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Kant on the Necessity of Causal Relations

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Abstract: There are two traditional ways to read Kant's claim that every event necessarily has a cause: the weaker *every-event some-cause* (WCP) and the stronger *same-cause same-effect* (SCP) causal principles. The debate on whether and where he subscribes to the SCP has focused on the Analogies in the *Critique of Pure Reason* (Guyer, Allison, and Watkins) and on the *Metaphysical Foundations of Natural Science* (Friedman). By analysing the arguments and conclusions of both the Analogies and the Postulates, as well as the two Latin principles *non datur casus* and *non datur fatum* that summarise their results, I will argue that the SCP is actually demonstrated in the Postulates section of the *First Critique*.

Keywords: analogies of experience, postulates of empirical thinking, casus, fatum

1 Introduction

Causality and necessity have traditionally been tightly intertwined, and Kant makes no exception. He frequently connects causality with necessity and holds that "the very concept of a cause […] obviously contains the concept of a necessity of connection with an effect".[1] Yet causality and necessity can be connected in many ways. There is, first, no logical contradiction in merely contingent causality: something could produce varying effects without any regularity and still qualify as a cause in the sense of necessarily bringing *something* about. Kant's claim above does not deny such contingency; it states a mere analytic truth about the *meaning of cause*: that *causes* necessarily produce *effects*. This analytic proposition can be contrasted with the synthetic one that every *event* necessarily has a cause.[2] This in turn can be read in two ways: that every event necessarily has just *some* cause or that the *same* causes necessarily bring about the same effects

1 "[…] selbst der Begriff einer Ursache [enthält] offenbar den Begriff einer Nothwendigkeit der Verknüpfung mit einer Wirkung […]" (KrV, B 5). Citations from Kant's works that have been translated into English are taken from the Cambridge Edition of the Works of Immanuel Kant (Cambridge, 1995 ff.). Other translations are mine.
2 Cf. KrV, A 6/B 10, A 9/B 13.

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(and, *ceteris paribus*, the same events). Ever since Lewis White Beck's 1978 essay "A Prussian Hume and a Scottish Kant", the two synthetic alternatives have been known as the *every-event some-cause* and the *same-cause same-effect* principles – or the *weak causal principle* (WCP) and the *strong causal principle* (SCP).[3]

There are several competing interpretations of whether and where Kant subscribes to the weak and strong causal principles. Kant scholars are especially divided on how to interpret the Analogies of Experience of the *Critique of Pure Reason*. According to Henry Allison, the Analogies seek to "establish the [weaker] every-event-some-cause principle".[4] Paul Guyer, by contrast, takes the Analogies to explicitly argue for the necessity of *particular causal laws* and hence for the strong causal principle.[5] Michael Friedman, in turn, argues that although in the *Critique* Kant "does very little to explain"[6] how the SCP is grounded, Kant establishes it in the *Metaphysical Foundations of Natural Science* by subsuming particular causal laws under the universal causal principle (the WCP).[7] Finally, Eric Watkins argues that although Kant does not explicitly prove the SCP in the Analogies, he is committed to it and grounds it there implicitly.[8]

Although these interpretations might seem to exhaust the logical space of alternatives, I believe they underestimate or even overlook the importance of the Postulates of Empirical Thinking in General.[9] In this section, which immediately

3 Cf. Allison, Henry E.: *Kant's Transcendental Idealism – an Interpretation and Defense* [KTI]. Revised and enlarged edition. New Haven/London 2004, 246, 256, 272; and Watkins, Eric: *Kant's Metaphysics of Causality* [KMC]. Oxford 2005, 203, 215 f, 286.

4 KTI, 247. Cf. Strawson, Peter F.: *The Bounds of Sense*. London 1966; Buchdahl, Gerd: *Metaphysics and the Philosophy of Science*. Oxford 1969; and Beck, Lewis W.: "A Prussian Hume and a Scottish Kant". In: *Essays on Kant and Hume*. Edited by L. W. Beck. New Haven 1978.

5 Guyer, Paul: *Kant and the Claims of Knowledge*. Cambridge 1987, 252.

6 Friedman, Michael: "Causal Laws and the Foundations of Natural Science" ["Causal Laws"]. In: *The Cambridge Companion to Kant*. Edited by Paul Guyer. Cambridge 1992, 161–199, 176.

7 "Causal Laws", 185–187.

8 KMC, 287–297. For further discussion of these views, see KTI, 256–258, and KMC, 203 f, 287n63.

9 The existing literature on Kant's theory of modality provides little relevant discussion of its relation to causality. Neither Allison nor Watkins refer to the Postulates (except in passing). Guyer belongs to the long ranks of interpreters who belittle the Postulates. (Guyer, Paul: *Kant and the Claims of Knowledge*. Cambridge 1987, 275; cf. Strawson, Peter F.: *The Bounds of Sense*. London 1966, 31; Adickes, Erich: *Immanuel Kants* Kritik der reinen Vernunft. Mit einer Einleitung und Anmerkungen herausgegeben von Erich Adickes. Berlin 1889, 233–234n; Kemp Smith, Norman: *A Commentary to Kant's "Critique of Pure Reason"*. New York 1962, 400.) Although Friedman discusses the Postulates, he does not recognize its decisive role in Kant's overall argument. While Friedman grants that Kant "explicitly emphasizes" the linking of "causal uniformity with necessity" in the Postulates ("Causal Laws", 171; see also op. cit., 180), he does not consider the possibility that Kant is not merely *emphasising* but *justifying* it in the Postulates. Despite later assigning a greater role to the Postulates, Friedman keeps to this view. (Friedman, Michael:

follows the Analogies, Kant presents (*inter alia*) his theory of real or metaphysical necessity and explicates its relationship to causality. In this paper, I will argue that while Kant meant to justify the WCP in the Analogies, he intended the postulate of necessity to justify the SCP. Thus although, *contra* Guyer, the SCP is not proven in the Analogies, Kant does, *contra* Allison, nonetheless subscribe to it; *contra* Friedman, however, he does not postpone its (explicit) justification to the *Foundations* either. My claim also stands in contrast to Watkins's attempt to seek support for the SCP in what he identifies as implicit theses of the Analogies, as well as in Kant's pre-critical doctrines.[10]

I will argue for my thesis in two steps. First I will show that Kant explicitly presents the WCP as the principle of the Second Analogy (3.1) and that his argument also supports only the weaker principle (3.2). I will then show that the role Kant assigns to the postulate of necessity requires it to justify the SCP (4.1 & 4.2) and that he also explicitly formulates its result as the SCP (4.3). Note that I only aim to show here where Kant himself sought to ground the SCP; a detailed analysis and assessment of his complex justification would require another article.[11]

2 The Weak and the Strong Causal Principles

One way to clarify the modal difference between the weak and the strong causal principles is via *de re* and *de dicto* modality. Consider Kant's modally ambiguous claim that "if [the cause] is posited, [the effect] would necessarily have to follow".[12] On its *de dicto* reading, the necessity concerns the whole judgement: "necessarily, if the cause is posited, the effect follows". On the *de re* reading, the necessity pertains to the causal relation itself, making it necessary: "if the cause

"The *Prolegomena* and Natural Science". In: *Kants* Prolegomena. *Ein kooperativer Kommentar*. Hrsg. Von Holger Lyre und Oliver Schliemann. Frankfurt am Main 2012, 299–326.) I know of only one article that focuses on Kant's theory of necessity in connection with causality: Leppäkoski, Markku: "The Transcendental Must: Kant's Various Notions of Necessity". In: *Kant und die Berliner Aufklärung, Akten des IX. Internationalen Kant-Kongresses*. Hrsg. von Volker Gerhardt, Rolf-Peter Horstmann und Ralph Schumacher. Band II. Berlin 2001, 783–790.

