'Something Entirely Contingent': Hermann Cohen's Already Relativized A Priori

Marco Giovanelli

Università di Torino
Department of Philosophy and Educational Sciences
Via S. Ottavio, 20 10124 - Torino, Italy

marco.giovanelli@unito.it

Among current endeavors to historicize Kantianism, two prevailing approaches are frequently discussed: Reichenbach's 'constitutive, but relative *a priori*' and Cassirer's 'regulative, but absolute *a priori*.' This paper argues that this opposition is misleading, as it fails to fully appreciate the significant influence of Hermann Cohen in shaping Cassirer's and, more generally, the 'Marburg' interpretation of Kant. The paper aims to demonstrate that Cohen's interpretation of Kant is prominently centered around a relatively obscure passage from the *Kritik der reinen Vernunft*, in which Kant highlights that the possibility of experience is 'something entirely contingent' (*etwas ganz Zufälliges*). It suggests that Cohen argued for what might be called an "already relativized *a priori*": already in Kant's philosophy, the necessity of the constitutive principles was recognized as being relative to 'something entirely contingent,' *i.e.*, the historical fact of the science of nature.

Introduction

In the wake of the announced confirmation of the general theory of relativity in November 1919, the question of whether the new physics refuted Kant's philosophy sparked significant debate, particularly in Germany (Ryckman 2005, ch. 2). Among the first to venture to 'rescue Kant from the Kantians'[1] was the young Hans Reichenbach. In his habilitation, Reichenbach (1920, ch. V) suggested that it was possible to uphold the relevant core of Kant's philosophy by giving up the necessity of the *a priori* and preserving only its constitutive role (Padovani 2009). Reichenbach soon abandoned his revisionist idea of relative but constitutive *a priori*. It was only decades later that Michael Friedman (2001) rescued Reichenbach's booklet from oblivion, arguing that it contains a neglected yet intriguing proposal for a constitutive but relativized conception of the *a priori*. Friedman explicitly rejected an alternative attempt at a historicized version of the *a priori* proposed by the so-called Marburg school of neo-Kantianism, and in particular by Ernst Cassirer (1921) around the same time. According to Friedman, Cassirer and the Marburg school attempted to preserve the necessity of the *a priori* by abandoning its constitutive role. They defended a regulative but absolute conception of the *a priori*, where the true *a priori* is the limit of an endless process of approximation (Friedman 2000, 117; 2001, 66fn. 80)

[1] See Reichenbach to Arnold Berliner, Apr. 22, 1921, HR, 015-49-26.

Friedman deserves credit for almost singlehandedly rekindling interest in Kant and neo-Kantianism within contemporary philosophy of science,[2] sparking a debate that continues to thrive to this day (see Stump 2015). However, in my view, the conceptual pairs of constitutive/regulative and absolute/relative do not fully capture the true point of contention between Reichenbach and Cassirer. I believe that the root of this misunderstanding lies in the fact that, especially in English-speaking literature, the importance of Hermann Cohen in shaping the main tenets of the 'Marburg' conception of the *a priori* has not been fully appreciated. Interest in Cohen has progressively grown over the decades[3]. Cohen's interpretation of Kant has been analyzed in the literature. In particular, Geert Edel's work still stands out for its unparalleled completeness and precision (Edel 1988; see also Edel 1987; still useful is Ritzel 1952). However, in my view, there is a crucial aspect of Cohen's reading of Kant that has not received sufficient emphasis, yet it is particularly relevant to the ongoing debate on the 'relativized *a priori*.'

This paper aims to demonstrate that Cohen's and ultimately the Marburg interpretation of Kant's theoretical (and indirectly practical) philosophy is marked by the great prominence attributed to a relatively obscure passage from the *Kritik der reinen Vernunft*. In the first section of the 'Discipline of Pure Reason,' Kant points out that theoretical philosophy is indeed capable of establishing "secure principles [*Grundsätze*]"; however, "not directly from concepts, but rather always only indirectly through the relation of these concepts to something entirely contingent [*etwas ganz Zufälliges*], namely *possible experience*" (A737/B765). The traces the growing significance of this passage in Cohen's interpretation of Kant. Cohen drew the attention of his readers to it already in the 1871 edition of his first Kant monograph, *Kants Theorie der Erfahrung* (section 2); he revisited it more extensively in his 1877 work, *Kants Begründung der Ethik* (section 2), and ultimately (section 3) placed it at the heart of his interpretation of Kant in the second edition of *Kants Theorie der Erfahrung* (Cohen 1885; see also Cohen 1918). The paper concludes that Cohen argued for what, in modern terms, might be called an *already relativized a priori*.

Recent scholarship has portrayed Cohen as engaged in a paradoxical attempt to reconcile the timeless 'necessity' of the *a priori* principles with their 'contingent' historical character (Edgar 2021; Damböck 2017). Not surprisingly, in attempting to resolve what appears to be an irreconcilable conflict, such scholarship inevitably ends up vacillating once again between the Scylla of abandoning the necessity of the *a priori* and the Charybdis of denying its constitutivity. Indeed, two particularly authoritative and clearly formulated positions in the debate seem to me to be the following: (a) Sebastian Luft (2015b, 54) appears to argue that Cohen "*replaced*" the necessary *a priori* with a contingent constitutive *a priori* (see also 67, 72); in my view, this interpretation would bring Cohen close to the position that Friedman attributes to Reichenbach. (b) Scott Edgar (2021, 17) maintains that Cohen *preserved* the necessity of the *a priori*, but only by relinquishing its constitutivity, so that the proper *a priori* functions as a regulative ideal in a manner that aligns Cohen with the position Friedman ascribes to Cassirer (see also 13f.). This paper argues that the alternative between (a) and (b) dissolves once one recognizes that, for Cohen, there is no paradox to begin with. Indeed, according to Cohen, Kant himself *already* recognized that here 'necessary'

[2]For recent interest in neo-Kantianism, see Makkreel and Luft 2009; see also Luft 2015a.

[3]See, among others Vuillemin 1954; Holzhey 1986a; Gigliotti 1989; Poma 1989; Fiorato 1993; Marx 1977; Dufour 2001; Beiser 2018.

and 'contingent' do not exclude each other.

Kant's *constitutive a priori* principles (*Grundsätze*) (permanence of substance, causality, etc.) are said to be necessary insofar as they serve as conditions without which scientific experience would not be possible. However, as Cohen pointed out, Kant himself concedes that the latter is 'something entirely contingent'. The existence of the mathematical science of nature is the sole warrant for claiming that experience is indeed possible. As Cohen once put it, it is the 'pride' (*Stolz*) of critical philosophy that synthetic principles are *discovered* in the historically given fact of science and not invented out of thin air (Cohen 1885, 500). It is, however, its humility (*Demuth*) that their necessity can be *proved* only if the contingent antecedent—the fact of science—is accepted. The ambition of critical philosophy is to extrapolate from actual science the conditions for the possibility of science in general. Yet it can offer no explanation of why current science assumed this particular form in the past, nor any guarantee that it will not change in the future. As Cohen argues, moving beyond Kant, in order to close the transcendental argument the fact of science must be 'rescued' from its contingency. The transcendental method therefore cannot avoid seeking the necessity *of* the fact of science itself. Such necessity cannot be 'found' within the boundaries of scientific knowledge; yet it must be assumed, as a *regulative* principle (*Prinzip*), that it can and must be 'sought.' The constitutive *a priori* and the regulative *a priori*, *Grundsatz* and *Prinzip*, thus play *different* roles in Cohen's account, but both arise from the *same* source: the contingency of experience as a whole.

The paper concludes that Kant's remark that the possibility of experience is 'something entirely contingent' is the 'engine' of Cohen's interpretation of Kant, propelling the transition of constitutive into regulative without blurring their difference. 'Interpreting an interpretation' is a somewhat awkward endeavor (see Kühn 2009). This paper does not aim to measure Cohen's reading against the standard of the real, 'historical' Kant. It seeks to explore the 'philosophical' possibilities that Cohen's interpretation unveils. Cohen was not a 'systematic thinker' who appreciated carefully reasoned arguments; he was, however, an 'inspirational thinker' who, through his oracular yet powerful prose, had the uncanny ability to shape a philosophical agenda. In his exegetical writings up to the late 1880s, Cohen (1876, 1885, 1889) still appears to regard the historical contingency of the fact of science as a *shortcoming* to be overcome. It is in his systematic work around the turn of the twentieth century that Cohen (1896, 1902) progressively came to present it as a *resource* to be exploited. Not only are the *a priori* principles *discovered* within the history of science, but they may also be *superseded* by progressively more universal principles in a continuous process of approximation (Damböck 2017, 144). The research programme around which the Marburg school ultimately coalesced (Cohen and Natorp 1906, I) was, in many respects, grounded in this insight.

