

# Carnap's *Aufbau* in the Weimar Context

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Abstract. Quine's classic interpretation succinctly characterized Carnap's *Aufbau* as an attempt "to account for the external world as a logical construct of sense-data ... ." Consequently, "Russell" was characterized as the most important influence on the *Aufbau*. Those times have passed. Formulating a comprehensive and balanced interpretation of the *Aufbau* has turned out to be a difficult task and one that must take into account several disjointed sources.

My thesis is that the core of the *Aufbau* rested on a problem that had haunted German philosophy since the end of the 19th century. In terms fashionable at the time, this problem may be expressed as the polarity between *Leben* and *Geist* that characterized German philosophy during the years of the *Weimar Republic*. At that time, many philosophers, including Cassirer, Rickert and Vaihinger, were engaged in overcoming this polarity. As I will show, Carnap's *Aufbau* joined the ranks of these projects. This suggests that *Lebensphilosophie* and Rickert's *System der Philosophie* (1921) (henceforth *System*) exerted a strong influence on Carnap's projects, an influence that is particularly conspicuous in his unpublished manuscript *Vom Chaos zur Wirklichkeit* (1922). Carnap himself asserted that this manuscript could be considered "the germ of the constitution theory" of the *Aufbau*. Reading *Chaos* also reveals another strong but neglected influence on the *Aufbau*, namely a specific version of neutral monism put forward by the philosopher and psychologist Theodor Ziehen before World War I. Ziehen's work contributed much to the invention of the constitutional method of quasi-analysis.

Keywords: *Aufbau*, Lebensphilosophie, Neo-Kantianism, Quasi-analysis, Rudolf Carnap, Heinrich Rickert, Theodor Ziehen.

## I. Introduction

The *Aufbau* was once described as an attempt "to account for the external world as a logical construct of sense-data" (Quine 1969, 74). Consequently, the most important

influence on the *Aufbau* could be precisely named as “Russell”. Those times have passed. The task of providing a balanced and comprehensive interpretation of the *Aufbau* has turned out to be more difficult than most people imagined forty years ago, when Quine’s interpretation of the *Aufbau* was popular.

It is my thesis that the original core of the *Aufbau* project rested on a problem that had haunted German philosophy since the end of the 19th century. In terms fashionable at the time, the problem was characterized as a polarity between *Leben* and *Geist* (*Life and Spirit*). It became particularly acute in the turbulent years of the *Weimar Republic*, when neo-Kantianism, still arguably the leading current of academic philosophy in Germany at the time, came under heavy fire from various currents of *Lebensphilosophie* (philosophy of life) and related philosophical currents such as Heidegger’s fundamental ontology.<sup>1</sup>

Carnap, one of the younger and more ambitious philosophers of the time, was also engaged in the project of overcoming the conflict between *Leben* and *Geist*. His attempts were characterized by a certain eclecticism; he frequently used conceptual devices and ideas from very different currents of science and philosophy. This eclecticism makes it difficult to identify the influences that contributed to the *Aufbau*. The aim of this paper is to draw attention to three influences that have been neglected in the literature: *Lebensphilosophie*, South-West neo-Kantianism, and a specific version of Machian monism as presented by the German philosopher and psychologist Theodor Ziehen in his *Erkenntnistheorie auf psychophysiologischer und physikalischer Grundlage* (Ziehen (1913), henceforth *Erkenntnistheorie*).

At first glance, these influences form a strange triad. Even if one were to admit that they had some influence on the *Aufbau*, it is not clear what brings them together. The answer is that all three theories are essential ingredients in the unpublished manuscript *Vom Chaos zur Welt* (Carnap 1922, RC 081–05-0, henceforth *Chaos*), which was, according to Carnap, the “germ of the *Aufbau*”, or as I contend, *Chaos* may be characterized as the “*Ur-Aufbau*”. The general thesis of this paper is that bringing into focus the triad of *Lebensphilosophie*, South-West neo-Kantianism, and monism á la Ziehen sheds new light on the meaning of Carnap’s first *opus magnum*.

At that time, the situation in German philosophy might be described as a quarrel between academic, broadly scientific-minded philosophy on the one hand and more or

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<sup>1</sup> A succinct presentation of the philosophical landscape in Germany in the 1920s can be found in Schnädelbach (1984).

less irrationalist currents such as *Lebensphilosophie* on the other. More precisely, the academic philosophy sought to confine the effect of the growing tide of *Lebensphilosophie* on the cultural and intellectual scene in Germany.<sup>2</sup>

While *Lebensphilosophie* tended to assume an unbridgeable gap between *Leben* and *Geist*, most currents of established academic philosophy were prepared to recognize a relative independence and autonomy for the sphere of *Leben*. As discussed below, academic philosophers generally sought a reconciliation of *Geist* and *Leben* in a world in which both had a legitimate place.

Among the philosophers engaged in overcoming the antagonism between *Geist* and *Leben* were Cassirer (*Philosophie der symbolischen Formen*, 1923 - 1929), Rickert (*System*, 1921), Vaihinger (*Die Philosophie des Als Ob. Ein System der theoretischen, praktischen, und religiösen Fiktionen der Menschheit*, 1920<sup>6</sup>), and Husserl (*The Crisis of European Sciences and Transcendental Phenomenology* (1936) and earlier lectures).

Carnap was aware of many of these works. It would not be unjustified to ascribe to his early work a certain eclecticism, as the exegetic work of several authors has revealed, Carnap used arguments from many different philosophical quarters. I will argue that this eclecticism was held together by the underlying aim of overcoming the antagonism between *Leben* and *Geist*.

The *Aufbau* project covered an extended period, from approximately 1922 to 1930.<sup>3</sup> It can hardly be expected that Carnap's philosophical convictions would remain constant throughout this entire period. I contend that in the early *Aufbau* project, Carnap sought a harmonious reconciliation of "*Geist*" and "*Leben*" in a meaningful world in which both

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<sup>2</sup> An impressive account of the fascination that Heidegger's lectures exerted on the German academic youth at that time is given by Hannah Arendt: "[His] name travelled all over Germany like the rumour of a secret king. [...] The rumour that attracted [the students] first to Freiburg to the *Privatdozent* and somewhat later to Marburg, told that there was one who really achieved the thing that Husserl had proclaimed" (Arendt (1969, 893). The tone of many comments about Heidegger's performance at the "Davoser Disputation" is similar. Many hailed him as the prophet of a new (philosophical) age. This prediction was fulfilled a few years later, but perhaps not in the way that many had hoped for (cf. Gordon (2010), Wolin (2001, 2006)).

<sup>3</sup> This claim may need some explanation. After all, the *Aufbau* was published in 1928, and one may assert that the story ends there. However, the tentative date of 1930 is given to assert that for a short time after 1928, the *Aufbau* was still a living option among the members of the Vienna Circle. Indeed, the *Manifesto* claimed that the *Aufbau* would play the role of a formal frame of *Einheitswissenschaft* to be carried out in the future (cf. *Manifesto*, Frank 1956).

had a legitimate place. Over time, however, the project retreated to the more modest goal of providing a rational reconstruction of scientific knowledge, neatly separated from the realm of *Leben*, that allowed for the peaceful co-existence of *Leben* and *Geist*. The two realms nevertheless remained related to each other in some manner, as expressed in the enigmatic closing phrase of the *Manifesto*: “The scientific world conception serves life and life receives it” (cf. Mormann (2013)).

