

The Idea of the Systematic Unity of Nature as a Transcendental Illusion

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Abstract: The Appendix to the Transcendental Dialectic of Kant's first *Critique* is notorious for two reasons. First, it appears to contradict itself in saying that the idea of the systematic unity of nature is and is not transcendental. Second, in the passages in which Kant appears to espouse the former alternative, he appears to be making a significant amendment to his account of the conditions of the possibility of experience in the Transcendental Analytic. I propose a solution to both of these difficulties. With regard to the first, I argue that Kant does not contradict himself. With regard to the second, I argue that Kant is not making any change to his view of the conditions of the possibility of experience espoused in the Transcendental Analytic. The underlying cause of these apparent problems is also their solution: the transcendental illusion that nature is necessarily systematic.

The Appendix to the Transcendental Dialectic¹ of Kant's first *Critique* is notorious for two reasons. First, it appears to contradict itself in saying that the idea of the systematic unity of nature is and is not transcendental.² Second, in the passages in which Kant appears to espouse the former alternative, he appears to be making a significant amendment to his account of the conditions of the possibility of experience in the Transcendental Analytic. I propose a solution to both of these interpretive difficulties. With regard to the first, I argue that Kant does not contradict himself. With regard to the second, I argue that Kant is not making any change to his view of the conditions of the possibility of experience espoused in the Transcendental Analytic.

The key to understanding the consistency of the Appendix is also the key to understanding why reason cannot have any role in the formation of empirical concepts. First, I will argue that the doctrine of transcendental illusion accounts for the seemingly contradictory statements in the Appendix. Then, I will consider arguments from commentators that, according to the Appendix, the idea of the systematic unity of nature is necessary for the formation of empirical concepts. Finally, I will say exactly how I think the idea of the systematic unity of nature is to be understood.

1. The consistency of the Appendix

The charge of self-contradiction is most famously put by Norman Kemp Smith: 'The teaching of this section is extremely self-contradictory, wavering between a subjective and an objective interpretation of the Ideas of Reason' (Kemp Smith: 1962, 547). The alleged contradictions can be put in various terms. For example, in the Appendix, Kant says that the idea of nature as a system is objectively necessary (1998: 713; *CPR*, A648/B676), objectively valid (1998: 715; *CPR*, A651/B679), transcendental (1998: 715, 725; *CPR*, A650/B678, A663/B691), indispensable (1998: 710; *CPR*: A644/B672), yet he also says it is indeterminate

(1998: 726; A664-665/B692-693), a heuristic (1998: 725, 731; *CPR*, A663-664/B691-692, A671/B699), a scholastic rule (*Schulregel*) (1998: 716; *CPR*, A652/B680), and merely a maxim (1998: 727; *CPR*, A666/B694).³

These claims seem mutually incompatible. Michelle Grier has argued that there is no contradiction because the systematic unity of nature is a transcendental illusion (Grier 2001, 263-301). I agree that Kant claims that the idea of the systematic unity of nature is a transcendental illusion, but I differ with Grier on details of interpretation and on what Kant's position amounts to. I argue that the idea of the systematic unity of nature is a transcendental illusion, and I will discuss how this interpretation can accommodate the most difficult passages in the Appendix.

1.1 Transcendental illusion

According to Kant, empirical illusion (*empirischer Schein*) occurs when the empirical use of the understanding is misled by the influence of the imagination (1998: 406-407; *CPR*, A295/B351-352). Kant gives the example of the moon appearing to be larger when rising (1998: 408; *CPR*, A297/B354). In such a case, the imagination associates appearances in a way that is only subjectively necessary, though it can easily be taken to be objectively necessary. Although judgements based on illusion are mistaken, the illusion itself is not necessarily deceptive. Error only enters when one makes a certain judgement about appearances, but appearances themselves cannot be mistaken (Kant 1998: 405-406; *CPR*, A293-294/B349-350). That is, if one judges that what seems to be true really is true, then one has been deceived by the illusion. However, even if one does not judge falsely, the illusion persists. Although the astronomer knows that the moon's true size is not affected by whether it is rising or setting, it still appears to him to be larger when rising (Kant 1998: 408; *CPR*, A297/B354).⁴

Kant claims that logical illusion (*logischer Schein*) consists in the mere imitation of the form of reason and results from a lack of attention to logical rules. As soon as one's attention is sharpened, then the logical illusion disappears (Kant 1998: 408; *CPR*, A296-297/B353). For example, it might seem to one who has been skipping one's logic class that, given 'A→B' and 'B,' one may conclude 'A.' This illusion will dissipate once one pays closer attention. One might define logical illusion as a subjectively necessary connection of concepts in a judgement. Unlike empirical illusion, logical illusion cannot persist once it is known to be an illusion. That is because logic is nothing but the form of thinking for Kant, so there can be no logical seeming apart from thinking of some kind (Kant 1998: 26; *CPR*, Bxxiii).

Like empirical illusions but in contrast to logical illusions, transcendental illusions are not dissipated once one realises that the illusion is an illusion through a critique (Kant 1998: 408; *CPR*, A296-297/B353). Kant defines transcendental illusion (*transzendentaler Schein*) as follows:

In our reason (considered subjectively as a human epistemic faculty) there are principles and maxims of its use which have the entire appearance of objective principles, and thereby it happens that the subjective necessity of a certain connection of concepts, for the sake of the understanding, is held to be an objective necessity, the determination of the thing in itself (1998: 408; *CPR*, A297/B353).