10 KMC, 204, 216, 286–288.

11 I have discussed this in Kannisto, Toni: *From Thinking to Being*. PhD thesis. University of Oslo 2012. For an analysis of postulation and modality, see Motta, Giuseppe: *Die Postulate des empirischen Denkens überhaupt*. Kritik der reinen Vernunft, *A 218–235/B 265–287*. Berlin 2012.

12 "[…] wenn [die Ursache] gesetzt ist, [die Folge] nothwendig folgen müsse […]" (KrV, A 201/B 246).

is posited, the effect follows necessarily".[13] (*Ceteris paribus* is presupposed here and throughout.)

Although the *de dicto*/*de re* distinction clarifies the formal status of the modal operator in the WCP and the SCP, it does not bring out the specifics of the two principles and by no means constitutes a full analysis. One must also ask what kind of entities *x* and *y* are – events, objects, or perhaps substances. One might suggest that they are events so that one event causes another – especially since the word "event" appears in the standard formulation of the WCP – but I believe Watkins is correct in criticising event-based models of causality for being simplistic.[14] For Kant, a deeper structure of causal powers of substances underlies events: things (substances) have powers that bring about change (an event) by exerting force on other things. An event arises when a thing changes its state from *A* at t_1 to *B* at t_2, and so the structure of an event already contains a causal influence that brings about the change in it. For simplicity we can, however, ignore these specifics for now and continue using the event formulation of the WCP.

A further question is whether *x* and *y* are *types* or *tokens*. For reasons given later, they must be tokens for the WCP and types for the SCP (see section 3). With types the WCP would be too strong and with tokens the SCP would be too weak. Thus the SCP reads: *the same types of causes produce the same types of effects* – or *similar causes produce similar effects*.[15]

There is a common confusion about the SCP that complicates matters. For example, according to Allison:

> [W]e can know *a priori* only that an appearance must stand in a necessary relation to some other appearance, but not that we will be able (even in principle) to determine what that other appearance is and the law connecting them.[16]

Although this is correct, the problem is that Allison takes the latter to amount to the SCP, whereas it is in fact a much stronger principle. Let me dub the principle that we can *know particular causal laws a priori* the *extreme causal principle* (XCP). The XCP concerns the *epistemological* question of whether and how we can

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13 By denoting "x causes y" as *xCy*, the two readings can be formulated as follows. On the *de dicto* reading, the scope of the necessity operator includes the quantifiers: $\Box\forall y\exists x(xCy)$ – "Necessarily, for all *y*, there is an *x* such that *x* causes *y*." In the *de re* reading the necessity operator belongs to the scope of the quantifiers: $\forall y\exists x(\Box(xCy))$ – "For all *y*, there is an *x* such that *x* necessarily causes *y*."

14 KMC, 232–242.

15 Cf. Lovejoy, Arthur O.: "On Kant's Reply to Hume" ["Kant's Reply to Hume"]. In: *Archiv für Geschichte der Philosophie* 19, 1906, 380–407, 399–402; KTI, 258; KMC, 215.

16 KTI, 259.

discover the laws of nature (*a priori* or empirically *a posteriori*), whereas the SCP is the *ontological* tenet that *there are* laws of nature, i.e. that the same cause (whatever it may be) always (*ceteris paribus*) brings about the same effect (whatever it may be). As Kant himself points out, knowing *that* causal relations are invariable laws is different from being able to determine *what* these laws are: “Everything in nature [...] takes place *according to rules*, although we are not always acquainted with these rules.”[17]

Thus Allison conflates the SCP and the XCP, and since in his view Kant does not subscribe to the XCP (Allison’s SCP), he erroneously infers that Kant must settle with the WCP.[18] When presenting his opponent’s view, Friedman makes the same conflation:

> The Transcendental Analytic does not, however, establish that particular laws are themselves necessary. Indeed, as far as particular causal laws are concerned, the Transcendental Analytic is in basic agreement with Hume: They are established by induction and induction alone.[19]

The view that “particular causal laws are [...] necessary” is different from the view that they are “established by induction”. The latter, epistemological point is no ground for denying the former, ontological one. And it is the former that the SCP states, not the latter. Friedman does not make this conflation only in characterising his opponent’s view: his reason for seeking proof of the SCP in the *Foundations* is his belief that a particular empirical law *is* (ontologically) necessary only if it has been *derived* (epistemically) using the *a priori* “principles of the understanding”,[20] which is what Kant does, e.g., for the Newtonian law of gravitation in the *Foundations*.[21] But since determination of particular laws (the XCP) is not required for the claim that the laws (whatever they may be) are necessary (the

17 “Alles in der Natur [...] geschieht *nach Regeln*, ob wir gleich diese Regeln nicht immer kennen.” (Log, AA 09: 11.)

18 Allison does distinguish between two strong readings of the Second Analogy: Guyer’s “epistemological” and a “more orthodox version” (KTI, 256 f). The former is the XCP, whereas the latter is the SCP: “every event falls under *some* empirical causal law, the precise nature of which must be learned from experience” (KTI, 257 f). Yet Allison conflates the “more orthodox version” with the XCP when he argues against it that “it does not determine what the cause is or guarantee that we shall be able to discover it or the relevant causal law” (KTI, 258). This argument touches only the XCP; the SCP claims that we know *a priori* that there *are* necessary causal laws, not that we can *discover* them *a priori*.

19 “Causal Laws”, 164.

20 “Causal Laws”, 172.

21 “Causal Laws”, 173–175, 180, 185 f, 190 f.

SCP), Kant can well justify the latter in the *Critique* and leave the former to the *Foundations*.

Watkins perceives this common error:

> Accordingly, [Kant's] framework entails only that whatever grounds and causal laws have held in the past will not change in the future [the SCP]. Thus, even if Kant were to establish the metaphysical necessity of causal laws for the determination of the changes that occur in the world, the epistemological question of ascertaining what grounds exist in the world has not been addressed at all.[22]

Watkins is refreshingly candid about the trouble he faces in trying to attribute the SCP to the Analogies, however. Not only does he grant that "it is tempting to rest content with the weaker reading",[23] he also admits – after nonetheless defending the stronger reading[24] – that "[e]ven if this interpretation does accurately represent Kant's intentions, it is unclear that Kant's arguments can carry the weight of the strong reading of the Second Analogy at a metaphysical level".[25] Watkins has to rely on two additional principles taken from Kant's pre-critical works and on its seeming "more attractive to assert that a different ground is active in bringing about different effects"[26] – rather than holding that the very causality of the ground has changed, as could be the case with the WCP. If Kant explicitly defends the SCP in the Postulates, such speculative measures are, however, unnecessary.