The *factum* was recognised as a *fieri* (Natorp 1910, 10, 12, 14, 22; 1912, 200), and the task of transcendental philosophy thus became that of identifying the structural features of science that remain 'invariant' throughout its historical development (Cassirer 1906, 6f. 1910, 355f.). The constitutive/regulative dialectic was, so to speak, relocated within the *a priori* itself. At no stage can the goal of determining the *constitutive* conditions of all possible science be fully achieved. Nevertheless, it remains a *regulative* ideal never to abandon the search for ever better constitutive principles within an infinite sequence: "If the principles of the first kind concern 'being on the march,' then the principles of the second kind concern the march itself" (Natorp 1911, 72). Marburg neo-Kantianism

does not deny that a constitutive *relative a priori* can be provisionally determined at each stage of the march, nor does it claim that a true *absolute a priori* can be found only by crossing the finish line. Rather, it requires, as a regulative principle, that the march can never come to an end, and that we can never cease the *search* for better constitutive principles. However, as this paper concludes, this postulate presupposes that the march of science proceeds without major ruptures, and that each new set of principles incorporates the preceding one as a special case. Yet this presumed continuity is itself 'something entirely contingent'. Just as critical philosophy cannot guarantee that science will not change, it cannot guarantee that such change will be continuous.

1 Metaphysical and Transcendental *a priori*: The First Edition of *Kants Theorie der Erfahrung*

As the Hegelian historian of philosophy Kuno Fischer once remarked, whether the critique of reason should be considered metaphysical or anthropological is "a real, inevitable problem in the history of German philosophy after Kant" (Fischer 1862, 101). Kant *demonstrated* that the *a priori* elements of our knowledge serve as the necessary conditions for the possibility of experience. Yet, he did not address the question of how these conditions came to be *discovered—a priori* by logical deduction *à la* Fichte (Fischer 1865, 112) or *a posteriori* by psychological investigation *à la* Fries (Meyer 1870, 15). Cohen wrote *Kants Theorie der Erfahrung* (Cohen 1871) in reaction to this debate, which he perceived as stemming from a fundamental misunderstanding of Kant's conception of the *a priori* (III). It is not the goal of this section to delve into the intricacies of Cohen's book (see Edel 1988, ch. 2); however, we hope to offer a somewhat streamlined presentation of its main line of argument to set the stage for the remainder of the paper.

As it is well-known, Kant calls *a priori*, a knowledge that claims to be "*universally valid and strictly necessary*" (Cohen 1871, 10). In Cohen's opinion, however, in this way the *a priori* is only described. The concept of *a priori* only gains "content and shape" when one can prove "the *possibility* of a knowledge claiming such value" (10). In this sense, Cohen argues that the concept of *a priori* presupposes "another concept through which it is first completed into a full concept" (35): "*The sought complement [Complement] is found in the concept of transcendental*" (35). Kant refers to the knowledge *that* a concept is *a priori* as *metaphysical*. Cohen agreed that that the latter is ultimately the result of an empirical, psychological investigation. However, the manner in which the *a priori* is discovered should not be confused with the way its possibility is proved. The knowledge of *how* a concept *a priori* is possible is called 'transcendental.' How is it possible to obtain *a priori* knowledge of the objects of experience? Kant's answer is well known: "Transcendental knowledge proves the *a priori* knowledge as a knowledge necessary for the possibility of experience" *i.e.*, as a knowledge "with the abolition of which the possibility of experience [...] would be abolished." (94; my emphasis)

In the Transcendental Aesthetic, the 'metaphysical exposition' discovers space and time as *a priori* components of our experience (ch. II); however, it is the 'transcendental exposition' that proves them as *necessary* conditions of the possibility of experience (ch. IV). Yet, according to Cohen, it is only in the Transcendental Analytic that the construction of experience is completed, since only here is experience presented as a process of unification or synthesis of the manifold ordered in space and time (98). By

staying true to the distinction between metaphysical and transcendental 'modes of knowledge,' Cohen arrives at the somewhat surprising conclusion that the Analytic of Concepts can only prove that the synthetic unity is an *a priori* 'category,' since only the synthetic unity can be shown to be a *necessary* condition for the possibility of experience: "And *because* the category is a formal condition of experience, it is *therefore a priori*." (98; my emphasis). The individual categor*ies* of substance, causality, and community, etc. are only *a priori* insofar as they are particular instances of the synthetic unity of the manifold established by the category: "And nowhere more apriority may be claimed." (Cohen 1871, 101).

As we shall see, Cohen would later move away from this stance.[4] Nevertheless, Cohen's attitude reveals a fundamental aspect of his conception of the *a priori*. In Cohen's perspective, the prevailing view appears to follow this line of reasoning: since something is *a priori*, *therefore* it serves as a condition for the possibility of experience. However, according to Cohen, the opposite holds: since something serves as a condition of experience, *therefore* it is *a priori*. Space, time, and the synthetic unity, "are now regarded as *a priori* because we *construct experience with them*, because they are formal constituents of experience" (104). The entire issue of whether the *a priori* is supposed to be discovered *a priori* turns out to be based on a fundamental misunderstanding (206). The possibility of experience is the "whole point [*Springpunkt*]" of the transcendental inquiry (208). In principle, anything can be *a priori*, if only it can be proved to be a necessary condition for the possibility of experience (104).

Setting aside nuances, Cohen scholarship concurs that this is Cohen's fundamental insight. However, another aspect, in my opinion, has not garnered adequate attention. What does it mean for this *a priori* to be 'necessary' for the possibility of experience? According to Cohen, Kant sought to clarify the *type of necessity* that the transcendental deduction can achieve in the 'Discipline of Pure Reason':

> There is a passage, perhaps the only one, in which the character of this relationship of all knowledge to the possibility of experience [...] is laid bare in its simplicity [...] The apriority, the general necessity of knowledge, is supposed to lie in the pure concepts of the understanding [...] Now listen to how Kant judges this necessary relationship, *i.e.*, *necessary* for knowledge, in the 'Doctrine of method': '[...] by means of pure concepts of the understanding, it (*i.e.*, reason) indeed establishes secure principles, but [...] *always only indirectly through the relation [...] to something entirely contingent [etwas ganz Zufälliges], namely possible experience*' [B765][5] For possible experience, of course, this relationship is necessary. However, experience itself is [...] entirely contingent. And only by starting from this entirely contingent thing as such can we gain insight into the connection of the individual parts of it, whose truth depends only on the agreement of the conditions of our given knowledge, which are to be discovered by the metaphysical deduction and to be verified by the transcendental, *i.e.*, the relation to that contingent thing. (233)

By "starting from this entirely contingent [*ganz Zufälligen*]" the 'metaphysical deduction' discerns the permanent from the variable components of experience through a psychological investigation. However, only the 'transcendental deduction' proves that the permanent components are *a priori*, that is, necessary "through their relationship to that contingent," (233), *i.e.*, the possibility of experience (233).

Starting from his Marburg habilitation dedicated to Kant's precritical writings (Cohen 1873), Cohen began to project the distinction between two 'modes of knowledge'

[4] See below section 2.

[5] Cohen's emphasis.

onto the distinction between two meanings of the *a priori*: (a) a "preparatory" meaning of the *a priori*, the "*metaphysical a priori*" incorporating the first two levels, and (b) a "final", "*transcendental* meaning" of the *a priori* (9). The pre-critical Kant still treats the *a priori* as a "law implanted in the mind" (49, 55). A proper transcendental conception of the *a priori* is achieved only in the second edition of the *Kritik der reinen Vernunft* (55). It is not that what is *a priori* is a necessary condition for the possibility of experience (metaphysical *a priori*), but conversely, what can be proved to be the necessary condition for the possibility of experience is valid *a priori* (transcendental *a priori*). However, as we shall see, the possibility of experience is, in turn, 'something entirely contingent.'

2 The *Kants Begründung der Ethik* and The Intelligible Contingency of Experience

After *Kants Theorie der Erfahrung* was rejected as a *Habilitation* in Berlin, Cohen applied again in March 1872 with a manuscript on Kant's ethics, which he later withdrew (Beiser 2018, 88ff.). During this time, a young Swiss student, August Stadler,[6] came to Cohen with a letter of recommendation from his Zurich professor Friedrich Albert Lange, who had recently moved to Marburg (ch. 5). Stadler soon extended Cohen's interpretive approach beyond the Transcendental Analytic (Stadler 1874, IV) to include the Transcendental Dialectic and the second teleological part of the *Kritik der Urteilskraft*. In particular, Stadler systematically addressed the problem of the relations between the synthetic principles, the general laws of nature, and the special empirical laws in Kant's thought. In a second, more theoretical book (Stadler 1876), Stadler addressed the problem of the *a priori* status of the synthetic principles themselves. Taking cue from Cohen's transcendental-*a priori*, Stadler concluded, against Cohen, that in the Analytic of Principles the apriority of *each* category is deduced as a necessary condition of the possibility of experience.