Thus, any maxim of the use of reason which is taken to be objectively necessary when it is only subjectively necessary is a transcendental illusion. The subjective necessity arises from the human epistemic faculties (*Erkenntnisvermögen*), just as in the case of empirical illusion (Kant 1998: 408; *CPR*, A297/B353-354). According to Kant, reason is merely the subjective law of the management of our understanding to bring about the most general use of the understanding by subsuming all concepts under the smallest possible number of general concepts. Reason thus has only indirect relation to objects via the understanding (Kant 1998: 415; *CPR*, A306/B362-

363). Its conclusions are those of deduction from what the understanding gives it, not of immediate knowledge such as the understanding has (Kant 1998: 412-414; *CPR*, A303-305/B359-361).

1.2 The idea of the systematic unity of nature as a transcendental illusion

Although Kant does not use the term *transzendentaler Schein* in the Appendix, he does refer to the *Illusion* that an idea refers to an object (1998: 710; *CPR*, A644/B672).⁵ Kant says that ideas cannot be constitutive and must always be regulative (1998: 709-710; *CPR*, A644/B672). Their regulative use, however, is indispensably necessary for reason to orient the understanding toward a goal outside the boundaries of possible experience. This goal is the greatest unity of the concepts of the understanding (Kant 1998: 709-710; *CPR*, A643-644/B671-672).

Kant makes an analogy between this goal and a mirror image understood as an imaginary focal point (*focus imaginarius*). When one looks into a mirror, one is seeing a virtual image which results from the reflection of light off of the mirror. The virtual image appears to be a certain distance behind the mirror (Kant 1998: 710; *CPR*, A644-645/B672-673). The virtual object appears to be where the light rays reflected off of the mirror would converge if they were not reflected off of the mirror. This optical illusion itself is not a mistake, since only a judgement about the illusion can be mistaken. For example, one does not usually think that when one sees oneself in a mirror that one is seeing another person.⁶ One merely *uses* the virtual image for the purpose of, say, combing one's hair.

Similarly, the systematic unity of nature is only an idea, a projection from the known to a point beyond the bounds of possible knowledge. As Kant says, this serves as a goal for the understanding:

All its rules converge in a point which, even though only an idea (*focus imaginarius*), that is, a point from which the concepts of the understanding do not actually proceed, because it lies entirely outside the boundaries of possible experience, nevertheless contributes to accomplishing the greatest unity as well as the greatest scope (1998: 710; *CPR*, A644/B672).

It appears to be the convergence of all concepts in a single idea beyond all possible experience.

The unity posited by the idea is an ordered combination or system, as opposed to an aggregate of concepts (Kant 1998: 711; *CPR*, A645/B673). One does not get this idea from nature, but one demands that nature conform to it. This means that if our experience does not conform to it, we consider it to be defective and search for unity (Kant 1998: 711; *CPR*, A645-646/B673-674). Thus, while the unity is *actually* subjectively necessary, the thought of it may be said to appear to be objectively necessary (Kant 1998: 408; *CPR*, A298/B354). That is what makes it an illusion.

1.3 Textual support

Though it would be tedious to discuss how the doctrine of transcendental illusion can account for every apparent contradiction in the Appendix, I will consider several illustrative passages. In many of these cases Kant himself does not state that the idea of the systematic unity of nature or its derivative principles have objective reality, but that they pretend to or we assume that they do. For example, Kant says of the idea of a fundamental force underlying all various appearances that it ‘*pretends* to have objective reality’ (1998: 714; *CPR*, A650/B678, emphasis added). This is because even if all attempts to find unity in diversity fail, ‘we *assume*’ we will find it. ‘Reason *assumes* systematic unity of manifold forces because particular natural laws stand under more general ones, and the economy of principles *becomes* not just an economical principle of reason, but an inner law of nature’ (Kant 1998: 715; *CPR*, A650/B678, emphasis added). This passage is cited by commentators as arguing that the idea is objectively valid.⁷ But

as the italicized words show, Kant makes no such claim. Rather, we assume that this principle is not one merely of economy, but that it is something more—a law of nature.

Kant says that though one might believe that maxims such as Ockham's Razor are merely for saving effort, 'such a selfish purpose is very easy to distinguish from the idea that everyone presupposes: this unity of reason fits nature itself, that reason does not here beg but command, even though it cannot determine the boundaries of this unity' (1998: 717; *CPR*, A653/B681). Commentators are divided on whether this passage is saying that the unity of reason is subjective or objective.⁸ But that everyone *presupposes* that reason does not here beg but command does not mean that nature *really does* not here beg but command. Kant only says here that the *assumption* that the idea is objectively valid is easy to distinguish from the idea being merely subjectively valid.

Another case concerns the principles of genera, species, and continuity, which are entailed by the idea of the systematic unity of nature. According to the principle of genera, homogeneity must be found in the manifold of appearances in order for empirical concepts to be possible (Kant 1998: 717; *CPR*, A653-654/B681-682). According to the principle of species, heterogeneity must be found in the manifold of appearances in order for empirical concepts to be possible (Kant 1998: 719; *CPR*, A656/B684). The conjunction of these two principles entails that once all appearances can be subsumed under general concepts, all appearances fit into a system of hierarchically organized concepts (Kant 1998: 720-721; *CPR*, A657-658/B685-686).

Kant says of these principles,

One regards that they *judge* the economy of fundamental causes, the manifold of effects, and the resultant relation of the members of nature for themselves as according to reason and appropriate to nature and that these principles therefore directly carry their recommendation with themselves and not merely as handles [*Handgriffe*] of method (1998: 723; *CPR*, A661/B689, emphasis added).

