

# A DEFENSE OF KANT'S SCHEMATISM

SHANE STEINERT-THRELKELD

October 21, 2010

In what follows, I will argue that Kant's 'Schematism of the Pure Concepts of the Understanding' does in fact solve, at least to a degree, the problem of how pure categories apply to appearances. This argument will proceed by examining how Kant frames the problem of schematism generally and in the case of the categories, how this actually is a problem distinct from what has been settled in the Transcendental Deduction, how Kant purports to solve this problem, and whether he succeeds in so doing. In the course of my interpretation, I will engage with the secondary literature in order to clarify this obscure chapter and respond to objections.

After the Transcendental Deduction concludes the Analytic of Concepts, the first book of the Transcendental Analytic, Kant moves on to the second book, the Analytic of Principles, which will be "a canon solely for *judgment*, instructing it how to apply to appearances the concepts of understanding"<sup>1</sup> (A132). The understanding being the "*faculty of rules*" (A126), the judgment will be the "faculty of subsuming under rules" (A132). In this general context of introducing the Analytic of Principles, Kant refers to the general problem of *how* concepts apply to appearances. Though he talks of the concepts of understanding, this refers to all concepts, which by definition exist only in the understanding, and not strictly the *pure* concepts of the understanding, the categories.<sup>2</sup> The instructions mentioned by Kant will (indeed, must) provide "universal but sufficient" conditions by which "objects can be given in harmony with these concepts"<sup>3</sup> (A136).

The Schematism,<sup>4</sup> then, addresses the problem of concept application with regard specifically to the pure concepts of understanding. As Kant mentions at the end of the introduction of the Analytic of Principles, the first chapter, the Schematism, "will treat of the sensible condition under which alone pure concepts of understanding can be employed" (A136). At A138, Kant specifically frames the question to be answered in the Schematism:

---

<sup>1</sup> In quotations, italics will always reflect emphasis in the original text. Added emphasis will be done in bold face.

<sup>2</sup> Many interpretations, including that of Bennett, argue that empirical concepts do not require schemata. We will later examine this claim and show it to be false, using an argument courtesy of Chipman.

<sup>3</sup> This harmony will not, of course, be a Leibnizian pre-established harmony, which Kant rejects in the B deduction.

<sup>4</sup> Schematism will be capitalized when referring to the chapter in the *Critique*.

“How, then, is the *subsumption* of intuitions under pure concepts, the *application* of a **category** to appearances, possible?”<sup>5</sup> This problem puts emphasis on explaining how the categories apply to appearances and in so doing represents a problem not solved by the Transcendental Deduction.

Whereas the Schematism purports to answer how the categories apply, the conclusion of the Transcendental Deduction is only that categories do in fact apply to appearances. Though we disagree on some details of interpretation, Pendlebury [1995, p. 778-779] puts it nicely: while “the Deduction argues in an abstract and general way *that* the categories *must* apply in experience, the Schematism attempts to show *how* it is *possible* to apply them to objects of experience.” Much of the secondary literature views the Schematism either as superfluous in that no conclusions are made here that were not in the Deduction<sup>6</sup> or as undermining the claims of the Deduction by adding content to what was allegedly proved there.<sup>7</sup> This dilemma implicitly conflates the project of examining how categories apply to appearances with the result that they must so apply.

The Transcendental Deduction establishes this latter claim, that the categories apply to appearances, while the Schematism purports to flesh out the former project. In Kant’s own words: “This is all we were called upon to establish in the transcendental deduction of the categories, namely, to render comprehensible this relation of understanding to sensibility, and, by means of sensibility, to all objects of experience” (A128). This quotation provides another way of understanding the relation between the Deduction and the Schematism. The Deduction proves that categories (the pure concepts of understanding) generally do apply to sensibility, but does not address whether all of them do and, for the ones that do, how they apply. As he concludes in the B deduction: “How they [the categories] make experience possible, and what are the principles of the possibility of experience that they supply in their application to appearances, will be shown more fully” (B167) in the Schematism.<sup>8</sup> In short, the Deduction shows that the categories must apply to appearances in order for experience to be possible, but leaves it to the Schematism to explain in detail how they do apply.