3 The Second Analogy and the Weak Causal Principle

It is fairly uncontroversial that Kant's *explicit* arguments in the Second Analogy support only the weak causal principle.[27] Whether Kant nevertheless *sought* to prove the SCP there is another matter, however. Indeed, Arthur Lovejoy's famous charge – echoed by Peter F. Strawson[28] – that the Second Analogy constitutes "one of the most spectacular examples of the *non-sequitur* which are to be found in the history of philosophy"[29] is motivated by his (false) belief that Kant sought

22 KMC, 290.
23 KMC, 286.
24 KMC, 288.
25 KMC, 290 n.
26 KMC, 288.
27 KMC, 204; "Causal Laws", 161–170; "Kant's Reply to Hume", 399.
28 Strawson, Peter F.: *The Bounds of Sense*. London 1966, 137.
29 "Kant's Reply to Hume", 402.

to prove the "law of universal and uniform causation" (the SCP) yet succeeded in proving the mere "*irreversibility* of the sequence of my perceptions in a *single* instance"[30] (the WCP).[31] Lovejoy's charge can be rebutted by showing that the explicit principle of the second analogy is the WCP and that Kant does not intend his second analogy to justify the SCP. The following reading of the argument in the Second Analogy mostly draws on Watkins (2005), as I believe he has presented it correctly.

3.1 The Principle of the Second Analogy

Kant offers two different – but likely equivalent[32] – formulations of the principle of the second analogy, one in the A- and the other in the B-edition of the *Critique*:

> **(SAA)** Everything that happens (begins to be) presupposes a something which it follows in accordance with a rule.[33]
>
> **(SAB)** All alterations occur in accordance with the law of the connection of cause and effect.[34]

The SAA in particular suggests the WCP: every event (alteration) presupposes some cause that brings it about. Kant's claim that the second analogy demonstrates the *principle of sufficient reason* for all appearances also speaks for the weaker reading.[35] According to this principle, everything (here: every event) must have a reason or cause that is *sufficient* for bringing it about – it does not, as such, decide whether this ground has a *necessary* (rather than merely contingent) connection to the event.[36]

30 "Kant's Reply to Hume", 399.

31 Lovejoy – correctly – points out: "But all this has no relation to the law of universal and uniform causation, for the manifest reason that a proof of the *irreversibility* of the sequence of my perceptions in *a single* instance of a phenomenon, is not equivalent to a proof of the necessary *uniformity* of the sequence of my perceptions in *repeated instances* of a given *kind* of phenomenon." (Ibid.) But he errs when he continues: "Yet it is the latter alone that Hume denied and that Kant desires to establish [in the Second Analogy]." (Ibid.)

32 See KTI, 247.

33 "Alles, was geschieht (anhebt zu sein), setzt etwas voraus, worauf es nach einer Regel folgt." (KrV, A 189.)

34 "Alle Veränderungen geschehen nach dem Gesetze der Verknüpfung der Ursache und Wirkung." (KrV, B 232.)

35 KrV, A 200 f/B 246, A 217/B 264 f.

36 For Kant, the principle of sufficient reason has both a logical and a real use. In the *Jäsche Logik* Kant explicitly connects the principle of sufficient reason to logical *actuality*, not to *neces-*

The words “rule” and “law” in Kant’s formulations could seem to indicate the stronger reading, however: that everything has not merely *a* ground but a rule-like ground. Yet, as has been noted especially by Watkins, this would be hasty, for according to Kant rules are “either *necessary* or *contingent*”,[37] where necessary rules are called *laws*.[38] If, as seems plausible, the A- and B-editions formulate the same theses, then the “law of the connection of cause and effect” in the SAB is the same as the *whole* A-edition formulation of SAA. The thesis would then be: (SAB) it is a law that (SAA) “[e]verything that happens (begins to be) presupposes a something which it follows in accordance with a rule”. Accordingly, the “law of the connection of cause and effect” should be read as *de dicto*: it is necessary (a law) that every event (everything that happens) presupposes *some* cause (a something which it follows in accordance with a rule).

Indeed, Kant consistently refers to the causal principle of the Second Analogy as a *law*.[39] That is, the principle of causality – that there *is* causality grounding all alteration – is necessary.[40] Yet in the Analogies, Kant consistently characterizes the causal connection itself as a *rule*. In the objective (causal) connection “the apprehension of one thing (that which happens) follows that of the other (which precedes) *in accordance with a rule*”.[41] That is, unlike the principle that there be causality to begin with, the causal connection itself is not yet established as a

sity (Log, AA 09: 53; see also V-Met-K2/Heinze, AA 28: 721). Since Kant is careful to maintain parity between logical and real uses of principles, he likely did not mean the real principle of sufficient reason to involve necessity either.

37 “[...] entweder *nothwendig* oder *zufällig* [...]” (Log, AA 09: 12).

38 E.g. KrV, A 126, A 216/B 263; KU, AA 05: 184; KMC, 203, 215 f.

39 KrV, B 234, A 199/B 244, A 202/B 248, A 207/B 252.

40 There is one digressing passage, yet it is the exception that proves the rule. For when Kant rejects “allen Bemerkungen, die man jederzeit [...] gemacht hat” about how the causal principle is grounded (namely on induction), he says that according to this common view we are “geleitet worden”, “eine Regel zu entdecken [...], der gemäß gewisse Begebenheiten auf gewisse Erscheinungen jederzeit folgen und dadurch zuerst veranlaßt worden, uns den Begriff von Ursache zu machen” (KrV, A 195/B 240 f). Here the causal principle is characterized as a rule rather than a law. Yet in the very next sentence Kant rejects this common view by pointing out that “die Regel, die er verschafft, daß alles, was geschieht, eine Ursache habe [WCP], würde eben so zufällig sein, als die Erfahrung selbst: seine Allgemeinheit und Nothwendigkeit wären alsdann nur angedichtet [...]” (KrV, A 196/B 241). That is, the sole characterisation of the causal principle as a *mere* rule occurs when it is rejected as *contingent*: experience cannot establish it as a *necessary* rule – as a *law*. Thus the passage supports rather than undermines my view that Kant deliberately and consistently distinguishes *rules* from *laws*. It also shows that his concern in the Second Analogy is whether the principle “everything that happens has a cause” is (*de dicto*) contingent or necessary, not whether we should ascribe (*de re*) necessity to the causal relations themselves.

41 “[...] die Apprehension des einen (was geschieht) auf die des andern (das vorhergeht) *nach einer Regel folgt* [...]” (KrV, A 193/B 238).

necessary rule (law) but as a rule that might turn out to be contingent. Since Kant calls the causal connection a "rule" no fewer than 21 times in the Second Analogy, and does not once call it a "law", the choice of term is unlikely to be accidental.