Remarkably, Stadler was quick to recognize a further aspect of Cohen's interpretation of Kant that many recent interpreters have failed to fully appreciate: "It is not among the smallest merits of the work of H. Cohen to have drawn attention to the profundity of Kant's remark that possible experience is 'something entirely contingent.' *One may say that this statement encompasses the fundamental idea of critical philosophy*" (Stadler 1874, 62f.; my emphasis). The structure of our experience, as defined by a specific set of synthetic principles, is 'contingent' (64). It would not be contradictory to envision that an experience having a different structure, or even the possibility of a 'structureless,' intuitive understanding (64f.). If the synthetic principles, that is, the general laws of nature, are 'contingent' in relation to tautologies, the empirical laws are 'contingent' with respect to the synthetic principles. Thus, Stadler suggests that the problem of 'contingency' connects all fundamental issues in critical philosophy. The problem of the 'intelligible contingency' of the general laws of nature is ultimately the central topic of the *Kritik der reinen Vernunft*, while the issue of the 'empirical contingency'[7] of the particular laws of nature is addressed in the *Kritik der Urteilskraft* (64f.).

[6] See Cohen 1910a, 2015.

[7] On this distinction, see Holzhey (2001).

2.1 The Synthetic Principles and Empirical Laws

After succeeding Lange at Marburg (Beiser 2018, 88ff.), Cohen completed his *Kants Begründung der Ethik* (Cohen 1877) in September 1877. The first part of the book aimed to provide a comprehensive outline of 'the outcomes of the doctrine of experience.' However, Cohen's exposition went beyond a simple recapitulation of *Kants Theorie der Erfahrung*; instead, it entailed a profound revision. In my view, the dialogue with Stadler proved to be crucial (cf. Edel 1988, 405fn.8). As Stadler suggested, the conditions that make experience possible are now identified with the synthetic principles, the general laws of nature, while the content of experience consists of the particular laws of nature. Adopting this view, Cohen established the notion of 'law' (*Gesetz*) as the axis around which his entire interpretation of Kant's philosophy revolves (Edel 1988, 107ff.). Though Cohen's exposition is infamously cumbersome, its essential points can be summarized as follows:

- The empirical reality of phenomena (i.e., that they are not mere figments of imagination) is shown in the universality and necessity of the natural laws governing them. Objective reality is simply the sign (*Wertzeichen*) of the validity of knowledge (*Erkenntnisgeltung*) (Cohen 1877, 21). To count as objectively real and valid, phenomena must conform to laws and instantiate them (20, 47). Individual occurrences become the 'object' of scientific experience when they are shown to 'necessarily' follow from another under a law. The 'necessity' of a law, in turn, is established by deducing it from more general laws. Thus, "laws fulfill the concept of appearance, they condition its validity, its reality as an object of experience, its objective reality" (22).
- Empirical uniformities qualify as proper laws of nature only if they meet the conditions set by the synthetic principles. According to Cohen, Kant's text does not clearly emphasize the centrality of the synthetic principles, lacking a full distinction between metaphysical and transcendental *a priori* (24). From the metaphysical *a priori*, the categor*y* has a stronger apriority than the categories; but from the transcendental *a priori*, as Stadler suggested, only the categor*ies* as key points of the synthetic principles are considered *a priori* (58). The *a priori* of *each* category is provable only where they "articulate themselves in formulas of laws" (22), i.e., in the Analytic of Principles. The synthetic principles are *a priori* as they set the conditions of acceptability for empirical laws, defining the general structure of a proper law of nature.

By structuring Kant's philosophy around a hierarchy of law-like statements, the "scholastic opposition between subjective and objective" (73) to which Kant was still bound is overcome. Kant's philosophy is not concerned with the psychological-anthropological relation between the 'mind''s formal constitution and its sensuous content, but with the logical-epistemological relation between the general and the particular laws of nature. By focusing on these relationships, one can reconstruct the argumentative structure of the 'transcendental method' more perspicuously than is usually done in Cohen scholarship:

- Kant's experience is the scientific experience, the experience of the mathematical science of nature that "has become real in printed books" (27). Science acquires an objective status only in its literature; it is only in the form of written works that it has an autonomous existence independent of individual consciousness. In this sense, "[t]he initial abstraction from the content of experience" (146) is the

starting point of the transcendental investigation. Not only do we have to take as a matter of fact that there are laws of nature collected in physics textbooks, but by analyzing the latter, we might observe that, despite their diversity, they reveal some "persistent factors" (26), some common rules that all particular laws of nature seem to follow. The 'metaphysical deduction' separates the constant and variable elements and collects those general 'rules' in the form of the synthetic principles.

– The surprising 'fact' that such regularities exist among empirical laws calls for an explanation; this 'fact' must be turned into a 'problem.' In Cohen's reading, the 'transcendental deduction' was supposed to provide this 'explanation' by tracing back this contingent fact to the conditions of its possibility (see Cohen 1878, 26). The available empirical laws are all special instances of the synthetic principles, since the latter are the conditions that any law-like statement must satisfy to be recognized as a proper law of nature. Thus, contrary to the received view, the synthetic principles are not *a priori* because they lie in our 'mind' before experience (Cohen 1877, 26); the synthetic principles are *a priori* because we have 'put them into' (*hineinlegen*) or 'thought them into' (*hineindenken*) experience, that is, we select the content of experience by using those principles as criteria (27).

Despite his convoluted writing style, Cohen manages to distill the essence of Kant's philosophy into a simple—if not arguably simplistic—scheme: (a) The synthetic principles are discovered as conditions that all *actual* empirical laws, in spite of their diversity, *happen to* satisfy (metaphysical deduction). (b) The synthetic principles are elevated to the conditions that all *possible* empirical laws *must* satisfy to be recognized as such (transcendental deduction). As Cohen puts it, "[t]his is the whole business of transcendental philosophy".

We have an uncontested scientific experience, the mathematical science of nature. In this sense, skepticism is not a 'serious opinion' (19, 28), as Kant once remarked (AA 20:264). Since scientific experience is real [*wirklich*], we do not need to ask 'whether' it is possible, but only 'how' it is possible. That is, from the conditions of *actual* scientific experience, we extrapolate the conditions of all *possible* scientific experience in general (see AA 4:275): "How different it would be if the transcendental method could conceive a *possible* experience itself! If it were not bound to the *given* experience in order to abstract the concept of it and make it the *norm* of reality! If it could establish one that is possible in general!" (25; my emphasis) However, "[t]he special empirical laws keep a relentless watch" against the temptation to derive the synthetic principles speculatively (25). The synthetic principles are abstracted from the known laws and promoted to norms for the laws that are still unknown.

2.2 The Abyss of Intelligible Contingency

But doesn't this 'deduction' amount to a mere circular proof? After all, we discover the synthetic principles within all empirical laws because we have put them into the latter ourselves. Like Stadler (1876, 143fn.71), Cohen mentions Lange as a prototypical example of someone who raised this reproach of circularity (Cohen 1877, 25). For Lange, the synthetic principles must entail "necessarily something else [*noch etwas*]" (Lange 1873–1875, 131) beyond merely serving as conditions for the possibility of experience. Kant found this *noch etwas* in the table of categories, whereas Lange suggested that it

might be the psychophysical organization. According to Cohen, however, in Lange's *noch etwas* lies the fundamental misunderstanding shared by most interpreters of Kant, regardless of their persuasions. Scientific experience does not recognize any other or higher standard of objectivity than that given in scientific experience itself and in accordance with its conditions. Whoever expresses the need for a *noch etwas* "is outside the transcendental method" (Cohen 1877, 23).

The reality of appearances resolves in their law-likeness. Thus, Cohen ventures to make the quite provocative claim that "the principle [*Grundsatz*], the *law*, is the expression of reality, the law is the thing-in-itself!" (27). However, Cohen does not fail to notice that this interpretation has an obvious drawback. If the phenomena are nothing more than special cases of the law, and the law is the thing-in-itself, why is the thing-in-itself needed as something separate from the phenomena, and why does it remain unknown? (Cohen 1877, 28) The thing-in-itself must mean something more than law-like necessity. It is a this point, that Cohen returns to Kant's claim that possible experience is 'something entirely contingent'. The reality of the phenomena, which is once assured by the necessity that we can acquire *within* experience, is called into question once again by the 'intelligible contingency' *of* experience as a whole: "Therefore, beyond the objective reality of the laws, there must be another, perhaps deeper *need for realism* to exist" (30). It is this deep-seated need that drives us towards another meaning of the thing-in-itself.

> It is, above all, necessary to consider the question of why a thing-in-itself exists alongside the law, alongside the synthetic principles. It should be noted that the law itself is only one *interpretation* of the thing-in-itself. The objective reality, the thing-in-itself that we seek is granted to us by the critical method in the laws of appearances. But these laws have a conditional validity in their transcendental *a priori*: they relate to the concept of experience they constitute. [...] Therefore, they are all correlative in the concept of experience, which is derived from the given experience by means of and based on those characteristics that are *a priori* condition of the experience. However, the experience itself is '*something entirely contingent*'! If we extend our gaze beyond experience, the immeasurable domain [*Gebiet*] of *intelligible contingency* opens up. Thus, the conditions of experience reveal themselves as *relations* to such *contingency*. So the laws lead to the idea of an intelligible something, to a thing-in-itself, in another, yet no less urgent sense than what the [notion of thing-in-itself] that the law asserts!. (30f.)

