naturalism would be news to Quine. After all, didn't Quine make Neurath's simile of the boat having to be repaired at sea the leading image of his naturalistic epistemology? He did, but as he told me once, he did so for love of the simile, not for his knowledge of what Neurath was up to.[29] (What Quine said about the Circle's protocol sentence debate bears this out, as we saw.)

Now what about Carnap? Here matters are a little bit more complicated, but no less congenial to our concern. With Neurath, the possibility of neopositivist epistemological naturalism was actualized. With Carnap, the possibility of neopositivist naturalism became salient. What I mean by this is the following. In and of itself Carnap's more or less technical discussions and implementations of language construction do not look like nor do they in themselves represent a naturalistic form of epistemology. Its resolutely anti-psychologistic and anti-sociologistic stance clearly sees to this. It is the wider context in which the logic

[28] See Carnap (1963, p.57) for the first published use of these Neurathian locutions employed to distinguish a metaphilosophical division between members that became apparent in the early 1930s.

[29] For further points from that interview see Uebel (1991).

of science was placed by Carnap that makes for its compatibility with naturalistic epistemology.

Consider again the quote from Neurath that I declared indicative of his naturalism. Two tasks were assigned there to whatever was to be philosophy's successor discipline in unified science: unmasking meaningless terms and asking empirical questions about knowledge production. Both represent different aspects of what unified science contains alongside all of the first-order disciplines: a scientific metatheory. There was, on one side, what Carnap called "the logic of science" (1934a/1937, §§72-73) and, on the other, what Neurath called "the behavioristics of scholars" (1936/1983, p.169) and what Philipp Frank later called the "pragmatics of science" (1957/2004, p.360). The former, the logic of science investigated scientific theories in typically axiomatized form and considered their internal structure and their relation to their evidential base in purely logical (deductive and inductive) terms. The latter, the pragmatics of science investigated scientific practice by means of the empirical sciences of science, the psychology and sociology as well as the history of science. So while the logic of science investigated abstract relations of evidential support, the pragmatics of science investigated the concrete mechanisms of theory choice and theory change. Importantly, both of them were able to issue conditional normative prescriptions (or recommendations in the proposal mode) that traded on the instrumental value that following the prescription or adopting the recommendation was supposed to bestow.

By discarding the residually foundationalist ambitions of methodological solipsism in late 1932 and his subsequent abandonment of traditional epistemology and embrace of the logic of science, Carnap's position came into agreement with this bipartite metatheory conception. What Carnap was able to add to Neurath's "defensive" task for the logic of science (unmasking meaningless terms) was his own conventionalist constructivism concerning alternative linguistic frameworks. That this did not rule out of the court of scientific metatheory all naturalistic concerns is made clear by his remark that the logic of science is itself but part of a still more comprehensive inquiry, the "theory of science", which comprises also "empirical investigation of scientific activity", namely, "historical, sociological and, above all, psychological inquiries" (1934a/1937, §72). All three, Carnap, Neurath and Frank, recognized the need for both logical and empirical branches of scientific metatheory, but they pursued their own detailed work in different branches. Carnap stuck with the logic of science, Neurath and Frank pursued a naturalistic epistemology of science with the help of psychology, sociology and history of science.

Their proposals concerning protocols reflect this. For Neurath, protocols were complex statements containing embedded clauses meant to indicate different sets of conditions which the acceptance of scientific observation reports is subject to.[30] By treating protocol statements as testimony whose acceptance is circumscribed in particular ways, Neurath moved away from any concern one might have for a "foundation of knowledge" in one's own first-hand experience. First-person authority was, if not wholly undermined, then radically subverted: in principle, one's own protocol carried no more weight than another's. Carnap was even less concerned with personal beliefs but instead focused on knowledge claims and their objective evidence. Where Neurath sought to outline canons of report acceptance, Carnap's work concentrated on isolating the logical relations of deductive and inductive support that protocols afforded to more theoretical statements. Concern with acceptance conditions lay wholly outside the remit of the logic of science. So while not practicing naturalistic epistemology himself, Carnap's logic of science was compatible with, indeed intended to be complementary to it.[31]

Let me stress this point with some last quotations. For Carnap, the logic of science was "an instrument of unified science" (1934b/1987, 56). Among its constructive tasks were logico-linguistic proposals intended to be "useful and productive in practice" for "particular point[s] of the language of science" (1934a/1937, 332). As Carnap put it once, slipping back into the old idiom, "the task of the philosophy of science can be pursued only in a close cooperation between logicians and empirical investigators" (1934c/1967, 62).

