

Indeterminacy and Transcendental Idealism

(forthcoming in *British Journal of the History of Philosophy*)

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Abstract

In the Transcendental Ideal Kant discusses the principle of complete determination: for every object and every predicate A , the object is either determinately A or not- A . He claims this principle is synthetic, but it appears to follow from the principle of excluded middle, which is analytic. He also makes a puzzling claim in support of its syntheticity: that it represents individual objects as deriving their possibility from the whole of possibility. This raises a puzzle about why Kant regarded it as synthetic, and what his explanatory claim means. I argue that the principle of complete determination does not follow from the principle of excluded middle because the externally negated or ‘negative’ judgment ‘*Not (S is P)*’ does not entail the internally negated or ‘infinite’ judgment ‘*S is not-P.*’ Kant’s puzzling explanatory claim means that empirical objects are determined by the content of the totality of experience. This entails that empirical objects are completely determinate if and only if the totality of experience has a completely determinate content. I argue that it is not *a priori* whether experience has such a completely determinate content and thus not analytic that objects obey the principle of complete determination.

A Philosophical Problem and an Interpretive Puzzle

- (1) A man with zero hairs on his head is bald.
- (2) If a man with n hairs on his head is bald, then a man with $n+1$ hairs on his head is bald.
- (3) Some men are not bald.

These three premises generate the Sorites paradox, the paradox of vagueness. Some philosophers have thought the solution to the Sorites lies in recognizing that there are men who are neither bald nor not bald. They appeal to the idea of ‘indeterminacy:’ at some point in the sequence that leads from a bald man to a man who is not bald, there is a range of cases in which it is indeterminate whether the man is bald or not.¹ Philosophers have also applied this idea, that there are objects that are indeterminate with respect to certain properties, to other kinds of cases as well. Fictional

characters, for instance, are indeterminate with respect to certain properties, because the fictions in which they are characters are silent about whether they have or lack these properties. For instance, Sherlock Holmes does not determinately have, nor does he determinately lack, a mole on his left shoulder, because the Doyle stories neither represent him as having, nor as lacking, such a mole.² More controversially, some philosophers have interpreted quantum mechanics to mean that subatomic particles can be indeterminate with respect to velocity, position, and other properties.³

However, one problem threatens the very coherence of the idea of indeterminacy: indeterminacy appears to violate the principle of excluded middle and introduce ‘truth value gaps,’ well-formed, meaningful sentences that are neither true nor false.⁴ The idea that some objects are indeterminate with respect to some properties appears to violate a simple logical principle: every man is either bald, or not bald, so it makes no sense to say that a man is indeterminate with respect to baldness. I will call this the ‘logical’ objection to indeterminacy: logic alone entails complete determinacy.

While he never, discusses the Sorites paradox in any depth⁵, Kant does address the issue of whether logic alone entails complete determinacy. He begins the ‘Transcendental Ideal’ section of the *Critique of Pure Reason* with a discussion of what he calls ‘the principle of complete determination’ [*durchgängige Bestimmung*⁶]. The principle of complete determination states that every object is completely determinate with respect to every pair of predicates F and $\neg F$, that is, every object is determinately either F , or $\neg F$.

The logical objection to indeterminacy is particularly acute for Kant since the principle of complete determination appears to follow immediately from the principle of non-contradiction. Let the principle of non-contradiction be represented as the axiom scheme $\neg(p \ \& \ \neg p)$, which in classical logic is equivalent to $(p \ \vee \ \neg p)$, the principle of excluded middle. For any object x and any predicate F this entails, by substitution, $(Fx \ \vee \ \neg Fx)$. This appears to entail that every

individual is fully determinate with respect to every predicate. According to Kant, any judgment derivable from the principle of non-contradiction by merely logical means is analytic, not synthetic.⁷ This line of reasoning, if sound, makes the principle of complete determination analytic, and thus guaranteed by logic alone.

However, Kant is adamant that the principle is synthetic, that complete determinacy is not guaranteed by logic alone. This is what Kant means when he writes that the principle of complete determination:

does not rest merely on the principle of contradiction, for besides considering every thing in relation to two contradictorily opposed predicates, it considers every thing further in relation to the whole of possibility, as the sum total of all predicates of things in general; and by presupposing that as a condition *a priori*, it represents every thing as deriving its own possibility from the share it has in that whole of possibility. The principle of complete determination thus deals with the content and not merely the logical form. (A572/B600)⁸

This is a dense and puzzling passage, and fully unpacking what Kant says here will be one of the principal aims of this paper. In doing so, we will uncover Kant's interesting strategy for overcoming the logical objection to the idea of indeterminacy.

Several commentators have read Kant as claiming that the principle of complete determination is synthetic because it refers to all possible predicates: it says that every object is fully determinate with respect to every possible predicate. However, this 'all possible predicates' argument does not establish that the principle is synthetic. By parity of reasoning, a similar argument would also show that the principle of non-contradiction is synthetic, for it states that for all *possible* predicates F and all possible objects x , $\neg(Fx \ \& \ \neg Fx)$. However, even if the 'all possible predicates' argument were successful, it would still not explain why the argument of the previous paragraph, the logical objection to indeterminacy, which purports to derive the principle from the principle of non-contradiction, is unsound. This, by itself, would *at best* produce an 'antinomy of reason': one reason to think the principle is analytic, one reason to think it is synthetic, each of which is equally compelling. Kant needs an explanation of why the principle

of complete determination is synthetic that also shows *why* the logical objection to indeterminacy is unsound.⁹

First of all, the ‘all possible predicates’ reading oversimplifies what Kant actually wrote. He claims that the principle of complete determination “represents every thing as deriving its own possibility from the share it has in that whole of possibility” (A572/B600). But representing an object as “deriving its own possibility” from the whole of possibility is not the same as merely referring to, or quantifying over, all possible predicates, as the ‘all possible predicates’ interpretation assumes.

In this paper, I explore Kant’s response to the logical objection to the idea of indeterminacy and his positive reasons for regarding the principle of complete determination as synthetic. It is divided into two parts. In the first part, I introduce Kant’s doctrine of ‘infinite judgment’ and explain why Kant’s logical theory does not entail that the principle of complete determination is analytic. Kant’s doctrine of infinite judgment provides a powerful defense of the claim that determinacy is not required by logic alone. In the second part, I consider Kant’s views about whether the principle of complete determination actually holds, and if so, whether it is *a priori*. In so doing, I argue that Kant’s transcendental idealism supports the claim that empirical objects are indeterminate in respect of certain features.