That is, Kant says that the principles of genera, species, and continuity judge nature to be unified under these ideas. This is perfectly compatible with this unity being a transcendental illusion.

The remark that these principles carry their recommendation with themselves and not as

Handgriffe of method is only a *result* of the judgement that they are appropriate to nature.

One passage says that the same principles of genera, species, and continuity ‘may appear [*scheinen*] to be objective’ (Kant 1998: 727; *CPR*, A666/B694).⁹ As another passage says, these principles

Appear [*scheinen*] to be transcendental, even though they contain only ideas for following the empirical use of reason of which the last is used only as it were asymptotically, that is, they can approximately follow without ever reaching, they nonetheless as synthetic a priori propositions have objective, though indeterminate validity, and serve for rules of possible experience, also *actually* [*wirklich*] for the arrangement of the same, and are used as heuristic principles with good success (Kant 1998: 725; *CPR*, A663/B691, emphasis added).

First of all, Kant repeats that these principles ‘appear’ transcendental, ‘even though’ they are only used asymptotically. He then says that ‘as synthetic a priori propositions’ they have ‘objective, though indeterminate validity’. The principles’ a priori status is not that of a priori knowledge, but of mere independence of experience. That is, they are *assumed* a priori (Kant 1998: 715; *CPR*, A650-651/B678-679). What is assumed independently of experience is not necessarily known independently of experience. The use of ‘actually’ shows that Kant goes from talking of the illusion of objective validity to talking of the actual subjective use of the principle as heuristic.¹⁰

Once Kant's doctrine of transcendental illusion is understood, the Appendix no longer appears to contradict itself. Close examination reveals that every passage in which Kant appears to claim objective validity or ascribe transcendental significance to the idea of the systematic unity of nature refers to an assumption or presupposition. The assumption or presupposition in

question is that the idea of the systematic unity of nature is transcendental or objectively valid. As Kant declares at the beginning of the Appendix, this is a transcendental illusion (1998: 709-710; *CPR*, A643-645/B671-673). However, I have not yet considered the two most problematic passages (Kant 1998: 715, 717; *CPR*, A651/B679, A653-654/B681-682).¹¹ Since they are pivotal to the claims that the idea of the systematic unity of nature is necessary for the formation of empirical concepts, I will discuss them in the next section in connection with those claims.

2. Arguments that the idea of the systematic unity of nature is necessary for the formation of empirical concepts

Some commentators claim that Kant argues in the Appendix that the idea of the systematic unity of nature is necessary for the formation of empirical concepts. The commentators I will discuss rely on two claims Kant makes.

2.1 A criterion of empirical truth

Henry Allison says with regard to the idea of the systematic unity of nature and its derivative principles that ‘at times Kant...insists on their indispensability for the operation of the understanding’ (2004: 424). Allison refers to Kant's argument at A651/B679 (Kant 1998: 715). There Kant says that the only way that the principle of the logical unity of rules can exist is if the systematic unity of the objects themselves is a priori assumed to be necessary. Kant gives the example of positing a single fundamental force that underlies all apparent forces. If all forces were completely heterogeneous, then the assumption that nature were unified would set a goal at variance with nature being a system. Kant continues:

For the law of reason to seek [the unity of nature] is necessary, because without it we would not have reason at all, but without this no coherent use of the understanding, and without that no adequate criterion [*zureichendes Merkmal*] of empirical truth, and we must therefore in light of this last point definitely *assume* the systematic unity of nature *as* objectively valid and necessary (1998: 715; *CPR*, A651/B679, emphasis added).

Paul Guyer says this passage suggests ‘without explanation that reason and its idea of systematicity are somehow directly involved in the generation of empirical concepts and cognition’.¹² Guyer also says concerning this passage that ‘Kant’s statement is resounding. Unfortunately, he does not explain how or why systematicity is required in order to have an empirical criterion of truth [*sic*]’ (1990: 28). Aside from Guyer’s obvious slip in calling the criterion of empirical truth an empirical criterion of truth, he raises an important point.

To say that reason demands that one seek unity in nature is understandable enough, given Kant’s definition of reason. And to say that there is no coherent use of the understanding without reason is also merely a matter of stipulation. Up to this point, the argument is clear: without reason, concepts that the understanding discovers cannot be united into higher order concepts. But what does it mean to say that there is no adequate criterion of empirical truth without reason? Kant does not elaborate.

It is difficult to imagine how the law of reason to seek the unity of concepts could serve as a criterion of empirical truth in one sense. Concepts that admit of unification are not for that reason applicable to a sensory manifold. As Allison rightly points out,

Clearly, Kant is not claiming that systematicity is, *of itself*, a sufficient criterion of empirical truth, as if the systematic embeddedness of an empirical generalization or ‘law’ in an overarching theory or set of laws were sufficient to account for its truth. The claim is rather that systematicity is necessary in order to have a sufficient criterion of empirical truth and, therefore, a coherent use of the understanding (2000: 82).

The ‘truth’ Kant is concerned with here seems to be not at the level of the understanding forming concepts, but at the level of reason ordering concepts. That is, given that reason requires the ordering of concepts, there must be a criterion for doing so. The idea of the systematic unity of nature could be the criterion for deciding among rival systematizations.¹³ The passage means only that the idea of the systematic unity of nature is the goal or end point to which reason

strives. This does not mean that it is indispensable for the operation of the understanding, but only indispensable for the unity of the concepts of the understanding.