The outline of this paper is as follows. In section 2, the global situation of German philosophy in the *Weimar Republic* is characterized in broad terms as a polarized spectrum that ranged from scientifically oriented (neo-Kantian) philosophy to a group of loosely defined irrationalist, anti-scientific philosophical currents that may be subsumed under the heading of *Lebensphilosophie*. For the purposes of this paper, I include various authors such as Bergson, Scheler, Spengler, Nietzsche, Simmel, Dilthey, and even Heidegger may be subsumed under this imprecise philosophical heading. For these thinkers in a rather woolly sense, *Leben* – in a not purely biological sense – was the primary and even the only important topic of philosophy in a way that transcended the purely biological sense.

When it emerged, most academic philosophy ignored *Lebensphilosophie* and its growing influence on the cultural and intellectual life of Germany. Eventually, however, it became clear that this stance was no longer tenable. Academic philosophy was forced to adopt a definitive attitude towards *Lebensphilosophie* that went beyond disregard or refusal.

For Carnap, one particularly important attempt to address the problem of *Leben* was put forward by the South-West neo-Kantian Heinrich Rickert in his two books *Die Philosophie des Lebens* (Rickert 1920) and *System* (Rickert 1921). In these books, Rickert attempted a partial integration of *Lebensphilosophie* into a comprehensive system of scientific-minded philosophy. Whether Rickert was successful is up for debate (cf. Kusch 1995), but Rickert was important to Carnap’s *Aufbau* project.

As section 3 demonstrates, an early version of the *Aufbau* project has interesting affinities with Rickert’s project. Indeed, there are striking similarities between Rickert’s *System* (1921) and Carnap’s *Chaos*. For instance, both conceptualize the “Aufbau” of an ordered rational world as emerging from a “chaos of *Erlebnisse*” and both describe the motif for such an “Aufbau” as a pseudo-Nietzschean “will to order” or “will to system”.

In the *Aufbau* project, Carnap also attempted to integrate central claims of *Lebensphilosophie* into what the *Manifesto* later called a comprehensive “scientific

world conception". In *Chaos*, Carnap addressed a challenge similar to the one Rickert confronted in *System*: to bring about a reconciliation of *Geist* and *Leben*. In other words, both sought to construct an ordered and rational world (*kosmos*) from an original *chaos* of *Erlebnisse*.

It goes without saying that the details of Rickert's and Carnap's projects are very different. Indeed, *Chaos* can be characterized as an attempt to synthesize a range of theories: Rickert's neo-Kantian account, a specific version of Machian neutral monism as presented by Ziehen in his *Erkenntnistheorie auf physiopsychologischer und physikalischer Grundlage* (Ziehen 1913), certain requirements of *Lebensphilosophie*, and the conceptual tools of relational logic inaugurated by Russell and Whitehead.<sup>4</sup> What exactly this means will be clarified in the following sections.

In the longer, unpublished version of his *Intellectual Autobiography* Carnap characterized *Chaos* as "the germ of the *Aufbau*". He noted that in *Chaos* he formulated, for the first time, the constitutional method of "quasi-analysis" which played an essential role in the constitution theory *überhaupt*. This claim is in need of qualification. As shown in section 3, the essential ingredients for this theory can already be found in Ziehen's *Erkenntnistheorie*.

Section 4 contains further evidence that Rickert's *Wertphilosophie* had a considerable influence on the *Aufbau* project. I argue that, much like Rickert, the *Aufbau* was engaged in the constitution of values and other cultural objects. Indeed, Carnap pointed out that the basic constitutional method of quasi-analysis may be characterized as a kind of valuation as it was practiced in Rickert's *Wertphilosophie*. On the other hand, from a formal perspective the method of quasi-analysis can be conceived as a defining and clarifying of Ziehen's "Koinadenprinzip". *Chaos* can therefore be seen as a synthesis of Rickert's voluntarism, Ziehen's positivistic monism, and *Lebensphilosophie*.

## II. Weimar Polarity.

Near the end of the *Weimar Republic*, one of its most influential philosophers and public intellectuals, Ernst Cassirer, offered the following diagnosis of the situation of philosophy in Germany:

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<sup>4</sup> Ziehen was the psychiatrist who took care of Nietzsche after he had a mental breakdown in 1889 and was admitted to psychiatric care.

Again, it has become evident how strong our „modern“ and most modern philosophical thoughts are rooted in romanticism and how they depend, consciously or unconsciously, on romanticist patterns. Again, the great anti-thesis of *Natur* and *Geist*, the polarity of *Leben* and *Erkenntnis* occupy center-stage in philosophical considerations<sup>5</sup> – and still the conceptual tools forged by romanticism, and the categories created by this period determine the problem and its solution. (Cassirer (1930, 186))<sup>6</sup>

Cassirer noted that there are several ways to address this polarity. One was to dissolve it in favor of a unipolar approach. As paradigmatic examples of similarly one-sided strategies he considered, on the one hand, the irrationalist version of *Lebensphilosophie* put forward by Ludwig Klages in his monumental *Der Geist als Widersacher der Seele* (Klages (1929 – 1933, app. 1500 pages) and the radically physicalist versions of logical empiricism espoused by the Vienna Circle, on the other hand. While Klages considered *Geist* to be the deadly enemy of *Leben*, the logical empiricists considered everything that could not be expressed in physicalist language to be metaphysical nonsense.

In addition to these radical and one-sided proposals of overcoming the fundamental polarity, Cassirer took into consideration a quite different class of proposals, namely those that intended to bring about a reconciliation between *Leben* and *Geist*. It is not difficult to see that Cassirer favored such a solution when he put forward the rhetorical question:

Romanticism versus positivism; “reason and science” versus the opposition to both, even their contempt, mysticism vs. “physicalism” – this is the whole theme of the philosophy of the last 150 years (1781 – 1931). Do we have to subscribe to one of these alternatives – or is there a kind of “reconciliation” that is principally different from an eclectic mixture of these two ingredients? (Cassirer 1995, 131)

The spectacular culmination of this confrontation between *Lebensphilosophie* and

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<sup>5</sup> Unwittingly, Carnap became a witness for the correctness of Cassirer’s diagnosis as demonstrated by the fact that, some years later, Carnap published in the journal *Natur und Geist* (sic) the paper *Theoretische Fragen und praktische Entscheidungen* (Carnap 1934).

<sup>6</sup> Similar ideas also appeared in Husserl’s lectures on *Natur und Geist* that he gave in 1919 and 1927.

*academic philosophy* was the famous “Davos Disputation” of Heidegger and Cassirer in Davos (Switzerland) in 1929 (see for example Gründer (1988), Friedman (1999), Gordon (2011), Skidelsky (2008)). Many contemporary witnesses considered the encounter between Heidegger and Cassirer to be a major philosophical event, which amounted to a philosophical sea-change and defined a new philosophical era. The general impression was that Heidegger, representing the new way of doing philosophy, was the winner in the Davos showdown, although I do not discuss the assertion here. For the purposes of this paper, it is important only to note that Carnap also participated in the Davos event and had discussions with both Heidegger and Cassirer (cf. Friedman (1999), Gordon (2010)). This suggests that he was vividly interested in the fundamental antagonism between the two currents that characterized philosophy in German-speaking countries and beyond at the time and that he was at pains to find his own stance in this dispute and overcome the aporetic controversy.

