

Chapter One

Relationships

In this chapter I will deal with relationships. In particular, I will examine five relationships that are important for preparing the ground for the treatment of the Second Analogy proper. The first is the one between concepts and intuitions. In particular we will focus on the worries about the applicability of concepts (the pure concepts in particular) to sensible intuition that Kant expresses in the Schematism Chapter. In order to properly understand the nature of the principle of the Second Analogy we must heed the lesson of the Schematism Chapter.

The second is the relationship between the Transcendental Deduction and the Principles of Understanding. The Principles of Understanding do not stand on their own. Instead they fit as an integral part of a whole task whose other main part is the Transcendental Deduction. In order to properly understand the principles, then, we must have some understanding of how they are connected to the task of the deduction of the categories.

The third relationship I will examine is the relationship between principles of understanding and principles of reason. Since Kant utilizes both types of principles in his work, then in order to put things in the proper context, we need to be clear about the distinction between these two types. We also must be clear about which type of principle the Second Analogy is.

The fourth relationship is the relationships we find within an analogy. The Second Analogy is one of the three principles named analogies. Kant tells us there is a reason for this name and in this third section I will examine his reasons for calling them analogies.

The final relationship that must be discussed is the relationship between Kant and Hume. When dealing with the Second Analogy it is easy to over-emphasize the importance of the relationship between Kant and Hume. The

Second Analogy is often regarded as the central text in which Kant attempted to answer Hume's skepticism concerning the causal principle, so naturally the relationship between Kant and Hume will be important when dealing with the Second Analogy. We should be clear, however, about two interrelated things. First, the Second Analogy alone cannot stand as a complete answer to Hume's position on the causal principle.¹ The Second Analogy itself is not a self-contained argument. The argument of the Second Analogy, especially when viewed as an answer to Hume, relies on crucial conclusions from other sections of the *Critique*. Secondly, the Second Analogy is more than simply a passage that Kant intended as an answer to Hume. The Second Analogy has a systematic role to play in the *Critique* as a whole. Overemphasizing its role as an answer to Hume tends to obscure this important role.

CONCEPTS AND INTUITIONS

The Schematism, along with the Metaphysical Deduction, is one of the most maligned sections of the first *Critique*. The Schematism Chapter, however, is an important one for Kant. According to Kant the Schematism makes possible the transition from the Pure Concepts of Understanding (categories) to the Principles of Pure Understanding.² Some commentators, however, believe that the distinction between categories and principles is artificial and unnecessary. Since this distinction seems to be Kant's reason for developing the Schematism in the first place, some argue that the Schematism too can be set aside as artificial and unnecessary. I argue, however, that the Schematism is far from being artificial or unnecessary. Instead it is best seen as a requirement of Kant's general theory of concepts.³ Kant develops this theory as an alternative that he takes to be more plausible than the theories of either the Rationalists (as typified by Leibniz) or the Empiricists (as typified by Hume). Unfortunately, the Schematism's role in this important project is easily overlooked because of the often confusing way Kant expresses his task in the opening four paragraphs of the Schematism Chapter.

1. Of course it should also be clear that the Second Analogy cannot stand alone as Kant's resolution of his general disagreement with Hume. The scope of Kant's criticisms of Hume go way beyond Hume's views on causation. Of course Kant's criticisms of Hume's position on the status of the causal principle are *part* of his disagreement with Hume. Kant did believe that Hume's mistake with regard to causation was symptomatic of the shortcomings involved with Hume's empiricism. So the criticisms of Hume's position on causation will be an important part of the overall criticism of Hume's position, but they cannot be the whole story.

2. For more on the difference between categories and principles see the section titled "The transcendental deduction and the principles" later in this chapter (p. 13ff).

3. I say general theory of concepts here in order to indicate that it is not just something he invents to deal with pure concepts. Instead, as we shall see below, it is something that must be utilized for all concepts.

Kant's introduction to the problem of the Schematism and his introductory solution

At the beginning of the Schematism Kant introduces a problem that he suggests poses a threat to the task of the Analytic of Principles. The problem develops out of Kant's brief explanation of the general procedure through which one could find out whether some concept has application to experience (i.e., appearances). Kant tells us in the Schematism that we would do this by showing that some object (or objects) is (are) subsumed under the concept. That is, we must show that what is *conceptually* represented in a concept is *intuitively* represented in an object (A137/B176). Now, in order for this to be done, says Kant, "in all subsumption of an object under a concept, the representation of the former must be *homogeneous*⁴ with the latter" (A137/B176). Kant's example of how this works involves the concept of a plate and the concept of a circle. Kant tells us that "the empirical concept of a *plate* has homogeneity with the pure geometrical concept of a *circle*" (A137/B176). This is so, Kant writes, because "the roundness that is thought in the former can be intuited in the latter" (A137/B176).⁵ The problem is supposed to be, however, that this general procedure for subsuming objects under concepts will not work with the pure concepts of understanding.

For we must remember that the pure concepts of understanding are special sorts of concepts for Kant. Unlike empirical concepts, pure concepts (categories) cannot *all by themselves* be applied to appearances. For the

pure concepts of understanding are, in comparison with empirical intuitions (indeed with sensible intuitions in general), quite heterogeneous⁶ and can never be met with in any intuition. . . . For no one will say that a category, e.g., causality, could also be intuited through sense and is contained in appearance. (A137–3/B176–77)

So, how do we show that the pure concepts apply to appearances? Well, Kant claims we need to find some third thing that can mediate between the pure concepts and appearances. That is, something that is homogeneous with both the pure concepts and with appearances. Kant believes this third thing to be time. (A138/B177) So, by relating the pure concepts to time, they can then be related through time to appearances. The vehicle through which the pure concepts are related to time is the Schematism. So, according to Kant, it is

4. *gleichartig*—"gleichartig" in all its forms will be translated by some form of "homogeneous."