1. Infinite Judgment and the Logical Objection to Indeterminacy

In the previous section, I considered and rejected, one explanation of why the principle of complete determination is synthetic: the principle ‘refers’ to all possible predicates. However, in the passage I quoted there, Kant makes a very important remark about why the principle is synthetic rather than analytic: “the principle of complete determination thus deals with the content and not merely the logical form” (A572/B600). Here he is referring to a distinction he

drew much earlier in the *Critique*, between logical form and content, and a correlative distinction between general logic and transcendental logic. Kant writes:

But now since there are pure as well as empirical intuitions (as the transcendental aesthetic proved), a distinction between pure and empirical thinking of objects could also well be found. In this case there would be a logic in which one did not abstract from all content of cognition; for that logic that contained merely the rules of the pure thinking of an object would exclude all those cognitions that were of empirical content. It would therefore concern the origin of our cognitions of objects insofar as that cannot be ascribed to the objects; while general logic, on the contrary, has nothing to do with this origin of cognition, but rather considers representations, whether they are originally given *a priori* in ourselves or only empirically, merely in respect of the laws according to which the understanding brings them into relation to one another when it thinks, and therefore it deals only with the form of the understanding, which can be given to the representations wherever they may have originated. (A55-6/B80)

What Kant calls ‘general’ logic is what we now simply call ‘logic.’ It is the science of the relations of entailment between judgments that hold solely in virtue of the forms of these judgments, independently of their contents.¹⁰ By contrast, transcendental logic concerns not only the logical form of judgments, but their content as well. Two judgments that, from the point of view of general logic, have the same logical form can be distinguished in transcendental logic in virtue of their different contents. Kant’s claim that “the principle of complete determination thus deals with the content and not merely the logical form” (A572/B600) entails that the principle of complete determination will fall within the domain of transcendental, rather than general, logic and suggests that it will require distinguishing kinds of judgments that are identical from the point of view of general logic.

In order to see what kinds of judgments these might be, consider two kinds of judgments that can be distinguished within general logic, e.g.

- (1) Socrates is Athenian.
- (2) Socrates is not Athenian.

In Kant’s logic, these judgments have, respectively, the logical forms

- (1*) A is B

(2*) A is not B.

That they have different logical forms means that they stand in different purely logical relations of entailment. For instance, the following syllogism

(1) Socrates is Athenian.
All Athenians are Greek.

∴ Socrates is Greek.

is logically valid, but the result of replacing the first premise with (2) is not.

Now, consider the judgment

(3) Socrates is not-Athenian.

The difference between (2) and (3) is that (3) is not the negation of (1). In fact, it is not a negative judgment. It is an affirmative judgment that predicates of Socrates the predicate ‘not-Athenian.’ Judgment (3) is what Kant calls an ‘infinite judgment’ because it says of Socrates that he falls within the ‘infinite’ (i.e. not further specified) sphere of things that are not Athenian.^{11, 12}

Kant introduces the distinction between affirmative and negative judgments in the Table of Judgments and then provides this explanation of their difference:

Likewise, in a transcendental logic infinite judgments must also be distinguished from affirmative ones, even though in general logic they are rightly included with the latter and do not constitute a special member of the classification. General logic abstracts from all content of the predicate (even if it is negative), and considers only whether it is attributed to the subject or opposed to it. Transcendental logic, however, also considers the value or content of the logical affirmation made in a judgment by means of a merely negative predicate, and what sort of gain this yields for the whole of cognition. If I had said of the soul that it is not mortal, then I would at least have avoided an error by means of a negative judgment. Now by means of the proposition “The soul is not-mortal” [*nichtsterblich*]¹³ I have certainly made an actual affirmation as far as logical form is concerned, for I have placed the soul within the unlimited domain of undying beings. (A72/B97)¹⁴

Kant’s coining of the predicate ‘*nichtsterblich*’ is his way of making explicit at the syntactic level the distinction between the negative judgment ‘The soul is not mortal’ and the infinite judgment ‘The soul is not-mortal.’

In order to see Kant's point in this passage, consider judgments (1) and (3) from earlier, which are affirmative and infinite, respectively. From the perspective of general logic, these judgments have the same logical form, *S is P*. As we have seen, general logic abstracts from the 'content' of judgments. One thing this means is that general logic abstracts from the contents of the predicates in a judgment, e.g. whether it is an affirmative predicate (e.g. Athenian) or a negative predicate (e.g. not-Athenian). Because general logic abstracts from the content of predicates, it treats the predicates in infinite judgments as logically non-complex. From the point of view of general logic, there is no logical relation between judgments (1) and (3) because they predicate completely independent predicates of the same subject. In general logic, the predicates of these judgments would be represented by different schematic letters, e.g. (1) might be written '*S is A*' while (3) would be written '*S is B*.' Judgment (3), from the point of view of general logic, is an affirmative judgment.¹⁵

The natural objection to Kant's theory of infinite judgments is that they are simply negative judgments in affirmative dress. The first challenge Kant's theory of infinite judgments must meet, if it is to even be coherent, is to explain why the negative and infinite judgments, respectively,

- (1) This animal is not mortal.
- (2) This animal is not-mortal.

are distinct judgments. And even if they are distinct, Kant must explain why (1) and (2) are not logically equivalent; even if (2) in some sense is a different judgment with a different content than (1), it can seem quite obvious that (1) entails (2), and (2) entails (1).

In a variety of texts, Kant makes clear that the distinction between negative and infinite judgments is a distinction between two kinds of negation. The Pölitz logic lectures record Kant as saying

All affirmative propositions indicate their connection through the copula: is. When they are modified by 'non,' they signify the opposition of the concepts, and in that case the judgment is negative; through these the subject is always

excluded from the sphere of the predicate, as in “*anima non est mortalis*”; in this case I exclude the soul from the concept of mortality, i.e. I say: the soul does not fall under the concept of mortality. In infinite judgments I represent to myself, that the subject is contained in another sphere than that of the predicate. E.g. ‘*anima est non mortalis.*’ Here I represent to myself that the soul does not belong among mortal beings, but I think yet more, namely, that it belongs to the immortal; I think of it as contained in another sphere than that of the predicate. Affirmation and negation are qualities of judgments. When the negation does not affect the copula, then it is not a negative but an affirmative judgment, for the copula serves for connection. The same holds for the affirmative as for the infinite judgment. Through these one thinks more than one does through a negative judgment, which has already been shown above. (24:758)¹⁶

While this passage reiterates some of the points we have already seen, it also sheds new light on the distinction between negative and infinite judgments, and the different kinds of negation involved in these judgments. While these are not Kant’s terms, we might think of these two kinds of negation as ‘external’ negation (negative judgments), and ‘internal’ negation (infinite judgments). As Kant explains in this passage, the negation in a negative judgment attaches to the copula ‘is’ itself. This means that in a negative judgment what is negated is itself an affirmative judgment.¹⁷ Judgment (1) could be re-written as ‘It is not the case that this animal is mortal’ or (more perspicuously) ‘Not: this animal is mortal.’ By contrast, infinite judgments are ‘internally’ negated judgments; they build the negation into the predicate itself. For instance, the infinite judgment ‘This animal is not-mortal’ predicates ‘not-mortal’ of this animal. It is not a negative judgment because it is not the negation of the judgment ‘This animal is mortal.’