Having hopefully explained that the Schematism does in fact address a problem in need of solution at this stage of the *Critique*, we move now to examining Kant’s purported solution. The problem of category application requires that “there must be some third thing, which is homogeneous on the one hand with

---

5 The conflation of subsumption under rules and application to appearances will be addressed later in this paper.

6 Warnock argues that the lack of a use-meaning distinction collapses the problem of category application onto that of category possession, which is settled by the Deduction. Bennett [1966, p. 150] argues that the addition of the schemata “solves nothing” because they are special types of concepts and we know them to apply thanks to the Deduction.

7 See Schaper [1964, p. 270-271] and Chipman [1972, p. 41] for nice summaries of the dilemma just presented here. Walsh [1958] also begins his paper with an exposition of this dilemma.

8 How much of the solution offered in the Schematism is foreshadowed by the Deduction will be discussed when the solution is addressed.

the category, and on the other hand with the appearance" (A138). This mediating third thing (which we will soon see is a schema) must exist given what Kant has already established: that the categories are pure *a priori* concepts of the understanding, that appearances are given to the purely receptive faculty of sensibility, and that categories do apply to appearances. The former two conditions lead Kant to conclude that the categories are "quite heterogeneous from empirical intuitions" (A137) in that they can never be directly encountered in an appearance. Thus the schema, which will be examined in detail shortly, through mutual homogeneity with both the pure concept and the appearance, makes possible the application of the former to the latter.

While Kant does prescribe this degree of heterogeneity with appearances uniquely to the categories, he does not thereby, as many interpreters argue, claim that empirical concepts, being more homogeneous with appearance, do not require schemata. Bennett, for instance, though not arguing for the explicit equivalence of knowing how to use and possessing a concept as Warnock does, does maintain that if one possess a concept which has instances (as all empirical concepts do), one cannot misapply it to particular cases. In his example [see Bennett, 1966, p. 146], if I know that dogs are four-legged mammals, but continue to identify birds, humans, or anything else other than a dog as dogs, then I do not in fact possess the concept 'dog'. While such an argument is compelling for objects that we frequently encounter in experience, Chipman [1972, p. 45] deals a decisive blow by replacing 'dog' with the more obscure concepts of 'tadpole' and 'bone marrow'. These are cases where one can have the empirical concept without necessarily being able to distinguish a sensible appearance (after all, when was the last time you saw bone marrow?) of it. A schema is necessary to be able to apply the concept to the sensible appearances of it; thus, while we can have the concepts of 'tadpole' and 'bone marrow' without being able to apply them to sensory input, the concepts do not "obtain relation to objects and so possess *significance*" (A146) unless we have schemata for them. Though in the Schematism itself Kant only talks about the "third thing", i.e. the schema, in the context of categories and appearances, the remarks in the introduction, examples of non-categorical schemata that we will see later, and the argument above show that empirical concepts do in fact require schemata in order to apply to appearances.

Krausser [1976, p. 178-179] argues that this third thing is a logical impossibility. His argument hinges on a reading of homogeneity as "partial identity." Then if the schema (which is the third thing) is to mediate between the categories and appearances, it must do so via "partial identity *in the same respect to both*" [Krausser, 1976, p. 178]. But this cannot be possible given that the category and appearance are "entirely heterogeneous." Krausser's reading hinges on the conflation of application and subsumption, an error to which Kant's loose use of the two terms lends itself. Thus Krausser takes the homogeneity Kant discusses

to be a relationship between a class concept and an instance.<sup>9</sup> Though this reading has its merits, it ultimately will not suffice. Though Kant defines an object to be homogeneous with a concept only if the concept contains something which is represented in the object (A137), this just pushes the burden onto the notion of containment, which is so nearly synonymous with subsumption that we gain no insight here. Reading the containment for partial identity leads to the class concept reading of subsumption. We gain deeper understanding, however, when Kant states that the homogeneity between the pure geometrical concept of a circle and the sensible appearance of a plate exists because “the roundness which is thought in the latter can be intuited in the former” (A137). Because thoughts for Kant are never sensible, the roundness of the pure concept of the circle has no intuitive content. Only through a procedure of synthesis of the imagination which will allow us to “exhibit”,<sup>10</sup> via construction, the concept of a circle in pure intuition, do we find the concept homogeneous with the appearance of the plate. We can thus conclude with Allison [2004, p. 212] that “the homogeneity. . . is between pure and empirical intuition, not between a class concept and a member of that class.”