Thus, that Kant uses the words "rule" and "law" does not yet imply the SCP. *What* Kant takes the rules and laws to be is crucial. As I will show in section 4.1, Kant's terminology is also consistent in the Postulates: he distinguishes between rules and laws deliberately so that the Analogies would ground the WCP while the Postulates would ground the SCP.[42] It is furthermore right after the three analogies that Kant first makes the distinction between rules and laws explicit and defines the latter as necessary rules: "By nature (in the empirical sense) we understand the combination of appearances as regards their existence, in accordance with necessary rules, i.e., in accordance with laws."[43] It seems plausible, then, that after having grounded the WCP in the Analogies, Kant clarifies the status of this principle before continuing to the Postulates and to the remaining task of establishing that the causal rules are necessary and not merely contingent.

3.2 The Argument in the Second Analogy

In a nutshell, in the Second Analogy Kant argues that the temporally determined subjective order of our representations necessarily presupposes an objective (and hence causal) order of events.[44] Kant notes that if I perceive a house, I might perceive first the rooftop and then the ground, but the opposite order is equally possible. By contrast, if I perceive a ship driven downstream, I *must* first perceive it upstream and then downstream, and this order cannot be reversed.[45] The difference is that, unlike the house, the ship's motion constitutes an *event* or a *happening* (*Geschehen*[46]). In the Second Analogy Kant seeks to explain the *irreversibility* of the order of perception in events and its *reversibility* in non-event occurrences (*Begebenheiten*).

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42 Kant appears to use "rules" and "laws" similarly throughout his philosophy (e.g. KrV, A 91/B 124, A 113, A 126; Prol, AA 04: 312; KpV, AA 05: 20 f, 31, 67; KU, AA 05: 182–184; Log, AA 09: 12; Refl, AA 18: 176). Be that as it may, here it suffices to show that he is consistent at least in the Analogies and Postulates. Although Kant often speaks of rules when he could speak of laws – which is fine since laws are (necessary) rules – he does not speak of laws when he should speak only of rules.

43 "Unter Natur (im empirischen Verstande) verstehen wir den Zusammenhang der Erscheinungen ihrem Dasein nach nach nothwendigen Regeln, d. i. nach Gesetzen." (KrV, A 216/B 263.)

44 See KMC, 203–217.

45 KrV, A 192/B 237 f.

46 See KTI, 255 f.

Kant observes first that the *subjective* order of representations is reversible.[47] In my thinking and imagination (including memory), I can represent my last day of school and then my first, or *vice versa*. Drawing on complex reasoning that I will not explicate here,[48] Kant concludes that therefore no subjective ground can account for the *irreversibility* of the sequence of perception in *events*. Hence the ground must be objective and causal.

It is important to understand this irreversibility correctly: Kant does not claim that the *de facto* order of perception can be inverted. If I first happen to look at the rooftop and then at the ground, I cannot as it were go back in time to reverse this order. Kant's point about the difference between reversibility and irreversibility would be moot since I cannot change the perceptual sequence in *any* case. Rather, the reversibility is *counterfactual*: whereas I *could have* perceived the rooftop and the ground in the opposite order, I *could not have* first seen the ship downstream and then upstream – insofar as it really does move downstream:

> I see a ship driven downstream. My perception of its position downstream follows the perception of its position upstream, and it is impossible that in the apprehension of this appearance the ship should first be perceived downstream and afterwards upstream. […] In the previous example of a house my perception could have begun at its rooftop and ended at the ground, but could also have begun below and ended above […].[49]

Kant's argument – which will not be pursued here – goes on to show that the irreversibility of perceptual order in events requires an objective ground that determines the *de facto* order of things. It is because there is an objective sequence that I cannot help but perceive events in one determinate order rather than the other. It is in terms of this counterfactual impossibility of a reversed order of perception in events that the necessity in the Second Analogy is to be understood.

Kant calls this the "law of causality" or the "law of the connection of cause and effect" (see note 39). It states that, necessarily, in every event there is something that is preceded and determined (according to a rule) by something else, i.e. that every event involves a cause. Otherwise there could not *even subjectively* be any temporally determinate order of perception, and since in the perception

47 KrV, A 192/B 237 f, A 201/B 246.

48 See KrV, A 192–195/B 237–240, A 197–200/B 242–245, A 201 f/B 246 f.

49 "Ich sehe z. B. ein Schiff den Strom hinab treiben. Meine Wahrnehmung seiner Stelle unterhalb folgt auf die Wahrnehmung der Stelle desselben oberhalb dem Laufe des Flusses, und es ist unmöglich, daß in der Apprehension dieser Erscheinung das Schiff zuerst unterhalb, nachher aber oberhalb des Stromes wahrgenommen werden sollte. […] In dem vorigen Beispiele von einem Hause konnten meine Wahrnehmungen in der Apprehension von der Spitze desselben anfangen und beim Boden endigen, aber auch von unten anfangen und oben endigen […]." (KrV, A 192/B 237 f.)

of events there is such an order, the law of causality is necessary. But this irreversible temporal sequence requires only that all changes of state (events) are determined by *some* cause or other, i.e. that there are *some* causal relations (the WCP), not that they remain *constant through time* (the SCP).

None of Kant's numerous references to necessity in the argument have to be interpreted in the stronger terms of the SCP. Kant's point is simply that *if* the ship *really is* driven downstream – for which it has objective causal grounds – then if it is to be perceived at all, it must be perceived first upstream and then downstream. Since his argument thus repeatedly and explicitly requires just the necessity of perceiving one thing before the other, it offers no grounds for a *de re* interpretation of such statements as: "objective significance is conferred to our representations only insofar as a certain order in their temporal relation is necessary".[50] Kant does not need to say anything about the constancy of the causal connection between appearances. Thus, his arguments justify only the WCP, and his conclusion neither requires nor invokes the SCP.

3.3 Some Problematic Passages

One could object that I have ignored passages that seem to endorse the SCP in the Analogies. Indeed, quite contrary to my view, Watkins notes:

> [T]here is a textual motivation for the stronger reading that does not sit well with the weaker reading. For in the Second Analogy Kant repeatedly uses terms such as "universality," "always," and "invariably," [*sic*][51] all of which strongly suggest that Kant has in mind causal laws that would hold over time. Moreover, Kant seems to slide back and forth between the weak and strong meanings of the principle without explicitly acknowledging the considerable philosophical difference between them.[52]

Although I do not think Kant slides back and forth between the WCP and the SCP, at times his words do seem to suggest the stronger reading. Yet the mere occurrence of "always", e.g., is no more problematic than that of "necessary". The context and precise formulation of these terms is what matters. That said, I have found the following three passages the most problematic for my reading:

50 "[…] nur dadurch, daß eine gewisse Ordnung in dem Zeitverhältnisse unserer Vorstellungen nothwendig ist, [wird] ihnen objective Bedeutung ertheilt […]" (KrV, A 197/B 243).

51 Kant does not use the word "invariably" in the Analogies. Most likely Watkins means the essentially different "inevitably" (*unausbleiblich*) (cf. P1 below). Kemp Smith's unfortunate translation of *unausbleiblich* as "invariably" might have contributed to this error.