In English, or in German, we are forced to resort to the somewhat artificial method of writing (1) and (2) as

(1*) Not: this animal is mortal.

(2*) This animal is not-mortal.¹⁸

In order to avoid these artificial expressions, I am going to introduce two distinct negation symbols. The symbol ‘ \neg ’ will stand for the ‘sentence negation’ in negative judgments, and the symbol ‘ \sim ’ will stand for the ‘predicate negation’ in infinite judgments. Thus, I will write negative and infinite judgments, respectively, as follows:

(1) $\neg(S \text{ is } P)$

(2) $S \text{ is } \sim P.$

Now let us return to the problem from earlier, namely, how to explain that these two judgments are not mutually entailing. The natural way of deriving (2) from (1) is as follows:

(1) $\neg(S \text{ is } P)$

(2) $S \text{ is } P \text{ or } S \text{ is } \sim P.$

(3) $\therefore S \text{ is } \sim P.$

But notice that the second premise of this argument is just an instance of the principle of complete determination! This shows that the only consistent way for Kant to deny that negative judgments and infinite judgments are logically equivalent is to deny that the principle of complete determination is a logical principle. In other words, the problem of how to explain the syntheticity of the principle of complete determination – the problem we started with – and the problem of how to justify infinite judgment as a separate kind of judgment distinct from negative judgments, are the very same problem.

Recall the ‘logical objection’ to indeterminacy, which purports to show that the principle of non-contradiction logically entails the principle of complete determination:

(1) $\neg(p \ \& \ \neg p)$ [Principle of non-contradiction]

(2) $p \vee \neg p$ [Logically equivalent to (1) in classical logic]

(3) $(a \text{ is } F) \vee \neg(a \text{ is } F)$ [Substitution instance of (2)]

However, equipped with Kant’s distinction between negative and infinite judgments, we can see that (3) is not identical to the principle of complete determination. The principle of complete determination can be represented as:

(4) $(a \text{ is } F) \vee (a \text{ is } \sim F).$

This is because, while (3) is an instance of the principle of excluded middle, (4) is not. The negation in (4), the principle of complete determination, is included in the predicate itself. The

principle of complete determination says that for any subject-predicate judgment, either that judgment or its internal negation is true.¹⁹ The principle of excluded middle says that for any judgment whatsoever, either that judgment or its external negation is true.^{20,21}

This explains why the two principles are distinct. But we also need an explanation of why the principle of excluded middle does not entail the principle of complete determination; if it did, the latter principle would be analytic. This entailment fails because the second conjunct of the principle of excluded middle does not entail the second conjunct of the principle of complete determination; the negative judgment $\neg (a \text{ is } F)$ does not entail the infinite judgment $(a \text{ is } \sim F)$. Intuitively, this is correct: the negative judgment might be true while the infinite judgment is not true, because the object neither determinately has, nor lacks, the relevant property. I take it this is precisely what Kant means when he writes “in infinite judgments, I think that the subject belongs to a different sphere than the predicate, e.g. in ‘anima est non mortalis’ I think that the [animal] does not belong among the mortal, but I think **yet more** (my emphasis), namely, that it belongs to the immortal” (24:578). I think more in the infinite judgment than in the negative judgment because the negative judgment does not entail the infinite judgment, although the infinite judgment does entail the negative judgment. The infinite judgment entails the negative judgment because, intuitively, if an object determinately lacks a property, it is not the case that it determinately has that property.²²

This explains why the original line of reasoning, which purported to derive the principle of complete determination from the principle of non-contradiction, is unsound, and thus does not establish the analyticity of the principle of complete determination. But to point this out is only to undercut a compelling argument for the analyticity of the principle of complete determination; it is not yet to explain why that principle is synthetic, rather than analytic.

2. Why the Principle of Complete Determination is Synthetic

So far, I have explained why the principle of complete determination is not guaranteed to hold by what Kant calls 'general logic.' However, this does not yet explain whether and why Kant thinks this principle is valid or why it is synthetic. In this section, I answer those questions.

After a largely negative discussion of the principle of complete determination as giving rise to 'transcendental illusion,' Kant concludes the Transcendental Ideal with a discussion of the legitimate use of that principle. Kant begins his positive discussion of the principle of complete determination by writing:

The possibility of objects of sense is a relation of these objects to our thought, in which something (namely, the empirical form) can be thought *a priori*, but what constitutes the material, the reality in appearance (corresponding to sensation) has to be given; without that nothing at all could be thought and hence no possibility could be represented. (A581/B609)

According to the definition of possibility Kant gives in the Postulates of Empirical Thought, an object is a possible object of experience just in case that object is compatible with the forms of experience, which includes both conceptual forms (categories) and forms of intuition (space and time).²⁶ But, of course, any object of experience has both an *a priori* form and an *a posteriori* sensory matter. This is not an additional requirement; it belongs to the very nature of the forms of experience that they must en-form some matter. A purely spatiotemporal object with no size, shape, location, etc. is not a possible object for experience; just as little as an object that is causally determined, but not by any forces or laws in particular. Thus, Kant's claim in the Ideal draws out a consequence from the Postulates definition: any possible object of experience has both a form and a matter. Whereas Kant usually focuses on the formal conditions of the possibility of objects of experience, in this section he concentrates on the material conditions of possibility of those objects, which includes their sensory content.

Kant's discussion in the Ideal goes on to introduce the 'whole of experience' as a condition on the sensory matter of objects of experience:

Now an object of sense can be thoroughly determined only if it is compared with all the predicates of appearance and is represented through them either affirmatively or negatively. (A581/B690)

This passage is complicated by a potential ambiguity in what Kant means by 'determined' (*bestimmt*). He might have either of two notions in mind:

Determined₁ is a metaphysical notion of 'determined.' An object is determined₁ with respect to a predicate just in case it determinately has that predicate, or determinately lacks it. This is the sense of determination involved in the principle of complete determination discussed earlier.