In this respect, he was one of the many philosophers of the time who were engaged in overcoming the aporetic polarity between irrational *Leben* and rational *Geist*. Many of them tackled this problem from a developmental perspective in which the problem was how from a basic stratum of *Leben* higher strata of reason and knowledge could be built up compatible with *Leben*. This brought into play the concept of construction or constitution, i.e., how the categories of reason or rationality could be constituted from more elementary categories of *Leben*. With respect to this issue I would like to put forward the following thesis:

The *Aufbau* was Carnap’s proposal of how the polarity between *Geist* and *Leben* could be conceptualized in a fruitful way. Carnap’s solution was of a reconciliatory nature: *Geist* was neither the “enemy of life” nor could life be completely subordinated to *Geist*.

As discussed above, such a project was far from original in the 1920s. Many currents of academic philosophy in Germany were engaged in analogous projects of coming to terms with *Leben*. For example, the Baden school of neo-Kantianism, in particular Rickert; the Marburg neo-Kantianism, with Cassirer’s “philosophy of symbolic forms”; and Husserlian phenomenology. My thesis argues that the *Aufbau* project was essentially informed by the specific constellation of German philosophy, culture, and politics in existence during the *Weimar Republic*.

This contention is far from new. Twenty years ago, Peter Galison noted that the specific historical situation of *Weimar* period was an core influence on the *Aufbau*’s

philosophical content. He argued, convincingly, that the “Der logische Aufbau der Welt” is not adequately translated as “The Logical Construction of the World”.

A more recent attempt to embed Carnap’s work in a specific historical and cultural context is the work of Gottfried Gabriel. (cf. Gabriel (2003, 2004)). According to Gabriel:

Carnap’s early philosophy ... can be regarded as a configuration of influences – a cross-fertilization of modern logic, neo-Kantian constitution theory, and the critique of metaphysics stemming from *Lebensphilosophie* – highly specific to a particular time and place: Jena in the first two decades of the twentieth century, when Carnap grew up and went to university there. (Gabriel (2004, 6))

Gabriel’s description of the cultural context from which Carnap’s early philosophy emerged points to some interesting ingredients that have been neglected in the past. Regrettably, he addresses the *Aufbau* only in passing and I would not place as strong an accent on “Jena” as he does. Rather, I contend that overcoming the aporetic antagonism between *Lebensphilosophie* and scientifically minded philosophy (in a broad sense) was not a special problem of the Jena philosophical configuration but an urgent problem for the entire field of academic philosophy in the *Weimar Republic*.

Instead of focusing on the concept of “Aufbau”, as Galison did, I will concentrate on the concepts *Erlebnis* and *Chaos*, which point rather directly to the strong influence of *Lebensphilosophie* on Carnap’s thinking. To set the stage, one should keep in mind that Carnap spent his philosophical apprenticeship in a philosophical arena somewhat alien to his later philosophical company. At the time, he studied under the influence of the South-West school of neo-Kantianism, beginning with Bruno Bauch in Jena, continuing with Rickert in Freiburg, and returning to Bauch and Frege in Jena. This influence continued well into the 1920s and is still visible in the *Aufbau* project, especially in its early stages. Later, in the second half of the 1920s, Rickert fell out of favor with Carnap, although it is not clear why. One plausible explanation would be the growing anti-neo-Kantian influence of the Vienna Circle, in particular the influence of Neurath, to which Carnap was exposed.

Carnap’s attack in *Overcoming Metaphysics* on *Wertphilosophie* was clearly directed against both Rickert and Heidegger. Eventually, in Carnap’s later *Intellectual Autobiography* (Carnap 1963), Rickert was implicitly deemed philosophically irrelevant; he was not mentioned at all. However, let us return for a moment to when Carnap appears to have held Rickert’s philosophy in higher esteem, namely immediately after

Rickert published *System* (Rickert 1920) and *Philosophie des Lebens* (1921)<sup>7</sup>. In these works, Rickert not only outlined his own philosophical system but also attempted to come to terms with *Lebensphilosophie*. He recognized the philosophical importance of the topic of *Leben* in general and of *Erlebnis* in particular:

Every systematic thought seeks to begin with something immediately given which does not permit any further derivation. Using a word fashionable today, this immediately given is called “the experience” (“das Erlebnis”). This need not to be objected. (*System*, 311).

Carnap’s argument for choosing *Erlebnisse* as the basic elements of the constitutional system in the *Aufbau* was virtually identical to Rickert’s:

... [S]ince we wish to require of our constructional system that it should agree with the epistemic order of the objects (§54), we have to proceed from that which is epistemically primary, that is to say, from the “given”, i.e., from *Erlebnisse* themselves in their totality and undivided unity. (*Aufbau*, § 67)

Rickert’s assertion that he “didn’t object” to calling “the given” “*Erlebnis*” was, he hoped, a clever attempt to bring *Leben* - conceived of as a “stream of *Erlebnisse*” - back under the control of scientific philosophy. For this endeavor, he sought help from Nietzsche, who may be considered a strange ally because he was one of the protagonists of *Lebensphilosophie*. According to Rickert, in the realm of philosophy, the Nietzschean “will to power” expresses itself as a “will to the system”:

What we immediately “experience” (“erleben”), is, after having subtracted all conceptualizations a completely disordered turmoil of impressions that constantly change [...]. For a scientifically minded individual, the world, thought as totally unsystematic, is a ... *chaos*. Most people do not realize this fully due the fact that from birth on we encroach in a stable organization of the world (Rickert 1920, 6/7)

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<sup>7</sup> The full title of Rickert’s book reads *Die Philosophie des Lebens. Darstellung und Kritik der philosophischen Modeströmungen unserer Zeit*. This title sounds more dismissive with respect to *Lebensphilosophie* than the book really is. To a rather large extent, Rickert offered a knowledgeable and not unfair presentation of *Lebensphilosophie*.

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Hence, the will for the philosophical consideration of the world is necessarily connected with the will to the system. (ibid. 10) (my emphasis, TM)

...

Philosophy has to think the world in such a way that from the chaos of *Erlebnisse* a kosmos arises that is ordered and articulated by principles (ibid., 50).

Like Rickert, Carnap assumed, in *Chaos*, that the “chaos” from which the fictitious *Aufbau* of *Wirklichkeit* was to emerge was minimally structured so that the “will to order” had a base from which to begin the construction process:

The chaos does not contain identical elements that can be grasped as isolated ones. In order that the chaos can be ordered at all, there must nevertheless exist differences in it on which it depends which places of the ordering schema are related to which parts of the chaos.

...

We ascribe to the chaos as few basic differences as possible, namely, only as many as are necessary for the constitution of reality. (*Chaos*, p.2)

Compared with Rickert, however, Carnap was much more explicit about what this minimal structure of “chaos” had to look like to permit the construction of a higher strata of *Wirklichkeit*. This is where Ziehen’s *Erkenntnistheorie* enters the stage. Carnap adopted the basic formal structure that was assumed by the system of *Erlebnisse* to get the constitution process started in Ziehen’s monistic account (cf. Ziehen 1913). This process will be discussed in detail in the next section.

Both Rickert and Carnap sought to design a constitution theory that could be used as a frame for constructing an ordered and meaningful world that retained at least some of the features characteristic of the world propagated by philosophers of *Lebens*. (“The scientific world conception serves life and life receives it”.) In the *Aufbau* project, Carnap sketched the constitution of a meaningful world in which values and other “cultural objects” played an essential role.