As suggested, transcendental philosophy, starting from the fact that actual empirical laws happen to be special cases of the synthetic principle, claims that these are indeed the conditions that all possible laws must satisfy to qualify as such. However, this *fact* remains 'something entirely contingent'. We cannot explain why this fact, rather than another, has emerged in history, nor do we have any guarantee that it will not change in the future. The entire system of synthetic principle and empirical laws floats in a void, lacking a proper foundation.[8] This paradoxical state of affairs is called by Cohen the "riddle of the intelligible contingency" (52) of experience as a whole.

In this context, Cohen argues that one should understand Kant's term 'limit-concept' [*Grenzbegriff*] (30). The synthetic principles are the "positive conditions of experience" and circumscribe the realm of possible objects of experience, the 'phenomena' (31). At

[8] In some passages, Luft (2015b, 56, 72) concedes that, for Cohen, the *a priori* principles may indeed be necessary, but only "for the time being", that is, only with reference to *actual* science. For Cohen in the 1880s, this was a bug rather than a feature. Indeed, the goal of transcendental inquiry is to determine the conditions of all *possible* science. Yet the claim that the structural features of actual science will be shared by all possible future science is 'something entirely contingent'.

the same time, one can form the "problematic concept" of how things are in themselves, detached from all the particular conditions that make experience possible (31). By defining the limits (*Grenzen*) of the allowable content of experience, the phenomena, critical philosophy also reveals a vast and mysterious empty space of what is *not* allowed to be content in experience, the noumena. This space "limits the domain of experience. And the whole of experience hovers over the *abyss [Abgrund]* of intelligible contingency" (31; my emphasis). The skepticism that could not be taken 'seriously' for the phenomena *within experience* becomes a real menace once one considers the *experience as a whole* from the point of view of the noumenon. The insuppressible 'need' emerges to "cover the abyss that intelligible contingency has uncovered" (34).

2.3 Rescuing Experience from the Abyss of Intelligible Contingency

As Cohen puts it, "[r]eason has devised manifold ways, not to evade the abyss of intelligible contingency, but to appease the demand arising from it through an apparently objective solution" (Cohen 1877, 36). To 'rescue' experience from its contingency would mean overcoming the contingency of the empirical laws, demonstrating that the empirical laws from which the synthetic principles have been abstracted cannot be different from what they are, thus representing the *only* possible system of empirical laws. As we have mentioned, a phenomenon is said to be necessary if it follows from a prior state according to an empirical law. In turn, the necessity of the latter can be established by showing that it can be deduced from a more general yet still empirical law—and so on. Kant refers to the pro-syllogism as the 'ascending' series and the epi-syllogism as the 'descending' series (A331/B387f.). The higher laws are referred to as 'conditions,' and the lower ones as the 'conditioned.' The contingency of the entire series of conditions would be canceled out if we could attain a syllogism where the major premise is not the result of any subsequent pro-syllogism and is itself unconditioned (60ff.).

Given that there are three types of pro-syllogisms (categorical, hypothetical, disjunctive), there are three types of solutions to the puzzle presented by the 'thing-in-itself'—the world as the thing-in-itself of external phenomena, the soul as the thing-in-itself of internal phenomena, and God as the thing-in-itself of everything conceivable: "all three are not mere formulations of the task expressed in the thing-in-itself, but attempts at *solutions* to the same task" (38). Thus, one can speak of three approaches to solve the problem posed by the thing-in-itself. Kant refers to these three attempts as 'transcendental ideas': "From the task of the thing-in-itself, ideas have emerged as attempts to solve that task" (73). Cohen admits that his interpretation of the ideas as types of things-in-themselves does not correspond to the 'letter,' to the explicit wording of Kant's text; however, he was convinced that it captures its 'spirit' (38): "Each individual idea proves itself based on what the generic concept of the thing-in-itself has demonstrated. The necessity of limitation of experience, the emphasis on the fundamental idea of the contingency of experience, and the reference to the abyss of intelligible contingency" (113).

The ideas as types of things-in-themselves reveal "the obvious gaps in the conditions of experience, they uncover the abyss of intelligible contingency" (77). However, experience cannot pull itself out of this abyss by its own hair. As we have seen, starting from the conditions satisfied by actual laws, the synthetic principle are identified as the conditions of acceptability of all possible laws. Yet the particular laws from which the transcendental method begins remain contingent. To eliminate this contingency,

one must proceed seeking more general laws from which the original ones can be syllogistically derived. We could imagine pushing this process until we reach the synthetic principles themselves, the most general laws of nature. However, the latter are the Pillars of Hercules (A395) of possible experience, beyond which the abyss of intelligible contingency opens up: "From the task of the thing-in-itself, the ideas have arisen as attempts to solve that task. The solutions have proven to be shifts of the question. The types of the thing-in-itself have degenerated into hypostases. The objects of the ideas are transcendent" (73).

Nonetheless, Cohen insists that "the ideas are called transcendental" (73). Consequently, they must establish a connection to experience (73). The inability to demonstrate the necessity of the existing system of empirical laws does not imply an equivalence among all possible systems permitted by the synthetic principles, as they are all equally removed from the absolute reality of the 'thing-in-itself.' Negating an absolute unit of measure does not mean the dissolution of the difference in value. This distinction endures as long as we adhere to the general postulate of the uniqueness of experience. Indeed, the more comprehensive the system becomes, the more we gain confidence that we are describing *this* particular nature while excluding other possibilities. The convergence of the pro-syllogism series toward systematic unity replaces the external unit of measure for reality. In this sense, the transcendental ideas "represent a particular kind, a specific measure of *epistemic value* [*Erkenntniswerten*]," (Cohen 1877, 73), even if they cannot be objects of possible experience.

As well-known, in Kant's parlance "[t]he term *regulative* refers to this other 'measure of reality,' this *other mode* of validity, in contrast to the *constitutive*." (77). The 'principles' of the synthetic unity (*Grundsätze*) have a 'constitutive' use, as they impose specific conditions that each possible empirical law must satisfy to be accepted as such. The principle (*Prinzip*) of systematic unity has only a 'regulative' use, as it merely indicates the task of organizing the laws thus selected into a single system (77). No proof can be provided that the only existing system can be found; however, critical philosophy enjoins never to abandon the search (77). As one can see, Cohen clearly separates the regulative and constitutive meanings of the *a priori*. Yet they are more closely connected than in Kant's account. For Cohen, the constitutive *requires* the regulative to rescue scientific experience from the 'abyss of its intelligible contingency': "Just as necessarily as the ideas arise from the categories, so necessarily do the synthetic unities culminate in systematic ones. [. . .][T]he doctrine of experience necessarily prepare the kind of reality that takes place in a realm of ought-to-be [*Sollen*]" (115)

3 Pride and Humility of Critical Philosophy: The Second Edition of *Kants Theorie der Erfahrung*

To rescue scientific experience from precipitating into the 'abyss of its intelligible contingency,' *noch etwas* is indeed needed. However, this 'something' is not the *Sein* of an ultimate substrate, but the *Sollen* of a task we cannot withdraw (Cohen 1877, 115). Cohen believed that he had set the stage for the passage from theoretical to practical philosophy, the topic discussed in the remainder of the book. We cannot follow this line of argument here (see, Gigliotti 1977; Schmid 1995; Widmer 2024). What we seek to draw attention to in this context is the fact that, by the turn of the 1880s, all essential features of the mature version of Cohen's interpretation of Kant's *Erfahrungslehre* were in place. Critical philosophy is concerned with neither the structure of reason nor the

structure of the mind (Cohen 1882, X). It discovers the *a priori* in historically given 'fact of science' (*Faktum der Wissenschaft*)—an expression that started to appear in Cohen's writings in the 1880s (Cohen 1883b, 7; 1883a, 5). It investigates the history of the mathematical science of nature from Galilei's *Discorsi* to Newton's *Principia* to make explicit the principles (*Grundsätze*) that are always implicit in scientific practice (Cohen 1883b, 9). By isolating the conditions satisfied by the empirical laws of physics that happen to be, critical philosophy aimed to uncover the necessary conditions on laws of physics that there could be (6).[9]

Cohen's booklet *Das Princip der Infinitesimal-Methode* (Cohen 1883a) was meant to provide a paradigmatic example of this procedure. The details of Cohen's historical work turned out to be controversial, if not utterly inadequate (Giovanelli 2016). However, with the arrival of Paul Natorp at Marburg in the early 1880s, the idea of combining the transcendental method and the historical method (Edgar 2021) became the 'research program' of the Marburg group (see, *e.g.*, Natorp 1882). The second revised and strongly augmented edition of *Kants Theorie der Erfahrung* aimed to expound this research program as the expression of the spirit of Kant's theoretical philosophy. A comprehensive comparison of the two editions of the *Kants Theorie der Erfahrung* cannot be provided here, but it is accessible within the existing literature (Edel 1987; 1988, Chap. 5). However, the most significant novelty of the new edition has not, in my view, been properly appreciated. To some extent, one can say that the bridge between the old and the new chapters (chs. 13, 15) of the book is represented by Cohen's renewed emphasis on the fact that "experience itself, as mathematical natural science, is 'something entirely contingent'" (Cohen 1885, 556).