Determined₂ is an epistemic notion of 'determined.' An object is determined₂ with respect to a predicate *by an agent* just in case that agent knows that object to have or lack that predicate.²⁷

The important interpretive question is: which sense of 'determined' does Kant have in mind in the passage quoted from A581/B690? Since 'comparing, 'affirming' and 'denying' are things that *agents* do, the most natural reading is the epistemic one, determined₂. On this reading, Kant is claiming that an object of the senses can only be completely determined₂ -- i.e. it can only be determinately known with respect to every predicate whether the object has or lacks the predicate -- if the object is compared with every predicate represented in experience and each of these predicates represented either affirmatively or negatively. One obvious advantage of this reading is that, if Kant is talking about determination₂ in this sentence, he is saying something quite obviously true, perhaps even tautologous. However, if he has the metaphysical conception of determination in mind, determination₁, his claim seems at best unsupported, and at worst false; why should the determinacy or indeterminacy of an object -- i.e. whether it is determined₁ with respect to a predicate -- depend upon what I compare, affirm or deny? This seems to reverse the natural order of explanation; presumably, predicates can be truly affirmed or denied of objects, and those objects can be compared with each other, in virtue of the way in which those objects are determined₁.

The passage continues:

But because that which constitutes the thing itself (in appearance), namely the real, has to be given, without which it could not be that at all, but that in which the real in all appearances is given is the one all-encompassing experience, the material for the possibility of all objects of sense has to be presupposed as given in one sum total; and all possibility of empirical objects, their differences from one another, and their complete determination, can rest only on the limitation of this sum total. (A582/B610)

In the first part of the passage, Kant is pointing out that the material of an experienced object must be given through sensation, and without this given sense material the object cannot even be thought. However, the rest of the passage makes clear that he has the metaphysical sense of determination, determination₁, in mind. Kant claims that the material condition of the possibility of all empirical objects – their sensory content -- and the complete determination of those objects must be given in one ‘totality’ [*Inbegriff*] by which I take him to refer to the “one all-encompassing experience” of the earlier part of the sentence. But this would make no sense whatsoever if Kant had in mind the epistemic conception of determination, for complete determination₂ is *impossible* and activities that are impossible do not have conditions of possibility. We cannot completely determine₂ even a single object, because doing so would require knowing, of an infinite series of predicates, whether those predicates apply or do not apply to the object.²⁸ Complete determination₂ can be at most a regulative maxim that guides our inquiry into the empirical world: determine₂ objects as completely as possible.

The possibility of the complete determination₁ of objects depends upon the totality of experience, the ‘one all-encompassing experience.’ This further clarifies Kant’s earlier reference to the ‘matter’ of experience. While the *a priori* features of objects are determined by our forms of experience, the complete determinacy of the material *a posteriori* features of objects depends upon the totality of experience. In order to determine the origin of the principle of complete determination, we will need to understand this claim, and the idea of the ‘one all-encompassing experience.’

In a crucial passage from the Antinomies chapter, Kant expands upon this concept of the single ‘all-encompassing’ experience, and the role it plays in determining objects:

In space and time, however, the empirical truth of appearances is satisfactorily secured, and sufficiently distinguished from its kinship with dreams, if both are correctly and thoroughly connected up according to empirical laws in one experience. Accordingly, the objects of experience are never given in themselves, but only in experience, and they do not exist at all outside it. (A493/B521)

Kant here claims that appearances depend upon how they are represented in ‘one experience’ which is unified by empirical law. This passage only makes sense if ‘experience’ here means something stronger than just any perceptual episode with objective purport. In this ordinary sense, even a dream is an experience. But in this context ‘experience’ means the totality of veridical experiences. That is why Kant here speaks of ‘one experience,’ and contrasts experience with dreams. I take Kant’s point here to be that a particular putative experience is part of the ‘one’ experience and therefore is veridical – i.e. is distinguished from a dream, hallucination, or other non-veridical perceptual episode -- if and only if it coheres with this ‘one’ experience as a whole. The ‘one’ all-encompassing experience is grounded in experiences that cohere with one another. In what follows, I will refer to this ‘one’ experience as ‘Strong Experience.’

The relation of coherence that defines this ‘one’ experience is coherence according to empirical causal laws: a given perceptual episode is a veridical experience if and only if it coheres with Strong Experience according to the empirical laws discoverable within Strong Experience.²⁹

To return to the passage from the Antinomies, Kant continues:

That there could be inhabitants of the moon, even though no human being has perceived them, must of course be admitted; but this means only that in the possible progress of experience we could encounter them; for everything is actual that stands in one context with a perception in accordance with the laws of the empirical progression. Thus they are real when they stand in empirical connection with my real consciousness, although they are not therefore real in themselves, i.e. outside this progress of experience. (A493/B521)

We can now understand what Kant means in this passage. Whether the moon is inhabited depends upon whether Strong Experience represents it as inhabited. There might be perceptual experiences that represent the moon as inhabited (e.g. dreams or hallucinations) even though it is not; that a perceptual experience of the moon as inhabited only entails that it is inhabited if that experience is incorporated into Strong Experience. This passage also sheds light on how Strong Experience is grounded in individual perceptual experiences. When Kant writes that “everything is actual that stands in one context with a perception in accordance with the laws of the empirical progression” I take him to mean that Strong Experience includes not just directly observed objects, but also includes unobserved objects posited in accordance with empirical laws to explain observed phenomena. This interpretation is further supported by Kant’s inclusion, in other texts, of unobservable objects posited by scientific theories as among ‘objects of experience.’³⁰

In the passage quoted, Kant claims that for an object to be actual is for it to be connected by empirical laws to human sensory states. The connection to actuality is important, since elsewhere he writes that “whether this or that putative experience is not mere imagination must be ascertained according to its particular determinations and through its coherence with the criteria of all actual experience” (B279). This passage occurs in the Refutation of Idealism, which in the B edition Kant attached to the Postulate of Actuality, where he gives the following as the ‘criterion of all actual experience’: “what is connected with the material conditions of experience (sensation) is actual” (A218/B265). It is clear, both from Kant’s discussion of the Postulate of Actuality, and from texts we have already examined, that by ‘connection’ Kant means connection according to empirical laws. The picture that emerges from these texts is one on which an empirical object actually exists just in case it stands in a law-governed causal connection with human sensory states. But this defines the actuality of objects in terms of actual human sensory states and the empirical laws that actually obtain. The question then is, what is it for an empirical law to actually obtain?