The origins for the constitution of such a comprehensive world can already be found in the *Uraufbau*, or the *Chaos* manuscript. In *Chaos*, Carnap responded to the challenge of *Lebensphilosophie*: that concepts such as intellect, conceptualization, reason, and rationalization were “dead” or, even worse, devices for “killing life” via ingenious

trickery. According to Carnap, *Erlebnisse*, as parts of *Leben* or, alternatively, *Leben* as a stream of *Erlebnisse* (*Erlebnisstrom*), had “living” and “dead” components. He stipulated that, for every *Erlebnis* there is:

... a first basic difference, namely that what we call the living and the dead part of the *Erlebnis*. ... The living part means what later is called sensation, and the dead part means representations (*Vorstellungen*). In both cases, however, those parts of *Erlebnisse* that later are distinguished as accompanying feelings or volitions ... are still included.

Thus, if every *Erlebnis* had a dead and a living component, then the allegedly unbridgeable abyss between *Leben* and *Geist* became an unfounded assumption.<sup>8</sup> As explained in detail in the next section, Carnap took this structure from Ziehen, in his *Erkenntnistheorie*, who had introduced it for very different reasons.<sup>9</sup>

### III. Chaos as the *Germ of Aufbau*.

In this section, I'd like to show that the essential ingredients of Carnap's *Chaos* were Rickert's *System* and Ziehen's *Erkenntnistheorie*. Indeed, *Chaos* may be conceived of as an attempt to synthesize Ziehen's *Erkenntnistheorie* and Rickert's project of the constitution of an ordered world (cosmos) from the “chaos” of a tangle of experiences (*Erlebnisse*). Carnap wrote in the right margin of the first page of *Chaos*, apparently after 1928:

*This is the germ of the constitution theory of the “Log. Aufbau!”*<sup>10</sup>

This is virtually the only quotation from *Chaos* of which commentators take note.<sup>11</sup> As I want to show that *Chaos* contains more than this one line that may be useful in elucidating some intricate interpretative issues in the *Aufbau*.

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<sup>8</sup> A similar argument - that an antagonistic clash between *Leben* and *Geist* as advocated by Klages and his partisans is inconsistent - can also be found in Cassirer (1995).

<sup>9</sup> Ironically, the living/dead distinction was given up in the *Aufbau*. Apparently, Carnap no longer considered it necessary to respond slavishly to all requirements of *Lebensphilosophie*.

<sup>10</sup> Das ist der Keim zur Konstitutionstheorie des “Log. Aufbau!”

<sup>11</sup> An exception is Tennant (1987), who quotes an entire passage from *Chaos* but without interpreting it.

The *Chaos* manuscript is a promising field for speculations concerning influences because the author made no effort to comply with the usual academic requirements of providing references, quotes, or sources. For instance, one may speculate that Husserl's phenomenology may also have influenced its content (cf. Mayer (1992), Rosado Haddock (2008)).

The central theme of *Chaos* is a sketch of the constitution of an epistemically ordered world (“*Wirklichkeit*”) from an epistemic *Chaos* of *Erlebnisse*. This constitution is not meant to be a realistic description of what really happened in the cognitive history of the individual or the species. It is a “fiction” in the sense of Vaihinger. It can be seen as an extrapolation of the more common situation that arises when we are confronted with discrepancies between our cognitive expectations and experiences. In a Nietzschean vein, Carnap described it as follows:

The will to achieve a new order and to eliminate the gross inconsistencies is what gives rise to the epistemological considerations and the fictions that appear in them such as the chaos as a point of departure and the order principles according to which the (ordering) process develops.

This will to overcome the inconsistencies of reality by reconstructing it is also the irrational starting point of our theory. (*Chaos*, 1, emphasis mine, TM)<sup>12</sup>

This echoes Rickert, who in *System* and *Die Lebensphilosophie* asserted:

... [T]he will for the philosophical consideration of the world ... is necessarily connected with the “will to the system”.<sup>13</sup> (*System*, 10, emphasis and translation mine, TM)

...

Philosophy has to think the world in such a way that from the chaos of *Erlebnisse* a *Kosmos* arises that is ordered and articulated by principles.<sup>14</sup> (*System*, 50, translation mine).

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<sup>12</sup> German original: „Dieser Wille zur Neuordnung, zur Beseitigung der großen Unstimmigkeiten ist es, der die erkenntnistheoretische Ueberlegung und die in ihr auftretenden Fiktionen vom Chaos als Ausgangspunkt und von den Ordnungsprinzipien, nach denen der Bau geschehen ist, geschieht, und geschehen soll, veranlasst.

Dieer Wille, die Unstimmigkeiten der Wirklichkeit durch Umbau der Wirklichkeit zu überwinden, ist auch der irrationale Ausgangspunkt unserer Theorie.“

<sup>13</sup> German original: „So ist mit dem Willen zur philosophischen Betrachtung der Welt der „Wille zum System“ ... notwendig verknüpft.“

The similarity between the general programs of Rickert's *System* and Carnap's *Chaos* should be obvious.

Let us now consider Ziehen's contribution to *Chaos* in some detail. Theodor Ziehen (1862 – 1950) was a philosopher, psychologist, and psychiatrist.<sup>15</sup> Today, Ziehen has fallen into almost complete obscurity as a philosopher, and, in particular, as a possible influence on Carnap.<sup>16</sup> He considered himself a “critical positivist” in the line of Mach and Avenarius. According to him, it was of outmost importance for a scientifically acceptable epistemology to begin with the “given” without smuggling in hidden assumptions that relied on linguistic or conceptual suggestions of the vocabulary used. To avoid succumbing to the various conceptual temptations that may arise from conceptual associations of vocabulary, he expressed his account in quite artificial technical terms. For Ziehen, the directly given basis of epistemology was a class of “gignomena”. In psychological language, which Ziehen was at pains to avoid at the beginning of his system, a “gignomenon” was something like a sensation (*Empfindung*) or, in a slightly different interpretation, an idea (*Vorstellung*). Ziehen preferred to avoid these highly charged concepts. Instead, he chose to maintain a strictly “neutral” language that could serve as a perfect mirror of the immediately given, namely the gignomena. The counterparts of the *Aufbau's Erlebnisse* do not suffice, however, to build an epistemology that deserves this name:

After having accepted the gignomena as a matter of fact, epistemology has the task to classify and order them. For this purpose, the principle of classification has to be clearly stated and justified. In particular, the

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<sup>14</sup> German Original: „Die Philosophie hat die Welt so zu denken, daß aus dem Chaos der Erlebnisse ein nach Prinzipien geordneter und gegliederter Kosmos entsteht.“

<sup>15</sup> Ziehen obtained a PhD in medicine (psychiatry) in 1885. Later he habilitated with Otto Binswanger and became his assistant at the psychiatric clinic in Jena. One of his patients there was Friedrich Nietzsche, after he had suffered a breakdown in Turin in 1889.