As we have seen, this turn of phrase was mentioned only in passing in the first edition of *Kants Theorie der Erfahrung*; in *Kants Begründung der Ethik*, it is likewise referred to only indirectly. It is in the 1885 edition of *Kants Theorie der Erfahrung* that it becomes the cornerstone of Cohen's presentation of the transcendental method:

> And only by starting from this entirely contingent fact, namely the fact of mathematical natural science, can we gain insight into the connection of its individual components as well as their role [*Leistungswerte*] in shaping this contingent. [...]
> The transcendental method, by directing its deductions to the fact of mathematical natural science, does not start from any imagined absolute but from experience as 'something entirely contingent.' The pride and humility [*der Stolz und die Demuth*] of critical philosophy lie in this starting point, as well as its zeal for scientific truth and its understanding of its limits: the possibility of looking towards something that is not experience, and therefore it is not 'entirely contingent.' [...] For Kant, the necessity attached to the conditioned nature of the contingent given in experience is only 'relatively necessary [*nothwendige*], or rather a required [*nöthige*] condition' [B662]. The absolutely necessary lies beyond the possibility of experience. (500; my emphasis)

It is the 'pride' of critical philosophy that the synthetic principles are not the result of armchair speculation but are initially recognized as regularities among the actual laws of nature. However, this regressive procedure also represents its 'humility.' The fact that these particular laws, and not others, govern nature is merely a historical fact that critical philosophy cannot further justify. The synthetic principles are indeed

[9] I agree with Edgar (2021) that, for Cohen, the *a priori* synthetic principles are *discovered* as those elements that remain constant throughout the historical development of science. However, in my view, at this stage Cohen does not yet appear to argue that progressively *better* synthetic principles can be identified as science evolves. Cohen seems to become open to this possibility only in his later systematic works; see Conclusion.

necessary, but only "*relatively necessary*" (502; my emphasis).[10] They are necessary *if* we require that all possible empirical laws must satisfy the same conditions as the actual laws. However, the fact that the laws of nature we know meet these particular conditions is 'something entirely contingent.' Thus, the synthetic principles possess only "the necessity of a contingent or a 'hypothetical necessity' " (502).[11]

As one can see, Cohen argues *explicitly* that the *a priori* was, so to speak, 'already relativized' within Kant's own work. Yet, he also recognizes that here lies a fundamental problem: "This is the heaviest suspicion that nature can encounter in experience: that it is contingent within itself, despite all the necessity that the principles give it" (Cohen 1885, 502). We cannot be sure that future laws will not contradict the synthetic principles we have identified so far. Ultimately, we might have even started with the wrong set of laws to begin with and thus arrived at the wrong set of principles. It becomes an insuppressible 'need of reason' to try to prove the necessity of the empirical laws themselves. As we have seen, to eliminate this contingency, we can only proceed bottom-up. The necessity of each empirical law can be established by showing that it is a special case of a more general empirical law, and so on. Thus, all necessity science produces presupposes other necessities; it is always a 'hypothetical necessity' (498, 507, 520). Each object, as the object of experience, is indeed necessary, but only *within* the totality of possible experience, which in turn remains 'something entirely contingent' (498; see B280f.).

This "inevitable relationship to 'something entirely contingent' threatens to make all certainty of knowledge relative and to uproot all foundation of things" (502). The 'object,' once endowed with the full authority of a mathematically structured experience, becomes a mere 'appearance,' a 'phenomenon' (Cohen 1889, 118). This raises the question of whether we can access an object "which does not gain objective value in relation to something 'entirely contingent,' but is given in itself" (Cohen 1885, 503), a thing-in-itself. In other words, can experience itself be freed from contingency? Can we attain not only necessity *within* experience, but the necessity *of* experience as a whole—considered as an object? "And whether this whole of experience, this experience itself as an object [...] whether by being thought of as a thing-in-itself, it ceases to be contingent—this is the question that concerns the entire significance of the thing-in-itself " (504). The concept of thing-in-itself arises when we are no longer content with the necessity of empirical objects, but aim to grasp the necessity of experience itself—that is, to prove that the latter is the *only* possible experience (Cohen 1889, 118).

If the necessity of the phenomena—the necessity that we can achieve *within* experience—is "is merely 'hypothetical,' then a necessity must be sought that does not

[10] In my reading, Cohen's claim here stands in direct contrast with both (a) Edgar's (2021, 4f.) assertion that, for Cohen, the *a priori* principles do *not* have "merely 'relative' validity or necessity", and (b) Luft's (2015b)'s contention that Cohen abandons the necessity of the *a priori* altogether; see fn. 11.

[11] In other terms, Cohen argues that Kant's critics often confuse (a) 'absolute necessity,' whose denial entails a contradiction; (b) 'hypothetical necessity,' which follows necessarily under certain assumed conditions, even though its denial does not entail a contradiction. If p is true, then q follows necessarily, but q itself may nevertheless remain contingent. The synthetic principles are indeed *necessary*, but only *if* the *contingent* historical fact of Newtonian science is assumed. In other terms, the transcendental principles may be said to possess a 'necessity of the consequence' (*necessitas consequentiae*, $\Box(p \rightarrow q)$), but not a necessity of the consequent (*necessitas consequentis*, $(p \rightarrow \Box q)$). A similar point was already noted by Pap (1943) with reference to Cassirer.

remain contingent" (Cohen 1885, 520f.). The empirical contingency of each particular law would be eliminated if it were situated within a totality of experience that is itself necessary. However, the necessity *of* experience as a whole—the necessity of experience as a 'thing-in-itself ' —requires "a new kind of necessity that is not only not affected by that contingency but is also capable of excluding it completely" (506), that is, a necessity that is not hypothetical but unconditioned or *absolute* (Cohen 1889, 119). Scientific necessity appears driven to transcend itself, striving for its 'closure' (*Abschluss*) in an unconditioned necessity: "In the unconditioned, the hypothetical necessity of contingency is limited. Therefore, experience itself gives birth to the thought of the unconditioned by recognizing it as 'something entirely contingent' from within itself" (Cohen 1885, 507).

"What does this closure [*Abschliessen*] of contingency entail?" (506). As we have seen, by ascending via pro-syllogisms toward higher degrees of universality, we could imagine that the particular laws will resolve into the synthetic principles, the general laws of nature, and ultimately converge toward a single, more general principle from which the entire system could be deduced. This *focus imaginarius* lies, by definition, entirely outside the limits of possible experience as defined by the synthetic principles (A644/B672). However, the quest for this "closure [*Abschluss*] of the contingency" (522) is not merely a chimera; rather, it is a necessary task that emerges within the realm of experience itself. The 'last' major premise of the last pro-syllogism cannot be 'found,' while remaining within the boundaries of experience; nevertheless, it must be necessarily 'sought' to free experience from its contingency. It is this subjective form of necessity that, in Cohen's view, serves to counteract (a) the *perversa ratio*, the illusion that it is possible to determine the absolute necessity *of* experience as a whole—that is, to treat the totality of experience as an object; and (b) the *ignava ratio*, the danger of resigning and giving up on the search for the hypothetical necessity *within* experience as a whole (555).

The concept of 'systematic unity' emerges already in the Appendix to the Transcendental Dialectic (552). However, it is only in the 'Introduction' to the *Kritik der Urteilskraft* that the problem of the 'empirical laws' is treated in closer relation to scientific practice (557). In this way, Cohen realized Stadler's (1874) suggestion to treat the Critique of Teleological Judgment[12] as a sort of integration of the *Kritik der reinen Vernunft* and dedicated a separate monograph to the Critique of Aesthetic Judgment (Cohen 1889): "With that, the series of equipollent concepts is closed. The thing-in-itself, the unconditioned, the limiting concept, the idea, the regulative principle; all of them derive their transcendental validity from their significance as purpose [*Zweck*], from their use in the teleological procedure of natural investigation" (Cohen 1885, 516). These concepts are equivalent since they are nothing but different attempts to address the very same problem: "the intelligible contingency of mathematical experience" (557).

[12]I agree with Edgar (2021) that there is a teleological dimension in Cohen's approach. However, in my view this concerns only the empirical laws, and only indirectly the synthetic principles themselves. The point, as it seems to me, is that if a final and complete system of laws could be found, the contingency of the fact of science would be removed and the absolute necessity of the synthetic principles would thereby be established.