6. Conclusion

Even though his rhetoric got the better of him both in earlier and in later years, in "Epistemology Naturalized" Quine, perhaps constrained by the *genii loci* reigning over the occasion, was quite careful to avoid gross caricatures of Carnap and his colleagues-and yet he still managed to project his own new naturalistic beginning as a radical turning away from their philosophical methodology. What I have argued here is that, contrary to its wide and largely uncritical reception, Quine's projection was mistaken. There was far more naturalism in the Vienna Circle than was ever dreamt of in Quine's Viennese narrative.

[30] See, again, Neurath (1932b/1983) and Uebel (2009).
[31] For further discussion see, e.g., Uebel (2013b), (2015) and (2018).

References

CARNAP, Rudolf. *Der logische Aufbau der Welt*. Berlin: Weltkreisverlag, 1928.

_____ *The Logical Structure of the World.* Pseudoproblems in Philosophy, University of California Press, 1967.

_____. Die logizistische Grundlegung der Mathematik, *Erkenntnis* 2: 91-105, 1931. (Trans. in P. Bernacerraf and H. Putnam (eds.), *The Philosophy of Mathematics. Selected Readings*, Cambridge: Cambridge University Press, 1964, pp. 31-41)

_____. Über Protokollsätze, *Erkenntnis* 3: 215-228, 1932. (Trans. "On Protocol Sentences" in *Nous* 21**:** 457-470.)

_____. *Logische Syntax der Sprache*. Vienna: Springer, 1934a. (Rev. ed. transl. *The Logical Syntax of Language*, London: Kegan, Paul, Trench Teubner & Cie, 1937, repr. Chicago: Open Court, 2002.)

_____. *Die Aufgabe der Wissenschaftslogik* , Vienna: Gerold, 1934a. (Transl. "The Task of the Logic of Science" in B. McGuiness (ed.), 1987, *Unified Science*, Dordrecht: Reidel, 1987, pp. 46-66.)

_____. On the Character of Philosophic Problems. *Philosophy of Science* 1: 5-19, 1934c. (Repr. in R. Rorty (ed.), *The Lingusitic Turn. Essays in Philosophical Method*, Chicago: University of Chicago Press, 1967, pp. 54-62.)

_____. Von der Erkenntnistheorie zur Wissenschaftslogik. *Actes du Congress Internationale de Philosophie Scientifique, Sorbonne, Paris 1935*, Facs. I "Philosophie Scientifique et Empirisme Logique", Paris: Herman & Cie, pp. 36-41, 1936a.

_____. Wahrheit und Bewährung. *Actes du Congres Internationale de Philosophie Scientifique, Sorbonne, Paris 1935*, Facs. IV, "Induction et Probabilité", Paris: Hermann & Cie., pp. 18-23, 1936b.

_____. Truth and Confirmation." In *Readings in Philosophical Analysis*, New York: Appleton-Century-Crofts, pp. 119-227, 1949.

_____. *Logical Foundations of Probability*. Chicago: University of Chicago Press, 1950.

_____. Meaning and Synonomy in Natural Language. *Philosophical Studies* 6: 33-47, 1955. (Repr. in Carnap, *Meaning and Necessity*, 2nd ed. with supplementary essays, Chicago: University of Chicago Press. 1956, pp. 233-247.)

_____. Comments and Replies. In P.A. Schilpp (ed.), *The Philosophy of Rudolf Carnap*, LaSalle: Open Court., pp. 859-1016, 1963.

CARUS, André. *Carnap and Twentieth Century Thought: Explication as Enlightenment*. Cambridge: Cambridge University Press, 2007.