In a similar passage, Kant says that ‘the systematic unity of empirical cognition of the understanding ... is the touchstone [*Probienstein*] of the truth of rules’ (1998: 712; *CPR*, A647/B675). Again, the sense of the ‘truth’ of ‘rules’ must be specified. Immediately after saying that the idea of the systematic unity of nature is the touchstone of the truth of rules, Kant says that the unity is ‘only a projected unity’ that ‘must be seen as only as a problem’ (1998: 712; *CPR*, A647/B675). That is, if the touchstone of the truth of rules is only projected and assumed to exist as a problem, then there is no *actual* touchstone of the truth of rules. ‘This systematic unity or unity of reason is a logical principle that *helps* the understanding *where it cannot attain rules* to bring its rules to unity under a single principle and thereby achieve coherence insofar as it is possible’ (Kant 1998: 713; *CPR*, A648/B676, emphasis added). That is, in the system that reason outlines for the understanding, there will always be gaps. Reason helps the understanding see that there are such gaps and where they are. Reason provides a goal to guide the understanding to find affinities among empirical concepts to form more general concepts. For example, Kant says that Ockham’s razor has led chemists to class all salts into two main genera (acidic and alkaline) and to seek to unite those two genera under one genus (Kant 1998: 716; *CPR*, A652-653/B680-681).

2.2 The logical principle of genera

Earlier I mentioned that, according to Kant's definition of the principle of genera, if there were no homogeneity in appearances, empirical concepts would not be possible. Kant says more about this. I will quote this passage at length, since it is relied upon heavily by the commentators I will discuss.

If under the appearances that present themselves to us there were such a great diversity, I do not want to say of form (because they could be similar to one another), rather of content, that is of the manifold of existing beings, that even the sharpest human understanding could not discover the least similarity through comparison of one with the other (a case that is easily imagined), then the logical law of genera would not occur at all, and the concept of genus or any more general concept would not occur, as concerning only that. The logical principle of genera therefore presupposes a transcendental principle, when it is to be used on nature (under which I understand only objects that are given to us). According to the same a necessary homogeneity [*Gleichartigkeit*] is presupposed in the manifold of possible experience (if we at the same time cannot determine its degree), because without the same no empirical concepts would be possible, therefore no experience would be possible (Kant 1998: 717; *CPR*, A653-654/B681-682).

This passage seems to say two things that are problematic in themselves and that are at variance with the Transcendental Analytic. First, it seems to say that without the presupposition of necessary homogeneity, no empirical concepts would be possible. Second, it seems to say that without empirical concepts, experience would be impossible. If both these statements are true, then without the presupposition of necessary homogeneity, experience would not be possible. This would make the presupposition of necessary homogeneity necessary for experience.

However, the Transcendental Analytic and the *Jäsche Logik* provide an account of the formation of empirical concepts which makes no mention of a presupposition of necessary homogeneity. Further, the Transcendental Analytic and the *Jäsche Logik* provide an account of how experience is possible without empirical concepts. Besides conflicting with Kant's positions enunciated elsewhere, this argument is problematic in its own right. There is no reason why empirical concepts require a presupposition of a necessary homogeneity or why experience is impossible without empirical concepts. I will provide support for these claims in my discussion of Allison's and Ido Geiger's readings of this passage.

According to Allison, the presuppositions of necessary homogeneity and heterogeneity of the manifold of possible experience are necessary for 'the operation of the understanding.' As he says,

Without unity, that is, without the possibility of grouping diverse phenomena into genera and these into higher genera, and so forth, the understanding could gain no foothold in the world. Similarly, without the capacity to draw distinctions within these genera, that is, to divide them into species, and these into subspecies, and so forth, the understanding would be unable to take a single further step (Allison 2004: 434).

What Allison says here is right, as far as it goes. But this does not entitle him to say that the principles of genera, species, and continuity are ‘indispensable for the operation of the understanding, rather than [being] mere desiderata of reason’ (Allison 2004: 434).

The passage concerns the possibility that the manifold of possible experience is completely heterogeneous. Of course, if this were true, then neither empirical concepts nor experience would be possible.¹⁴ But all Kant has supposed in this counterfactual statement is there being *no* similarity *at all* among appearances. Thus from the fact of experience only ‘a necessary homogeneity in the manifold of possible experience’ follows (Kant 1998: 717; *CPR*, A654/B682, emphasis added). The law of genera as Kant states it requires not some *minimum* of homogeneity but the *maximum*. The logical law of genera demands that *all* concepts must have something in common (Kant 1998: 716; *CPR*, A651-652/B679-680). Since experience is possible even if the logical law of genera does not obtain, the fact of experience does not permit a transcendental deduction of the logical law of genera.¹⁵ Thus understood, the passage in question is no support for holding that the principle of genera ‘is an application condition of the understanding in the sense that it is indispensable to the latter’s endeavor to form empirical concepts,’ as Allison does (2004: 436).

Geiger's argument is much more involved. He takes the idea of the systematic unity of nature to be necessary for experience because it ‘is a necessary condition of the very meaningfulness of empirical concepts,’ which he takes to be necessary for experience (Geiger 2003: 285). First I will explain why Geiger thinks the idea of the systematic unity of nature is

necessary for the meaning of empirical concepts. Then I will explain why Geiger thinks that without empirical concepts, experience would be impossible.¹⁶

Geiger contrasts what he takes to be Kant's theory of the meaning of empirical concepts with that of Hume. He describes Hume's theory as follows: 'Empirical concepts owe their content or meaning, ultimately, to individual impingements of reality on our senses' (Geiger 2003: 287). According to Geiger, attributing such a view of empirical concept formation to Kant is wrong because it entails that perception of nonconceptual content is possible. As he says, 'this commitment surely flies in the face of one of Kant's most important and best known dicta: "intuitions without concepts are blind"' (Geiger 2003: 288). According to Geiger, the meaning of empirical concepts is not provided by intuition, but by the relation of empirical concepts to one another. That is,

The meaning of an empirical concept can only be given by more specific empirical concepts subsumed under it; these more specific concepts give the rules for applying the higher concepts to objects. Thus, to have one empirical concept is [just] to have the regulative idea of a hierarchical system of all empirical concepts. The idea of a systematic whole of empirical concepts is a condition of the very meaningfulness of any empirical concept, and so of our possession of any empirical truth (Geiger 2003: 274).