5. I should note that I do not in any way intend to suggest that I think Kant's illustration here is very helpful in making clear the nature of subsumption.

6. *ungleichartig*—"ungleichartig" in all its forms will be translated by some form of "heterogeneous."

possible to show, in the *Analytic of Principles*, that the individual categories have application (let alone necessary application) to experience only if the Schematism is utilized. So, the need for the Schematism, according to Kant's introduction, seems to arise because of the special heterogeneity of the pure concepts of understanding and sensible intuitions.

Kant's true task in the Schematism

In the introduction to the Schematism, Kant focuses on the heterogeneity pure concepts are supposed to have with sensible intuitions, but we must not let that distract us from the bigger purpose lurking in the background. That is, in the Schematism Kant will be concerned with solving the problem of the applicability of not just the pure concepts, but of *all* concepts to sensible intuition. The application of pure concepts will turn out to be just a special case of the more general applicability problem. Perhaps the most important thing that gets obscured in all this is that it is because Kant has developed a new treatment of concepts that there is an applicability problem in the first place. The theories of concepts Kant rejects (i.e., those of Leibniz and Hume) have no applicability problem. It is only because Kant rejects their theories that, on the one hand, the applicability problem becomes an issue at all and, on the other hand, that the Schematism must be developed in order to solve the applicability problem created by Kant's theory of concepts.

To make the case for this position, there are three things that must be spelled out: First, we need to examine the theories of concepts utilized by Leibniz and Hume. Second, we need to examine Kant's rejection of their theories and see how this leads to there being an applicability problem. Finally, we must figure out how the Schematism is supposed to be utilized in order to solve the applicability problem. Once these have been spelled out we will be in a position to explain why this is important for Kant's proofs of the *Principles of Understanding*.

Leibniz

According to the view attributed to Leibniz by Kant and a number of commentators,⁷ concepts have a real homogeneity with perceptions. Concepts and

7. Whether or not Leibniz actually held the view that has been attributed to him remains, in my mind, an open question. As far as I can see Leibniz's writing on this matter does not provide us with any clear verdict one way or the other. Kant seems to attribute such a view to Leibniz in a number of places, but two examples are in § 8 in the *Transcendental Aesthetic* (A42ff/B59ff) and in the Appendix (The amphiboly of the concepts of reflection) to the *Transcendental Analytic* (A260ff/B316ff). Among the commentators who attribute such a view to Leibniz are Paton (see "Kant on the errors of Leibniz," in *Kant Studies Today*, ed. L. W. Beck [La Salle, Ill.: Open Court, 1969], 72–87) and Kemp Smith (see his *A Commentary to Kant's Critique of Pure Reason* [New York: The Humanities Press, 1950], 600–606).

perceptions are homogeneous in the sense that they are ultimately the same type of thing as each other. Perceptions are for Leibniz simply confused concepts. That is,

sense experience, in its intrinsic nature, is nothing but pure thought. Such thought, owing to the inexhaustible wealth of its conceptual significance, so confuses the mind which thus generates it, that only by prolonged analysis can larger and larger portions of it be construed into the conceptual judgments which have all along constituted its sole content. And in the process, space, time and motion lose all sensuous character, appearing in their true nature as orders of relation which can be adequately apprehended only in conceptual terms.⁸

It should be clear that Kant cannot accept such a view concerning the relation of concepts and intuitions. One of Kant's most fundamental assertions is that "experience contains two very heterogeneous elements, namely, a *matter* for cognition from the senses and a certain *form*, to order it, from the inner source of pure intuition and thought" (A86/B118). Intuitions and concepts are, according to Kant, the two distinct necessary elements of all of our cognition. The difference between these two elements "does not merely concern their form, as being clear or confused, but rather it concerns their source and content" (A44/B61–62). Intuitions arise from our sensibility, while concepts arise from our understanding. Sensibility, for Kant, is the capacity we have that enables us to become aware of objects. Understanding, on the other hand, is the capacity we have that enables our awareness of objects to be organized. Neither sensibility nor understanding can perform the function that is performed by the other. No matter how clear and distinct our intuitions are they can never function as concepts. No matter how confused and indistinct our thinking is concepts can never function as intuitions.

Hume

For Hume, ideas and impressions are genuinely similar to each other. They are similar in two main ways. First of all, both ideas and impressions are imagistic—that is, both impressions and ideas can be thought of as being a type of picture.⁹ The difference between these "consists in the degrees of

8. Kemp Smith, *Commentary*, 605.

9. John Yolton is a commentator who argues against this traditional view of impression and ideas. Yolton argues, in "Hume's Ideas," in *Hume Studies* volume VI number 1 (April 1980) that although ideas are "exact representations" of impressions, ideas need not be likened to images or pictures. This is clearly a minority position, however.

force and liveliness, with which they strike upon the mind.”¹⁰ Impressions enter the mind with the “most force and violence,” while ideas are “the faint images” of impressions.¹¹ According to Hume, ideas are similar to impressions in a second way as well. Each idea is a copy of some set of impressions. In this vein, Hume writes that the contents of the mind are doubled. What first appears in the mind as an impression is then duplicated in the mind as an idea. According to Hume all impressions and ideas are either simple or complex. Simple impressions and ideas are atomic. That is, they cannot be resolved into a collection of simpler impressions or ideas. All complex impressions can be resolved into collections of simple impressions and all complex ideas can be resolved into collections of simple ideas. According to Hume, all simple ideas exactly resemble simple impressions. That is, the content of a simple idea is an exact copy of the content of some simple impression. Since each complex idea can be resolved into some set of simple ideas,¹² and each simple idea is an exact copy of some simple impression, it follows that the content of a complex idea is an exact copy of the content of some *set* of simple impressions. So, ideas are similar to impressions in that each idea has the same content as some set of impressions.¹³