Conclusion

As this paper has sought to show, over the years Cohen (1889, 118) assigns progressively greater significance to Kant's rather passing remark (A736f./B764f.) on the contingency of the possibility of experience. The necessity of the 'constitutive' *a priori* principles can be established only with respect to the fact of science. However, since the latter is contingent, the extrapolation from actual science to all possible science is always at risk of failure. In his *Kantbücher* up to the end of the 1880s, Cohen suggests that, for this reason, critical philosophy must assume as a 'regulative' task that this contingency ought ultimately to be *removed* (119ff.). As far as I can see, it is only in his systematic work from the turn of the century that Cohen (1896, 1902) came to realise that this contingency could instead be *exploited*. Science is expected to advance by discovering new empirical laws that meet the criteria set by the constitutive synthetic principles; however, if this process comes to a halt, science may attempt to modify the criteria themselves. Thus, "the establishment of principles [*Grundsätze*]" can never lay down "unchangeable foundations (*Grundlagen*) "; the history of science may always compel us to seek "deeper and more precise foundations" in an infinite foundational process (*Grundlegung*). As Cohen famously put it, in an untranslatable pun, the *Grundlegung* is itself *Grundlage*: "This, precisely, is the procedure for safeguarding the treasure of apriorism and avoiding its ambiguities" (Cohen 1902, 499; see also Cohen 1904, 85).

The reception of Cohen's obscure book was controversial even within his inner circle (Natorp 1902), and we cannot enter into the details here (CN, see; Poma 1989). However, one might argue that it was Cohen's *Logik* that introduced the 'dynamization' of the *a priori*, which reappears—albeit in different forms and with different nuances—in all the major theoretical works of the Marburg school (Natorp 1910; Cassirer 1910; see Natorp 1911, 71f.for a particularly clear formulation). This 'dynamization,' however, would not have been possible within a Kantian framework without assuming that Kant himself had already recognised that the 'fact of science' is ultimately 'contingent' and therefore, at least potentially, historically variable. Indeed, it is worth noting that, when Cassirer set out to defend the Marburg *Arbeitsgemeinschaft* (Cohen and Natorp 1906) against the attacks of the neo-Friesian Leonard Nelson (Nelson 1905), he underscored precisely the latter's failure to appreciate the contingency of experience. It is for this reason that Nelson, like Fries, mistook the transcendental deduction (*Deduktion*) for a syllogistic derivation (*Ableitung*) in the Aristotelian sense:

> The deduction of the categories aims to present them as the conditions for the possibility of experience. It does not develop an arbitrarily assumed general concept in its individual conclusions but dissects the 'fact' of empirical science to expose its individual requirements separately. The inference does not proceed from the ground to the consequence, but from the given consequence to its ideal ground that has to be discovered. This 'proof' of the categories does not contradict their character as fundamental concepts. The goal of the transcendental deduction is not to derive the principles of the understanding from a higher and more general principle through syllogistic inferences but rather to understand them in their characteristic function and in the concrete whole of their application. The principles are put to the test [*Bewährung*] through what they achieve ([*leisten*]). [. . .][The transcendental deduction] 'certainly erects secure principles, but not directly from concepts, but rather always only indirectly through the relation of these concepts to *something entirely contingent*, namely *possible experience*' [B765]. (Cassirer 1907b, 457; my emphasis)

The term 'deduction' (*Deduktion*), as Cassirer points out, is borrowed from legal language (*deductio iuris*). A legal proof, however, is not a logical proof. The transcendental

deduction establishes that we have the *right* to claim *a priori* that all content of experience conforms to the synthetic principles, since the latter are conditions of the possibility of experience and thereby determine what counts as legitimate objects of experience. However, the complex constituted by the synthetic principles and the possible experience they constrain is incapable of further justification; it is 'something entirely contingent.' As Cohen himself once again put it around the same time: "This sentence is of the most intimate importance; it opens up an insight into the *innermost core of critical thought*." (Cohen 1907, 198; my emphasis).

The question of whether this sentence does, in fact, play such a central role in Kant's philosophy cannot be addressed here. It can be argued, however, that it does play a central role in the Marburg interpretation of Kant, as Cassirer never tires of repeating (Cassirer 1907a, 725; fn. 31; 1914; 1918, 187; see also Natorp 1918, 445). According to Cassirer, precisely this aspect of the 'transcendental deduction' has been misunderstood in post-Kantian philosophy (Cassirer 1920). (a) German idealism accused Kant of not having provided a "proper derivation" (64) of the *a priori* principles, that is, a logical derivation; on the contrary, (b) Fries accused Kant of having tried to derive the *a priori* principles via syllogistic reasoning. However, both objections are rooted in the same fundamental misunderstanding. A logical proof of the necessity of the synthetic principles from a common principle is neither possible nor necessary. The unity of the synthetic principles resides "in their common performance [*in der gemeinsamen Leistung*]" (370); they are necessary *in order to* make experience possible. The possibility of experience, however, is 'something entirely contingent':

> To implement the rational methodology [*Methodik*] of the critique of reason, the form of contingency recognized here does not mean a barrier or a hindrance. The true, only necessity sought and acknowledged here is the necessity *within* experience, not the necessity *of* experience itself. Experience and the system of synthetic principles on which it is based cannot be derived from something else, something higher, and it cannot be justified as a higher form of reason. However, it can be shown that only by virtue of these principles the necessity of empirical connection itself can be achieved, and thus the 'objectivity' of knowledge can be attainable. In the 'transcendental unity of apperception,' Kant's critical theory also possesses a higher concept of unity, to which all elements of knowledge equally refer. But the multiplicity of forms is never derived deductively from this 'highest point.' (370f.)

The synthetic principles, the conditions *a priori* of the possibility of experience, are 'necessary' and 'contingent' at the same time. They are necessary because the historically given fact of science would be impossible without them; they are also contingent because that fact of science can be different from what it happens to be. The necessity of this whole, constituted by the experience and the conditions that make it possible, can never be proven, neither in a logical-speculative sense nor in an anthropological-psychological sense. It remains 'something entirely contingent.' Cassirer (1920, 370) refers in footnote to *Kants Theorie der Erfahrung*, whose third edition appeared just before Cohen died in 1918 (Cohen 1918, 636). Whenever Cassirer had to characterize the Marburg interpretation of Kant, he always returned to this point. Indeed, it is at this juncture that, for Marburg neo-Kantianism, the possibility of a 'historicized' *a priori* opens up, which does not imply renouncing its 'necessity.'

In the 1920s, critical philosophy was compelled to confront directly the 'abyss' of the contingency of the fact of science. The framework of Newtonian physics, from which Kant had abstracted the synthetic principles, had been irrevocably transformed by the advent of relativistic physics (Cassirer 1921, 9, 12). Nevertheless, Cassirer resisted

contemporary attempts to 'save Kant from the Kantians' by relinquishing the necessity of the *a priori*, as proposed by Reichenbach (1920) at about the same time. Indeed, upon receiving Reichenbach's booklet on relativity, Cassirer stressed that their disagreement lay precisely in the interpretation of Kant's *a priori*. For Reichenbach, Kant arrived at the *a priori* through an 'analysis of reason,' whereas he should have undertaken an 'analysis of science.' However, Cassirer could not agree with this interpretation: "The strictly 'transcendental' Kant, as I see it, stands much closer to this view than it appears in your account"(Cassirer to Reichenbach, Jun. 7, 1920; HR, 015-50-09).

For Reichenbach, Kant regarded the *a priori* as necessary because it is encoded in the nature of reason, as expressed in the table of judgements (Reichenbach 1920, 71); it is for this reason that it serves as a constitutive condition of the 'possibility of experience.' However, Reichenbach also pointed out that Kant "was well aware of the fact that *he could not demonstrate this possibility*" (Reichenbach 1920, 68). Reichenbach then found it "perplexing" that Kant still upheld the necessity of the *a priori* despite his "clear insight into the contingency [*Zufälligkeit*]" of the possibility of experience (68). It is therefore not surprising that, for Cassirer, this interpretation was misleading: the *a priori* is necessary only as a condition that experience must satisfy *if* the latter is to be possible.[13] The necessity of the consequence does not exclude that the antecedent, the 'possibility of experience' is 'something entirely contingent' as Kant explicitly recognized. Thus, one does not need to forgo the necessity of the *a priori* in order to allow for the possibility that it changes historically.[14] One need only assume that the '*direction* and form' of this change are kept constant (Cassirer to Schlick, Oct. 23, 1920; ECN, Vol. 18, Doc. 18[35]; see also Schlick 1921).

The textual evidence indicates that Cassirer regarded the recognition of the contingency of the 'possibility of experience' as central to the Marburg interpretation of Kant. Indeed, he returned explicitly to this point a few years later during the Davos Debate with Heidegger. Cassirer concedes Heidegger's claim that Kant's *theoretical* philosophy is historically situated. Kant's *a priori* principles are "indeed universal and necessary" with respect to the possibility of experience; however, as "Kant says multiple times: the

[13]It is noteworthy that Reichenbach clearly recognises the difference between these two points of view. In a letter to Schlick, he concedes that (1) in the transcendental deduction Kant "attempts to derive the evidence [of the *a priori*] as a consequence of its constitutive character"; however, (a) elsewhere "he turns the problem the other way around and takes the evidence as his starting point" (Reichenbach to Schlick, Nov. 29, 1920; HR, 015-50-09). For Reichenbach, (b) prevails; for Cassirer, (a): the necessity of the *a priori* resolves into its constitutive role as a condition of the possibility of experience.