There are two problems with this view. First, if empirical concepts do not get their meaning from intuition but from their relation to one another, we need more than the *idea* of a systematic unity of nature in order to have meaningful empirical concepts. Rather, we would need to *actually have a system* of empirical concepts if any empirical concept were to have any meaning whatsoever. The idea of a system is not the same thing as a system. Second, on Kant's view empirical concepts do get their content or meaning from intuition. Kant says when defining empirical concepts that they contain sensation (Kant 1998: 129; *CPR*, B74). He also says that the comparison of representations precedes the concept of the thing (Kant 1998: 385; *CPR*, A269/B325).¹⁷ Additionally, Kant says in his *Jäsche Logik* that 'the empirical concept springs

from the senses through comparison of the objects of experience and receives only the form of generality from the understanding. The reality of these concepts rests on actual experience, from which they are created with regard to their content' (1923: 92; *JL*, 9.92).¹⁸ These statements make clear that empirical concepts get their content or meaning from intuition.¹⁹

According to Geiger, experience is impossible without empirical concepts (2003: 284, 288-290).²⁰ His argument for this is as follows. The rule for applying a given empirical concept cannot be sensible, nor can it be derived from the categories. It can only be a matter of relation to other empirical concepts (Geiger 2003: 288-289). As Geiger puts it, yellowness cannot be experienced without the empirical concept 'yellow' (2003: 288). This is what Geiger takes Kant to mean when Kant says 'intuitions without concepts are blind' (Kant 1998: 130; *CPR*, B75). As Geiger puts it, '*intuitions without empirical concepts are still blind*' (2003: 290). When considering the claim that only the categories make it possible for empirical comparison and generalization to take place, he declares that this is 'contrary to Kant's explicit claim' in A653-654/B681-682 (Kant 1998: 717), which he takes to be that without empirical concepts, experience would be impossible.

This claim rides entirely on the 'therefore' (*mithin*) in the clause 'without [a necessary homogeneity in the manifold of possible experience] no empirical concepts would be possible, therefore no experience would be possible' (Kant 1998: 717; *CPR*, A654/B682). While this may be easily read as entailing that experience is impossible without any empirical concepts, Kant nowhere says why experience is impossible without empirical concepts. Furthermore, this 'therefore' can be understood differently. One is not compelled to read it as saying that experience is impossible without empirical concepts. Rather, one can read it as saying that if empirical concepts are impossible, then so is experience. That is, if there were no homogeneity

in the manifold of possible experience, neither empirical concepts nor experience would be possible. This passage is therefore weak evidence for the view that Kant believed experience to be impossible without empirical concepts.

That empirical concepts get their meaning or content from intuition and that empirical concepts are not required for experience both entail that perception of nonconceptual content is possible. While I cannot give a thorough account of the place of nonconceptual content in Kant's Critical philosophy, I will refer to a passage from the *Jäsche Logik*:

In every act of knowing [*Erkenntnis*], material, that is, the object, must be distinguished from form. For example, if a savage [*Wilder*] sees a house in the distance, the use of which he does not know: so he has the same object in the representation before himself as another who knows for certain that it is a habitation made for humans. But the form in this act of knowing one and the same object is different in both. For the one it is mere intuition, for the other it is intuition and concept at once (Kant 1923; *JL*, 9.33).

One might argue that the “savage” has the empirical concepts such as ‘wood’ or ‘stone’ that allow him to make some sense of what he sees, just not as well as someone who has the empirical concept ‘house’. However, Kant states that the act of knowing for the savage consists of intuition only and no concepts at all.²¹

Since intuition without concepts is not meaningless, Geiger’s claim that the rules for empirical concept application must be conceptual must be rejected. Upon close consideration, A653-654/B681-682 (Kant 1998: 717) does not say that the logical law of genera is necessary for the formation of empirical concepts or that experience is impossible without empirical concepts.

3. The proper understanding of the idea of systematic unity of nature

In resolving the two interpretive difficulties of whether the Appendix is consistent with itself and whether it is necessary for the formation of empirical concepts, I have briefly mentioned how I think the idea of the systematic unity of nature is correctly understood. Here I

will elaborate on those claims by detailing in what sense the idea of the systematic unity of nature is necessary, transcendental, and objectively but indeterminately valid.

3.1 Necessary

What does it mean to say that the idea of the systematic unity of nature is ‘necessary’?²² I have already argued that it is not necessary for experience. This would make the idea objectively necessary or necessary for the knowledge of any object (Kant 1998: 172; *CPR*, A93/B125-126). However, I have not yet considered whether the idea of the systematic unity of nature is necessary for knowledge of some particular object. One might think that without the idea of a systematic unity of nature that some particular empirical concept would never be discovered by anyone. That is, the idea of the systematic unity of nature can make *some* empirical concept possible *for someone* by pointing the understanding in a direction in which it would not have gone otherwise. Kant rules out this possibility when he says that the understanding might well stumble upon the empirical concept in question without reason telling it what to look for, however unlikely that might be.²³

The idea of the systematic unity of nature can only be subjectively necessary for the knowledge of an object. According to Kant, a rule that connects representations is merely subjectively necessary when the rule is due not to the object, but only to the subject (Kant 1998: 205; *CPR*, B168).²⁴ That is, it could be the case for a particular person in a particular circumstance that only with the aid of the idea of the systematic unity of nature could that person discover a given empirical concept. There is no reason why *anyone* in *any circumstance* could not have discovered a particular empirical concept without using the idea of the systematic unity of nature as a guide.