Before examining in detail how the particular schemata fulfill the criteria of Kant’s “third thing” in the case of the categories, we must examine a passage in the A deduction which discusses the need of such a third thing in order to show that the passage only foreshadows, but does not render unnecessary, the Schematism. At A124, Kant writes: “The two extremes, namely sensibility and understanding, must stand in necessary connection with each other through the mediation of this transcendental function of imagination.” Thanks to this function, the categories gain their “empirical employment. . . in connection with the appearances” (A125). Similarly, in §24 of the B deduction, Kant locates the source of the necessary applicability of categories to appearance in the imagination. These two passages foreshadow, but do not themselves establish, the results of the Schematism which, as we will soon see, explains category application via a product of the faculty of imagination. The title of §24, “The Application of the Categories to Objects of the Senses in General” again sheds some light on this gap that the Schematism will fill: Kant here establishes that a third faculty (imagination) besides understanding (which thinks in concepts) and sensibility (which receives appearances) will be required in order to account for the application of categories to appearances. The schemata will in fact be products of this third faculty. In this way, we see that the Deduction establishes that there must be a third thing above and beyond categories and appearances in order for the application (which is necessary to have experience) to work. The Schematism will fill

---

9 Krausser also implicitly requires that the homogeneity relationship be symmetric. Though never explicitly stated by Kant, this assumption seems acceptable by any notion of homogeneity.

10 Such procedures, in general, are schemata. I avoid using the word ‘schema’ here since the formal exposition of the schemata has not yet taken place.

in the details of what conditions this third faculty and third thing must satisfy and how the schemata satisfy these conditions.

Though Kant defines the transcendental schemata (i.e. those pertaining to the categories) in many different ways throughout the chapter, the most coherent reading takes them to be transcendental time determinations.<sup>11</sup> Though the nature of such determinations will become clearer when we examine particular schemata, Kant explains that they will serve as his “third thing” because a schema is “homogeneous with the category. . . in that it is universal and rests upon an *a priori* rule” and “homogeneous with appearance, in that time is contained in every empirical representation” (A138-139). We also see in this former homogeneity that transcendental time determinations are universal and in the latter that they are sufficient, these being the two criteria mentioned in the introduction of the *Analytic of Principles*.

The emphasis on time yields sufficiency because “all appearances are in time” (A182). Kant does not argue that schemata in general be restricted only to time, but that they must at a minimum be determinations of time. In the words of Strawson [1966, p. 31]: “It is sufficient, in the Schematism, to give the interpretation in terms of time alone, without explicit mention of space; for it is the temporal character of experience that is invoked in the premises of the argument of both the Deduction and the Principles” The schema of a circle, and geometrical concepts in general, may in fact involve spatial determinations as well. Kant’s triangle example in the Schematism seems to indicate as much. The schemata of such concepts, in providing rules for construction, which takes place through time, are still determinations of time. But while all schemata require time determination, they may not all require spatial determination. Warnock seems to miss this detail when he argues that the possession of a concept necessitates the physical construction (in outer sense, in Kant’s terminology) of a model of it.