<sup>16</sup> Useful general information on Ziehen's life and work may be found on the website <http://www.stork-herbstde/sides/thziehen.html> maintained by August Herbst. For some pertinent remarks on the relation of Ziehen's *Erkenntnistheorie* and Carnap's *Aufbau* and Ziehen's role in the then contemporary debates on the concept of „order“ the reader may consult Paul Ziche's *Theories of order in Carnap's Aufbau* (this volume). On the other hand, Carnap's references in the *Aufbau* don't shed much light on Ziehen's role for his thought. Things become clearer if we have a closer look on *Chaos*.

introduction of a hypothesis – for instance the hypothesis of an cognizing ego or something like that – has to be avoided. The classification has to be only an ordered description. (Ziehen 1913, 3, 4)

The central question then becomes: according to what principles is the “ordered description” of the gignomena to be carried out? Ziehen, driven by his positivist conviction not to rely on any “subjective” order for ordering the gignomena, insisted that only the most austere principle for an “ordered description” of gignomena was to be used:

The principle of classification is only one - that of difference and similarity. The idea of difference, equality, and similarity, respectively is, leaving aside spatial and temporal relations, which cannot be used for classificatory purposes, ...the only general and original relation. (Ziehen 1913, 3 - 4).

According to Ziehen, therefore, not only the basic elements – the gignomena – but also the basic relation between them – the similarity relation between gignomena – belonged to the given. In other words, Ziehen subscribed to a type of structural realism according to which the basis of the “system of the world” was the class of gignomena endowed with a similarity relation.<sup>17</sup>

From this basic level of gignomena *cum* similarity relation, higher order objects could be constructed as Koinaden of gignomena. In other words, classes of similar gignomena, then Koinaden of Koinaden of gignomena, and so on. Carnap was later to explain this hierarchy more clearly in *Chaos* and in the *Aufbau*. Ziehen was content to illustrate the process of constitution with the following intuitive example. Consider a checkerboard, with white and black squares. A single square is constituted as a class of similar gignomena, their similarity given by the fact that they all have the color black, say. In Ziehen’s terminology, such a similarity class is a “Koinade”, more precisely, a Koinade of the first order. The checkerboard itself is characterized as a Koinade of second order because all its squares are more similar to each other than they are to the gignomena that occurred in their neighborhood (cf. Ziehen (1913, 16f).

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<sup>17</sup> By contrast, Carnap, in the *Aufbau*, subscribed to a mixed pedigree of the basic ingredients of his constitutional system. According to him, the basic elements – *Elementarerlebnisse* – were contributed by positivism, and the basic relation – *Ähnlichkeitserinnerung* – was a contribution of “transcendental idealism” (cf. *Aufbau* § 75). For Ziehen, both the elements and the basic relation of similarity belong to the “given”.

Ziehen did not invest much effort in giving a precise description of this constitution process. He was content to note the importance of his “Koinadenprinzip” in general terms. According to Ziehen, the objects of the world were to be constituted by a single principle - the *Koinadenprinzip* - based on the irreducible concept of similarity between gignomena. This *Koinadenprinzip* may be considered as an informal version of Carnap’s quasi-analytical constitutional method.

Ziehen’s specific version of a Machian neutral monism enabled Carnap to develop the constitutional method of quasi-analysis. What Carnap did in the *Ur-Aufbau* was to replace Ziehen’s clumsy terminology, such as “gignomena” and “Koinaden”, with a more appealing terminology inspired by the fashionable terms of *Lebensphilosophie*. Ziehen’s original structure remained essentially intact. Carnap demonstrated in *Chaos*, and later in the *Aufbau*, that the tools of modern relational logic could be applied to this structure.

Indeed, one may set up a neat translation manual between the basic vocabulary of Ziehen’s *Erkenntnistheorie* and Carnap’s *Chaos* in which Ziehen’s neutral “scientific” terms are translated into terms that obviously did not intend to be “neutral”. Instead, the new terms were heavily charged with connotations inspired by *Lebensphilosophie*. One might obtain the following translation manual:

	<b>Ziehen</b>	<b>Carnap</b>
<b>Basic elements</b>	Gignomen	Erlebnis
<b>Sensation</b>	Empfindungsgignomen	Living Part of Erlebnis
<b>Representation</b>	Vorstellungsgignomen	Dead Part of Erlebnis
<b>The Given</b>	Set of Gignomena	Chaos of Erlebnisse
<b>Basic Relation</b>	Similarity Relation	Similarity Relation G
<b>Higher Order Object</b>	Koinade	Quality Class
	2nd Order Koinade	
	.....	

The most important translation is the “main similarity relation” (“*Hauptgleichheit*”) G. The binary relation G is to be reflexive and symmetric but not necessarily transitive. In psychological language, the state of affairs *Gab* between two building blocks a and b obtains if and only if they are similar with respect to (at least) one sensational aspect, for instance, if a and b share the same shadow of blue in the visual field or the same

sound in the acoustic field. In *Chaos*, Carnap was already well aware that the *Erlebnisse* a and b, and b and c, respectively, may belong to the field of G. That is, *Gab* and *Gbc* may obtain, but *Gbc* does not, since a and c do not share a common aspect that renders them similar.

The relation G enabled the fictitious *Aufbauer* to constitute so-called quality classes as elements of the next higher level of the constitutional system: A class q of building blocks is a quality class if and only if it satisfies the following two conditions: any two elements of q stand in the relation G to each other; every building block that stands in relation G to all elements of G, also belongs to q. This is exactly the same definition of the quasi-analytical constitution of quality classes that later was to appear in the *Aufbau*.

The most important novel feature of Ziehen's account is to conceive "higher order" entities as constituted as classes of similar gignomena; these classes are called "Koinaden" (from the Greek "koinos" = "common"). In *Chaos*, Koinaden are renamed "quality classes", and they are defined as maximal classes of similar *Erlebnisse*. Already, Ziehen had recognized that to avoid an infinite regress of gignomena, properties of gignomena, properties of properties of gignomena, and so on, one had to take the similarity concept as a primitive relational concept. That is to say, similarity was not explained further by referring to properties that similar gignomena had in common. This idea of conceiving similarity as a basic relational primitive is the core of the quasi-analytical constitution method. He took similarity as a primitive relational concept in the sense that two gignomena a and b are similar or they are not similar. At the beginning of the process of constitution there are no properties of gignomena that may serve as "carriers" of the similarity relation in that gignomena are similar if and only if they have a property in common.

Carnap renamed Ziehen's "Koinaden" "quality classes" and defined them precisely as maximal similarity classes.<sup>18</sup> If the underlying similarity relation happens to be a transitive relation, then the resulting maximal classes are just equivalence classes. Thus, Ziehen's "Koinadenprinzip" of constituting (maximal) classes of similar gignomena, classes of classes of similar gignomena, and so on, may be understood as a

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<sup>18</sup> A similarity structure  $(S, \sim)$  is given by a set S and a binary reflexive and symmetrical relation  $\sim$  on S, and a subset  $T \subseteq S$  is a maximal similarity class (or similarity circle) if and only if it satisfies the following requirements:  $\forall a, b, c (a, b \in T \Rightarrow a \sim b) \ \& \ (a \in T \Rightarrow a \sim c) \Rightarrow c \in T$ ). Informally, T is a maximal similarity class if and only if all elements of T are similar to each other, and if there is an element that is similar to all elements of T, then it is already an element of T.

generalization of the Frege-Whitehead method of constitution by equivalence classes. The following lengthy quote demonstrates that the basic idea of quasi-analysis was already present in *Chaos*:

We have disassembled the present experience in components due to the distinctions between “living vs. dead” and “finished vs. unfinished”. We will call these components ... building blocks (*Bausteine*) because they are used for the construction (*Aufbau*) (of *Wirklichkeit*). We don't go further in the process of dismantling the present experience. Rather, we consider the building blocks as indivisible totalities, although they comprise everything that the later abstraction distinguishes as the seen, the heard, and so on, and also as the partial sounds of a tone, the color spots of a visual field and so on. We too have to arrive at these concepts, but rather than doing so by analysis, we do so by synthesis (*Aufbau*). For us, they are not parts of building blocks but classes of them that are constituted by certain relations that exist between the building blocks (Emphasis mine, TM).