52 KMC, 287.

(P1) if the state that precedes is posited, then this determinate occurrence inevitably and necessarily follows[53]

(P2) there is therein an order of the successive synthesis that determines an object, in accordance with which something would necessarily have to precede and, if this is posited, the other would necessarily have to follow[54]

(P3) if I were to posit that which precedes and the occurrence did not follow it necessarily, then I would have to hold it to be only a subjective play of my imaginings[55]

The distinction – common in the literature[56] – between *types* and *tokens* is crucial for dispelling the worry that these passages support the stronger reading. Recall the context: I perceive an event in a determinate temporal order, i.e., the state or occurrence a_1 appears before a_2 and not *vice versa*. According to the Second Analogy this order is grounded in an objective causal connection such that some cause *c* grounds the alteration of a_1 into a_2 (constituting an event), and hence a_1 *must* occur before a_2. Here the causal determination occurs between *token* states, not types – it is not as if the type "ship is upstream" must precede the type "ship is downstream", so that ships can never sail upstream. Rather, *in this particular example* the order of representation is what it is because the token ship *is* moving downstream.

In this context it makes sense to say in P1 that if a_1 (token occurrence) "is posited, then [a_2] inevitably and necessarily follows". This is why Kant specifically speaks of "this determinate occurrence" – a token, not a type. Similarly for P2: In the sequence of perception $P(a_1, t_1) > P(a_2, t_2)$ "*something* would necessarily have to precede", i.e., there *must be* some token occurrence a_1 that precedes. If this token a_1 is posited, then the token effect a_2 must also be posited. As to P3, if there really were a ship upstream ("if I were to posit that which precedes") and the ship did not occur downstream later ("if [...] the occurrence did not follow"), the token ship could not have been moving downstream after all, since if it were, it *would have had to* occur downstream later.

If in passages P1–P3 Kant is speaking of tokens, then they do not contest my claim that he seeks to prove only the WCP in the Second Analogy. This also

53 "[...] wenn der Zustand, der vorhergeht, gesetzt wird, diese bestimmte Begebenheit unausbleiblich und nothwendig folge [...]" (KrV, A 198/B 243 f).

54 "[...] es ist darin eine Ordnung der successiven Synthesis, die ein Object bestimmt, nach welcher etwas nothwendig vorausgehen, und wenn dieses gesetzt ist, das andre nothwendig folgen müsse [...]" (KrV, A 201/B 246).

55 " [...] wenn ich das Vorhergehende setze, und die Begebenheit folgte nicht darauf nothwendig, so würde ich sie nur für ein subjectives Spiel meiner Einbildungen halten müssen [...]" (KrV, A 201/B 247).

56 E.g. "Causal Laws", 163 f, 170; KTI, 258; KMC, 215; and "Kant's Reply to Hume", 399.

serves to deflect Lovejoy's charge that Kant sought to *derive* the causal uniformity of type-events from the irreversibility of token-events.[57] The SCP holds that the causal rule is an unchanging law so that whenever the same *type* of condition occurs, the same type of consequence must follow. The WCP dictates that if an event (alteration from a_1 to a_2) occurs, it is connected to its cause by some token rule. As Lovejoy points out, it is quite possible for the rule to change across time so that when the next token cause of the same type occurs, the token effect is of a different type.

4 The Postulate of Necessity

The postulate of necessity contains Kant's explication of the real and empirical use of the concept of necessity (in contrast to its logical use).[58] As per my thesis, this use is to provide a ground for the SCP that goes beyond the justification for the WCP already established in the Analogies. There are essentially three species of textual evidence for the claim that Kant himself intended the postulate of necessity to establish the SCP: how he presents the role or function of the postulate (4.1); the fact that the postulate is supposed to make *prediction* possible, which requires more than the mere WCP (4.2); and his explicit formulations of the principles he took the Analogies and the Postulates to establish (4.3).

4.1 Adding Necessity to Causality

According to Kant, the postulate of necessity, as a modal principle, "still adds to the causal determination the concept of necessity".[59] If one takes the Analogies to have already established the necessity of causal determination (SCP), Kant must come across as confused – Kemp Smith goes as far as to call the Postulates "perverse".[60] However, by asking (as we have, and as Kemp Smith does not) *what kind* of necessity the Analogies establish and what kind of necessity the third postulate adds to causal determination, one will find that the postulate is not

57 "Kant's Reply to Hume", 399–402.
58 On real and logical necessity, see Kannisto, Toni: "Modality and Metaphysics in Kant". In: *Kant und die Philosophie in weltbürgerlichen Ansicht. Akten des XI. Kant-Kongresses 2010*. Hrsg. von Stefano Bacin, Alfredo Ferrarin, Claudia La Rocca und Margit Ruffing. Berlin 2013, 633–646.
59 "[...] zu der Causalbestimmung noch den Begriff der Nothwendigkeit [...] hinzu thut [...]" (KrV, A 228/B 281, translation altered).
60 Kemp Smith, Norman: *A Commentary to Kant's "Critique of Pure Reason"*. New York 1962, 400.

just a symptom of Kant's architectonical perversion. By adding another sense of necessity (*de re*), the postulate strengthens the weak causal principle and so, I submit, for the first time grounds the strong causal principle.

Kant rejects *absolute* or *unconditional* real necessity and endorses only *hypothetical* or *conditional* necessity (see 4.3). According to him, "there is no existence that could be cognized as necessary under the condition of other given appearances except the existence of effects from given causes in accordance with the laws of causality".[61] Although this passage might seem to merely recap the Analogies, it contains an easily overlooked but significant development: the plural "laws of causality". In the Second Analogy Kant does not *once* mention *laws of causality* but solely employs the singular *law* of causality (the WCP, cf. 3.1). That the plural is no slip of the tongue is clear from the next sentence that repeats it: we can cognize the necessity of the states of substances "in accordance with empirical laws of causality".[62]

Kant does not once use the expression "empirical laws of causality" in the three analogies. He does, however, contrast *transcendental* and empirical laws in the concluding remark to the Analogies.[63] The transcendental laws are the transcendental principles of the understanding, including the analogies and postulates, through which the categories are applied to objects of experience.[64] The *law of causality* of the Second Analogy is one of these "transcendental laws of nature"[65] that are required for there to *be* nature and hence particular empirical laws to begin with.[66]

After having distinguished transcendental from empirical laws in order to clarify that the analogies are of the transcendental kind, Kant reverts back to *rules* when characterising the causal relation in both the second and third analogies.[67] Thus neither Kant's reference to "certain laws […], which first make nature possible",[68] nor his reference "transcendental laws of nature" contest my observation that Kant switches from causal *rules* to causal *laws* consistently and explicitly

61 "Da ist […] kein Dasein, was unter der Bedingung anderer gegebener Erscheinungen als nothwendig erkannt werden könnte, als das Dasein der Wirkungen aus gegebenen Ursachen nach Gesetzen der Causalität […]" (KrV, A 227/B 279).
62 "[…] nach empirischen Gesetzen der Causalität […]" (KrV, A 227/B 280).
63 KrV, A 216/B 263.
64 "Causal Laws", 166–175; KTI, 258; KMC, 203 f.
65 "transscendentalen Naturgesetzen" (KrV, A 216/B 263).
66 KrV, A 216/B 263, A 228/B 280; cf. "Causal Laws", 164–168.
67 KrV, A 217/B 264.
68 "[…] gewisse Gesetze […], welche allererst eine Natur möglich machen […]" (KrV, A 216/B 263).

between the Analogies and the Postulates.[69] Quite the contrary, the distinction between transcendental and empirical laws is made in the remark between the Analogies and the Postulates, and thereby seems to rather clarify the roles of these passages and to emphasise the otherwise subtle move from the (transcendental) *law* to (empirical) *laws* of causality.