To better understand what a transcendental schema is, we focus on Kant’s schema of magnitude, starting with the non-transcendental schemata of particular numbers. The image “. . .” is an image of the number three. But no image can be the schema, because the schema aims “only at unity in the determination of sensibility” (A140). For instance, “| | |” and “- - -” are also images of the number three, none of them being the schema of the concept of three. Furthermore, though we can quickly recognize these images as representing ‘three’,<sup>12</sup> this will not be the case when large numbers are considered. In these cases, the entire image cannot be apprehended at once, and so an act of determining, successively in time, how many homogeneous units are in the image will be required. What the schema of the number ‘three’ provides is a method whereby an image of the concept can be produced. Though the method may produce a visual image, it is also a determination of time in that it requires the successive

---

<sup>11</sup> Allison [2004, Ch. 8, Section III] provides a detailed account of the different possible definitions of schemata and why transcendental time determinations is the primary one.

<sup>12</sup> An act referred to as “subitizing” in the cognitive sciences.

addition of three homogeneous units. The rule also provides a method of recognizing an appropriate image as a number. Thus I recognize "... " as being an image of the concept 'three' if I count the identical dots, which is the successive addition of homogeneous units in time.

The above example generalizes in a fruitful way to the conclusion that "the pure *schema* of magnitude... is *number*, a representation which comprises the successive addition of homogeneous units" (A142-143). Thus we have a schema for every particular number and a schema for number in general. Kant is not clear whether the concept of a particular number is contained in the concept of number generally and so by subsuming a particular image ("... ") under a particular number concept ('three') via its schema we also subsume the image under the concept of number, or whether this more general subsumption requires a second act of the imagination. In either case, we see that the schema of number contains what is common to every particular number's schema.

By analogy, one may read Kant as advocating for the transcendental determination of time as the schema of the categories in general and then listing<sup>13</sup> the particular schema of each category, which will be a more focused determination of time in accordance with the formal unity of the particular category. Though this interpretation is a bit speculative,<sup>14</sup> there is support from Kant. At the beginning of the Schematism, he refers to transcendental time determinations as "the schema of the concepts of understanding" (A139). After listing the schemata of the categories individually, he then lists the schema of each of the four headings of categories, associating magnitude (quantity) with the generation of time, quality with the filling of time, relation with the connection of perceptions with one another at all times, and modality with time itself with regards to how and whether objects belong to it. In each case, the set of categories is listed as having one schema, even though each individual category also has a specific schema.<sup>15</sup>

This recognition of the various levels of schemata can also help us fill in a hole in Kant's exposition, namely the omission of schemata for the individual quantity categories: unity, plurality and totality. As seen earlier, Kant gives us a schema for quantity in general as the generation of time itself by the successive addition of homogeneous units.<sup>16</sup> Monck [1874, p. 43-44], in a reading "intended for students", writes: "In the Category of Unity I presume we should stop at the first term of the Time-series: for the Category of Plurality we should represent the addition of unit

<sup>13</sup> More on the incompleteness of the list of schemata later.

<sup>14</sup> And to my knowledge, original, although a similar reading probably exists in literature that I did not encounter.

<sup>15</sup> Interestingly, Kant refers to "the schema of modality and of its categories" (A145), implying that the three modality categories have the same schema as modality generally. In his discussion of possibility, actuality, and necessity, which are the three modality categories, we see that they do have distinct schemata, though all of them in some way restrict the "scope of time" (A145).

<sup>16</sup> Or as "the successive apprehension of an object" (A145), which connects well with the "... " example: the time determination comes from the successive apprehension of each "... ".

to unit without laying down any determinate limit; and for the Category of Totality we should limit the number of units and complete the addition up to this number.” Whether or not one has gripes with any of the particulars of this constitution of the schemata for the individual magnitude categories, I hope that my reading has shed light on how these individual schemata relate to the schema of magnitude. Though it is curious why Kant would omit these three particulars and not do so for the other groups of categories,<sup>17</sup> Kant does provide evidence for how the particular schemata should relate to the general schema of magnitude and so an exposition like Monck’s is consistent with the text.

