# Kantian Circularity: Maimon on Causal Scepticism and the Status of the Hypothetical Judgement 

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#### Abstract

A key theme throughout Maimon's works is a circularity he diagnoses at the heart of Kant's response to Hume. The objective validity of Kant's category of causality ultimately rests, Maimon argues, upon the logical status of the hypothetical judgement - on its inclusion among the forms of pure general logic. In turn, however, the inclusion of the hypothetical within pure general logic itself rests upon the objective validity of causal judgements. This article examines Maimon's diagnosis and traces it back to a debate that has its origins in Wolff's German Logic, concerning the relationship between categorical and hypothetical judgements.


Keywords: Kant; Maimon; Wolff; causal scepticism; hypothetical judgement; logic

## I. Introduction

While historically a neglected figure, in recent decades Salomon Maimon has come to be recognised as a key figure in the early development of post-Kantian philosophy. This more accurately reflects the views of Maimon's own contemporaries; Kant famously referred to Maimon as the best of his critics (Correspondence, 11: 49), ${ }^{1}$ while Fichte wrote that an understanding of Maimonian scepticism was essential if his own epistemological project in the early Wissenschaftslehre was to be properly understood (GA II: 3). ${ }^{2}$ Nevertheless, core aspects of Maimon's philosophical project remain difficult to pin down. This is especially true of Maimon's so-called quaestio facti scepticism. ${ }^{3}$ This difficulty is perhaps in part inevitable, given that the target of Maimon's sceptical argument is Kant's transcendental deduction - understood as a defense of causality against the threat of Humean scepticism - which is often itself cited as one of the most difficult and obscure sections of an already difficult and obscure text. It also arises, however, from apparent inconsistencies within Maimon's own account. In particular, Maimon appears to move between two different characterisations of the form of the scepticism advanced, describing it on the one hand as a scepticism concerning the fact of our employment of the category of causality, and on the other as a scepticism about our right to employ the category. Recent readings have gone some way to resolving this

[^0]ambiguity. According to these readings, while Maimon maintains that the arguments of the transcendental deduction establish the possibility that the categories have objective validity, he does not believe that Kant succeeds in securing this validity. Instead, Kant's arguments require that we make assumptions about the nature of our experience - that natural scientific laws are a priori, for example, or that causal connections are necessary - that themselves remain unsupported, at least in the first Critique. ${ }^{4}$ These readings run the risk, however, of limiting the scope and force of Maimonian scepticism. While this line of argument poses a problem for some readings of the transcendental deduction, on many contemporary readings the necessity of causal judgements is not merely presupposed, but derives from their status as manifestations of the hypothetical judgement, and so from the unity of the experiencing subject or, more specifically, from its status as a unified, rational subject. ${ }^{5}$

My suggestion in this article is that doubts about the necessity of causal judgements form only one part of a wider sceptical line of argument: a diagnosis of circularity in Kant's deduction of causality. This diagnosis, most concisely formulated in the Wörterbuch (GW III), comprises two interconnecting lines of argument. (1) is as outlined above: the arguments of the Analogies fail because they rest upon unwarranted assumptions about causal judgements, namely that causal judgements involve genuine necessity, as opposed to what Maimon elsewhere refers to as the 'subjective necessity' (2010, GW II, 73) that results from constant conjunction, and that the object that is constituted by the causal judgement is a genuine object of the understanding, and so an inherent feature of rational subjectivity rather than a contingent feature of our particular subjectivity. (2), however, supplements (1) by addressing Kant's claim that the necessity of causal judgements has its origins in the rationality of the experiencing subject. Maimon's argument is that the hypothetical judgement does not constitute a genuine logical form: that it is not, in other words, constitutive of the rational subject. Taken together, these two lines of argument expose a circularity at the heart of Kant's deduction of causality: the validity of the causal judgement is supposed to derive from the form of the hypothetical judgement, yet the hypothetical judgement itself has a distinct logical function only if we presuppose the validity of causal judgements.

While my analysis involves an outline of (1), the main focus of the article is Maimon's second line of argument. In Section 2, I consider the role of the hypothetical judgement in Kant's response to the causal sceptic. In particular, my aim is to establish that the inclusion of the hypothetical among the genuine logical forms is key to Kant's account of the validity of the category of causality. In Section 3, I turn to the question of the status of the hypothetical judgement itself. I trace Maimon's concerns back to a perennial issue in logic, one that manifests in early modern philosophy in debates around the relationship between categorical and hypothetical judgements, and which in its contemporary form manifests in a different form, as the status of the indicative conditional in truth-functional logic. In Section 4, I turn to the question of circularity. Maimon's claim will be that the status of the hypothetical judgement as a genuine logical form, which is supposed to ensure the objective validity of the causal judgement, in fact itself presupposes the validity of causal judgements. As will be seen, Maimon challenges Kant to address this scepticism, by establishing either the logical status of the hypothetical judgement or the objective validity of the causal judgement:

You must ... show that these forms already have their reality in the understanding a priori. Or you must prove the fact, that we use them with objects of experience, if you want to overthrow the sceptical system. (Wörterbuch, GW III, 48-9)