That there are *causal laws* does not merely re-affirm the necessity *of* there being causal relations ("the law of causality") but asserts necessity *in* these relations, i.e., that the particular causal relations are (empirical) *laws* of nature. It is not just that alteration requires some cause (the WCP), but that there is necessity in this alteration, grounded on particular natural laws – such as the law of gravitation. This is, however, not yet to endorse the XCP – the principle that we can *discover* or *determine,* e.g., the law of gravitation *a priori*. Rather, it is to affirm that insofar as gravitation *is* a law of nature – and knowing whether it is requires further investigation – it is necessary and brings about its effect invariably.

Kant writes about the postulate of necessity: "Everything that happens is hypothetically necessary; that is a principle that subjects alteration in the world to a law, i.e., to a rule of necessary existence, without which not even nature itself would obtain".[70] Since the postulate subjects alteration to a *law* – again here equated with a *necessary* rule – it reinforces the principle of the second analogy (the WCP) that subjects alterations to *rules* that could be contingent. It thus seems that Kant made the distinction knowingly: he intends the postulate of necessity to literally justify *adding necessity to causal determination* – to justify treating causal relations as necessary.[71]

One might still object to the distinction between rules and laws. Rules are standardly considered unchangeable – although they may come in and out of effect, rules themselves do not change. Thus, e.g., the mathematical rule of doubling, expressed by the function $f: x \rightarrow 2x$, itself cannot change. Trebling does not change the rule of doubling but rather substitutes it with another rule $g: x$

69 Kant uses the plural "laws" here because he speaks about all three analogies, each of which exhibits a transcendental law. The Second Analogy thus establishes a transcendental law, not laws.
70 "Alles, was geschieht, ist hypothetisch nothwendig; das ist ein Grundsatz, welcher die Veränderung in der Welt einem Gesetze unterwirft, d. i. einer Regel des nothwendigen Daseins, ohne welche gar nicht einmal Natur stattfinden würde." (KrV, A 228/B 280, translation altered.)
71 The WCP states the *de dicto* necessity of the law of causality: $\Box\forall y\exists x(xCy)$. It is necessary that there are causal rules according to which every y is grounded on some x. The SCP *adds* a necessity operator to the causal determination itself (xCy) and so reinforces it into a causal *law*: $\forall y\exists x(\Box(xCy))$. This is not *de dicto* necessity *of* causality but *de re* necessity *in* causality.

$\rightarrow 3x$. This I grant. Yet the laws of nature are necessary precisely when such substitution is excluded. A rule can be replaced by another or be suspended for a period of time, but a law cannot – at least not in the sense of natural laws.[72] If L: $x \rightarrow f(x)$ is a law of nature, then *whenever* its condition x occurs, the consequent $f(x)$ does (*ceteris paribus*) too. This suffices to make the relevant distinction (reinforced in the next section): while the WCP just states that for any phenomenon P there exists a ground G that brings it about in accordance with a causal rule C, the SCP requires a law L so that whenever the ground G occurs, P does too – i.e., the connecting rule C cannot change across time (or possible worlds insofar as they observe our laws of nature). This Kant seeks to establish in the postulate of necessity by adding necessity to causality, i.e., by demanding that C is a *necessary* ($\Box xCy = L$) rather than a contingent (xCy) relation.[73]

4.2 The Strong Causal Principle and the Possibility of Prediction

According to Kant, the postulate of possibility fills an important role:

> Necessity therefore concerns only the relations of appearances in accordance with the dynamical law of causality, and the possibility grounded upon it of inferring *a priori* from some given existence (a cause) to another existence (the effect).[74]

There are two things of note here. First, as the necessity concerns *relations* of appearances, its scope is *de re* the causal relations (xCy) rather than *de dicto* the law of causality that was already established as the necessary principle of the second analogy. Secondly, according to Kant the postulate of necessity grounds the pos-

72 It is worth noting that in his schematism Kant advocates a tight bond between necessity and existence at all times (see KrV, A 145/B 184). Watkins, too, recognizes constancy across time as a characteristic of the necessity of laws (KMC, 287).

73 Whereas the WCP allows for type-identical grounds with type-different rules and hence type-different effects, the SCP dictates that type-identical grounds involve type-identical causal rules and hence bring about type-identical effects. More precisely, the WCP states that if at any time t_a the token p_1 of the type P_1 occurs, then there exists a ground-token g_1 of the G_1 and a rule-type (function) C_1 at t_b so that $t_b < t_a$ and $g_1C_1p_1$ (p_1 is produced by g_1 in accordance with rule C_1). The SCP further stipulates that if there exists a ground-token g_2 of type G_2 and a rule-type C_2 at t_c ($t_b < t_a < t_c$), and if $G_1 = G_2$, then $C_1 = C_2$, and thus there exists a token occurrence p_2 of type P_2 at t_d so that $P_1 = P_2$ and $t_c < t_d$.

74 "Die Nothwendigkeit betrifft also nur die Verhältnisse der Erscheinungen nach dem dynamischen Gesetze der Causalität und die darauf sich gründende Möglichkeit, aus irgend einem gegebenen Dasein (einer Ursache) *a priori* auf ein anderes Dasein (der Wirkung) zu schließen." (KrV, A 227 f/B 280.)

sibility of *inferring* from a given existence to another as its effect.[75] This is crucial, as the WCP could not justify such an inference, since in the absence of laws nothing would determine *beforehand* which causal rules pertain between which events, even if we know that *some* do. For it to be even in principle possible to infer from causes to effects, *constant* laws of nature are required – otherwise it could only at best be determined *after the fact* that *y* was caused by *x* in a particular case.[76]

This is not an epistemological point: even if there are causal laws and consistency, there could be further factors inhibiting us from *knowing* the laws of nature and hence from *succeeding* in prediction – the SCP is a *necessary*, not *sufficient* condition of prediction. Indeed, as a testament to the complexity of Kant's philosophy of causality, the Transcendental Dialectic introduces yet another principle: the *regulative causal principle* (RCP).[77] According to the RCP, we can ground our scientific endeavour to determine the laws of nature only with the presupposition that nature is lawfully uniform.[78]

Although Kant's discussion of the RCP, scientific investigation, the scientific method, induction, and hypotheses is interesting, it suffices here to bracket out

75 Kant does not and should not make any claims as to the possibility of such inference in the Analogies. Paton observes the importance of this point but does not develop it further. (Paton, Herbert J.: *Kant's Metaphysic of Experience. A Commentary on the First Half of the* Kritik der reinen Vernunft. 2 vols. London, 1976 [1936], 363.)