[14]In my view, the key disagreement between Reichenbach and the Marburg school is perceptively captured by the lesser-known Dutch mathematician–philosopher Alfred Elsbach (1924) in his now largely forgotten booklet on 'Kant and Einstein.' Reichenbach attributes to Kant's *a priori* an "absolute and apodictic necessity", which holds unconditionally, as a reflection of the structure of reason. By contrast, for the Marburg school the *a priori* principles possess only a "hypothetical and relative necessity" (323): they hold necessarily only on the condition that a given antecedent (the fact of science) is assumed. The inferential link is necessary, whereas the hypothetical judgement as a whole is contingent, since it depends on a contingent antecedent. Elsbach concludes that "it is impossible to refute this kind of validity by the progress of science" (199). However, Elsbach does not seem to realise that here lies the problem. Kant does not merely claim that the *a priori* principles are necessary conditions of the historically given 'fact of science,' but rather conditions of the 'possibility' of science in general. This extrapolation can be refuted—and indeed has been refuted—by the progress of science (Einstein 1924; Wind 1927; Schlick 1929). One need only assume that the '*direction* and form' of this change are kept constant (Cassirer to Schlick, Oct. 23, 1920; ECN, Vol. 18, Doc. 18[35]; see also Schlick 1921).

possibility of experience, what makes experience possible at all, is contingent" (ECN, 17:116).[15] It is in the domain of *practical* philosophy that the unavoidable yet unending task of removing this contingency arises (Cassirer 1931, 13f.). From this perspective, the incompatibility between the timeless 'necessity' of the synthetic principles *a priori* (permanence of substance, causality, etc.) and the time-bound 'contingency' of the 'fact of science' proves to be merely apparent. Cassirer articulates this insight with notable clarity in a passage written during his Swedish exile that merits extended quotation:

> If we take the general principle of causality into consideration, we can regard it *with equal justification as contingent or necessary*, depending on the point of view which we choose. It is necessary because every individual empirical statement is based on it, and because it precedes all empirical judgments as a synthetic judgment a priori. On the other hand, it is contingent because the whole of experience to which it refers and on which it has to base its justification is not given in any other way than purely factually [*rein faktisch*]. The principle of causality can be demonstrated as a *conditio sine qua* non for the fact [*Faktum*] of mathematical science; but this fact [*Faktum*] must be presupposed, though it cannot be proved to be *absolute or plainly necessary*. This paradoxical state of affairs is clearly formulated by Kant :'For our reason indeed establishes secure principles, not however directly from concepts alone, but always only indirectly through relation of these concepts to *something entirely contingent*, namely, possible experience' (B765). (Cassirer 1936, 128f.; my emphasis; tr. 1956, 102f.; translation modified)

The synthetic principles are necessary only in a *hypothetical* sense; they are necessary *if* experience is to be possible. The possibility of experience remains 'something entirely contingent'. The *absolute* necessity *of* experience itself lies beyond the scope of critical philosophy. Once again, for Cassirer everything gravitates around a neglected passage of the *Kritik der reinen Vernunft* (A737/B765) that concludes the quotation under discussion. It was unmistakably Cohen's achievement to have been the first to draw attention to its central importance. It is this passage that furnished Marburg neo-Kantianism with the resources for historicising the *a priori* while claiming to remain within a Kantian framework. However, this same passage also confronts critical philosophy with a fundamental conundrum.

Critical philosophy does not merely aim to identify the conditions that the actual fact of science *happens* to satisfy at a given time, but rather to extrapolate the conditions that any possible science in general *must* necessarily satisfy. Yet, since the fact of science is 'something entirely contingent', it can change, and such extrapolations may fail—as they have repeatedly done. If, at every stage, one were required to devise a new set of synthetic principles, critical philosophy would amount to little more than a sequence of hopes and disappointments. As far as I can see, in order to avoid this outcome Marburg neo-Kantianism had only one possible way out: namely, to assume that each new set of 'constitutive' principles incorporates the preceding one as a special case within a *continuous* process of approximation (Cassirer 1936, 93; tr. 1956, 74). However, the continuity of the historical development of science is itself 'something entirely contingent', and no logical or empirical proof can guarantee that science will not proceed through abrupt ruptures. As Cassirer appears to concede later, the legitimacy of historical 'continuism' lies in its effectiveness as a regulative 'maxim' (Cassirer 1936, 100; tr. 1956, 80). Without it, the search for new theories would be reduced to a hit-or-miss groping in the dark. Science would not be impossible, but it would hardly be 'worth pursuing' (Cassirer 1936, 94; tr. 1956, 75).

[15] Interestingly, Heidegger recognizes that B765 is "the deepest next to Schemat[ism]" (ECN, 17:118).

References

Beiser, Frederick C. 2018. *Hermann Cohen: An Intellectual Biography.* Oxford University Press.

Cassirer, Ernst. 1906. *Das Erkenntnisproblem in der Philosophie und Wissenschaft der neueren Zeit.* Vol. 1. Berlin: B. Cassirer. Repr. in ECW, Vol. 2.

———. 1907a. *Das Erkenntnisproblem in der Philosophie und Wissenschaft der neueren Zeit.* Vol. 2. Berlin: B. Cassirer. Repr. in ECW, Vol. 3.

———. 1907b. "Zur Frage nach der Methode der Erkenntniskritik: Eine Entgegnung." *Vierteljahrsschrift für wissenschaftliche Philosophie und Soziologie* 31:441–465. Repr. in ECW, Vol. 9, 83–103.

———. 1910. *Substanzbegriff und Funktionsbegriff: Untersuchungen über die Grundfragen der Erkenntniskritik.* Berlin: B. Cassirer. Repr. in ECW, Vol. 6.

———, ed. 1912–1918. *Immanuel Kants Werke, in Gemeinschaft mit Hermann Cohen u. a.* 11 vols. Berlin.

———. 1914. "Die Grundprobleme der Kantischen Methodik und ihr Verhältnis zur Nachkantischen Spekulation." *Die Geisteswissenschaften* 1:784–787 and 812–815.

Cassirer, Ernst. 1918. *Kants Leben und Lehre.* Berlin: B. Cassirer. Vol. 11 (Ergänzungsband) of Cassirer 1912–1918. Repr. in ECW, Vol. 8.

———. 1920. *Das Erkenntnisproblem in der Philosophie und Wissenschaft der neueren Zeit: Die nachkantischen Systeme.* Vol. 3. Berlin: B. Cassirer. Repr. in ECW, Vol. 3.

———. 1921. *Zur Einstein'schen Relativitätstheorie: Erkenntnistheoretische Betrachtungen.* Berlin: B. Cassirer. Repr. in ECW, Vol. 10.

———. 1931. "Die Einheit der Wissenschaft." Two lectures given on October 21 and October 28, 1931 for the program *Hochsculfunk* aired by the radio station *Deutsche Welle.* Pub. in (ECN, Vol. 8, 117–134).

———. 1936. "Determinismus und Indeterminismus in der modernen Physik: Historische und systematische Studien zum Kausalproblem." *Göteborgs Högskolas Årsskrift* 42. Repr. in ECW, Vol. 19.

———. 1956. *Determinism and Indeterminism in Modern physics: Historical and Systematic Studies of the Problem of Causality.* Translated by Theodor Benfey. With a foreword by Henry Margenau. New Haven: Yale University Press.

———. 1995–2022. *Nachgelassene Manuskripte und Texte.* Edited by John Michael Krois. 19 vols. Hamburg: Meiner.

Cohen, Hermann. 1871. *Kants Theorie der Erfahrung.* 1st ed. Berlin: Dümmler. Repr. in HCW, Vol. 1/III.

———. 1873. *Die systematischen Begriffe in Kants vorkritischen Schriften nach ihrem Verhältniss zum kritischen Idealismus.* Berlin: Dümmler.

———. 1876. "Friedrich Albert Lange." *Preussische Jahrbücher* 37:353–81. Repr. in Cohen 1928, .Vol. 2, 357–391.

———. 1877. *Kants Begründung der Ethik.* 1st ed. Berlin: Dümmler. The 2nd edition Cohen 1910b is reprinted in HCW, vol. 2.

———. 1878. *Platons Ideenlehre und die Mathematik.* Marburg: Marburgi Ex officina typographica C.L. Pfeilii.

———. 1882. "Biographisches Vorwort zur vierten Auflage." In *Geschichte des Materialismus und Kritik seiner Bedeutung in der Gegenwart,* 4th ed., by Friedrich Albert Lange, V–XIII. 2 vols. Iserlohn: Baedeker.

———. 1883a. *Das Princip der Infinitesimal-Methode und seine Geschichte: Ein Kapitel zur Grundlegung der Erkenntnisskritik.* Berlin: Dümmler. Repr. in HCW, Vol. 5/I.

———. 1883b. *Von Kants Einflußauf die deutsche Kultur.* Rede Bei der Marburger Universitätsfeier des Geburtstages Sr. Majestät des Kaisers und Königs am 17. März 1883. Berlin: Dümmler. Repr. in Cohen 1928, Vol. 1, 367–396.

———. 1885. *Kants Theorie der Erfahrung.* 2nd ed. Berlin: Dümmler.