## 2. The role of the hypothetical judgement in Kant's response to Hume

In order to consider the role that the hypothetical judgement plays in Kant's response to Hume, I begin here with a brief recap of Kant's argument. It is worth noting that there is some debate about the degree to which Kant's representation of the Humean problem is accurate. ${ }^{6}$ For present purposes, however, the issue is whether Maimon's characterisation of the Kantian formulation is accurate, and it is, I think, relatively uncontroversial. At issue is the question of the origin, and thus the objective validity, of what I will refer to throughout as the concept of strong causality. Strong causality involves something over and above a mere conjunction of perceptions and implies a one-sided relation of what I will call efficacy. By efficacy, I intend that the effect is in some sense a result of, or produced by, the cause, as opposed to merely appearing along with it. ${ }^{7}$ As Kant puts it, 'to the synthesis of cause and effect there belongs a dignity that cannot be empirically expressed, namely that the effect not only succeeds upon the cause, but that it is posited through it and arises out of it' (A91/B124, emphasis added). Doubts arise about the origin and the validity of strong causal judgements because it is not immediately clear that this notion of efficacy is warranted. Clearly, the strong concept of causality cannot have purely empirical origins because this defining characteristic cannot be given empirically: we have access only to the succession of events, and not to the relationship between them. Thus, on the Humean story, we indeed arrive at the concept a posteriori, but not as a result of any clearly identifiable empirical determinations. Instead, the concept arises as a consequence of the contingent mechanisms by which we process our experiences - habit, or the expectation that phenomena that have in the past been conjoined will continue to be so in the future.

This account of our acquisition of the concept of strong causality leaves us with a problem, however: if we can trace the concept back to our own perceptual processes, how can we know that it really applies to objects in the world at all? How can we know, in other words, that our employment of the concept is legitimate? The Humean, sceptical, answer is of course that we cannot; even if a judgement of universal conjunction can be legitimately made on the basis of the constant conjunction of phenomena that we encounter in experience, we are not warranted in extrapolating from universal conjunction to a causal relation, that is, to the judgement that one phenomenon arises because of, or in Kantian terms, through and out of another (A91/B124). ${ }^{8}$

Maimon's characterisation of the Kantian response to Hume is perhaps more controversial, if only because the matter of how to interpret Kant's transcendental deduction is, in general, contentious. However, a key Kantian claim, developed in the Analogies, is that a strong concept of causality can be legitimately applied to objects of experience because the concept is itself constitutive of those same objects. Kant's argument there is as follows: we do not have direct access to objective temporal order. In other words, there is nothing within intuitions themselves that allows us to
distinguish an external event (which Kant calls an objective succession) from a mere change in perspective (which Kant calls a subjective succession). The distinction between external, objective, succession and internal, subjective, succession must therefore be made by way of the application of a rule to intuition: if the temporal order of presentations is judged to involve necessity - if the order of presentations cannot, for example, be reversed - then the succession is objective and there is an external event. If, on the other hand, the temporal order of presentations is judged to be contingent, then the succession is merely subjective. ${ }^{9}$ This rule, Kant maintains, just is the concept of strong causality, which involves a similar relation of necessity; the effect cannot preceed but must instead follow the cause so that the cause 'determines [the effect] in time' (A189/B235). Importantly, because this rule is constitutive of objectivity in the sense that it is constitutive of external events, the concept of causality must have objective validity, and Humean scepticism can be rejected.

Why, then, does Maimon remain sceptical about the objective validity of the concept of causality? As is clear from its name, Maimon's quaestio facti scepticism concerns the truth of a supposed fact. There is some divergence in the literature and in Maimon's own work, however, when it comes to identifying the relevant fact, which has been named variously as the fact of experience, the fact of synthetic a priori judgements in natural science, and that we do, in fact, make causal judgements involving notions of necessity. I suggest, however, that these can be understood as various branches, and various formulations, of a single sceptical position: Maimon doubts whether the notion of necessity that underlies the strong concept of causality does in fact have objective validity.

According to Maimon, Kant's claim that strong causality is constitutive of objectivity rests upon one of two assumptions: either (1) we must assume that objective succession involves necessity or (2) we must assume that the strong concept of causality involves necessity. (1) does not find support within the first Critique itself, but is, arguably, supported by the arguments Kant later makes in the Metaphysical Foundations of Natural Science. Maimon has a distinct set of responses to Kant's arguments there and I do not have space to consider them here, but Freudenthal (2003) provides a compelling account. Of particular interest for present purposes, however, is the second supposed assumption: that the strong concept of causality involves necessity.

The claim that the strong concept of causality involves necessity is key to Kant's response to Hume because it allows him to identify the concept of causality as a category of the understanding rather than a concept that arises after the fact of experience, as a result of contingent mental processes. '[T]he concept which carries with it a necessity of synthetic unity', Kant argues, 'can only be a pure concept that lies in the understanding, not in perception' (A189/B234). Necessity, according to Kant, is not a concept that can be arrived at solely by way of experience. That notions of necessity are intrinsic to the concept of strong causality thus cements its status as a category of the understanding and so in turn its status as an intrinsic feature of discursive experience. The claim that strong causal judgements involve judgements of necessity allows Kant to maintain that judgements of strong causality have genuine objective validity because it excludes the possibility that causal judgements have their
origin in a posteriori mental processes; causality is a feature of any object that can appear to a discursive subject.

Maimon remains sceptical about Kant's claim that causal judgements involve genuine judgements of necessity, however, and, as a consequence, remains similarly sceptical about the objective validity of the concept of causality. In the Essay on Transcendental Philosophy, he writes:
[T]here are no experiential propositions properly so called (expressing necessity) and if I say this concept is taken from experience, I understand by this mere perception containing a merely subjective necessity (arising from habit) which is wrongly passed off as an objective necessity. (2010, GW II: 73)

In the use of the term 'experiential propositions' here, Maimon makes reference to Kant's own characterisation of experience in the Analogies. There, Kant defines experience as the 'empirical knowledge of appearances' (B234) that is 'possible only through the representation of a necessary connection of perceptions' (B218, emphasis added). Maimon's scepticism, then, can be expressed either as a scepticism about the necessity of causal judgements or about the fact of (Kantian) experience: that objects of experience are determined by relations of necessity. In denying that causality involves a judgement of genuine necessity, Maimon creates space within the Kantian framework for a Humean notion of causality as an a posteriori construct rather than a concept of the understanding: 'an association of perceptions ... what in animals we call the expectation of similar cases' (2010, GW II: 73). And in this way, Kant's response to Hume is undermined.