76 Arguably, even this would be impossible. As Kant agrees with Hume that causality cannot be directly perceived (KrV, B 233, B 257, A 216/B 262), in a world governed merely by the WCP we could not know what the cause was *even after* the fact. Since anything could cause anything, there is no telling what might have caused what, as there are neither laws on which to ground such a claim nor direct perception of causal relations – we cannot simply "see" that *y* was caused by *x*. In a world governed by laws, however, every *x* of type *X* would *ceteris paribus* cause a *y* of type *Y*, so *y* could be inferred from *x*, and the occurrence of a *y* of type *Y* could be taken to indicate the existence of an *x* of type *X*. This indication is not certain, however, as even with the SCP *y* could be caused by something other than *x* as well – the principle is *same-cause same-effect*, not *same-effect same-cause*. Thus the standard procedure of natural science of determining and ruling out other possible causes is needed to isolate *x* as the actual cause of *y*.

77 See KrV, A 642/B 670 ff.

78 This is Hume's Principle of Uniformity of Nature (Hume, David: *A Treatise of Human Nature*. Second edition. Edited by Peter H. Nidditch. Oxford 1992 [1739–1740], 1.3.6, 89). The transcendental principles are constitutive (of experience), for they make *experience of nature* as well as *nature itself* possible (KrV, A 180/B 222 f, A 644/B 672, A 664/B 692). Regulative principles only serve to direct our thinking – they make *thinking* of nature possible – and so according to the RCP rational faith in, not knowledge of, this uniformity subjectively justifies our use of the inductive method to *discover* particular laws of nature. We are, for the sake of motivating scientific investigation, allowed to *believe* in its validity. Our faith in the manageable complexity of nature is betrayed by our continued attempt to model even such chaotic phenomena as weather. (See Kannisto, Toni: *From Thinking to Being*. PhD thesis. University of Oslo 2012.)

the RCP by distinguishing it (as a regulative epistemological principle) from the SCP (as a constitutive ontological principle) and to point out that while the SCP is a necessary condition of inferring one event from another, and so of predicting it, it is not sufficient for our being epistemically capable of doing so.[79] What is important is that Kant takes the postulate of necessity to ground the possibility of such prediction – making no such claim of the Analogies – and thus it seems plausible that he was aware of and advocated the stronger nature of the former.[80]

4.3 *In mundo non datur nec casus nec fatum*[81]

Kant's explication of the respective principles of the Analogies and the Postulates (if not exactly a hallmark of clarity) provides further evidence that he sought to justify the SCP in the Postulates:

> Hence the proposition "Nothing happens through a blind accident" (*in mundo non datur casus*) is an *a priori* law of nature; likewise the proposition "No necessity in nature is blind, but is rather conditioned, consequently comprehensible necessity" (*non datur fatum*). [...] The first [proposition] is properly a consequence of the principle of causality (under the analogies of experience). The second belongs to the principles of modality, which still adds to the causal determination the concept of necessity, which, however, stands under a rule of understanding.[82]

79 The RCP concerns neither the existence nor the necessity, but rather the *number,* of natural laws and the level of fine-tuning in their conditions – which it takes to be manageable (see e.g. KU, AA 05: 183; FM, AA 20: 208 f). If there were such a variety of natural laws with such fine-grained conditions that even the slightest change in, e.g., how I hold a pen when I let it go would have extreme influence on how it falls – sideways, up fast, down slowly, etc. – then we might not be epistemically fit to determine the laws of nature. With reference to note 73, if the number of type-grounds $G_1,\ldots, G_n$ is immense, and if their rules $C_1,\ldots, C_m$ vary drastically, we might be unable to discover rules $C_1,\ldots, C_m$ due to the relative complexity and chaotic appearance of the world – even if we knew that, *ontologically* speaking, everything in nature is causally uniform.
80 Note that Kant uses emphasis only two times in the whole postulate of necessity, and he does so when claiming that we cognize only "die Nothwendigkeit der *Wirkungen* in der Natur, deren Ursachen uns gegeben sind" (KrV, A 227/B 280). The next sentence states the already-cited conclusion that necessity concerns "die [...] Möglichkeit, aus irgend einem gegebenen Dasein (einer Ursache) *a priori* auf ein anderes Dasein (der Wirkung) zu schließen." (KrV, A 228/B 280.) Thus it seems that Kant thought of the possibility of inferring effects from given causes to be an important consequence of the postulate of necessity.
81 "In the world there is neither chance nor fate." (Refl, AA 18: 413.)
82 "Daher ist der Satz: nichts geschieht durch ein blindes Ungefähr (*in mundo non datur casus*), ein Naturgesetz *a priori*; imgleichen: keine Nothwendigkeit in der Natur ist blinde, sondern bedingte, mithin verständliche Nothwendigkeit (*non datur fatum*). [...] Der erstere ist eigentlich eine

The Latin principles *in mundo non datur casus* (in the world there is no chance) and *non datur fatum* (there is no fate) are grounded in the Analogies and Postulates that present the principles for the categories of relation and modality, respectively. According to Kant, the modal principle *non datur fatum* adds something to the causal principle *non datur casus* – the concept of *necessity*, no less.

These principles are seldom explicated in the literature.[83] While Kant's published works offer little help in decoding them,[84] his notes and lectures reveal that they refer to Baumgarten's *Metaphysica*, which Kant used as his metaphysics textbook and in which the principles are presented as follows:

> *Fate* is necessity of events in the world. *Fate* out of absolute necessity of the world would be *Spinozistic*, a non-entity […] that is to be posited neither in this nor in any world.[85]
>
> An event in the world, the sufficient reason of which is not known, is *chance*. *Chance*, which has no sufficient reason, would be *pure* and impossible […], and is to be posited neither in this nor in any world.[86]

In these passages Baumgarten connects the principle *non datur fatum* to necessity and *non datur casus* to causality (through the principle of sufficient reason). This is mirrored by Kant's contention that the first principle "belongs to the principles of modality" and the second is "a consequence of the principle of causality", i.e. the principle of sufficient reason. Yet in his notes Kant regularly connects *both*

Folge des Grundsatzes von der Causalität (unter den Analogien der Erfahrung). Der zweite gehört zu den Grundsätzen der Modalität, welche zu der Causalbestimmung noch den Begriff der Nothwendigkeit, die aber unter einer Regel des Verstandes steht, hinzu thut." (KrV, A 228/B 280 f, translation altered.)

83 Watkins analyses them yet haphazardly connects *both* to the Analogies, *contra* Kant's explicit claim that the *non datur fatum* belongs to the principles of modality (the Postulates). (Watkins, Eric: "Kant on Rational Cosmology". In: *Kant and the Sciences*. Ed. by Eric Watkins. Oxford 2001, 72–75.)

84 The two principles are not found in this form in Kant's other published works. In the preparation for the Transcendental Deduction (§ 13), Kant does mention *fate* (*Schicksal*) as an *a priori* concept the objective reality of which is to be rejected, as is indeed done later in the Postulates (KrV, A 84/B 117; see also Paton, Herbert J.: *Kant's Metaphysic of Experience*. London 1976, 364n). For other occurrences of fate and chance, see KrV, A 74/B 99, KpV, AA 05: 101; KU, AA 05: 391–394; RGV, AA 06: 186; MS, AA 06: 298 f, 334, 489; V-Met/Dohna, AA 28: 663.

85 "*Fatum* est necessitas eventuum in mundo. *Fatum* ex necessitate mundi absoluta esset *spinosisticum*, non ens […], nec in hoc, nec in ullo mundo ponendum." (Baumgarten, Alexander Gottlieb: *Metaphysica*. Halle, Magdeburg [4]1757 [1739], § 382. In: AA 15 and 17.)