Kant, however, can accept neither that concepts have the same content as some set of intuitions nor that concepts and intuitions are both imagistic. Kant cannot accept that concepts have the same content as some set of intuitions, because, as we have seen above, according to Kant the difference between concepts and intuitions “does not merely concern their form, as being clear or confused, but rather it concerns their source and content” (A44/B61–62). Sensibility and understanding perform two different functions, both of which are necessary for cognition. Our intuitions provide the specific and determinate content in our cognition, while a concept “is always something general, and that serves as a rule” for unifying representations (A106, see also A69/B94). If a concept, however, has the same content as some set of intuitions, then its content would be *specific* and hence it would not be something general and so it could not serve as a rule for unifying

10. David Hume, *A Treatise of Human Nature*, Second Revised Edition by P. H. Niddich (Oxford: At The Clarendon Press, 1978), Bk. I, pt. I, § I, 1. Henceforth cited simply as *Treatise*.

11. *Treatise* Bk. I, pt. I, § I, 1.

12. At *Treatise* Bk. I, pt. I, § I, 4. Hume writes that “we find, that all simple ideas and impressions resemble each other; and as the complex are formed from them, we may affirm in general, that these two species of perception are exactly correspondent.” In the *Enquiry (An Enquiry Concerning Human Understanding*, ed. Eric Steinberg [Indianapolis: Hackett Publishing Company, 1977]) Hume writes that “when we analyse our thoughts or ideas, however, compounded or sublime, we always find, that they resolve themselves into such simple ideas as were copied from a precedent feeling or sentiment” (§ II, 11).

13. Hume, *Treatise*, 2–4. See also § II of the *Enquiry*, 9–13.

representations. Since this is precisely the role concepts play, according to Kant, then he could not consistently hold that concepts have the same content as some set of intuitions.

Now, this can also be turned very quickly into an argument that Kant cannot allow both intuitions and concepts to be imagistic. Kant makes it clear that he believes that images are not themselves general, and thus in the Schematism Chapter Kant writes:

No image [*gar kein Bild*] of a triangle would ever be adequate to the concept of a triangle in general. For it would not attain the generality of the concept, which makes it valid for all triangles, . . . Still even less does an object of experience or an image of the same ever attain the empirical concept. (A141/B180)

So according to Kant, if a concept were an image, then its content would be specific and not general at all. If a concept were not something general, then it could not serve as a rule for unifying representations. Since this is precisely the role concepts play, according to Kant, he cannot consistently hold that concepts, like intuitions, are imagistic.

Leibniz, Hume, Kant, and applicability

The important thing to notice is that on both Leibniz's and Hume's theories when it comes to apply concepts to sense perceptions we end up connecting two things of the same type. That is, in Leibniz's case, once we break sense perceptions down, we are ultimately comparing one concept (or set of concepts) to another. In Hume's case we end up comparing one image (or set of images) to another. The formats or structures of both things we are connecting are of the same type, so there is no special problem of the applicability of one to the other. When we turn to Kant's theory of concepts, however, it is a different story.

In general, according to Kant, concepts serve as rules that are used to organize (unify) our thought. Sensible intuitions, however, can be thought of as being imagistic (pictorial) representations. Now, when the question of application arises (Which intuitions, if any, are subsumed under this concept? Which concept[s] does this intuition fall under?) we may be at a loss for direction. Intuitively we might think that I must somehow compare some concept to some sensible intuition in order to see whether the content of the concept, which is represented discursively in the concept, stands in the appropriate relation to the content of some intuition, which is represented pictorially in the intuition. Yet this may not be so easy. For when I try to compare some particular concept with some particular intuition, I am not

exactly sure what to do. If I were comparing one intuition to another intuition or one concept to another concept, then I can see how to proceed—for the things I am comparing are of the same type. When I am asked to compare a discursive representation to an intuitive one, the task is not so easy. Yet there must be some way to make this comparison if we hold the three following claims (as Kant does): (1) sensible intuitions and concepts are two distinct types of mental representation, (2) it is sometimes the case that what is discursively and in a general way represented in a concept is correctly correlated with what is pictorially and concretely represented in some sensible intuition, and (3) we can tell when it is the case that a concept is correctly correlated with some sensible intuition.

Kant believes that this comparison can be and is in fact made via a general method of transforming the content of the rule for the organization of our thought (a concept) into something with pictorial content (an image). It is, then, the image that was developed from the concept that can be compared directly with the sensible intuition. This role of translator is precisely the role Kant believes is filled by schemata. The schema of a concept is the “representation of a general procedure of the imagination for providing a concept with its image” (A140/B179–80).

In the introduction to the Schematism Chapter Kant seems to imply that it is *only* pure concepts that require the services of schemata. There he implies that empirical concepts can be *directly* applied to sensible intuitions while pure concepts cannot. Pure concepts can be applied to sensible intuitions, but not directly. That is, pure concepts require an *indirect* method of application. This indirect method of application requires the use of what Kant calls a schema. It is the schema that “mediates the subsumption of appearances under the category” (A139/B178).