In the *Aufbau*, this general schema of constitutional theory is simplified considerably and simultaneously elaborated in detail for the simplest remaining case. The “basic building blocks” are restricted to *Elementarerlebnisse*, and there is only one similarity relation. The objects of the next level are certain subsets of *Elementarerlebnisse* or similarity classes. Because the objects of this level are sets, a natural similarity relation can be defined by stipulating that two sets of *Elementarerlebnisse* are similar if and only if they have a non-trivial intersection. Obviously, this can be iterated, thereby enabling quasi-analytical constitutions on all levels.

Ziehen was content to invoke a general “Koinadenprinzip”, according to which higher order objects were constituted from lower ones as “Koinaden” of similar elements whereby the underlying similarity relation was “somehow” defined by taking into account certain unspecified “continuities” and “discontinuities”. Carnap, however, offered an apparently much more precise account of quasi-analytical constitution. In fact, he carried out only the constitution of the first (next to base) level in terms of relational logic. Then, he fobbed off the reader by noting that he was only interested in giving a sketch of how constitution might work and not in working out detailed chains of constitution. With respect to full-fledged constitutions of higher order objects, the reader is not much better off with the *Aufbau* than with Ziehen's *Erkenntnistheorie*.

In the part of Carnap's *Intellectual Autography* in which he addresses the origins of the

method of quasi-analysis, Ziehen is not mentioned. In the *Aufbau*, Carnap addresses only the simplified version of the method rather than the more complex version that he had developed in the *Ur-Aufbau*:

I developed a method called “quasi-analysis”, which leads, on the basis of the similarity-relation among experiences, to the logical construction of those entities which are usually conceived as components... (Carnap 1963, *Autobiography*, 16 – 17)

In the longer, unpublished account of the *Intellectual Autobiography*, one finds the following more detailed remarks on the origin of this method in 1922:

There was a heated debate on the question whether a momentary experience could contain sense-data as actual parts or not. Hertz declared actual components indispensable, while Lewin rejected them emphatically from the point of view of gestalt psychology. Reichenbach tried to reconcile the two sides by the conception that the controversy was largely a question of terminology. I tried to show that a certain method of logical analysis, which I called “quasi-analysis” did justice to the justified demands of both sides by preserving on the one hand the experiences as indivisible units and on the other hand, constructing certain complexes of experiences that correspond to the traditional components. (D21ff)

Ziehen is not mentioned, even though ‘constitution by quasi-analysis’ is merely a more precise version of the constitution by Ziehen’s “Koinadenprinzip” (cf. (Ziehen 1913)). As Joelle Proust, Nelson Goodman, and others have noted, quasi-analysis may be considered the most important formal innovation of *Aufbau*. (cf. Proust 1989, Mormann (1994), Leitgeb (2008), Mormann (2009)). Proust asserted, with good reasons, that:

the true interest in the *Aufbau* lies not in the example of a constitution system it offers but in the set of formal procedures that it is the function of the example to illustrate. (Proust (1989, 185))

The most important of these “formal procedures” is certainly the quasi-analytical constitution method, although this is not generally recognized. For instance, Carus (2007) and Rosado Haddock (2009) do not mention the issue of quasi-analysis at all. This is

certainly a loophole; in the opening paragraphs of the *Aufbau*, in which Carnap explained the aim of the work (“a constitutional system of concepts” (§1)), the meaning of “constitution” (§2), and the method to be employed (“the analysis of reality with the aid of the theory of relations” (§3)) he left no doubt that he considered the issue of “method” to be of utmost importance. Moreover, he was convinced that the *Aufbau* would make an important contribution in this area:

... [T]he reduction of “reality” to the “given” has in recent times been considered an important task and has been partially accomplished, for example, by Avenarius, Mach, Poincaré, Külpe, and especially by Ziehen and Driesch (to mention only a few names). The present study is an attempt to *apply the theory of relations to the task of analyzing reality.* (*Aufbau*, §3)

This quotation exhibits an interesting strategy for emphasizing the importance and novelty of the *Aufbau*'s method. First, quite a few predecessors are named, suggesting that many more could have been named. This process implicitly devalues and/or relativizes the philosophical originality and value of their work. All existing approaches are then characterized negatively as lacking an essential feature, which is, unsurprisingly, a strategy of Carnap's devising.

A closer look at Ziehen's *Erkenntnistheorie* reveals, however, that things are more complicated in the case of quasi-analysis. Ziehen is not simply a predecessor, he does offer a relational description via a basic similarity relation between the basic elements of his system (i.e. gignomena). What Ziehen's system is missing from a constitution system à la *Aufbau* is a precise characterization of the “*Koinaden*” as “quality classes”, i.e., as maximal similarity classes with the help of relational logic.

Let us take stock and summarize the senses in which *Chaos* goes beyond Rickert's *System*, Ziehen's *Erkenntnistheorie*, and Russell's *Our Knowledge of the External World*:

- Rickert's vague proposal that the emergence of order is based on valuational principles is replaced by a more precise description of order generation by quasi-analytical constitution based on a similarity relation.
- Ziehen's conceptual apparatus is simplified and cast into a form that is suited to applying the calculus of relational logic. The vaguely-characterized *Koinaden* are replaced by precisely defined quality classes.
- *Chaos* goes beyond Russell's programs by applying the apparatus of relational logic in a concrete and specific way to similarity structures, instead of providing

only general programmatic recommendations.

#### IV. Values in the *Aufbau*.

In the preferred constitutional system of the *Aufbau*, the world is constituted as a structure consisting of four layers: autopsychological, physical, heteropsychological, and cultural objects (cf. *Aufbau*, Summary, pp. 241/242). Most interpretations of the *Aufbau* have concentrated on the constitution of the autopsychological and the physical, whereas the higher layers of the heteropsychological and the cultural have generally been ignored. I do not feel this is justified. Even if the constitutions of the higher layers are sketchy, they shed interesting new light on the internal history of Carnap's *Aufbau* project. They demonstrate that at least in the beginning, the *Aufbau* project aimed at the constitution of a world that understood physical objects not only as logical constructs from sense data but also as cultural objects, thereby rendering it a meaningful world in a comprehensive sense.

Among so-called cultural objects, one finds values in particular (§ 152). Although they belong to the fourth constitutional level of the system, their constitution is based on items belonging to the lowest level of the constitutional system, namely *Elementarerlebnisse* of a special kind:

The construction of values from certain *Erlebnisse*, namely *Werterlebnisse*, is in many ways analogous to the construction of physical things from "perceptual experiences" ... For the construction of ethical values, for example, we must consider (among others) experiences of conscience, experiences of duty or of responsibility, etc. For aesthetic values, we take into account experiences of (aesthetic) pleasure or other attitudes in the appreciation of art, experiences of artistic creation, etc. The particular nature of the value experiences of the different value types is investigated by the phenomenology of values... (*Aufbau*, § 152).