3.2 Transcendental

Kant says that the idea of the systematic unity of nature is assumed to be or is presupposed as 'transcendental,'²⁵ and I have argued above that he means only that it is a transcendental illusion. What sense of 'transcendental' is at work here? One must distinguish the logical from the transcendental use of both the idea of the systematic unity of nature and the principles that it entails. The logical use brings about the advancement of empirical knowledge by showing to what extent our existing empirical concepts do and do not admit of systematization. Kant describes the logical use as follows: ordering empirical concepts insofar as they permit of ordering (Kant 1998: 709, 724-725; *CPR*, A643/B671; A663/B691), making logical prescriptions in order to approach the completeness of conditions and attain the greatest possible unity of our knowledge (Kant 1998: 417; *CPR*, A308-309/B365), and bringing about the smallest possible number of the most general empirical concepts by comparing them with one another (Kant 1998: 415; *CPR*, A306/B362-363).

Kant says the logical principle (that all concepts can be unified into higher concepts and divided into lower concepts to form a system with no gaps) presupposes the transcendental principle (that nature itself admits of systematization) (Kant 1998: 715; *CPR*, A650-651/B678-679). That is, the logical principle would not always advance empirical knowledge if the transcendental principle were false. In such a case, the use of the logical principle would sooner or later lead the understanding astray in attempting to systematize something which did not admit of systematization (Kant 1998: 722-723; *CPR*, A660/B688). If that were true, one could only use the logical principle as a heuristic guide to scientific investigation. That nature is systematizable can never be known, so it can never be more than an assumption that nature is systematizable (Kant 1998: 719; *CPR*, A656/B684). When Kant talks about assuming that

nature is systematizable, he means nothing more than assuming that this principle is transcendental. Of course, assuming that something is the case does not mean that it is the case.

Does this use of 'transcendental' differ from that used in the Transcendental Analytic? Kant defines 'transcendental' as what grounds the a priori possibility of knowledge of objects (Kant 1998: 83, 191; *CPR*, B25; B150). Since Kant also claims that transcendental ideas are regulative and not constitutive (Kant 1998: 709; *CPR*, A644/B672), the obvious question is how what does not constitute objects can nevertheless make them a priori possible. In the absence of overdetermination, what makes something possible is a necessary condition of that thing. So, if the idea of the systematic unity of nature makes knowledge of objects possible, in the absence of anything else that could do the same job, that would be a necessary condition of knowledge of objects. But the assumption that nature is systematizable is not necessary for the knowledge of objects (or, equivalently, for experience). While some have argued that the idea of the systematic unity of nature is required for experience because it is required for empirical concept formation and empirical concepts are required for experience, I have rejected that argument.

Kant seems to be using the term 'transcendental' in a different way when describing in what sense a transcendental deduction can be given of the psychological, cosmological, and theological ideas. He says that while they are not constitutive but only regulative, if they lead up to (*auf*) systematic unity and *always* extend empirical knowledge, it is a 'necessary *maxim* of reason to proceed according to the same ideas' (Kant 1998: 731; *CPR*, A671/B699).

'Transcendental' in this watered-down sense applies to any principle whose use always extends empirical knowledge. One might question whether the use of the idea of the systematic unity of nature will *always* extend empirical knowledge. In fact, Kant admits that it does not always extend empirical knowledge when he says if the unity one seeks is not found in a particular case,

one nevertheless assumes that it eventually will be found (Kant 1998: 714-715; *CPR*, A650/B678). So the idea of the systematic unity of nature is not even transcendental in this watered-down sense. The idea is only assumed to be or presupposed as transcendental in this watered-down sense. One presupposes that the idea is transcendental in this sense in order to justify use the logical principles of genera, species, and continuity. That these principles seem to always extend empirical knowledge (to be transcendental) may thus be termed a transcendental illusion, but one need not be deceived by this illusion in order to see the usefulness of these principles.

3.3 Objectively but indeterminately valid

Given that the principles of genera, species, and continuity are not transcendental, it is no surprise that Kant says that no transcendental deduction of them can be given (Kant 1998: 725; *CPR*, A663-664/B691-692). Kant refers to the same reason he gives for why there can be no ‘objective deduction’ of the psychological, cosmological, and theological ideas: ideas have no relation to an object that can correspond to them (Kant 1998: 439; *CPR*, A336/B393). So it is surprising that he says that the principles of genera, species, and continuity nevertheless have objective but indeterminate validity (Kant 1998: 725; *CPR*, A663/B691).