Equipped with a better understanding of the schemata of the categories as transcendental time determinations, we are now in a position to argue that they do in fact solve the problem that the Schematism addresses. Though we have already seen how the schemata are homogeneous both with the categories and with appearances, this homogeneity alone does not explain how the schemata realize the applicability relation. This happens through a mutual realization and restriction of the categories. The schemata realize the categories because without them the categories “represent no object” (A147). Or in the famous words of the introduction of the Transcendental Logic,<sup>18</sup> “thoughts without content are empty” (A51). Though the categories, being pure concepts of understanding, do remain “after elimination of every sensible condition”, in that case they “can find no object, and so can acquire no meaning which might yield a concept of some object” (A147). The schemata provide a way of bringing (appearances of) objects under the categories so that the categories obtain significance. But the way that the schemata do so is via the imposition of sensible restrictions. The schemata provide rules which tell us under what particular determinations of inner sense (and occasionally outer sense) a particular category applies. In Kant’s own words: “This formal and pure condition of sensibility to which the employment of the concept of understanding is restricted, we shall entitle the *schema* of the concept” (A140). Therefore, by restricting the sensible conditions under which a category can be employed, the schemata at the same time realize that category by bringing appearances under it, thus giving meaning through content to the otherwise purely formal category.

Though the Schematism is a cryptic chapter (“highly obscure” in Walsh’s words), I have provided a careful reading which shows that this chapter does indeed address a real problem—*how* the categories apply to appearances—and that Kant provides a nearly complete solution in the Schematism. The objection that the Schematism serves no purpose rests on a misreading of what

---

<sup>17</sup> Though with regards to quality he offers schemata only for reality and negation, but not for limitation. The passage where he introduces these two, however, does offer some idea of how one might define limitation in terms of the “transition from the one to the other” (A143). This problem will not be addressed specifically in the scope of the present paper.

<sup>18</sup> The first division of which is the Analytic of Concepts, in which the Transcendental Deduction occurs as Chapter II. The second division of which is the Analytic of Principles, in which the Schematism occurs as Chapter I.

the Deduction establishes and, consequently, what remains to be established. Similarly, once we understand the Schematism as being the solution of the general problem of concept application in the case of the pure concepts of the understanding, some of the obscurity in the Schematism about pure versus empirical concepts and their schemata vanishes. The schemata, by providing at once a restriction on the categories and at the same time a rule of synthesis which allows for the recognition of appearances, give objective meaning to the categories, without which we would have no experience.

#### REFERENCES

- Henry E. Allison. *Kant's Transcendental Idealism: An Interpretation and Defense*. Yale University Press, New Haven, 2nd edition, 2004.
- Jonathan Bennett. *Kant's analytic*. Cambridge University Press, Cambridge, 1966. ISBN 0521093899.
- Lauchlan Chipman. Kant's Categories and their Schematism. *Kant-Studien*, 63(1-4):36–50, 1972. URL <http://www.reference-global.com/doi/abs/10.1515/kant.1972.63.1-4.36>.
- Immanuel Kant. *Prolegomena to Any Future Metaphysics*. Hackett, Indianapolis, second edition, 2001.
- Immanuel Kant. *Critique of Pure Reason*. Palgrave Macmillan, New York, 2007. ISBN 0-230-01338-4.
- Peter Krausser. Kant's Schematism of the Categories and the Problem of Pattern Recognition. *Synthese*, 33:175–192, 1976.
- William Henry S. Monck. *An introduction to the critical philosophy*. The University Press, Dublin, 1874. URL <http://books.google.com/books?id=fSUCAAAAQAAJ&pgis=1>.
- Michael Pendlebury. Making Sense of Kant's Schematism. *Philosophy and Phenomenological Research*, 55(4):777, December 1995. ISSN 00318205. doi: 10.2307/2108332. URL <http://www.jstor.org/stable/2108332?origin=crossref>.
- Eva Schaper. Kant's Schematism Reconsidered. *The Review of Metaphysics*, 18(2):267–292, 1964. URL <http://www.jstor.org/stable/20124056>.
- P. F. Strawson. *The Bounds of Sense: An essay on Kant's Critique of Pure Reason*. Routledge, New York, 1966.
- W.H. Walsh. Schematism. *Kant-Studien*, 49:95–106, 1958.
- G.J. Warnock. Concepts and Schematism. *Analysis*, 9(5):77–82, 1949.