This programmatic passage is clearly inspired by Rickert's *Wertphilosophie* and Husserl's *Phänomenologie*. Without doubt, the constitution of values originally belonged to the core of the constitution program. Carnap considered it to be essential for

constitution theory in general that this was the case, regardless of the specifics of a constitution system. Carnap explicitly noted that values could be constituted not only for constitution systems with an autopsychological basis but also for systems with a physical basis, a point allegedly shown by Ostwald's "energetic" *Werttheorie* (cf. *Aufbau* § 59, Ostwald (1913)).<sup>19</sup>

Nevertheless, in the published version of the *Aufbau*, Carnap's vigorous defense of a two-tiered constitution of values was already showing cracks as evidenced by the strange "pseudo-reference" to Rickert in the §42 of the *Aufbau*. This paragraph is labeled "can be omitted", as if Carnap wanted to avoid mentioning Rickert at all costs:

Fundamentally, the difference between being and holding, of which so much has been made in recent philosophy, goes back to the difference between object spheres, more precisely, to the difference between proper objects and quasi objects. For, if a quasi object is constructed on the basis of certain elements, then it "holds" for these elements; thus, it is distinguished as something that holds from the elements which have being.

...

Despite his dismissive attitude towards "the difference between being and holding, of

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<sup>19</sup> Carnap was at pains to ensure that values could be constituted for all kinds of constitution systems, not only for autopsychological ones but also for physicalist ones. This demonstrates that at least until 1925, the constitution of values was very important to him,:

"It could seem to be an open question whether in a constitutional system with physical basis there is room for the domain of values. This doubt, however, has been removed by Ostwald [Werte] with his derivation of values of several types upon a basis of energetics ... From a philosophical standpoint, it must be admitted that there is a methodological justification and fruitfulness, not only for the experiential "phenomenological" but also for the energetic derivation of values. (We shall employ the phenomenological method in the outline of our constitutional system, cf. § 152. The decision between the two is not a question of validity but one of system form; the difference lies merely in the way in which the problems are posed and the concepts constructed. Science as a whole needs both theories to exhibit both directions of logical reducibility, just as it needs a behavioristic as well as an introspective psychology; in general, it needs both an experiential and a materialistic derivation of all concepts." (*Aufbau*, §59).

This project of the constitution of values left no trace in Carnap's later work. This is not to say that the issues of values and valuations did not occupy him till the end of his career; see the discussions with Morris and Kaplan on this topics in Carnap (1963).

which so much has been made in recent philosophy”, Carnap boasted that he had gone beyond Rickert:

Construction theory goes beyond the customary conception of being and holding by claiming that this contrast does not arise only once, that there is only one boundary between being and holding, but that this relationship, constantly repeated, leads from level to level... Hence, the concepts being and holding are relative and express the relation between each constitutional level and the succeeding one. (§ 42)

In an almost Hegelian style, he then concluded that “construction theory explicated the logically strict form of the dialectic of the conceptual process” (ibid.).

In 1928, this interpretation of the quasi-analytical constitution as a kind of valuation in the style of Rickert was already on the verge of being abandoned, as evidenced by the “can be omitted” label on §42. However, around 1925, in an earlier phase of the *Aufbau*, “quasi-analyzing as valuating” was an integral part of the “logic of constitution forms”. This is evidenced by the unpublished manuscript *Entwurf einer Konstitutions-theorie der Erkenntnisgegenstände* (Carnap 1925, RC 081-05-02) in which “Sein und Gelten” appears as one among twelve sections of the chapter *Die Logik der Konstitutionsformen*.

The precarious situation of values in the later *Aufbau* project should not simply be interpreted as if Carnap was moving from a cognitivist to a non-cognitivist ethical standpoint. Rather, by denying them the status of objects of a constitutional system, Carnap denied values a rational status in a broader sense. Values were no longer considered worth of being explicated in a rational way.

Values were only one type of cultural object that originally belonged to the realm of objects constituted in the *Aufbau*. For the constitution of cultural objects such as habits, manners and similar manifestations of the “objective spirit”, Carnap relied on Wilhelm Dilthey and, in particular, on Hans Freyer’s *Theorie des objektiven Geistes* (Freyer 1923). Indeed, Carnap’s readiness to accept cultural objects (and possibly other types of objects, see §162 of the *Aufbau*) as an independent class of objects of constitutional systems shows that, at least for some time, he subscribed to a liberal ontological pluralism according to which the traditional dualism, which recognized physical and psychological objects, remained incomplete:

The philosophy of 19th century did not pay sufficient attention to the fact

that the cultural objects form an autonomous type. The reason for this is that epistemological and logical investigations tended to confine their attention predominantly to physics and psychology as paradigmatic subject matter areas. Only the more recent history of philosophy (since Dilthey) has called attention to the methodological and object-theoretical peculiarity of the area of cultural science. (*Aufbau*, §23)

The only, rather sketchy, example of the constitution of a “primary cultural object” Carnap gives in the *Aufbau* is the constitution of the “custom of greeting through the lifting of one’s hat” (cf. *Aufbau* § 150). This example and many of the concepts for describing the envisaged constitution of cultural objects were taken from Freyer’s *Theorie des objektiven Geistes* (Freyer 1923) (cf. 54 – 55).<sup>20</sup>

The project of the constitution of cultural objects was abandoned after 1928, although it is not clear why. One reason may be that the friendship between Carnap and Freyer dissolved in the late 1920s, most likely due to political differences.<sup>21</sup> Be that as it may, by 1932 the concept of “objective spirit” had changed for Carnap from a decent concept that could be constituted by the method of “manifestation” (as a variant of quasi-analysis) to a metaphysical pseudo-concept:

[Sciences such as sociology] often in their present form contain pseudo-concepts, viz. such as have no correct definition, and whose employment is based on no empirical criteria; ... such (pseudo-)concepts cannot be reduced to the given, are therefore void of sense. Examples: “objective spirit”, “the meaning of history”, etc. (Carnap 1934, 73)

Carnap never provided an argument for this thesis. One might speculate that he did not mean Freyer’s “objective spirit” but its “obviously” metaphysical Hegelian namesake. This interpretation is implausible, however, because Carnap took “objective spirit” as a

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<sup>20</sup> Freyer suggested a close parallelism between Carnap’s *Aufbau* of the objective world of physical objects and the constitution of the objective world of cultural objects constituted in the course of history. He considered his account, which he described as a systematic “Kulturphilosophie” as a kind of complement to Dilthey’s *Aufbau der geschichtlichen Welt in den Geisteswissenschaften*“ (Freyer (1923, 10,11)). Freyer literally aimed at a “structural theory of the *Aufbau* of the cultural world”, i.e., a structural theory of the world of cultural objects (ibid.).

<sup>21</sup> Freyer moved politically to the extreme right in the immediate neighborhood of National Socialism (cf. Muller 1987).

sociological rather than a philosophical concept. The fact that Freyer had been appointed to the newly established first chair of sociology at a German university in 1925 (in Leipzig) should remove any doubts that the “objective spirit” addressed above was Freyer’s.

In summary, one might say that in the early phases of the *Aufbau* project Carnap opted for a “comprehensive scientific philosophy”. According to this philosophy, not only empirical facts but also values and other cultural objects belonged to the ken of scientific philosophy. Around 1930, Carnap must have come to the conclusion that this program was not feasible. From then on, he favored a “restrictive scientific philosophy”, according to which values dropped out of the realm of reason and were no longer considered respectable objects of study for scientific philosophy. Instead, they were relegated to the realm of poetry, music and other non-rational endeavors through which one could express *Lebensgefühl*. Consequently, scientific philosophy was restricted to philosophy of science in a narrow sense.