It is important to note that there is, of course, a sense in which an a posteriori construct could have a certain kind of objective validity should its application be constitutive of the object of experience. However, to maintain the objective validity of the concept in this way would require that we abandon the subject-independent status of the object, which would no longer resemble the object of Kant's transcendental deduction but would instead be at best a useful fiction, aiding in, but not essential to, knowledge acquisition. This would not, in other words, constitute objective validity in the Kantian sense.

There are potential problems, however, with this Maimonian line of argument. So far, my analysis has focused on the arguments of the Analogies in isolation and has proceeded on the basis that the necessity of causal judgements is merely taken for granted by Kant. Kant does, however, have independent reasons for thinking that causal judgements involve genuine necessity. One of these, as discussed, has to do with the success of the natural sciences, which Kant thinks are dependent on a genuine conception of causal necessity. But there is another way in which the objective validity of causal judgements might be secured, and, importantly, this line of argument is internal to the first Critique. In the B Deduction, Kant claims that 'the a priori origin of the categories has been proved [in the Metaphysical Deduction] through their complete agreement with the general logical functions of thought' (B159), with the goal of the transcendental deduction being to 'show their possibility as a priori modes of knowledge of objects of an intuition in general' (B159, emphasis added). I do not have space to consider the arguments of the transcendental deduction in detail here, but in essence, Kant's argument is that the logical forms
determine the unity of the rational, experiencing subject. ${ }^{10}$ Since knowledge is dependent on the unity of the experiencing subject, disparate intuitions must first be brought together into one singular experience if knowledge is to be possible. This cannot happen by way of the intuitions themselves and so must happen by way of the application of the rational understanding to intuition. The object of knowledge should therefore have the same rational, unified structure as the subject. If Kant is correct that the arguments of the Metaphysical Deduction have already established the a priori origins of the category of causality, then there are reasons that are independent of the arguments of the Analogies for thinking that the concept of causality cannot have its origins in a posteriori mental principles or processes. Specifically, the claim will be that the a priori status of the concept is established through its 'complete agreement with' the form of the hypothetical judgement.

One response to this Kantian line of argument comes in the form of Maimon's socalled quaestio juris. Key to Kant's account of synthetic a priori judgements is his cognitive dualism - the separation of the faculty of sensibility from that of understanding, or the irreducibility of the one to the other. Because there are a priori aspects of both understanding and sensibility, their mutual irreducibility allows for judgements that are a priori without their being verifiable through concepts alone. In other words, then, this irreducibility allows for the possibility of synthetic a priori judgements. Maimon has concerns, however, about Kant's cognitive dualism. ${ }^{11}$ At a fundamental level, the concern is how to conceive of the relationship between the two faculties: if diverse empirical content is to appear, or 'show up', to the understanding as diverse, then there must be some intelligible ground for distinguishing among that content. But how can there be intelligible grounds for distinguishing among content that is not already in some sense intelligible? Kant of course attempts to address the problem by introducing intelligibility into sensible intuitions in the form of the axioms of intuition and anticipations of perception, but the problem remains: if the ground of sensible diversity lies, ultimately, in the nonintelligible, how does this diversity ever become intelligible? And, conversely, if the source of the diversity lies in the intelligible, then how can Kant be said to maintain cognitive dualism in any meaningful sense?

Consideration of Maimon's quaestio juris is beyond the scope of this article, though it should be noted that there is some debate about the degree to which Maimon's criticisms pose a problem for Kant. ${ }^{12}$ My argument here, however, is that there is a separate line of argument to be found throughout Maimon's works, which responds to Kant's arguments in the Metaphysical Deduction. The central claim of this line of argument is that the logical form of the hypothetical judgement, from which Kant derives the category of causality, might itself have a posteriori origins. And that the a priori status of the category cannot therefore be established through its relationship to the logical form.

## 3. The status of the hypothetical judgement

I turn now to this second line of sceptical argument: the suggestion that hypothetical judgements might themselves have their origins in contingent mental processes. This scepticism is only fully elaborated in Maimon's later works, and in particular in the two works that are devoted to logic - the Versuch einer neuen Logik and the Kategorien

Aristoteles (both published in 1794). Nevertheless, the outline of the argument can be found as early as the 1790 Essay on Transcendental Philosophy, where it appears, as we might expect, in the context of a broader explication of Maimon's quaestio facti scepticism:

> Kant derives the concept of cause from the form of the hypothetical judgement in logic, but we could raise the question: how does logic itself come by this peculiar form, that if one thing $a$ is posited, another thing $b$ must necessarily also be posited? (2010, GW II: 71)

In the same passage, Maimon goes on to argue that the hypothetical form does not have legitimate logical origins at all: that we have 'abstracted it from its use with real objects, and transferred it into logic' (2010, GW II: 72).