Kant claims that objects are actual in virtue of being represented in the ‘one’ experience – which I call ‘Strong Experience’ – and we have seen that Experience is wider than merely the totality of veridical perceptual experiences of subjects, because it includes unobserved objects in causal connection with objects immediately perceived. The most plausible construction of this one single experience, therefore, is

Definition. *Strong Experience* is the lawful representation of the empirical world that is maximally systematic and maximally justified by the totality of sensory states (perceptions) of human subjects.³²

That Strong Experience is a representation means merely that it has a content; it represents objects as being a certain way. In contemporary philosophy we might call it a ‘theory,’ but that has an anachronistic connotations. By ‘lawful,’ I mean that Strong Experience will represent empirical objects as obeying deterministic, exception-less universal causal laws. This much is clear from the passages quoted already. By ‘maximally systematic’ I mean that Strong Experience will, as best as it can, represent the world as governed by a system of laws that have the form of a logical system: lower-level laws subordinated to higher-level laws of greater generality, etc. Determining the details of these requirements is outside the scope of this paper. Nonetheless, an answer to our question about how to apply the ‘criteria of actuality’ to empirical laws emerges: the actual empirical laws are actual in virtue of being represented by the maximally systematic and maximally justified lawful representation of empirical objects.

I take it that maximal systematicity and maximal justification by subjects’ perceptions are distinct requirements, and can conflict; one theory might be more systematic, but less empirically justified, than another. But this points to a weakness in the definition of ‘Strong Experience’ given above: we have no guarantee that there will be a unique such representation. In cases like this, where there is a tie between the net systematicity and justification of two or more theories, I take it that the content of Strong Experience will be the points of agreement between these theories, their conjunction. The definition should be amended as follows:

*Definition** *Strong Experience* is the lawful representation of the

empirical world that is maximally systematic and maximally justified by the totality of sensory states (perceptions) of human subjects, *or* the ‘conjunction’ of the best such representations, if there is no unique one.³³

The relationship between Strong Experience and individual experiences is this: under the right conditions, if a subject has an experience that represents objects as being a certain way, this experience justifies the subject in judging that Strong Experience represents those objects that way. For instance, if I weigh two objects on a reliable balance, nothing interferes with my measurement and one object sinks while the other rises, this experience justifies me in judging that Strong Experience represents the one object as heavier than the other.

We started out by trying to understand Kant’s claim that empirical objects derive their possibility from the ‘single, all-encompassing’ experience, which we identified as the ‘one’ experience from the Antinomy, and which I have now argued is Strong Experience. How do appearances derive their possibility from Strong Experience? Recall the first two sentences from the Antinomies passages:

In space and time, however, the empirical truth of appearances is satisfactorily secured, and sufficiently distinguished from its kinship with dreams, if both are correctly and thoroughly connected up according to empirical laws in one experience. Accordingly, the objects of experience are never given in themselves, but only in experience, and they do not exist at all outside it. (A493/B521)

By the ‘empirical truth of appearances’ I take Kant to mean the empirical truth *about* appearances. Which appearances there are, and what properties they have, is determined by the content of Strong Experience. The forms of experience determine certain highly determinable, formal features of empirical objects: they are spatiotemporal, obey universal causal laws, etc. The material features of objects – their fully determinate spatiotemporal properties, causal properties, etc. – are determined by Strong Experience.

Earlier I claimed that appearances have the properties they do in virtue of being represented as having those properties by Strong Experience. This is one aspect of Kant’s

Transcendental Idealism, his doctrine that empirical objects are appearances:

(Transcendental Idealism) For any appearance x and any property F , if x is F , x is F in virtue of the fact that Strong Experience represents x as F .

Strictly speaking, this cannot be true. Appearances have the property *being appearances of things in themselves to subjects* but they are not represented as such by the most empirically well-confirmed theory of appearances, since things in themselves are not part of any empirical theory.

What we need is a distinction between the ‘empirical properties’ of appearances, the spatiotemporal and causal properties they have at the empirical level, and their ‘non-empirical properties,’ properties that concern their ontological status and their dependence on subjects’ representations and things in themselves. Then,

(Transcendental Idealism)* For any appearance x and any empirical property F , if x is F , x is F in virtue of the fact that Strong Experience represents x as F .

It is not clear how to draw precisely the distinction between empirical and non-empirical features of objects, but doing so lies outside the scope of this paper.

We began this section by trying to understand the following passage:

Now an object of sense can be thoroughly determined only if it is compared with all the predicates of appearance and is represented through them either affirmatively or negatively. But because that which constitutes the thing itself (in appearance), namely the real, has to be given, without which it could not be thought at all, but that in which the real in all appearances is given is the one all-encompassing experience, the material for the possibility of all objects of sense has to be presupposed as given in one sum total; and all possibility of empirical objects, their differences from one another, and their complete determination, can rest only on the limitation of this sum total. (A581-2/B610-11)

We are now in a position to better understand it. Empirical objects are the ‘intentional objects’ of the “one all-encompassing experience,” Strong Experience: they exist and have their empirical properties in virtue of being represented as existing and having those empirical properties by Strong Experience. Consequently, the totality of Strong Experience is a condition on their possibility.³⁵

In this passage Kant describes Strong Experience as the condition of the possibility of the “complete determination” of empirical objects. Since empirical objects have their properties in

virtue of how they are represented by Strong Experience, empirical objects are completely determinate only if the content of Strong Experience is completely determinate. In other words, given that

(*Transcendental Idealism**) For any appearance x and empirical property F , if x is F , x is F in virtue of the fact that Strong Experience represents x as F .

it only follows that

(*Object-Determinacy*) For any appearance x and empirical property F , x is F or x is $\sim F$.

if we assume that

(*SE-Determinacy*) For any appearance x and empirical property F , Strong Experience represents x as F or Strong Experience represents x as $\sim F$.

The complete determinacy of empirical objects (with respect to empirical properties) is equivalent to the complete determinacy of the content of Strong Experience.