Kant does not immediately say what he means by this. But in the second section of the Appendix, Kant says that a transcendental deduction of the psychological, cosmological, and theological ideas is possible. Just as with the principles of genera, species, and continuity, he says it cannot be of the kind he gave of the objective validity of the categories (Kant 1998: 730; *CPR*, A669-670/B697-698). His reasons are as follows. He says that ideas of reason act as schemata not to determine objects, but to indirectly allow their representation to us through the systematic unity of the idea in question (Kant 1998: 730; *CPR*, A669-670/B697-698). This

indirectness is the cause of the indeterminateness of the objective validity of the transcendental ideas. Kant says the acts of the understanding can only be made determinate by schemata. Since there can be no schema for the systematic unity of all empirical concepts, that unity is indeterminate. Nevertheless, ‘the idea of the maximum of division and unity of knowledge of the understanding [*Verstandeserkenntnis*] in one principle’ is an analogue of a schema for bringing about the unity of concepts. The idea of a maximum is itself determinate, though it cannot be determinately applied to any object, since it only applies to an object indirectly (Kant 1998: 726-727; *CPR*, A665/B693). The indeterminateness of the use of this idea means, among other things, that it cannot always extend knowledge. Since the goal of the systematic unity of nature is indeterminate, one cannot be certain in a given case that one has found what one is looking for.

So now we know why Kant says the principles entailed by the idea of the systematic unity of nature are objectively but indeterminately valid. ‘Objectively valid,’ like ‘transcendental,’ is used here in the watered-down sense of being a condition for the knowledge of some but not all objects. But even in that case, there is, just like the watered-down sense of ‘transcendental,’ no reason to believe that the idea of the systematic unity of nature is ‘objectively valid’ in the sense of being a condition of the knowledge of any particular object. Because the use of the idea of the systematic unity of nature to guide scientific research more often than not extends knowledge, the idea may be assumed to always extend knowledge. That is why Kant speaks of the idea being assumed to be or presupposed as objectively valid.²⁶

3.4 Summary and conclusion

Allow me to summarize the points of this section. The idea of the systematic unity of nature is:

1. Not objectively necessary but only subjectively necessary,
2. Not transcendental, but is only assumed to be or presupposed as transcendental, and
3. Not objectively valid, but is assumed to be objectively valid (or, if you will, objectively but indeterminately valid).

Strictly speaking, the idea is not transcendental, objectively necessary, or objectively valid in any sense. However, according to Kant, the benefits of assuming that the idea of the systematic unity of nature is all three of these things in a certain sense make the assumption unavoidable as a heuristic or maxim in scientific practice. This is what makes it a transcendental illusion. As long as one keeps the difference firmly in mind between assuming that the idea is transcendental and the idea really being transcendental, one is not deceived by the illusion. In fact, the illusion can be used to great effect, like the illusion that what I see in the mirror is myself.

Thus I hope to have demonstrated the following points. The Appendix to the Transcendental Dialectic of the first *Critique* does not contradict itself with regard to whether the idea of the systematic unity of nature is necessary, transcendental, or objectively valid.

According to Kant, the idea of the systematic unity of nature is a transcendental illusion which may nevertheless be useful, provided one keeps certain distinctions in mind. Furthermore, the idea of the systematic unity of nature is not required for the formation of empirical concepts or for experience.²⁷

References

- Allison, Henry (2000) 'Is the Critique of Judgement "post-Critical"?' In Sally Sedgwick (ed.), *The Reception of Kant's Critical Philosophy* (Cambridge: Cambridge University Press), pp. 78-92.
- Allison, Henry (2004) *Kant's Transcendental Idealism*, rev. ed. New Haven: Yale University Press.
- Brandt, Reinhard (1989) 'The deductions in the Critique of Judgement: Comments on Hampshire and Horstmann' in Eckhard Förster (ed.), *Kant's Transcendental Deductions*. Stanford: Stanford University Press.
- Buchdahl, Gerd (1969) *Metaphysics and the Philosophy of Science*. Cambridge, MA: MIT Press.
- Geiger, Ido (2003) 'Is the assumption of a systematic whole of empirical concepts a necessary condition of knowledge?' *Kant-Studien*, 94, pp. 273-298.
- Ginsborg, Hannah (1990) *The Role of Taste in Kant's Theory of Cognition*. New York and London: Garland Publishing.
- Ginsborg, Hannah (2008) 'Was Kant a nonconceptualist?' *Philosophical Studies*, 137, pp. 65-77.
- Goldberg, Nathaniel (2004) 'Do principles of reason have objective but indeterminate validity?' *Kant-Studien*, 95, pp. 404-425.
- Grier, Michelle (2001) *Kant's Doctrine of Transcendental Illusion*. Cambridge: Cambridge University Press.
- Guyer, Paul (1990) 'Reason and reflective judgement: Kant on the significance of systematicity' *Noûs*, 24, pp. 17-43.
- Guyer, Paul (2003) 'Kant on the systematicity of nature: Two puzzles' *History of Philosophy Quarterly*, 20, pp. 277-295.
- Hanna, Robert (2005) 'Kant and nonconceptual content' *European Journal of Philosophy* 13, pp. 247-290.
- Kant, Immanuel (1923) *Kant's Werke*, 23 vols. Berlin: de Gruyter.
- Kant, Immanuel (1968) *Critique of Pure Reason*, Norman Kemp Smith (trans.), London: Macmillan.
- Kant, Immanuel (1998) *Kritik der reinen Vernunft*. Hamburg: Meiner.

Kemp Smith, Norman (1962) *A Commentary to Kant's 'Critique of Pure Reason,'* 2nd ed. Atlantic Highlands, NJ: Humanities Press.

Kitcher, Philip (1986). 'Projecting the order of nature' in Robert E. Butts (ed.), *Kant's Philosophy of Physical Science* (Dordrecht: Kluwer), pp. 201-235.

Longuenesse, Béatrice (1998) *Kant and the Capacity to Judge*, Charles T. Wolfe (trans.) Princeton: Princeton University Press.