It is only a few paragraphs later, however, that we come to realize Kant’s real position is that pure sensible concepts (i.e., mathematical concepts) and empirical concepts require the use of a schema as well. Kant tells us that “in fact it is not images of objects, but schemata that lie at the foundation of our pure sensible concepts” (A140–41/B180). “Still even less,” Kant continues,

does an object of experience or an image of the same ever attain the empirical concept, but rather this is always directly related to the schema of the imagination, as a rule for the determination of our intuition, in accordance with a certain general concept. (A141/B180)

So it turns out that neither mathematical concepts nor empirical concepts stand in immediate relation to sensible intuitions, but like pure concepts they too are “always directly related to the schema of the imagination” (A141/B180).

Schemata for mathematical and empirical concepts are rules for producing spatial images that are correlated with the concept. It is this spatial image, derived from the concept through its schema, that can then be directly compared with sensible intuitions. Schemata for pure concepts, on the other hand, are not rules for producing spatial images. For “the schema of a pure concept of understanding is something that cannot be brought into any image at all” (A142/B181). Rather than being correlated with a spatial image, a pure concept is correlated with a transcendental time determination. That is, the pure concepts are correlated with distinct temporal structures or relationships—*temporal* images if you like.¹⁴

In the last few sections we have seen that in the *Critique of Pure Reason* Kant is committed to an explanatory account of concepts that is different than the account given by either Leibniz or Hume. Concepts and intuitions are distinct types of mental representations and neither can be reduced to the other—while intuitions are imagistic, concepts are rules for the organization of thought. In the Schematism Chapter itself we find Kant doing two main things toward developing his theory of concepts. First, he argues that thinking of concepts as being imagistic is inadequate.¹⁵ Second, and more importantly, he *sketches* a solution to a problem that seems to arise because of his theory of concepts: the problem of the application of concepts to intuitions.¹⁶

The importance of the Schematism

So why is all of this important? There are two main reasons. The first has to do with the criticism raised at the very beginning of this section. That is, the criticism that since the Schematism was devised simply to make the artificial and unnecessary transition from categories to principles, then this makes the Schematism itself artificial and unnecessary. Once it has been shown, however, that the Schematism plays a crucial role in the development of Kant’s

14. It may be worth noting here that this distinction between the product of the schema of a pure concept and the product of the schema of an empirical or mathematical concept is what can provide us with a way of technically preserving Kant’s distinction between concepts that have or lack homogeneity with sensible intuitions. If an image can be produced through a concept’s schema, then this concept is said to be homogeneous with sensible intuitions. If no image can be produced through a concept’s schema, then the concept is said to be heterogeneous with sensible intuitions.

15. Note that here in the Schematism Chapter Kant does not spend any time arguing against the Leibnizian side of this coin. That is, in the Schematism Chapter itself Kant does not argue against the claim that sensible intuitions can ultimately be reduced to concepts.

16. For more on the reasons for using the word *sketches*, see the subsection “A Problem with Kant’s Account of the Schematism” below p. 10ff.

theory of concepts, this criticism is easily deflected. For regardless of what we think about the legitimacy of Kant's distinction between categories and principles, given Kant's theory of concepts, the Schematism is needed in order to make the application of concepts to intuitions possible.

A second reason this is important is that in seeing the Schematism as presenting a crucial aspect of Kant's theory of concepts we should think of Kant as arguing for a crucial premise in his criticism of Hume.

Kant has argued that thinking of concepts as being images of what is given through sensation is not an adequate way to think of a concept. This is not even an adequate way of thinking of our empirical or mathematical concepts. In the case of empirical or mathematical concepts we can get by with this mistaken conception, because with these a spatial image can always be produced from our concepts via schemata. So, there will always be some spatial image that can be confusedly taken to be the concept itself. So when we come to the question of the applicability of empirical or mathematical concepts to experience we will be able to answer this question successfully, because we will always end up comparing the spatial image that can be derived through the schema of the concept to sensible intuitions. It will not make any *practical* difference that we have mistaken this derived spatial image for the concept itself.

With the pure concepts, however, we cannot even get by with this mistaken conception, because no spatial image can be produced from the pure concepts. So when it comes time to determine whether or not pure concepts have (or must have) application to sensible intuitions, then since there will not be any spatial image that we can compare to our sensible intuitions and because we do not recognize the need for schemata we will not be able to determine what we are supposed to look for. That is, in the Schematism Chapter we should see Kant are arguing that Hume *could not have realized* that the pure concepts have (or must have) application to sensible intuitions, because he failed to realize the necessity of something like schemata. For, according to Kant, it is only after we come to accept this more adequate theory of concepts along with the Schematism that it even becomes *possible* for us to properly determine whether or not the pure concepts have application (let alone necessary application) to sensible intuitions.

A problem with Kant's account of the Schematism

Earlier, I said that in connection with the development of what he took to be a more adequate theory of concepts, in the Schematism Chapter we find Kant doing two main things. First, he argues that thinking of concepts as being imagistic is inadequate. Second, he *sketches* a solution to a problem that seems to arise because of this new treatment of concepts: the problem of the

application of concepts to intuitions. I use the word *sketches* here partly to highlight the limited success of the Schematism Chapter with regard to this second task. We cannot regard Kant's solution to the problem of the application of concepts to intuitions as being truly successful, because Kant does not provide us with all of the necessary details of this process of schematizing. He argues that there must be such things as schemata if concepts are going to be applicable to intuitions. Kant does tell us that schematizing is done through the imagination, but the particular process of the imagination involved will differ depending on the type of concept involved. In the case of empirical concepts he tells us that an image is produced from the schema and it "is a product of the empirical ability [*Vermögens*] of the productive imagination" (A142/B181). With mathematical concepts, the schema "signifies a rule of the synthesis of imagination with regard to pure shapes in space," and "is a product and as it were a monogram of the pure imagination *a priori*" (A141–42/B180–81). With pure concepts of understanding, the schema is

the pure synthesis, . . . which the category expresses, and is a transcendental product of the imagination, which concerns the determination of inner sense in general, according to the conditions of its form (time) in regard to all representations, in so far as these are to be connected *a priori* in one concept in accordance with the unity of apperception. (A142/B181)

Unfortunately, when it comes time to spell out the details of how images, pure shapes in space, or transcendental time determinations are produced from concepts via schemata Kant waves his hands and mentions something about the Schematism being "a hidden art in the depths of the human soul" (A141/B181).