The original balance between the domain of irrational *Lebensgefühle* and the domain of concepts that could be rationally constituted became unstable around 1928, and the border between the two domains shifted. The territory of values, which once had belonged to the domain of constitution, was occupied by irrational *Leben*. The neo-Kantian constitutional projects were tacitly given up. Values, phenomenological constitutions, and other cultural objects disappeared from the agenda of constitution theory.<sup>22</sup>

This move did not mean that Carnap had lost interest in the “value-laden” issues of society, culture, and politics. To the contrary, Carnap’s political commitment to the Vienna Circle, the *Ernst Mach Society*, the *Bauhaus* and similar institutions reached its peak in the early 1930s. However, his commitment was based on his *Lebensgefühl* and not the results and methods of scientific philosophy.

The expulsion of values and other cultural objects from the realm of constitution theory led to a strict separation between the domains of *Leben* and *Geist* that replaced their originally envisaged polarity. By eliminating values from the realm of objects that can be constituted, an explicit and rational discussion of these issues fell outside the realm of rational discourse. Values, valuation, and related concepts no longer belonged to the realm of respectable philosophical topics. Instead, they were relegated to

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<sup>22</sup> For the later Carnap’s means of dealing with values see Carnap (1963), Kaplan (1963), and Mormann (2006).

implicit and intuitive decisions dependent on one's *Wertgefühle*.<sup>23</sup>

## V. Concluding Remarks.

Carnap's descriptions of his philosophical influences are not always reliable. This is particularly true of his formative years in Jena, Freiburg, and Vienna. His volatile attitude in the 1910s and 1920s towards the various currents of neo-Kantianism, phenomenology, and other philosophical currents, later characterized as "continental", such as *Lebensphilosophie*, are not fully understood. The evolution of his thought did not always follow the straight paths he described in his *Intellectual Autobiography*.

Over the years, the radical rhetoric of his early years was replaced by more sober language. The impact of *Lebensphilosophie* is mitigated, although it did not fully disappear. The Nietzsche/Vaihinger "fictitious constitution of an ordered world out of chaos" (*Chaos*, 1) became in the *Aufbau*: a "rational reconstruction of reality..." (*Aufbau*, §100). Traces of chaos, however, survive in the new context. For instance, in the preface of the *Aufbau*'s first edition, Carnap described the basic orientation of the *Aufbau* and related work of his fellow logical empiricists in Vienna as marked by an attitude:

"which demands clarity everywhere, but which realizes that the fabric of life can never be quite comprehended." (*Aufbau*, xvii)

This can be read as the implicit claim that *Leben* could not be completely subordinated to rationality. Rather, *Leben* and *Geist* were to remain two independent spheres, and more generally, the *Aufbauer* recognizes the "existence and importance of the remaining, irrational spheres ...".<sup>24</sup>

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<sup>23</sup> This is not to say that Carnap's account of values and valuations in the *Aufbau* were satisfying in any sense: A telling example is Ostwald's "energetic" constitution of values. Carnap mentioned Ostwald's approach as a successful "physicalist" constitution, although Weber had already, in 1909, launched a devastating critique of Ostwald's "energetic Kulturtheorie" (which included the theory of values) (cf. Weber (1909)). Similarly, Carnap's meager remarks on a "phenomenology of various kinds of values" (*Aufbau*, §152) cannot be considered a full-blown theory of values and valuations. But, at least, these spurious remarks left open the possibility of further development.

<sup>24</sup> See, for instance, the approving quotation from the *Tractatus* on the last page of the *Aufbau* (§ 183): "We feel that even if all possible scientific questions be answered, the problems of life

Interpreting the *Aufbau* project as an attempt to overcome the specifically Weimar polarity of *Leben* and *Geist* suggests that it is important to take into account its quite specific historical, cultural, and philosophical context when attempting to understand the *Aufbau*.

A localized interpretation on this basis has the advantage of viewing the *Aufbau* project as one stage in Carnap's on-going philosophical development, which led, in the following years, to the partially realized program of *Einheitswissenschaft*. Carnap's reconciliatory intentions in the *Aufbau* project, which aimed at a peaceful and fruitful co-existence between *Geist* and *Leben* (cf. §181ff and *Manifesto* p. 30).

The task of contributing to the improvement of life remained on the agenda of the Vienna Circle until its dissolution (cf. Romizi (2012)), although not even the most ardent partisans of Vienna logical empiricism can claim that it was overly successful in this endeavor. Does this mean that, all in all, the *Aufbau* program should also to be considered as a failure? I do not think so.

One of the best arguments for a more optimistic assessment remains the one put forward by Goodman long ago:

The *Aufbau*, for all its fragmentary character, and for all its defects, is still one of the fullest examples we have of the logical treatment of problems in non-mathematical philosophy. But its significance in the long run will be measured less by how far it goes than by how far it is superseded.

...

The *Aufbau* cannot yet, however, be relegated to the status of a monument having purely historical interest. Its lessons have not been fully enough learned. (Goodman 1963, 588)

To me, the essential point of this argument is Goodman's insight that the *Aufbau* was one of the first (and fullest) "examples we have of the logical treatment of problems in non-mathematical philosophy". I would put the accent in a slightly different way by saying that the *Aufbau* offers some highly interesting examples of the mathematical treatment of non-mathematical problems in philosophy. To put it bluntly, the *Aufbau* is an early example of mathematical philosophy, i.e., an example of philosophy that employs qua philosophy methods (and results) of mathematics. A mathematical

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have still not been touched at all. Of course, there is then no question left, and just this is the answer." (Tractatus, 6.52)

philosophy need not be *per se* a more scientific philosophy.

Contemporary interpretations of the *Aufbau*, however, usually shy away from the task of dealing in detail with the mathematical aspects of this work. According to many theorists, Goodman finished with the issue of quasi-analysis once and for all. There are few exceptions, such as Proust (1989), Leitgeb (2008), and Mormann (1994, 2009). Goodman's thesis invites us to reverse the perspective on "influences". Instead of considering influences as solely connections to the past, one may ask what influence the *Aufbau* may have on the future development of philosophy. Indeed, this may be the more interesting half of the task of determining the "influences" on a philosophical work. Arguably, the most promising candidate for such an influence on future philosophy is the quasi-analytical method, notwithstanding the fact that, for a long time, quasi-analysis was considered one of the Carnap's many ingenious projects that had been definitively shown not to work. The key witness for this claim was (and sometimes remains) Goodman's criticism of the method (Goodman, 1951, chapter V). Proust (1989) is most likely the first paper in which the definitiveness of Goodman's verdict is put into doubt. Since then, other authors have argued that quasi-analysis is not the dead horse Goodman would have us believe. (See e.g., Mormann (1994), Leitgeb (2008), Mormann (2009)). A promising strategy in this endeavor is to show that the method of quasi-analysis is not restricted to the simplistic version discussed in the *Aufbau*. In 1923, Carnap had already presented, in *Die Quasizerlegung - Ein Verfahren zur Ordnung nichthomogener Mengen mit den Mitteln der Beziehungslehre*, (Carnap 1923, RC-081-04-01), a sophisticated version of quasi-analysis that overcame many of the allegedly insurmountable difficulties that Goodman, and other critics, had put forward. In pursuing the task of updating the quasi-analytical method, it is necessary to use formal means taken from a variety of mathematical theories. The resulting mathematical philosophy, modeled on Carnap, may differ considerably from traditional Carnap exegesis, but this need not be a disadvantage.

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