In order to make sense of Maimon's argument here, it may be useful to begin with a consideration of Kant's logic. The Kantian distinction between general and transcendental logic is well known: general logic determines the structure of rational thought in the abstract, while transcendental logic describes the physical manifestation of those same forms or structures in the application of rationality to intuition. Kant draws a less prominent but equally important distinction, however, within general logic itself. While pure general logic 'abstract[s] from all empirical conditions' (A53/B77), applied general logic 'is directed to the rules of the employment of understanding under the subjective empirical conditions dealt with by psychology' (ibid.). In other words, one kind of logic - pure general logic - describes the essential structure of discursive thought, or judgement, while another - applied general logic describes patterns of thought that have their origins in contingent psychological mechanisms. Since the forms of pure general logic determine relations of truth and falsity, these forms establish the rational framework for knowledge or knowledge acquisition and are indispensable if we are to be rational subjects. ${ }^{13}$ The forms of applied general logic, on the other hand, are dependent on a preexisting subjectobject relation. Though these forms may sometimes prove useful in acquiring knowledge, they are not essential to our nature as rational subjects. Applied general logic is thus 'neither a canon of the understanding in general nor an organon of special sciences, but merely a cathartic of the common understanding' (A53/B77-8). In the Jäsche Logik (JL), Kant even goes so far as to claim that ‘[a]pplied logic really ought not to be called logic' at all:

It is a psychology in which we consider how things customarily go on in our thought, not how they ought to go on .... But propaedeutic it simply is not. For psychology, from which everything in applied logic must be taken, is a part of the philosophical sciences, to which logic ought to be the propadeutic. (JL, 9: 18) ${ }^{14}$

We know, then, that there are two kinds of general logic: pure general logic and applied general logic. And we know that those forms which belong to applied general logic will not have legitimate transcendental manifestations in the form of the categories. The question, however, is how we go about distinguishing between the pure and the applied forms of general logic: how do we determine whether a particular form belongs to pure general logic as opposed to applied general logic?

Clearly, it is not enough merely to show that we employ the form: this is true of both pure and applied general logic. Indeed, it is not even enough to show that a form does in fact play some role in knowledge acquisition. (The laws of empirical psychology would meet this criterion.) Instead, if we are to establish that a form belongs to pure general logic, we need to show that it is essential to, or internal to, the rational framework, or the structure of truth and falsity itself. How, then, might we go about establishing this fact? Kant does not offer us much help in this respect, but one way, I suggest, is to show that the form fulfils a distinctive rational function. Although it should be noted that the Aristotelian logic with which Kant operated was very different to contemporary logic, the key principle of truth-functional logic - that a genuine logical form corresponds to a unique truth table - provides a useful analogy here. If a logical form is to be indispensable to the rational framework, then it must be capable of producing patterns of truth and falsity that cannot otherwise be produced. I will refer to this property of producing distinctive patterns of truth and falsity as the property of being functionally distinct. A form that is not functionally distinct will not be essential to rational thought, and so will not belong to pure general logic, though its may nevertheless prove useful in arriving at the truth or falsity of a judgement, and so in acquiring knowledge.

Why, then, as Maimon claims, might the hypothetical judgement belong to applied rather than to pure general logic? Maimon's argument has its origins, I suggest, in a long-standing issue in logic. In contemporary, truth-functional logic, this debate manifests itself in concerns about the status of the indicative conditional. The indicative conditional is in many respects the contemporary analogue of the Aristotelian hypothetical. It is the form of the if/then judgement as it is employed in everyday language. The problem with the indicative conditional is that it cannot be adequately expressed in truth-functional logic. While a close approximation - the material conditional - does produce a unique truth table, and so does have a place within truthfunctional logic, this form of judgement differs from the indicative conditional in some important respects. In particular, the material conditional can be legitimately employed to describe relationships between judgements, where those relationships do not have the kind of inferential character we would expect in the case of the indicative conditional. In early modern philosophy, this issue is manifest, I suggest, in concerns that Wolff raises in the German Logic (Wolff 1712) about the distinctiveness of categorical and hypothetical judgements. It is worth noting that the German Logic was an important point of reference for both Kant and Maimon. Wolff maintains that hypothetical and categorical judgements are, logically speaking, identical: that any difference between these judgements' form is merely grammatical, that is, a difference in the means of expression, as opposed to the logical substance, of the judgement and, as such, that the judgements should be interchangable. ${ }^{15}$ This difference in expression arises, Wolff claims, because, whereas in the hypothetical judgement the subject in the antecedent remains relatively underdetermined, and the condition predicated of it merely problematically, in the case of the categorical judgement the subject is sufficiently determined so that it already contains the condition of the consequent in the hypothetical judgement. As a consequence, we can turn a hypothetical judgement into a categorical judgement without altering its meaning, by sufficiently determining the subject. In the hypothetical judgement 'if the stone is warm, then it makes the bed warm', warmth is predicated of the stone merely problematically. But if we include this
predicate (warmth) within the subject (the stone), then the judgement becomes categorical: 'the warm stone makes the bed warm' (Wolff 1712: 72). Similarly, we can turn the categorical judgement into a hypothetical by underdetermining the subject and then positing the relevant predicate problematically (if the stone is warm ...). ${ }^{16}$ If we underdetermine the subject in the categorical judgement 'every triangle has three corners', for example, so that the subject is not 'triangle', but instead 'space', and the conditional ('enclosed by three lines') is predicated of it merely problematically, we find that this categorical judgement is transformed into a hypothetical judgement (if a space is enclosed by three lines, then it has three corners' (1712: 73)).

To return to the language of contemporary logic, then, we might say that, in Wolff's view, the hypothetical judgement is not functionally distinct from the categorical judgement. There is no truth that we can get at, or express, by way of the hypothetical judgement that we cannot already get at by way of the categorical judgement. And if there is a distinction between the categorical and hypothetical forms of a particular judgement, this difference can be accounted for in terms of differences in the subject employed in the categorical and in the antecedent of the hypothetical, rather than in terms of the form itself.