In the case of mathematical concepts and some empirical concepts the schematizing process doesn't *seem* like a big mystery. In fact, Kant's first example of placing "five points next to one another," (A140/B179) as an illustration of the method by which we produce an image for the number five is reassuring, but in reality I think this only gives us a false sense of security. Even in this case Kant does not spell out any of the details of the procedure for producing some particular image from the concept of five. Something about this example seems familiar to us, so the lack of detail doesn't really bother us and so more importantly the lack of detail doesn't lead us to question our understanding of this process of schematizing. The regularity with which we actually connect things such as the concept of five with five dots in a row, or the concept of a triangle with a triangle, or the concept of dog with dogs and/or images of dogs (to complete Kant's trio of examples), is the reason we don't find this process of schematizing to be any

big mystery. The fact that we regularly make connections of this sort, however, doesn't mean we really understand or can explain the details of the schematizing process. We should not let our *ability* to schematize fool us into thinking we *understand* or *can explain* the schematizing process.

Perhaps some less standard cases of empirical concepts will illustrate just how few details of the Schematism have been explained. For example, how do we deal with concepts such as "bark," "loud," or "whisper"? What will be the product of schematizing such concepts as these? Will it be a spatial image, will it be a temporal structure? Perhaps to deal with concepts such as these we will have to develop what we might call a sound image. Maybe even more troublesome are such empirical concepts as "intelligent," "stupid," "impatient," "friendly," "stolid," etc. I'm not sure we understand the details of schematizing sufficiently to even know where to begin with concepts such as these. It may be that the ability to schematize is "a hidden art in the depths of the human soul," but without understanding the details of this process of schematizing, how will we be able to determine in any given case that the schematizing has been done correctly? If we don't understand the details of schematizing and someone presents us with a schema candidate for a concept, then how will we know whether this schema is the correct one?

This worry becomes particularly acute when we realize it is not just a problem for empirical concepts, but it is a problem for any concept that requires the use of a schema. In other words, it is a problem for *all* concepts, since according to Kant, all concepts, whether they be mathematical, empirical, or pure, require the use of a schema. The point is, that without the details of the process of schematizing before us, how can we be sure that the schema someone provides for a concept is the right one? For our immediate purposes the truly important question is: without understanding the details of the schematizing process, then how can we be sure that the schemata Kant (or anyone else for that matter) provides for the pure concepts of understanding are the right ones?

The clear path to determining whether or not the proposed schemata for the pure concepts are correct is by way of the details of the process of schematizing. Once we understand the details of schematizing we can then proceed to show how this process generally applies to pure concepts. This will finally put us in a position to show how this leads to the particular formulation of the schema for each particular category.

Unfortunately, this is precisely what we do not find in the Schematism Chapter. In fact, Kant seems to sidestep the whole issue. When he is prepared to give the particular schemata for the pure concepts, Kant tells us that

rather than our being held back by a dry and boring analysis of what would be required for transcendental schemata of pure concepts of the

understanding in general, we would prefer to present them according to the order of and in connection with the categories. (A142/B181)

Yet this “dry and boring analysis” is exactly what would be needed in order to justify the particular formulation of the schema for each pure concept. What we end up with instead is simply a list of the schemata for the pure concepts of the understanding without any argument for its correctness.

Given the importance of the Schematism for the formulation of the Principles of Understanding (as we will see below) and for laying some very basic groundwork for Kant’s ability to respond to Hume’s challenges (as we saw above and will return to below), this lack of argumentation for the specific formulations of the schemata can be disconcerting. In many respects it is similar to the situation we find in the Metaphysical Deduction, where with little or no argument Kant makes the crucial transition from the table of judgments to the table of categories. Here in the Schematism, with little or no argument, Kant makes the crucial transition from the table of categories to the list of schemata. Now of course this doesn’t mean that Kant has made a mistake in his list of schemata, but it does mean that his list of schemata requires further justification.

The path for this justification is clear before us. On Kant’s behalf we would have to spell out the details of the process of schematizing from the sketch he offers and then we would have to spell out how this applies in the case of the pure concepts of understanding. However, completely unlocking the mystery of the schematism is a very big task and one that goes far beyond the scope of this project. So unfortunately the justification for the particular schemata of the pure concepts will have to remain a promissory note rather than actual currency.

THE TRANSCENDENTAL DEDUCTION AND THE PRINCIPLES

In the Transcendental Aesthetic Kant believes he has shown that space and time are the pure *a priori* forms of sensible intuition, and that space and time are themselves pure *a priori* intuitions.

In the Metaphysical Deduction Kant believes he has shown that what takes place when various representations are united in a judgment is the same operation (or type of operation) that takes place when various representations are united, through a concept, in an intuition. It is, Kant claims, the understanding that performs this (these) task(s). This being the case, the table of judgments will correspond to another table—the table of concepts. That is, the table of the pure concepts of the understanding—the categories. Hence, based on the table of judgments we can discover the table of categories.