At the beginning of this paper I quoted a passage in which Kant writes that the principle of complete determination,

does not rest merely on the principle of contradiction, for besides considering every thing in relation to two contradictorily opposed predicates, it considers every thing further in relation to the whole of possibility, as the sum total of all predicates of things in general; and by presupposing that as a condition *a priori*, it represents every thing as deriving its own possibility from the share it has in that whole of possibility. The principle of complete determination thus deals with the content and not merely the logical form. (A572/B600)

We have already seen what Kant means by claiming that the principle of complete determination “deals with the content and not merely the logical form”: it is a principle of transcendental logic, for it requires the distinction between affirmative and infinite judgment. But now we are in a position to understand the first sentence of this passage. The principle of complete determination, as applied to empirical objects, is equivalent to the principle that Strong Experience, the totality from which the possibility of all empirical objects derive, is completely determinate. The principle of complete determination represents empirical objects as completely determinate in virtue of their dependence upon a completely determinate Strong Experience.

This further confirms the synthetic nature of the principle of complete determination, and Kant's concomitant claim that complete determination is not required by logic alone: the principle of complete determination cannot be an analytic principle about empirical objects because it is not analytic that the content of Strong Experience is fully determinate. It is not analytic that

(*SE-Determinacy*) For any appearance x and empirical property F , Strong Experience represents x as F or Strong Experience represents x as $\sim F$.

While Kant clearly thinks the principle of complete determination is synthetic, it is somewhat harder to determine whether he thinks the principle actually holds, that is, whether objects are completely determinate. Since the principle is synthetic, we cannot know (at least through theoretical means) whether it holds for non-empirical objects, things in themselves.

Consequently, the relevant question is whether the principle of complete determination holds for empirical objects. This is equivalent to the question whether (*SE-Determinacy*) is true.

One source of difficulty in determining whether Kant accepts the principle of complete determination for empirical objects is the sheer paucity of texts where he considers the question. Although Kant discusses the principle of complete determination in numerous passages throughout his writings, he does so mostly in the context of putative proofs of the existence of God.³⁶ In those passages, he is not primarily concerned with evaluating the truth of the principle of complete determination of empirical objects, for two reasons: (1) God is not an empirical object, so he is not primarily concerned with the principle of complete determination of empirical objects, and (2) the main point of many such passages is to argue that even if the concept of an *ens realissimum* completely determines its object with respect to every predicate, this does not prove that there is an *ens realissimum*.³⁷ Thus, although in several of these passages Kant does appear to endorse the claim that everything that exists is completely determinate, I do not think we should take this as Kant's settled view on the matter, for two reasons. First, taken literally,

Kant's claim that everything that exists is completely determinate would violate his Critical view that we cannot know synthetic judgments about things in themselves. Secondly, these passages are found both in Critical and pre-Critical texts. Whereas in the pre-Critical period he held that everything existing is fully determinate, in the Critical period he developed a more sophisticated view about complete determination, which I have analyzed in this paper. I think the most likely explanation is that, in the Critical period, Kant continued to object to the 'complete determination' argument for the existence of God (the *ens realissimum* must be completely determinate, hence must exist) in the same way in which he objected in the pre-Critical period without making clear that his views in complete determinacy had evolved. This hypothesis is supported by the fact that none of the Critical-era texts in question were published by Kant; they are all unpublished *Reflexionen* and transcripts of lectures.

Given the paucity of Critical texts in which Kant explicitly discusses whether empirical objects are completely determinate, I think the best we can do is to provide a rational reconstruction of Kant's views on this issue. Recall that Strong Experience is the lawful representation of empirical objects that is (i) maximally systematic, and (ii) maximally consistent with perceptions of subjects, *or* the conjunction of such representations, if there is no unique one. There cannot be any *a priori* guarantee that there will be a unique such representation. But if this were the case, the content of Strong Experience would be indeterminate: with respect to objects that the best representations disagree about, Strong Experience would not determinately represent those objects either way. It would be indeterminate with respect to those objects. If there cannot be any *a priori* guarantee that Strong Experience is fully determinate, it cannot be analytic that Strong Experience is fully determinate. Whether Strong Experience is fully determinate, and hence whether empirical objects are, is an *a posteriori* matter. Not only is it *a posteriori*, it is quite plausibly beyond our epistemic reach. The content of Strong Experience is the content of the best (or the common content of the family of best) empirically supported representation of empirical objects. Through empirical inquiry we can approximate to the content of Strong

Experience, but there is no reason to expect that we will ever reach it. Consequently, there is no reason to think we will ever be in a position to determine whether Strong Experience is fully determinate, or whether it is indeterminate with respect to some objects and some properties.³⁸

I began this paper by discussing the idea that some objects are ‘indeterminate’ with respect to certain properties and the ‘logical’ objection to the very idea of indeterminacy: logic alone guarantees that every object is fully determinate. We have seen how Kant overcomes the logical objection: logic alone does not guarantee the complete determinacy of objects, for the principle of complete determination has a different logical form than the principle of excluded middle. It has a different logical form because infinite judgments are distinct from negative judgments. Thus, while logic alone requires that the principle of excluded middle holds, the same is not true for the principle of complete determination. This makes room for Kant’s views on the status of the principle: the principle of complete determination is equivalent to the principle that the totality of experience upon which empirical objects depend is completely determinate in its content – which is clearly a synthetic principle -- and we have no *a priori* guarantee that it is completely determinate.³⁹

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¹ See Michael Tye “Sorites paradoxes and the semantics of vagueness”, in J. Tomberlin (ed.), *Philosophical Perspectives: Logic and Language* (Atascadero, California: Ridgeview, 1994); and Hartry Field “No fact of the matter,” *Australasian Journal of Philosophy* 81: 457-480.

² See Terence Parsons, *Nonexistent Objects* (New Haven: Yale University Press, 1980), 49-60. In fact, Kant himself points out that fictional characters are incompletely determinate; see *Only Possible Ground* (2:76).

³ See Hilary Putnam “Is logic empirical?” in R. Cohen and M. P. Wartofski (eds.), *Boston Studies in the Philosophy of Science*, Volume 5 (Dordrecht: D. Reidel, 1968); reprinted as “The logic of quantum mechanics” in Putnam, *Mathematics, Matter and Method* (New York: Cambridge University Press, 1976).

⁴ This isn’t really a problem for those who propose an ‘indeterminacy’ solution to the problem of vagueness, because they typically do so in the context of rejecting classical two-valued logic in favor of a three-valued or other many-valued logic. See note 1.

⁵ He briefly mentions the paradox in the *Heschel Logik* (24:112). Steven Tester brought this passage to my attention; see his paper “Can Kantian noumena be vague or indeterminate?” for a more detailed examination of Kant’s views on vagueness. At various points in his logic lectures, Kant does discuss what he calls ‘Sorites inferences,’ by which he means a connected series of conditional claims which, in virtue of the transitivity of entailment, entail a single conditional whose antecedent is the antecedent of the first premise, and whose consequent is the consequent of the last premise. Clearly, the ‘Sorites’ paradox employs a Sorites inference, but Kant does not typically discuss the paradox as such (other than the brief mention in the Heschel lectures cited above). See *Jäsche Logik* §88 (9:104).