CREATH, Richard. Quine on the Intelligibility and Relevance of the Analyticity. In R. Gibson (ed.) *Cambridge Companion to Quine*, Cambridge: University of Cambridge Press, pp. 47-64, 2004.

EBBS, Gary. *Rule-Following and Realism*. Cambridge, Mass.: Harvard University Press, 1997.

_____. Carnap's Logical Syntax. In R. Gaskin (ed.), *Grammar in Early Twentieth Century Philosophy*, London: Routledge, pp. 218-237, 2001. (Repr. in Ebbs, *Carnap, Quine and Putnam on Methods of Inquiry*, Cambridge: Cambridge University Press, pp. 13-32.)

FRANK, Philipp. *Philosophy of Science.* The Bridge Between Philosophy and Science. Englewood Cliffs, NJ: Prentice-Hall, 1957. (Repr. Minola: Dover, 2004.)

FRIEDMAN, Michael. Carnap's *Aufbau* Reconsidered. *Nous* 21: 521-45, 1987. (Repr. in Friedman, *Reconsidering Logical Positivism*. Cambridge: Cambridge University Press, pp. 89-113, 1999.

_____. Epistemology in the *Aufbau*. *Synthese* 93: 15-57, 1992. (Repr. with postscript in Friedman, *Reconsidering Logical Positivism*. Cambridge: Cambridge University Press, pp. 114-164, 1999)

GALLIE, W. B. Essentially Contested Concepts. *Proceedings of the Aristotelian Society* 56: 167-198, 1955-56. (Repr. in Gallie, *Philosophy and the Historical Understanding*, London: Chatto & Windus, 1964.)

HALLER, Rudolf. Die philosophische Entwicklung im Österreich der Fünfzigerjahre, *Manuskripte* 23: 57-68, 1983. (Repr. in Haller, *Fragen zu Wittgenstein und Aufsätze zur Österreichischen Philosophie*, Amsterdam: Rodopi, pp. 219-245, 1986.)

HEMPEL Carl Gustav. Schlick und Neurath: Fundierung vs. Kohärenz in der Wissenschaftlichen Erkenntnis. *Grazer Philosophische Studien* 16-17: 1-18, 1982. (Trans. "Schlick and Neurath: Foundations and Coherence in Scientific Knowledge", in Hempel, *Selected Philosophical Essays* (ed. by R. Jeffreys), Cambridge: Cambridge University Press, pp. 181-198, 2000.)

KIM, Jaegwon. What is Naturalized Epistemology? *Philosophical Perspectives* 2: 381-405, 1988.

KOPPELBERG, Dirk. *Die Aufhebung der Analytischen Philosophie* . Frankfurt: Suhrkamp, 1987.

_____. How and Why to Naturalize Epistemology. In *Perspectives on Quine*, Oxford: Blackwell, pp. 200-211, 1990.

MAFFIE, James. Recent Work on naturalistic Epistemology, *American Philosophical Quarterly* 27: 281-293, 1990a.

_____. Naturalism and the Normativity of Epistemology, *Philosophical Studies* 59: 333-349, 1990b.

NEURATH, Otto, Soziologie im Physikalismus, *Erkenntnis* 2: 393-431, 1932a. (trans. "Sociology and Physicalism" in A. J. Ayer (ed.), *Logical Positivism*, New York: Free Press, 1959, pp. 282-320, and "Sociology in the Framework of Physicalism" in Neurath, *Philosophical Papers 1913-1946* (ed. by R.S. Cohen and M. Neurath), Dordrecht: Reidel, 1983, pp. 58-90.)

_____. Protokollsätze. *Erkenntnis* 3: 204-14, 1932b. (Trans. "Protocol Sentences" in A. J. Ayer (ed.), *Logical Positivism*, New York: Free Press, 1959, pp. 199-208, and "Protocol Statements" in Neurath, *Philosophical Papers 1913-1946* (ed. by R.S. Cohen and M. Neurath), Dordrecht: Reidel, 1983, pp. 91-99.)

_____. Physikalismus und Erkenntnisforschung. *NI* 2: 97-105 and 234-237, 1936. (Trans. "Physicalism and the Investigation of Knowledge" in Neurath, *Philosophical Papers 1913-1946* (ed. by R.S. Cohen and M. Neurath), Dordrecht: Reidel, pp. 159-166 and 168-171, 1983.)