In the Transcendental Deduction Kant believes he has shown that a consciousness cannot be conscious of a representation unless that representation is unified—that is, the representation is one organized unit. It cannot be an

unorganized set of various unconnected parts. Furthermore, Kant argues that a representation must get its unity from the understanding because there is no combination in representations apart from the understanding.¹⁷ According to Kant, then, a representation gets its unity through the pure concepts of understanding (that is, the categories). The categories are what make a representation as an object of consciousness possible. An intuition is a particular type of representation and as such it must have unity. The intuition gets its unity through the pure concepts of the understanding. A sensible intuition is an intuition that we become conscious of through our sensibility. Sensible intuitions are still of course representations and as such they must have unity and this unity comes through the categories. Kant of course isn't interested in stopping here. It is a step in the right direction to show that all sensible intuitions are made possible through the categories, but ultimately it is not the sensible intuitions themselves, but the content of these sensible intuitions (that is, objects of experience) Kant is interested in. That is, Kant wants to show that all objects of experience are made possible only through the categories.

According to Kant the contents of human sensible intuitions are subject to the conditions of the pure forms of human sensibility—that is, space and time. So according to Kant it will turn out that the content of our sensible intuitions are objects in space and time. That is, our objects of experience are spatiotemporal objects. Must such objects of experience be subject to the categories? Well, Kant draws upon his conclusions from the Transcendental Aesthetic to prove that they must be. In the Aesthetic Kant has argued not only that space and time are the pure *forms* of human sensible intuition, but that space and time are also themselves *intuitions*. To be more precise, space and time are pure *a priori* intuitions. Given, as we saw above, that all intuitions are subject to the categories, space and time are themselves, as intuitions, also subject to the categories. Finally, since all objects of experience are subject to the conditions of space and time and space and time are in turn subject to the categories, objects of experience too are subject to the categories. That is, objects of experience are made possible only through the categories.¹⁸

17. See §15 of the B Deduction B129–31.

18. Of course, this is nothing more than a bare statement of Kant's task in the Transcendental Deduction. I make no pretense of giving any arguments for this statement. A significant discussion of Kant's transcendental deduction is in itself a monumental task and as such goes way beyond the scope of this book. For getting started the following works may be of some use. Dieter Henrich, "The Proof-structure of Kant's Transcendental Deduction," *Review of Metaphysics* (June 1969): 640–59; Henry E. Allison, *Kant's Transcendental Idealism* (New Haven: Yale University Press, 1983); Paul Guyer, *Kant and the Claims of Knowledge* (Cambridge: Cambridge University Press, 1987); Eckart Forster, ed., *Kant's Transcendental Deductions: the Three 'Critiques' and the 'Opus Postumum'* (Stanford: Stanford University Press, 1989); Paul Guyer, "The transcendental deduction of the categories," in *The Cambridge Companion to Kant*, ed. Paul Guyer, 123–60 (New York: Cambridge University Press, 1992).

What is the relationship between the categories and the Principles of Understanding? This question might also be put this way: what is the difference between the Transcendental Deduction of the categories and the transcendental proofs for the Principles of Understanding? One straightforward way to think of the difference between them is the level of abstraction. The principles are the concrete and the categories are the abstract. As Kant puts it just before he introduces the table of principles, “The table of categories gives us the entirely natural instructions for the table of principles, because these are nothing other than rules for the objective use of the former” (A161/B200). The categories make up the general framework that applies to all sensible intuition regardless of the specific nature of the sensibility involved. The principles make up the framework that applies to all sensible intuition of the spatiotemporal variety. With the deduction of the categories Kant has proven that objects of experience are possible only through the categories, but the specific nature of these objects is left undetermined. The nature of these objects will also depend on the type of sensibility a being has. So it is only once we combine the categorial framework with a form of sensibility that we can give specific details about the requirements for objects of experience. In the deduction Kant proves the categories are required for the possibility of experience, but with the principles collectively Kant is concerned with showing what is specifically required for experience of beings like us. In the principles what Kant will do is to explain the specific requirements for spatiotemporal experience (that is, the requirements for the kind of experience we have). In other words he will uncover the specific requirements for spatiotemporal objects (that is, the objects we are aware of through sensibility).

Of course this task does not begin completely anew with the table of the principles. As we saw in the previous section, it is in the Schematism Chapter where this work begins.¹⁹ It is there where Kant gives us the transcendental schemata for the categories. In the principles Kant begins with these so-called schematized categories, formulates principles, and then develops transcendental proofs for each of the principles.

Since these are not the only type of principles Kant deals with, however, before moving toward a positive view of how this works for the particular principle we are concerned with, we first need to be clear about the

19. In fact we might even think Kant begins this task even earlier than in the Schematism Chapter. With the introduction of the second edition revisions of the Transcendental Deduction, it looks as if Kant has begun this task as early as in the second step of the deduction. There where he utilizes the dual nature of space and time (as both forms of intuition and pure *a priori* intuitions) Kant makes it clear he is concerned with our specific sensible intuition and not just sensible intuition in general. Nonetheless, even if it is clear as early as the second step of the B deduction that the categories are requirements specifically for spatiotemporal objects, it is not until the Schematism and principles that we get the specific details of these requirements.

general distinction between the type of principles we find here in the Transcendental Analytic of the *Critique of Pure Reason* and other types of principles Kant utilizes.

PRINCIPLES OF UNDERSTANDING AND PRINCIPLES OF REASON

In an investigation of the Second Analogy's causal principle, we need to be careful to draw a distinction between two types of principles that are utilized in Kant's critical philosophy. These two types are principles of understanding and principles of reason. Since these are different types of principles each with its own unique purpose and requirements, it is important to carefully distinguish between them so that we do not inadvertently attempt to impose the purpose and requirements of one type of principle on the other. We can see that a confusion of this sort is not so difficult to fall into when we realize that in particular cases both types of principles may be concerned with the same basic subject matter. What will set two such principles apart from each other will be the purposes for which they are formulated and the specific requirements in light of these purposes. So we will end up with two different principles that cover the same subject matter. So what are the purposes and requirements of these two separate types of principles? In short, the difference between them is that principles of understanding are constitutive principles while principles of reason are regulative principles.