⁶ In texts related to determination, I translate ‘*durchgängig*’ as ‘complete’ rather than ‘thoroughgoing.’ They are both correct, but ‘complete determination’ brings out better what Kant has in mind, and sounds less awkward (although it does not preserve the etymological connection with German). In this, I depart from *Critique of Pure Reason*, trans. and ed. Paul Guyer and Allen Wood (New York: Cambridge UP, 1998); throughout the paper, all translations from Guyer and Wood have been modified accordingly.

⁷ See “On the supreme ground of all analytic judgments” (A150-153/B189-193), where Kant writes: “hence we must allow the principle of contradiction to count as the universal and completely sufficient principle of all analytic cognition” (A151/B191).

⁸ All citations to the *Critique of Pure Reason* use the customary format of giving the page in the 1st-edition of 1781 (A), followed by the page in the 2nd-edition of 1787 (B) (e.g. A327/B384). Citations to the works of Kant other than the *Critique of Pure Reason* give the volume and page number in the Academy edition, *Kants gesammelte Schriften*, edited by the Berlin-Brandenburg Academy of Sciences (Berlin: Walter de Gruyter, 1900—). When followed by a four-digit number, ‘R’ refers to Kant’s unpublished Reflections in vol. 16-18 of the Academy edition. Unless otherwise noted, translations are from the *Cambridge Edition of the Complete Works of Immanuel Kant*, eds. Paul Guyer and Allen Wood (New York: Cambridge UP, 1998—).

⁹ See Béatrice Longuenesse, “The Transcendental Ideal and the Unity of the Critical System” in *Kant and the Human Standpoint* (Cambridge: Cambridge University Press, 2005). Longuenesse writes “what the principle of complete determination adds to these two logical principles [the principle of non-contradiction and the principle of excluded middle] is precisely the reference to the totality of all possible predicates” (216). But, as I argue in the body of the paper, the same argument would show that the principle of non-contradiction “refers to” the totality of all possible predicates. Cf. Allen Wood, *Kant’s Rational Theology* (Ithaca: Cornell UP, 1978). Wood writes: “neither [the principle of non-contradiction nor the principle of excluded middle] says anything about the sum-total of such pairs [F and not-F] considered as a whole, or even requires us to suppose that such talk makes sense. The principle of thorough determination, however, holds that the real possibility of an individual thing depends on the completeness of its individual concept, on the possibility of bringing together in one notion the unique combination of predicates which identify it as the particular thing it is. This principle, therefore, unlike the principle of excluded middle, does require us to consider all pairs of contradictory predicates, taken as a whole” (43). First of all, Wood has provided no reason why the principle of complete determination requires us to form the idea of the ‘whole’ of all possible predicates; at most he has shown that it requires us to quantify over all possible predicates: for every predicate F, every object is either F or not-F. In modern logic, even this is questionable; we might take ‘Fa or not-Fa’ as an axiom-scheme, without quantifying over all possible predicates F. Regardless, whatever Kant means by claiming that the principle of complete determination represents every object as ‘deriving its possibility’ from the sum total of all predicates, he cannot mean merely that it requires us to quantify over all possible predicates; insofar as it does require us to quantify over all possible predicates, it shares this feature with the principle of non-contradiction.

¹⁰ For an insightful discussion of Kant’s conception of the formality of general logic, see John McFarlane, “Kant, Frege and the Logic in Logicism” *The Philosophical Review* 111(1): 25-65.

¹¹ For a fascinating survey of the historical precedents of Kant’s theory of infinite judgment, see H.A. Wolfson, “Infinite and Privative Judgments in Aristotle, Averroes and Kant” *Philosophy and Phenomenological Research* 8, no. 2 (1947): 173-187; and A. Menne, “Das Unendliche Urteil Kants” *Philosophia Naturalis* 19 (1982): 151-162. See also Reinhard Brandt, *Die Urteilstafel: Kritik der reinen Vernunft A67-76/B92-201* (Hamburg: Felix Meiner, 1991); Klaus Reich, *Die Vollständigkeit des Kantischen Urteilstafel* (Berlin: Richard Schoetz, 1932), reprinted as *The Completeness of Kant’s Table of Judgments*, trans. Jane Kneller and Michael Losonsky (Stanford: Stanford University Press, 1992); and Michael Wolff, *Die Vollständigkeit des Kantischen Urteilstafel* (Frankfurt am Main: Vittorio Klostermann, 1995).

¹² Although Kant never acknowledges this, his view entails that infinite and negative judgments are not mutually exclusive kinds of judgment. For instance, the judgment ‘It is not the case that Socrates is not-Athenian’ is both negative and infinite. I don’t think this substantially affects Kant’s logical theory, or my argument, but I think it is worth pointing out. The closest he comes to acknowledging this is in the *Wiener Logik* (24:930). According to this passage, infinite judgments are all affirmative judgments, because no negation affects their copula. This suggests a different way of drawing Kant’s distinctions: every judgment is either affirmative (non-negated copula) or negative (negated copula), and every judgment is either ‘finite’ (non-negated predicate) or infinite (negated predicate) and these distinctions are orthogonal to one another. Although I think this way of drawing the distinctions best captures Kant’s underlying picture, it is not how he usually presents his view, so I will not present it that way in the body of the paper.

¹³ Guyer and Wood translate “*die Seele ist nichtsterblich*” as “the soul is not mortal”; however, this conceals the difference between the infinite judgment “the soul is not-mortal” [*die Seele ist nichtsterblich*] and the negative judgment “the soul is not mortal” [*die Seele ist nicht sterblich*]. As I show later in the paper, Kant frequently uses alternate syntax to make explicit this distinction between infinite and negative judgments. I have modified the Guyer and Wood translation accordingly.

¹⁴ See also Kant’s discussions of infinite judgment in the lectures on logic: 9:104, 24:764, 578, and 930-31.

¹⁵ In the *Wiener Logik* Kant claims that infinite judgments have a different form than affirmative judgments; see 24:929, quoted in Michael Wolff, *Die Vollständigkeit des Kantischen Urteilstafel*, 158. I think the correct explanation of this is that from the point of view of general logic, they have the same form, but from the point of view of transcendental logic, they do not have the same form. Thus, I dispute what I take to be Wolff’s suggestion that the affirmative/infinite distinction already belongs to general logic. I find this claim flatly contradictory with Kant’s discussion of infinite judgment at A72/B97, as well as his claim in the *Jäsche Logik* that “because logic has to do merely with the form of judgments, not with concepts according to their content, the distinction between infinite and negative judgments does not belong to this science” (9:104). Cf. Béatrice Longuenesse, *Kant and the Capacity to Judge* (Princeton: Princeton University Press, 1998), 294.