PASSMORE, John. Logical Positivism. In P. Edwards et al (eds.), *Encyclopedia of Philosophy Vol. 5*, New York: Macmillan and The Free Press, pp. 52-57, 1967.

PUTNAM, Hilary. Why Reason Can't Be Naturalized. *Synthese* 52: 3-24, 1982. (Repr. in Putnam, *Philosophical Papers Vol. 3*, Cambridge: Cambridge University Press, pp. 229-47, 1983.

QUINE, W.V.O. Two Dogmas of Empiricism. *Philosophical Review* 60: 20-43, 1951. (Repr. in Quine, *From a Logical Point of View* , Cambridge, Mass.: Harvard University Press, 1953, rev. ed. 1980, 20-46.)

_____.Carnap and Logical Truth. In P.A. Schilpp (ed.), *The Philosophy of Rudolf Carnap*, LaSalle: Open Court. pp. 385-406, 1963.

_____. Epistemology Naturalized. In Quine, *Ontological Relativity and Other Essays*, New York: Columbia University Press, pp. 69-90, 1969.

_____. *Theories and Things*. Cambridge, Mass.: Harvard University Press, 1981.

_____. Response to Morton G. White. In E. Hahn and P. Schilpp (eds.), *The Philosohy of W.V.O. Quine*, LaSalle, Ill.: Open Court, pp. 662-666, 1986.

_____. Naturalism; or, Living within one's Means., *Dialectica* 49: 251-261, 1990a. (Repr. in Quine 2004, pp. 275-286.)

_____. *The Pursuit of Truth*. Cambridge, Mass.: Harvard University Press, 1990.

_____. Two Dogmas in Retrospect. *Canadian Journal of Philosophy* 21: 265-74, 1991. (Repr. in Quine 2004, pp. 54-64.)

_____. *From Stimulus to Science*. Cambridge, Mass.: Harvard University Press, 1995.

_____. *Quintessence* (ed. by R. Gibson). Cambridge, Mass.: Harvard Univeristy Press, 2004.

REISCH, George. Did Kuhn Kill Logical Empiricism? *Philosophy of Science* 58: 264-277, 1991.

RICHARDSON, Alan. From Epistemology to the Logic of Science: Objectivity and Empiricism." In R. Giere and A. Richardson (eds.), 1996, *Origins of Logical Empiricism*, Minneapolis: University of Minnesota Press, pp. 309-322, 1966.

_____. *Carnap's Construction of the World*. Cambridge: Cambridge University Press, 1988.

RYSIEW, Patrick. Naturalism in Epistemology, *The Stanford Encyclopedia of Philosophy,2016.* <https://plato.stanford.edu/archives/fall2020/entries/epistemology-naturalized/>.

UEBEL Thomas. Neurath's Programme for Naturalistic Epistemology. *Studies in the History and Philosophy of Science* 22: 623-46, 1991.

_____. Logical Empiricism and Sociology of Knowledge: The Cse of Neurath and Frank, *Philosophy of Science* 67: S138-S150.

_____. *Empiricism at the Crossroads. The Vienna Circle's Protocol Sentence Debate.* Chicago: Open Court, 2007.

_____. Neurath's Protocol Statements Revisited: Sketch of a Theory of Scientific Testimony. *Studies in History and Philosophy of Science* 40: 4-13, 2009.

_____. Logical Positivism-Logical Empiricism: What's in a Name? *Perspectives on Science* 21: 58-99, 2013a.

_____. Pragmatics in Carnap and Morris and the Bipartite Metatheory Conception. *Erkenntnis* 78: 523-546, 2013b

_____. Three Challenges to the Complementarity of the Logic and the Pragmatics of Science. *Studies in History and Philosophy of Science* 53: 23-32, 2015.

_____. Carnap's Transformation of Epistemology and the Development of his Metaphilosophy. *The Monist* 101: 367-387, 2018.

VERHAEGH Sander. *Working From Within. The Nature and Development of Quine's Naturalism*. Oxford: Oxford University Press, 2018.

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