The employment of the understanding is constitutive. When we are dealing with something that is required for the possibility of experience, such as the categories, this will be constitutive. As Kant puts it in the Appendix to the Transcendental Dialectic (A642ff/B670ff): "These dynamical laws²⁰ are admittedly constitutive in regard to *experience*, as they make possible *a priori* the *concepts* without which no experience takes place" (A 664/B692). The regulative use of reason, however, "is not a principle of the possibility of experience and the empirical cognition of objects of sense, consequently not a principle of understanding" (A509/B537). Instead, a regulative principle of reason is one that can be used as a guide for carrying out our investigations of experience. For example, Kant tells us it is through a regulative principle of reason that we come to suppose that comets have parabolic courses. Reason guides us to this conclusion through the principle that whatever explains the motions of the planets will also explain the motions of comets. More generally speaking, Kant says, we conclude that the motions of all celestial bodies are explained by the same principle (i.e., gravitation).²¹

20. These are the six principles of understanding under the headings of *Analogies of experience* and *Postulates of empirical thought in general*. See A160–62/B199–202.

21. See A663/B691.

Such principles are not empirical principles, but instead they are *a priori* principles. They clearly are not *constitutive a priori* principles, for they are not required for the possibility of experience. That is, experience would still be possible if the explanation of the motions of comets were not the same as the explanation of the motions of planets or more generally the explanation of the motions of one type of celestial object were different than the explanation of any other type of celestial object. If these principles are not constitutive, then what do they do? Kant tells us that these

as synthetic *a priori* principles have objective but uncertain validity, and serve as a rule for possible experience, also in dealing with experience they may be used with good success as heuristic principles, still one cannot manage a transcendental deduction of them. (A663/B691)

In other words, although such principles are not prerequisites for experience (as constitutive principles are), they do legitimately serve as rules for guiding our research into and extending our cognition of experience. So, in the case of comets we are led to a proper understanding of their paths by utilizing the orbits of planets as our guide. That is, our investigation of comets is advanced by seeking for their paths according to the laws that explain the orbits of planets.

With a second case we can see a direct comparison of a particular principle of reason with what would be a constitutive principle dealing with the very same materials. In section eight of the Antinomy of Pure Reason, Kant discusses the regulative principle of pure reason in relation to the cosmological ideas, which were presented in the four antinomies. Here Kant calls the appropriate regulative principle of reason connected with the cosmological ideas the cosmological principle of totality. This principle

is a principle of the greatest possible continuation and extension of experience, according to which no empirical boundary must be valid as an absolute boundary. Thus it is a principle of reason, which, as a *rule*, postulates what should be done by us in the regress and *does not anticipate*, what is given *in the object* itself before all regression. Therefore I call it a *regulative* principle of reason, where on the other hand the principle of the absolute totality of the series of conditions, as being given in the objects (the appearances) themselves, would be a constitutive cosmological principle. (A509/B537)

In this section²² Kant uses the search for human ancestors as an example. When tracing back ancestors the rule of reason tells us no matter how far back we

22. See A511ff/B539ff.

have gone, we must always seek for a further ancestor. Kant tells us that in tracing ancestors “I can always go still further in the regression, because no member is empirically given as absolutely unconditioned, and thus a higher member may still always be admitted as possible” (A514/B542). That is, when we come to a particular ancestor there has been nothing in our experience to lead us to expect that this will be the absolutely first ancestor. We may not have a current record of this ancestor’s parents, but the regulative principle of reason requires us to seek for her parents. This regulative principle cannot require that there *must* be further ancestors in this series, because with a regulative principle a series is not given in its entirety beforehand. We are given a particular member (or members) of the series and then through a regulative principle we are able to spell out the series only step by step indeterminately (or *possibly* infinitely) far back. With a constitutive principle, however, the series would be given in its entirety even before our step by step investigation of the series. Kant’s first example here is the division of a body.

Kant tells us that a material body is contained within determinate boundaries and “consequently it is given in empirical intuition with all of its possible parts” (A513/B541). This means the completed series of parts is given prior to any step by step investigation of the series. Analogous to the search for a further ancestor, in the case of the division of parts of a body no part of this series is given as absolutely unconditioned. There is nothing in our experience that could lead us to expect that this particular part will be the absolutely first part of the division. That is, there is no empirical justification for accepting this part to be indivisible. So, just as at each stage we must inquire after further ancestors, here with each division we can inquire after further divisions. The difference is that here we may proceed constitutively. Not only is it always possible to inquire about further members of the division, it is certain that there will be further divisions. Kant tells us, when we are only given one member of a series “it is always *necessary to inquire* after more,”²³ but when an infinite series is given in its entirety (as it is with the division of a body), then it is “*necessary to find* more members of the series.”²⁴ Kant tells us that a regulative principle of reason “cannot say *what the object is*, but only *how the empirical regression is to be conducted* in order to reach the complete concept of the object” (A510/B538).