Walker, Ralph (1982) *Kant*. London: Routledge & Kegan Paul.

¹ This paper deals only with the first part of the Appendix to the Transcendental Dialectic, entitled, 'On the Regulative Use of Ideas'. I will hereafter refer to it simply as 'the Appendix'.

² I will only discuss empirical concepts in this paper, not empirical laws. A discussion of what the Appendix says about empirical law formation would require another paper.

³ 'CPR' stands for 'Critique of Pure Reason.' I refer to passages in CPR page numbers of the first edition page number (A) and second edition page number (B). All translations are my own, though in some cases I have not been able to improve upon Norman Kemp Smith's translation (Kant 1968).

⁴ Kant uses *Astronom* as opposed to *Astronomin*, so I use the male pronoun here.

⁵ Kant does use the term *transzendente Illusion* in the second part of the Appendix, called 'On the Final Purpose of the Natural Dialectic of Human Reason,' to describe the psychological idea (Kant 1998: 750; CPR, A695-696/B723-724, note 1).

⁶ Of course, if one suddenly comes across a mirror without expecting it, one may be momentarily startled at what seems to be another person.

⁷ Brandt 1989: 180. This passage begins the block (Kant 1998: 714-725; CPR, A650-663/B678-691) that Nathaniel Goldberg and Norman Kemp Smith claim ascribes objective validity to the idea of the systematic unity of nature (Goldberg 2004: 408-409; Kemp Smith 1962: 551).

⁸ According to Philip Kitcher, this is evidence that the idea is merely heuristic (Kitcher 1986: 213). According to Kemp Smith, this passage says that reason is not merely a way of coming up with hypotheses to test empirically. The 'alternative, that Reason is here propounding a tentative hypothesis, in order by trial to discover how far it can be empirically verified—an alternative which Kant in the above passage rejects as unduly subjective, and as

consequently failing to recognise the objective claims and *a priori* authority of the Ideas of Reason' (Kemp Smith 1962: 548).

⁹ Kitcher believes this to support the objective reading (Kitcher 1986: 213).

¹⁰ Kemp Smith believes this to be the beginning of a text block that characterizes the idea as subjective (Kemp Smith 1962: 551).

¹¹ The former was briefly mentioned above in defining the principle of genera, but other points are found in that passage that require discussion.

¹² The entire sentence says that both A651/B679 (Kant 1998: 715) and A654/B682 (Kant 1998: 717) suggest this (Guyer 2003: 281-282).

¹³ Philip Kitcher claims the idea of the systematic unity of nature 'must be construed as a directive for choosing among rival systematizations' (Kitcher 1986: 222). Gerd Buchdahl claims that a system places 'constraints on the number of possible 'rules' of uniformity, selecting those (as laws) from among infinitely many which can be fitted into such a system. *Per contra*, only those putative uniformities which can so be fitted will be regarded as laws' (Buchdahl 1969: 505).

¹⁴ However, the reason empirical concepts would be impossible is the same reason that experience would be impossible, as I will argue below.

¹⁵ This point is made by Ralph Walker (1982: 143).

¹⁶ I do not think Geiger considered the possibility of empirical concepts being meaningless yet nevertheless required for experience. Perhaps by 'meaning' he means the same as what Kant means by 'content' (*Inhalt*). In that case, a meaningless empirical concept is not a concept at all.

¹⁷ For an account of the role of the concepts of comparison (*Vergleichungsbegriffe*) in the formation of empirical concepts, see Longuenesse 1998: 162, 165.

¹⁸ I will abbreviate *Jäsche Logik* as "JL" and refer to vol. 9 of Kant 1923.

¹⁹ As Guyer says, 'most of what [Kant] says in the first *Critique* suggests that the understanding can succeed in subsuming empirical intuitions under empirical concepts without reference to any constraint of systematicity' (1990: 28). Guyer actually says this about A651/B679 (Kant 1998: 715), but he could just as easily have said it of A653-654/B681-682 (Kant 1998: 717), given his characterization of both passages in Guyer 2003: 281-282.

²⁰ See also Ginsborg 1990: 181, where this view is stated without argument.

²¹ See Hanna 2005: 257-270. Hannah Ginsborg denies that ‘we can isolate, within human cognition, actual representations that can be ascribed to sensibility alone.... Rather, to speak of sensibility in isolation from understanding is to speak counterfactually.... We would associate them [sensations] blindly, just as Kant takes animals to do’ (Ginsborg 2008: 75). The debate concerning whether nonconceptual content has a place in Kant's Critical philosophy cannot be pursued here.

²² See Kant 1998: 710, 711, 713, 715; *CPR*, A644-645/B672-673, A646/B674, A648/B676, A650-651/B678-679.

²³ Kant refers to scientific research without a previously thought-out plan as ‘mere groping around’ (*bloßes Herumtappen*) (1998: 19; *CPR*, Bxiv).

²⁴ For Kant, 'objective' and 'subjective' are not antonyms. Rather, what is objectively necessary is also subjectively necessary, but not everything that is subjectively necessary is objectively necessary (Kant 1998: 169; *CPR*, A89-90/B122).

²⁵ See Kant 1998: 713-715, 717, 719, 720, 722-723; *CPR*, A648/B676, A650-651/B678-679, A654/B682, A656/B684, A657/B685, A660/B688.

²⁶ See Kant 1998: 714, 715, 727; *CPR*, A650/B678, A651/B679, A666/B694.

²⁷ I would like to thank Manfred Kuehn, Judson Webb, and two anonymous referees for their helpful comments on earlier drafts of this paper.