If Wolff is correct then this poses a serious problem for Kant, since the reducibility of hypothetical to categorical judgements means that, even though it may be useful in knowledge acquisition, the hypothetical judgement form is not essential. This places the form of the hypothetical judgement outside pure general logic, and within the realm of applied general logic. In turn, if we are to hold that the logical status of the hypothetical judgement is key to Kant's argument as to the objective validity of the strong concept of causality, as I have argued that we should, Wolff's attack on the hypothetical form of judgement also casts doubt on Kant's response to Hume.

Despite Wolff's concerns, however, Kant does include the hypothetical within the table of judgements. Why is this? Kant does not give us much to go on in the first Critique, but he does appear to hint at the reason: 'In the [categorical judgment] we consider only two concepts, in the [hypothetical] two judgments' (A73/B98). In itself, it is not clear that this constitutes a logical distinction. As Wolff's argument highlights, what is significant for the logical status of the judgement is what is represented by the logical copula, and not the nature of the terms that the copula relates. The more detailed account that Kant gives in the Jasche Logik, however, makes clearer the significance of the difference in the terms, and Kant's position appears to be that, because the logical copula of the hypothetical relates two judgements, the copula itself expresses something that cannot be expressed by way of the copula in the categorical judgement. The essential claim is, in contemporary terminology, that categorical judgements have existential import while hypothetical judgements do not. ${ }^{17}$ In contemporary logic, to claim that a judgement has existential import is to claim that it asserts the existence (or, more accurately, the reality) of the relevant entities. The judgement 'all elephants respire', for example, is said to have existential import in so far as it implies the reality of elephants. As Russell (1905) notes, in practice, this definition can be misleading, since the term 'existence', in the Kantian context at least, brings to mind something much narrower than is really meant - that the entity is a physical object, for example, and so occupies a particular spatiotemporal location. In fact, what is supposed to be asserted in the categorical judgement is something more like the reality of the relevant entity so that judgements
such as 'the unicorn has four legs' can be said to have existential import, even though the relevant entity 'exists' only as a cultural entity and not in the narrower, Kantian sense. In the hypothetical judgement, on the other hand, Kant argues that a relationship between two judgements can be asserted, even though the truth of those two judgements remains undetermined:

> The hypothetical proposition 'If there is a perfect justice, the ostensibly wicked are punished', really contains the relation of two propositions, namely, 'There is a perfect justice', and 'The ostensibly wicked are punished'. Whether both these propositions are in themselves true, here remains undetermined. (A73/B98, emphasis added)

Why, then, might this allow us to maintain a logical dinstinction between categorical and hypothetical judgements? Again, Kant does not provide us with a clear line of argument here, but there is, I suggest, a fairly intuitive argument to be made. The lack of existential import means that, at least in theory, the judgement 'If $X$ then $Y$ ' allows me to express something about the relationship between $X$ and $Y$ that I cannot quite express by way of the categorical judgement, namely that the truth of the antecedent itself, rather than some external condition, is the ground of the truth of the consequent. As Kant puts is, while categorical judgements describe a relation of 'predicate to subject', hypothetical judgements describe a relation of 'consequence to ground' (JL, 9: 104). ${ }^{18}$ As Howell notes (1992: 404-76), this relationship is analogous to, but not identical with, the ground-consequent relationship expressed in the causal judgement. While in the causal judgement, the cause is what Howell refers to as the reason-for-being of the effect, in the hypothetical judgement, the antecedent is what he calls the reason-for-inferring the consequent. In the judgement 'if tomorrow is Tuesday, then today is Monday', for example, it is clearly not the case that tomorrow being Tuesday causes today to be Monday. Nevertheless, my judgement that today is Monday is grounded in my judgement that tomorrow is Tuesday.

Kant's argument, then, appears to be that hypothetical judgements cannot be reduced to categorical judgements because they describe relations between the truth and falsity of judgements that cannot be described by way of categorical judgement alone.

## 4. Kantian circularity

In this final section, I turn to Maimon's diagnosis of circularity in Kant's response to Hume. Unfortunately, Maimon's arguments as to the status of the hypothetical judgement remain underdeveloped, and to make sense of them requires that we fill in some of the gaps on his behalf. As discussed, however, Maimon's general line of argument will be that the status of the hypothetical as belonging to pure general logic, which is supposed to ensure the validity of strong causal judgements, itself presupposes the validity of such judgements. While Maimon's scepticism ultimately extends to a number of the logical forms, it is worth noting that this scepticism does not concern the validity of pure general logic in itself; that is to say, it does not concern Kant's claim that there are certain a priori unifying activities of thought that find expression in transcendental logic and thus in experience. ${ }^{19}$ In other words,

Maimon does not advocate for psychologism about logic in general; he is, at least in relation to the line of argument considered in this article, concerned only with the matter of which judgement forms have genuine (pure) logical, as opposed to applied logical, origins, that is, which play an essential, as opposed to a merely instrumental, role in knowledge acquisition. ${ }^{20}$

In some respects, it might seem that Maimon returns uncritically to the Wolffian position. Maimon frequently references Wolff's argument in his discussions of the hypothetical judgement. In the Kategorien Aristoteles, for example, he writes:
[H]ypothetical judgements have ... no philosophical origin. They are only distinct from the categorical in terms of their means of expression, and not in terms of their being; and if one thinks the condition that is problematically expressed in the subject as really expressed therein, so one transforms the hypothetical into a categorical judgement. (GW VI: 175-6)
and in the later Logik:
It is well known that the Critique of Pure Reason deduces the transcendental principle of causality from the logical form of the hypothetical judgement. Now, however, I have shown that this form has no meaning other than the categorical meaning, and that it is used in logic merely as a result of a deception with respect to its use. (GW V: 24)