86 "Eventus in mundo, cuius ignoratur ratio sufficiens, *casus* est. *Casus*, cuius nec est ratio sufficiens, *purus* esset, impossibilis […], nec in hoc, nec in ullo mundo ponendus." (Baumgarten, *Metaphysica*, § 383.)

principles to *both* modality and causality. Consider, e.g., the following samples from ca. 1778–1784:

(i) *Non datur casus*. No event happens by itself, but is rather always determined by natural things. [...] *Non datur fatum*. All necessity is natural necessity of events, i.e. always determined by other grounds in the same series.[87]

(ii) *Non datur fatum*, i.e., [there is no] absolute necessity in the appearance and its arising [*entstehen*], though to be sure [there is absolute necessity] in the intellectual cause, which is no part of the sensible world, and also no substrate.[88]

(iii) *Non datur casus*. Everything in the world happens according to the mechanism of nature, namely as a consequence of what itself [in turn] happens, as long as the world is a phenomenon [...].[89]

(iv) *Casus* is absolute contingency. *Fatum* [is] unconditioned necessity in the world.[90]

Passages *(i)* and *(iii)* relate *casus* to causal determination, whereas *(iv)* relates it to the modality of contingency. Quotes *(i)*, *(ii),* and *(iv)* relate *fatum* to necessity, and *(i)* and *(ii)* also contain a reference to determination by grounds, which should be read as causal grounds, as indicated by *(ii)* with its "intellectual cause".[91] It is, then, a thoroughgoing feature of Kant's thought that causality is tightly integrated with modality. Since the *non datur casus* and *non datur fatum* both pertain to nature and reign in tandem, necessity and causality go hand in hand. This is why Watkins can find such good philosophical grounds for Kant to adhere to the SCP, and adhere to it he does. Yet, as causality and necessity are nonetheless embodied in two principles, one *could* hold without the other. Thus Kant is correct in giving them separate justifications in the Analogies and the Postulates, respectively, as I have laboured to show.

The principle *non datur casus* denies two things about the world: that there could, causally speaking, be events without a sufficient reason, and that there could, modally speaking, be absolute contingency. These are really two sides of the same coin: Insofar as every event has a sufficient reason, i.e., some cause,

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87 "*Non datur casus*. Keine Begebenheit geschieht von selbst, sondern ist immer durch Naturursachen bestimmt. [...] *Non datur fatum*. Alle Nothwendigkeit ist Naturnothwendigkeit der Begebenheiten, d. i. immer durch andere Gründe in derselben Reihe bestimt." (Refl, AA 18: 410.)

88 "Non datur fatum, d. i. absolute Nothwendigkeit in der Erscheinung und dem entstehen derselben, aber wohl der intellectuellen Ursach, die von der sinnenwelt kein Theil, auch kein substrat ist." (Refl, AA 18: 409.)

89 "*Non datur casus*. In der Welt geschieht alles nach dem mechanismus der Natur, namlich als Folge aus dem, was selbst geschieht, so fern die Welt ein phaenomenon ist[.]" (Refl, AA 18: 411.)

90 "*Casus* ist die absolute Zufalligkeit. *Fatum* die unbedingte Nothwendigkeit in der Welt." (Refl, AA 18: 250.)

91 See V-Met/Heinze, AA 28: 199 f.

nothing can be absolutely contingent (without a ground). And conversely, insofar as something is not absolutely contingent, it must have a sufficient reason and thus be brought about by something.

The principle *non datur fatum* also denies two things about the world: causally, that something could happen without being determined by something else, i.e., on its own through some intrinsic ground or *causa sui*, and, modally, that there could be absolute necessity, i.e., necessity that is not dependent on external influence. Again, these are intertwined: Insofar as every event is brought about by some extrinsic cause, i.e., is conditioned by something else, there can be no absolutely necessary events that arise out of their own spontaneity. And insofar as something does not happen unconditionally, it arises only on the condition that something else brings it about (causally).

When the two principles are combined, a clear picture emerges (Figure 1). By denying absolute contingency (2a), *non datur casus* leaves open three alternatives: (1a) conditional contingency, (1b) conditional (hypothetical) necessity, and (2b) absolute (unconditional) necessity. Since *non datur casus* leaves open the possibility (1a) that there is no necessity at all (but only conditional contingency), it is indeed still lacking necessity, which needs to be added to it. Enter *non datur fatum*: “No necessity in nature is blind, but is rather conditioned [...] necessity”. The first part is negative and excludes (2b); the second is positive and affirms (1b) in favour of (1a).

	1: Conditional / hypothetical	2: Unconditional / absolute
A: Contingent	(1a) Conditional contingency	(2a) Unconditional contingency
B: Necessary	**(1b) Conditional necessity**	(2b) Unconditional necessity

Figure 1: Conditional and unconditional contingency and necessity

The *non datur fatum* thus builds on the *non datur casus*, and together they affirm that all events are governed by conditional/hypothetical necessity, which is what, according to Kant, the postulate of necessity establishes. This is why *non datur fatum* “still adds to the causal determination the concept of necessity”. Simply put, it adds to the principle that everything has a reason the claim that the reason is conditioned not on contingent rules but on necessary laws (the former alternative was still left open by the Analogies). From this point of view, the postulate that is generally thought to be confused exhibits remarkable – albeit compressed – systematic rigour by enumerating each possible alternative and ruling out all but one.

Thus, as to modality, Kant's Latin principles deny *absolute necessity* and set *hypothetical* or *conditional* necessity in its stead: "Everything that happens is hypothetically necessary." And, as to causality, the principles affirm the necessity both *of* causal relations in *non datur casus* (WCP) and *in* causal relations in *non datur fatum* (SCP). That is, necessarily, a non-contingent, necessary connection pertains between an event and its cause: "Necessity therefore concerns only the relations of appearances in accordance with the dynamical law of causality." This and preceding considerations jointly show that Kant intended the Analogies to ground the weak causal principle and the Postulates to ground the strong causal principle.[92]

5 Conclusion

Existing interpretations have overlooked the importance of the Postulates and have thereby either misplaced Kant's justification of the SCP or taken him not to offer a justification for it at all. Careful analysis of the conclusions, arguments, roles, and terminological finesse of both the Analogies and the Postulates shows that Kant was aware of the distinction between the weak and strong causal principles and intended to give them separate justifications in the second analogy and the postulate of necessity, respectively. Although it lies beyond the scope of this article to analyse the exact nature of Kant's justification of the SCP, recognising that he himself intended the postulate of necessity to accomplish this is the first necessary step in that direction. This furthermore shows that the postulate of necessity plays an essential role in Kant's system and that only by understanding it can we properly understand his theory of causality and of (metaphysical) necessity. In this the postulate of necessity is as important as the rest of the transcendental principles, and as an integral piece of Kant's critical metaphysics it merits far more attention and respect than it has hitherto been granted.

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92 Together the two principles establish the apodicticity or necessary truth of the strong causal principle – the *de dicto* necessity of the *de re* necessity of causality: $\Box\forall y\exists x(\Box xCy)$.