———. 1889. *Kants Begründung der Aesthetik.* Berlin. Repr. in HCW, Vol. 3.

———. 1896. "Einleitung mit kritischem Nachtrag." In *Geschichte des Materialismus und Kritik seiner Bedeutung in der Gegenwart,* 5th ed., by Friedrich Albert Lange. Leipzig: Baedeker. Repr. in HCW, Vol. 5/2.

———. 1902. *Logik der reinen Erkenntnis.* Berlin: B. Cassirer. Repr. in HCW, Vol. 6.

———. 1904. *Ethik des reinen Willens.* Berlin: B. Cassirer.

———. 1907. *Kommentar zu Immanuel Kants Kritik der reinen Vernunft.* Leipzig: Verlag der Dürr'schen Buchhandlung. Repr. in HCW, Vol. 4.
———. 1910a. "August Stadler: Ein Nachruf." *Kant-Studien* 15:403–420. Repr. in HCW, Vol. 15, 513–542.
———. 1910b. *Kants Begründung der Ethik: nebst ihren Anwendungen auf Recht, Religion und Geschichte.* 2nd ed. Berlin: B. Cassirer.
———. 1918. *Kants Theorie der Erfahrung.* 3rd ed. Berlin: B. Cassirer. Repr. in HCW, Vol. 1/I.
———, eds. 1928. *Schriften zur Philosophie und Zeitgeschichte.* Berlin: B. Cassirer.
———. 2015. *Briefe an August Stadler.* Edited by Hartwig Widebach. Basel: Schwabe.
Cohen, Hermann, and Paul Natorp. 1906. "Zur Einführung." Edited by Hermann Cohen and Paul Natorp. *Philosophische Arbeiten* 1.
Damböck, Christian. 2017. *Deutscher Empirismus: Studien zur Philosophie im deutschsprachigen Raum 1830–1930.* Cham: Springer.
Dufour, Eric. 2001. *Hermann Cohen: Introduction au néokantisme de Marbourg.* Paris.
Edel, Geert. 1987. "Einleitung." In HCW, vol. I.1, 8*–59*.
Edel, Geert. 1988. *Von der Vernunftkritik zur Erkenntnislogik: Die Entwicklung der theoretischen Philosophie Cohens.* Freiburg: Alber.
Edgar, Scott. 2021. "Hermann Cohen on the Role of History in Critical Philosophy." *European Journal of Philosophy* 30:148–168.
Einstein, Albert. 1924. "Rev. of Elsbach, *Kant und Einstein.*" *Deutsche Literaturzeitung* 45:1685–1692.
Elsbach, Alfred Coppel. 1924. *Kant und Einstein: Untersuchungen über das Verhältnis der modernen Erkenntnistheorie zur Relativitätstheorie.* Berlin: de Gruyter.
Fiorato, Pierfrancesco. 1993. *Geschichtliche Ewigkeit: Ursprung Und Zeitlichkeit in Der Philosophie Hermann Cohens.* Würzburg: Königshausen Und Neumann.
Fischer, Kuno. 1862. *Akademische Reden.* Stuttgart: Cotta.
———. 1865. *System der Logik und Metaphysik, oder Wissenschaftslehre.* Heidelberg: Bassermann.
Friedman, Michael. 2000. *A Parting of the Ways: Carnap, Cassirer, and Heidegger.* Chicago: Open Court.
———. 2001. *Dynamics of Reason: The 1999 Kant Lectures at Stanford University.* Stanford, Calif.: CSLI Publ.
Gigliotti, Gianna. 1977. *Hermann Cohen e la fondazione kantiana dell'etica.* Firenze: Sansoni.
———. 1989. *Avventure e disavventure del trascendentale: Studio su Cohen e Natorp.* Napoli: Guida.
Giovanelli, Marco. 2016. "Hermann Cohen's *Das Princip der Infinitesimal-Methode*: The History of an Unsuccessful Book." *Studies in History and Philosophy of Science* 58:9–23.
Holzhey, Helmut. 1986a. *Cohen und Natorp.* 2 vols. Basel: Schwabe.
———. 2001. "Empirische und Intelligible Zufälligkeit: Eine Kantische Unterscheidung und ihre Interpretation durch Hermann Cohen." In *Kant und die Berliner Aufklärung,* edited by Volker Gerhardt et al. Berlin: de Gruyter.
Kühn, Manfred. 2009. "Interpreting Kant Correctly: On the Kant of the Neo-Kantians." In Makkreel and Luft 2009, 113–131.
Lange, Friedrich Albert. 1873–1875. *Geschichte des Materialismus bis auf Kant.* 2nd ed. Vol. 2. Leipzig: Baedeker.
Luft, Sebastian, ed. 2015a. *The Neo-Kantian Reader.* London/New York: Routledge.
———. 2015b. *The Space of Culture: Towards a Neo-Kantian Philosophy of Culture (Cohen, Natorp & Cassirer).* Oxford.
Makkreel, Rudolf A., and Sebastian Luft, eds. 2009. *Neo-Kantianism in Contemporary Philosophy.* Bloomington: Indiana University Press.
Marx, Wolfgang. 1977. *Transzendentale Logik als Wissenschaftstheorie: Systematisch-kritische Untersuchungen zur philosophischen Grundlegungsproblematik in Cohens „Logik der reinen Erkenntnis".* Frankfurt am Main: Klostermann.
Meyer, Jürgen Bona. 1870. *Kant's Psychologie: dargestellt und erörtert.* Leipzig: Hirzel.
Natorp, Paul. 1882. *Descartes' Erkenntnisstheorie: Eine Studie zur Vorgeschichte des Kriticismus.* Marburg: Elwert.
———. 1902. "Zu Cohens Logik." Pub. post. in CN, Vol. 2, 6–40.
———. 1910. *Die logischen Grundlagen der exakten Wissenschaften.* Leipzig Berlin: Teubner.
———. 1911. *Philosophie und ihre Probleme: Einführung in den transzendentalen Idealismus.* Göttingen: Vandenhoeck & Ruprecht.
———. 1912. "Kant und die Marburger Schule." *Kant-Studien* 17:193–221.

———. 1918. “Bruno Bauchs ‘Immanuel Kant’ und die Fortbildung des Systems des Kritischen Idealismus.” *Kant-Studien* 22:426–459.
Nelson, Leonard. 1905. “Rev. of Cohen, *Logik der reinen Erkenntnis.*” *Göttingische gelehrte Anzeigen* 8:610–630.
Padovani, Flavia. 2009. “Relativizing the Relativized a Priori: Reichenbach’s Axioms of Coordination Divided.” *Synthese* 181:41–62.
Pap, Arthur. 1943. “On the Meaning of Necessity: Exploring Philosophical Concepts.” *The Journal of Philosophy* 40:449–458.
Poma, Andrea. 1989. *La filosofia critica di Hermann Cohen.* Milano: Mursia.
Reichenbach, Hans. 1920. *Relativitätstheorie und Erkenntnis apriori.* Berlin: Springer.
Ritzel, Wolfgang. 1952. *Studien zum Wandel der Kantauffassung: Die Kritik der reinen Vernunft nach Alois Riehl, Hermann Cohen, Max Wundt und Bruno Bauch.* Meisenheim/Glan: Hain.
Ryckman, Thomas. 2005. *The Reign of Relativity: Philosophy in Physics 1915-1925.* Oxford/New York: Oxford University Press.
Schlick, Moritz. 1921. “Kritizistische oder empiristische Deutung der neuen Physik? Bemerkungen zu Ernst Cassirers Buch: *Zur Einsteinschen Relativitätstheorie.*” *Kant-Studien* 26:96–111. Repr. in Schlick 2006, Vol. 1.5, 217–247.
———. 1929. “Erkenntnistheorie und moderne Physik.” *Scientia* 45:307–316. Repr. in Schlick 2006, Vol. 1.6, 155–172.
———. 2006. *Gesamtausgabe.* Edited by Friedrich Stadler and Hans Jürgen Wendel. Berlin: Springer.
Schmid, Peter A. 1995. *Ethik als Hermeneutik: Systematische Untersuchungen zu Hermann Cohens Rechts- und Tugendlehre.* Würzburg: Königshausen & Neumann.
Stadler, August. 1874. *Kants Teleologie und ihre erkenntnisstheoretische Bedeutung: Eine Untersuchung.* Berlin: Dümmler.
———. 1876. *Die Grundsätze der reinen Erkenntnisstheorie in der Kantischen Philosophie: Kritische Darstellung.* Leipzig: Hirzel.
Stump, David. 2015. *Conceptual Change and the Philosophy of Science: Alternative Interpretations of the A Priori.* New York: Routledge.
Vuillemin, Jules. 1954. *L’Héritage kantien et la Révolution copernicienne: Fichte – Cohen – Heidegger.* Paris.
Widmer, Elisabeth Theresia. 2024. “Objectivity and truth in Ernst Cassirer’s ethics.” *Continental Philosophy Review* 57:455–469.
Wind, Edgar. 1927. “Rev. of Elsbach, *Kant und Einstein.*” *The Journal of Philosophy* 24:64–71.