Other passages, however, suggest that Maimon's argument is more nuanced. While he does recognise that there is a distinction between hypothetical and categorical judgements, he maintains that the distinction is only meaningful in a narrow context. It is important to note here that Maimon's claim is not that we do not make hypothetical judgements in other contexts. As discussed, forms of thought can be useful in knowledge acquisition without being essential components of rationality, and Maimon acknowledges that we do make hypothetical judgements in a variety of contexts. Despite Kant's claims to the contrary, however, Maimon's position is that in most contexts the hypothetical judgement is interchangeable with the categorical. In relation to mathematics, for example, he writes:
> 'if a line is straight then it is the shortest between two points', this is only a peculiar manner of speaking, that in this case does not mean anything in particular (because it is tantamount to saying 'a straight line is ...', which would in fact be a categorical judgment. (2010, GW II: 183-4). ${ }^{21}$

Far from being indispensable to mathematics, Maimon's claim is that the hypothetical judgement 'must have been adopted per analogiam from somewhere else' (2010, GW II, 184).

Before I turn to the question of what this somewhere else might be, it might be useful to consider Maimon's argument here in more detail. As discussed in Section 2, Kant distinguishes categorical from hypothetical judgements on the basis that the latter relate two judgements, which themselves may be true or false, whereas the former relate two concepts, which are not themselves capable of truth or falsity. My
suggestion was that this allowed Kant to make a logical distinction between categorical and hypothetical judgements because it allowed us to ground the truth of the hypothetical judgement in the truth of the antecedent in a way that does not happen in the categorical judgement. In the mathematical hypothetical, however, this ground-consequent relationship appears to be lacking. While it is true that straight lines are the shortest between two points, it is not true that being the shortest between two points is a consequence of or grounded in the line's being straight. Maimon's position, then, is that we do not intend anything substantially different to the categorical formulation when we employ the hypothetical form to express mathematical judgements.

Neverthless, on the face of it, Maimon's arguments might seem counterintuitive. Even if we accept his claim that hypothetical judgements have no place in mathematics, it would seem that we make hypothetical judgements all the time in everyday contexts. As discussed in Section 2, in the judgement 'if tomorrow is Tuesday then today is Monday', although there is no suggestion of a natural efficacy (tomorrow being Tuesday does not cause today to be Monday), there is nevertheless a relation analogous to the causal relation (what might be termed formal efficacy) in terms of my reasoning - my judgement that today is Monday is a product of my judging that tomorrow is Tuesday. It is important to bear in mind, however, that in order that a judgement form belong to pure general logic, it is not enough that it be useful in knowledge acquisition; the logical form must describe actual and essential relations of truth and falsity. That we employ the hypothetical judgement in reasoning, then, is not enough to establish its status as a genuine logical form; we must suppose that the employment of this form of judgement will allow us to aquire knowledge that it would not otherwise be possible to aquire. In other words, there must be truths (or falsities) that are accessible to us via the employment of the hypothetical form of judgement that would not be accessible to us by way of other judgement forms and, in particular, by way of the categorical judgement form. It would seem that our everyday use of the hypothetical does not function in this way; the judgement 'if tomorrow is Tuesday, then today is Monday' does not allow me to aquire knowledge that I could not aquire by way of the categorical judgement 'Tuesday is the day after Monday'. Or, put differently, there are no patterns of truth and falsity that are described by the former that could not be described by the latter. It would seem, then, that if we are to argue that the hypothetical judgement form belongs to pure, general logic, we must identify a subset of hypothetical judgements that do allow us to acquire knowledge, or arrive at truths and falisities, that we could not arrive at by way of the categorical judgement.

What, then, is this context in which hypothetical and categorical judgements might be said to be logically distinct? While in most cases, hypothetical and categorical judgements remain indistinguishable, Maimon acknowledges that there is one subset of hypothetical judgements that have the potential to describe patterns of truth and falsity that cannot be described by the categorical alone. '[W]e come across ... hypothetical judgements', Maimon argues, 'only in our judgements about natural events' (Essay, GW II: 184, emphasis added). The realm of natural events, then, is the 'somewhere else' from which hypothetical judgements have been adopted by mathematics per analogiam. By 'natural events', Maimon here makes reference to the Kantian account of nature as an objective realm that is governed by synthetic a priori
principles. His argument is therefore that it is only with respect to a nature of this kind (i.e. a nature governed by synthetic a priori principles) that the categorical/ hypothetical distinction becomes meaningful. Unfortunately, Maimon does not elaborate on this claim, but it is relatively easy to make the case as to why hypothetical judgements might be meaningful in this context. It is worth noting that Maimon attaches a notion of necessity to the hypothetical judgement that Kant does not ascribe to it. How, Maimon asks in relation to the hypothetical, 'does logic itself come by this peculiar form, that if one thing $a$ is posited, another thing $b$ must necessarily also be posited?' (2010, GW II: 71, emphasis added). This is, I suggest, not coincidental. Where hypothetical judgements are made in relation to a Kantian nature, there is an implication that the truths expressed in those judgements extend beyond the contingent truths of the particular world that we inhabit. When I make hypothetical natural scientific claims, I do not merely imply that there is a relationship between the antecedent and consequent in terms of my reasoning; I imply that there is a natural reason for or ground of the relationship. In contemporary terminology, we might say that an a priori natural science allows us to talk, in a meaningful way, about possible worlds; while elements of nature are contingent, the laws of nature are taken to be a priori, and thus to have a broader scope than the actual.