¹⁶ My translation.

¹⁷ Today we would say that negation is a one-place truth-function.

¹⁸ In a number of passages, Kant draws attention to the superior syntactic resources of Latin, which allows a distinction between the negative judgment ‘*anima non mortalis est*’ and the infinite judgment ‘*anima est non mortalis.*’ See 24:578, 24:930 and R 3063.

¹⁹ The connection between complete determination and infinite judgment is further substantiated in R 3063, where Kant writes: infinite judgment “is performed according to the principle of complete determination, which is required with regard to a thing in general” (16:638).

²⁰ Failure to appreciate these points is common among commentators. See Peter Rohs, “Kants Prinzip der durchgängigen Bestimmung alles Seienden” *Kant-Studien* 69 (1978): 170-80 at 171; and Henry Allison, *Kant’s Transcendental Idealism* (New Haven: Yale University Press, 2004), 398. Allen Wood correctly distinguishes the principle of non-contradiction from the principle of excluded middle in *Kant’s Rational Theology*, 42-3; but Wood does not notice that the principle of excluded middle admits of a trivial analytic interpretation and a substantive synthetic interpretation, the principle of complete determination. And, despite her careful and insightful analyses of Kant’s notion of an infinite judgment, Béatrice Longuenesse offers the same interpretation in “The Transcendental Ideal and the Unity of the Critical System,” 216.

²¹ Cf. *Wiener Logik* (24:930), R 6207-9.

²² Cf. 24:930

²⁶ A218/B265. Cf. Stang, “Did Conflate the Necessary and the *A Priori*?” (*Noûs*, forthcoming) for a more detailed reading of the Postulates.

²⁷ Failure to explicitly distinguish these different notions of ‘*bestimmen*’ is common among commentators. See Michelle Grier, *Kant’s Doctrine of Transcendental Illusion*, 232-235; Longuenesse, “The Transcendental Ideal,” 215. One notable exception to this trend is Allen Wood, who explicitly distinguishes between the “ontological” conception of determination (determination-1) and the “epistemological” conception (determination-2); see Wood, *Kant’s Rational Theology*, 37-8.

²⁸ I take it that this is Kant’s point when he writes: “complete determination is consequently a concept that we can never exhibit *in concreto* in its totality, and thus it is grounded on an idea which has its seat solely in reason, which prescribes to the understanding the rule of its complete use” (A573/B601). Cf. A656/B684.

²⁹ I take it that this is Kant’s point in the quoted passage when he writes: “In space and time, however, the empirical truth of appearances is satisfactorily secured, and sufficiently distinguished from its kinship with dreams, *if both are correctly and thoroughly connected up according to empirical laws in one experience*” (my emphasis). Compare Kant’s claim in the A Deduction that “there is only one experience” (A110). I take it that the ‘one experience’ of the A Deduction is the ‘one experience’ of the Antinomies, which is the same as the ‘single all-encompassing’ experience of the Transcendental Ideal; in all of these passages, Kant is contrasting individual experiences with Strong Experience.

³⁰ See Kant’s discussion of magnetic matter as actual in the Postulates of Empirical Thought at A226/B273. My interpretation of Strong Experience is further confirmed by Kant’s definitions of actuality in experience. His discussion of the postulate of actuality itself is somewhat misleading, because it focuses on the conditions under which we can verify whether something is actual rather than what actuality consists in for empirical objects, but various other statements about actuality are more helpful. For instance: “if [the object] is in connection with perceptions (sensation, as the matter of the senses, and through this determined by means of the understanding, then the object is actual” (A234/B286). This should be compared to his remark in the Refutation of Idealism that “whether this or that putative experience is not mere imagination must be ascertained according to its particular determinations and through its coherence with the criteria of all actual experience” (B279). Since the criteria of all actual experience is “connection” (which I take to mean connection according to empirical laws) with actual sensation, I take this to be direct confirmation of my interpretation.

³² By the ‘totality of human sensory states’ I mean the totality of past, present and future sensory states.

³³ Conjunction is usually defined for sentences, but it can be easily generalized to all representations that have correctness conditions: if *A* and *B* are representations, the representation *A&B* is the representation that is correct just in case *A* is correct and *B* is correct.

³⁵ Cf. the discussion of this passage in Longuenesse, “The Transcendental Ideal,” 218-223; Michelle Grier, *Kant’s Doctrine of Transcendental Illusion*, 237-243; and Henry Allison, *Kant’s Transcendental Idealism*, 405-10.

³⁶ Kant discusses, and endorses, the principle of complete determination in the context of putative proofs of the existence of God in a series of pre-Critical Reflections; see *R* 4244-9 (1769-70), *R* 4253 (1769-70), *R* 4255 (1769-70), *R* 4262 (1769-70), *R* 4569-70 (1772-75), *R* 5500 (1776-78), *R* 5502-5 (1776-78) and *R* 5522 (1776-78). He asserts the complete determinacy of everything that exists at *R* 6255 (1788-89), *R* 6322 (1790-1804), *R* 6381 (1790-1804), *R* 6383 (1790-1804), *R* 6384 (1790-1804), *Wiener Logik* (24: 931; 1780s), *Metaphysik von Schön* (28:503; 1785-90), *Metaphysik Dohna* (28: 629; 1792/93) and *Religionslehre Volckmann* (28: 1176; 1783/4).

³⁷ For instance, see *R* 5783, *R* 5784, *R* 5786 and *R* 6207.

³⁸ Some readers may wonder why I am tempering my conclusion. Doesn't Kant's resolution of the mathematical Antinomies show that he rejects the principle of complete determination for empirical objects? I do not think they do, because, on my reading of the first and second Antinomy and their resolution, Kant nowhere claims that a particular empirical object is incompletely determinate; the empirical world is not an empirical object. However, the Antinomies are outside the scope of this paper; fully interpreting them, and showing how they are compatible with the interpretation of complete determination and transcendental idealism, must remain a goal for future work.

³⁹ I would like to thank Karl Schafer for listening to my original idea for this paper and encouraging me to write it, and Catherine Diehl, Michael Beaney and an anonymous reviewer for this journal for helpful comments on an earlier version.