But here, Maimon's diagnosis of circularity begins to come into view. If it is only in relation to a Kantian natural science that the hypothetical/categorical distinction becomes logically significant, then the distinction itself rests upon the actuality of a nature that is governed by necessary relations. Yet it is this very notion of nature that is at stake, and which the logical status of the hypothetical judgement has been called upon to underpin:
[W]e come across ... hypothetical judgements only in our judgements about natural events; and if this too is denied by claiming that in fact we do not have any judgements of experience (expressing objective necessity), but only subjective judgements of experience (that have become necessary through habit), then the concept of a hypothetical judgement would be and would remain merely problematic. (Essay, GW II: 184)

Maimon's position, then, is that Kant's attempt to secure the objective validity of the concept of strong causality in the first Critique fails. The success of Kant's transcendental deduction of the concept of causality rests upon the success of his metaphysical deduction of the hypothetical judgement. At the same time, however, the success of the metaphysical deduction of the hypopthetical form ultimately rests on the success of the transcendental deduction of the categories, including that of causality. While Kant provides an account of how it is possible that strong causal judgements have objective validity, his transcendental deduction leaves open the possibility that both the hypothetical form and the concept of strong causality have their origins in contingent mental processes that we have 'abstracted [the hypothetical judgement] from its use with real objects, and transferred it into logic' (2010, GWII: 72). As Maimon puts it in the Wörterbuch:
[Y]our [Kant's] explanation is circular, in that you take these forms to be necessary conditions of experience, which you presuppose as fact, so that you can prove the reality of these forms. You must therefore show that the principle of association does not suffice to explain these forms. You must further show that these forms already have their reality in the understanding a priori. Or you must prove the fact, that we use them with objects of experience, if you want to overthrow the sceptical system. (GW III: 48-9)

## 5. Conclusion

In the introduction to this article, I drew attention to two key issues in relation to Maimon's quaestio facti scepticism: apparent inconsistencies in Maimon's use of the term 'quaestio facti', and concerns about the scope and force of Maimon's scepticism. Supplementing an account of Maimon's quaestio facti scepticism with an account of his scepticism about the status of the hypothetical judgement can, I suggest, help to address these two issues. Scepticism about the a priori status of natural science, and the associated necessity of natural scientific principles, poses problems for Kant on two fronts - both in terms of the 'fact of experience' (the reality of the natural scientific object) and in terms of the objective validity of the strong concept of causality. Maimon maintains, with Hume, that it is entirely consistent with Kant's arguments in the Transcendental Analytic to maintain that the causal judgement is a 'deception of the imagination' (Täuschung der Einbildungskraft), ${ }^{22}$ that arises as a result of the repeated conjunction of phenomena in experience, so long as we do not attribute necessity to the causal relation, and so long as we accept that natural scientific knowledge does not have (synthetic) a priori foundations. Similarly, Maimon holds that Kant's attempt to establish the validity of the categories on the basis of the logical forms fails because 'logic itself is unable to yield a trustworthy distinguishing mark of the reality of these forms (in so far as the fact, or the use of its forms, is itself doubtful)' (2010, GW II: 74). In particular, the form of the hypothetical judgement is shown to rest upon our having access to what might in the contemporary context be termed possible worlds, and this, in turn, rests upon the same assumptions about the a priori status of natural science that underpin the arguments of the analogies and which Hume reveals to be problematic.

It is worth noting that, while my focus here has been the category of causality, and the corresponding logical form of the hypothetical judgement, Maimon's scepticism is not ultimately limited to these. In the 'Short Overview of the Whole Work', Maimon extends the scope of his scepticism and expresses wider concerns about the correctness of the table of judgements. In particular, he raises concerns about the legitimacy of the apodictic-assertoric distinction. 'The table of the logical functions in judgements' he writes, 'and hence the table of categories as well, seems to be to be suspect' (2010, GW II: 183, emphasis added). These passages, like that in the main body of the text, suggest both a recognition of the role that the forms play in establishing the legitimacy of the categories and a scepticism about the legitimacy of those forms themselves. The most systematic analysis of the forms of judgement is found in the Kathegorien Aristoteles, where Maimon ultimately excludes the majority of the Kantian forms from general logic. The disjunctive judgement, he writes for example, 'is nothing other than several categorical judgements expressed in a single form' (GW,

VI: 177) and judgements of quantity are, logically speaking, 'completely superfluous' (VI: 171-2). Ultimately, Maimon ascribes genuine logical status only to the qualitative forms of the affirmative and negative judgements. ${ }^{23}$

Paradoxically, Maimon's concerns about Kant's cognitive dualism ultimately serve to provide him with a route out of some aspects of the sceptical doubt brought about by concerns regarding the questio facti. If the problems of discursivity are to be avoided, Maimon proposes that the duality of spontaneity and receptivity must be abandoned and the distinction between sensible and intelligible content dissolved, leading him to propose a 'dogmatic rationalism' in place of, or in addition to, his 'empirical scepticism'. Nevertheless, an understanding of Maimon's quaestio facti scepticism remains key, I suggest, to understanding the origins of the intertwining of logic and metaphysics that became central in the work of later German Idealists.

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## Notes

1 References to Maimon's works are followed by a reference to Valerio Verra's edition of the Gesammelte Werke (GW): Maimon (1965-76). References to Fichte's works are followed by a reference to the Gesamtausgabe (GA): Fichte (1962). Where I have used a translation, I have noted the year of publication of the translation prior to the GW/GA reference; all other translations are my own. I use the abbreviation Logik for Maimon's Versuch einer neuen Logik. References to Kant's Critique of Pure Reason are followed by the customary A/B notation. I use the Kemp Smith translation of that work (Kant 2007). References to other works by Kant are followed by the volume and page number of the Akademie edition of Kant's writings (Kant 1900-). I use the abbreviation 'JL' to refer to the Jäsche Logic, which is to be found in volume 9 of the Akademie edition. I use the Young translation of this work (Kant 2009).
2 '[W]hoever does not understand Hume, Aenesidemus [Schulze] where he is correct, and Maimon, and [whoever does not] engage with the points they raise, is still not ready for the Wissenschaftslehre: it answers questions that he has not yet asked.'
3 It is worth noting here, as Thielke does (2008:595n) that Maimon's characterisation of this line of scepticism as a form of quaestio facti is difficult to reconcile with Kant's use of that term.
4 See, for example, Thielke (2008) and Freudenthal (2003).
5 See, for example, Allison (2015) and Henrich (1989).
6 See, for example, Forster (2008).
7 Conversely, a weak conception of causality does not entail notions of necessity nor involve a one-sided relation of efficacy. On a weak conception of causality, then there is no suggestion that the state of affairs which follows is determined by the state of affairs which precedes, but instead only that both are to be found together.
8 See, for example, A94/B127: '[S]ince he [Hume] could not explain how it can be possible that the understanding must think concepts, which are not in themselves connected in the understanding, as being necessarily connected in the object, and since it never occurred to him that the understanding might itself, perhaps, through these concepts, be the author of the experience in which its objects are found, he was constrained to derive them from experience, namely, from a subjective necessity (that is, from custom), which arises from repeated association in experience, and which comes mistakenly to be regarded as objective.'
9 In the A-edition: ‘[A]ll appearances are, as regards their existence, subject a priori to rules determining their relation to one another in one time' (A177, emphasis added. In the B-edition: '[E]xperience is possible only through the representation of a necessary connection of perceptions' (B218).
10 See B104-5: 'The same function which gives unity to the various representations in a judgment also gives unity to the mere synthesis of various representations in an intuition; and this unity, in its most general expression, we entitle the pure concept of the understanding. The same understanding, through
the same operations by which in concepts, by means of analytical unity, it produced the logical form of judgment, also introduces a transcendental content into its representations, by means of the synthetic unity of the manifold of intuition in general.' And A85/B76: the forms of judgement are 'the absolutely necessary rules of thought without which there can be no employment whatsoever of the understanding'.
11 See Thielke (2001) for a helpful and detailed account of this line of argument.
12 For an account of why Maimon's criticisms of cognitive dualism might not pose serious problems for Kant, see Franks (2003).
13 '[T]he question is not about contingent but about necessary rules; not how we do think, but how we ought to think... In logic we do not want to know how the understanding is and does think and how it has previously proceeded in thought, but rather how it ought to proceed in thought. Logic is to teach us the correct use of the understanding, i.e., that in which it agrees with itself.' (JL, 9: 14)
14 On this point, it is worth clarifying what is meant by 'psychological'. There is a sense in which we might think that a form's having what Kant and Maimon call a 'psychological' origin is not incompatible with its also being an essential component of the rational framework. There might be, for example, some prerational process by which a particular form arises, even though that form turns out to be an essential component of the rational framework. And we might argue that this prerational process can in some sense be characterisd as 'psychological', or the resulting form as having 'psychological origins'. It is important to note, however, that when Kant and Maimon talk about psychology, or psychological origins, they have in mind something much narrower. The claim is not merely that these processes are extrarational; the claim is that they are dependent on an already constituted rational subject-object of enquiry relation. Psychology, then, describes the relation of an already constituted rational subject with the world, and the laws of psychology - the laws which govern how this interaction proceeds - cannot therefore themselves be essential to the constitution of that relationship itself.
15 There have been several helpful analyses of the debate between Kant and Wolff concerning the categorical/hypothetical distinction; see, in particular, Longuenesse (1998).
16 'In the proposition, the warm stone makes warm, the condition is that the stone is warm: the statement, however, that it makes warm. As such, one can also express it as follows: if the stone is warm; then it makes warm.' (Wolff 1712: 72).
17 See JL, 9: 105-6, n. 2
18 'The matter of hypothetical judgments consists of two judgments that are connected with one another as ground and consequence. One of these judgments, which contains the grounds, is the antecedent . the other, which is related to it as consequence, is the consequent $\ldots$ and the representation of this kind of connection of two judgments to one another for the unity of consciousness is called consequentia, which constitutes the form of hypothetical judgments' (JL, 9: 105).
19 See, for example, Kritische Untersuchungen über den menschlichen Geist oder das höhere Erkenntniss und Willensvermögen, GW VII: 139-40.
20 As such, Maimon can be said to be concerned with yet another Kantian quaestio facti: the so-called metaphysical deduction of the categories. This conception of the quaestio facti in fact better coincides with the conception offered in Kantian scholarship, where it is usually taken to have been answered in the Metaphysical Deduction; see, for example, Allison (2015).
21 See also Logik (GW V: 223): 'In fact, we have no hypothetical judgements that are really distinct from the categorical judgements. The judgement, for example, if a triangle is right-angled, so is the square of the side opposite the right angle equal to the sum of the other sides, has merely the form of a hypothetical judgement, its meaning, however, is categorical, and can also be expressed as follows: the square of the side opposite the right angle in a right-angled triangle is ... and so on.'
22 See, for example, Logik (GW V: 250).
23 See also Kategorien (GW VI: 158): ‘[0]nly the division of judgements according to their quality is a fundamental division.' Even in this case, Maimon ultimately holds that general logic derives from transcendental logic. For an assessment of Kant's table of categories with respect to more recent developments in logic, see Strawson (1966).

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