If we take the principle concerning ancestors as constitutive, we would end up with a correlate of the first part of the antitheses of the First Antinomy²⁵ and hence it would be a constitutive cosmological principle. Such a

23. A514/B542; italics on “necessary” added.

24. A514/B542; italics on “necessary” added.

25. “The world has no beginning and no boundaries in space, but is infinite in regard to both time and space” (A427/B455).

principle would posit the entire series of ancestors along with all its possible parts as given in the object, hence the completed series of ancestors would be given prior to any step by step investigation of the series. In this case it would no longer be necessary to inquire after further ancestors, because since the entire series is given prior to the investigation of the series, there *must be* further members. Of course, there are differences here from what we had in the case of the divisibility of a body—the body is contained within precise boundaries and it is given in empirical intuition. These differences, however, are precisely the reason Kant finds constitutive principles of reason to be problematic. What we find with a cosmological principle of this sort is “a *constitutive principle* of reason for extending the concept of the sensible world beyond all possible experience” (A509/B537). The nullity of just such a principle, Kant tells us, he hopes to indicate through the distinction between constitutive and regulative principles “and thereby prevent, what otherwise unavoidably happens (through transcendental subreption), the attaching of objective reality to an idea that serves merely as a rule” (A509/B537).

If we are to avoid mistakenly taking regulative principles for constitutive ones, then we need to be clearer about the scope of these principles. In our case, since we will be focusing on the system of principles of understanding and the Second Analogy in particular, we must focus on the relationship of both types of principle to nature. That is, what will count as being constitutive of nature and what exactly will not be constitutive of nature? Of course, the easy answer is to say that the categories and principles of understanding are what Kant takes to be constitutive of nature and everything else would be regulative. This turns out not to be very helpful. It might be helpful if we already have a clear understanding of the nature of categories and principles of understanding, but a clear interpretation of principles of understanding (well, at least one of them anyway) is the very thing we are trying to achieve here. A clear interpretation of principles of understanding in large part itself depends on a clear understanding of Kant’s distinction between constitutive and regulative principles. So, being clearer about what counts as constitutive of nature not only will help us avoid mistakenly taking a regulative principle for a constitutive one, but it will help serve as a basis for the correct interpretation of the principles of understanding. The *Critique of Judgment* contains a helpful discussion for this investigation.

In the third *Critique* Kant stresses the difference between what is required for nature and what is required for an *order* of nature. Those things required for nature are constitutive while those things required to produce an order of nature will be regulative. The constitutive things are again categories and principles—things that are required for the possibility of experience. Kant often calls these “universal [*allgemeiner*] laws of nature.” In addition to this, understanding develops rules for explaining particular aspects of nature.

For example, one of the rules from the discussion on the paths of comets above: planets have circular orbits. These rules are ones we come to know through experience, but because of a further requirement, understanding “must think these rules as laws (i.e., as necessary).”²⁶ This further requirement is that understanding “also requires a certain order of nature in its particular rules”²⁷ (*CJ*,184). Again for an example, think of the discussion about the paths of comets: the paths of comets will be explained by the same principle that explains the orbits of planets. We cannot know before doing our research that the rule for comets is the same as (or akin to) the rule for planets, but we investigate on the presumption that it will be the same. Here in the third *Critique* Kant grounds this supposition on something stronger than its being useful for heuristic purposes:²⁸ He tells us that

although understanding can determine nothing *a priori* in regard to these (objects), it must still, in order to investigate these empirical so-called laws, lay as a foundation for all reflection about nature an *a priori* principle, namely that according to these laws a discernable [*erkennbare*] order of nature is possible. (*CJ*, 184–85)

And again:

This agreement of nature to our cognitive ability is presupposed *a priori* by the power of judgment for the purpose of its reflection on nature according to empirical laws, while at the same time the under-

26. *Critique of Judgment*, AK 184. All quotations from the *Critique of Judgment* are from the Vorländer edition (Hamburg: Felix Meiner Verlag, 1993), although I give only the academy pagination from volume 5. All translations are my own. Henceforth, I will cite this in the text as *CJ*.
27. Kant tells us, we must think of these particular rules as laws, “because otherwise no order of nature could be determined” (*CJ* 184).

28. Even in the passage from the *Appendix to the Transcendental Dialectic*, Kant has stronger justification in mind. Even there it is not *just* that such regulative principles are useful tools, but they are an integral part of the function of reason. Kant tells us that “to produce the unity of all possible empirical acts of the understanding is a business of reason, just as the understanding connects the diversity of appearances through concepts and brings it under empirical laws” (A664/B692). Further, as we saw in the passage from the Antinomy, the regulative principle is not optional. As with the series of ancestors Kant tells us it is necessary to inquire after more. Here reason tells us “*how the empirical regression is to be conducted* in order to reach the complete concept of the object” (A510/B538). Of course, saying that even in the first *Critique* Kant has stronger justification for a regulative principle of reason than its merely being useful still does not mean the justification is the same as we find in the third *Critique*—after all, Kant makes it clear in the first *Critique* that there are no transcendental deductions for regulative principles of reason.

standing objectively recognizes it as contingent, and only the power of judgment ascribes it to nature as transcendental purposiveness (in relation to the cognitive ability of the subject) because without this presupposition we would have no order of nature according to empirical laws, consequently no guide for an experience with all its diversity and investigation into it. (*CJ*, 185)

Our main concern here is with seeing how much (or how little) this principle of reason brings to the equation. Once we see which things fall under the scope of the regulative principle of reason, then we will have a good start at defining what falls under the scope of constitutive principles of understanding. That is, by seeing how far the regulative principle extends, we can see how much room is left for constitutive principles.²⁹ In short, the scope of the regulative principle of reason is far and wide.

Both the *comprehensibility* and *connectedness of experience* appear to fall under the scope of the regulative principle of reason. Even something as basic as that nature contains a hierarchy of species and genera falls under the scope of the regulative principle. So for example, Kahlua is a miniature pinscher, miniature pinschers are dogs, dogs are mammals, mammals are animals, or Boy is a parakeet, parakeets are parrots, parrots are birds, birds are animals. The constitutive principles of understanding do not guarantee that there will be hierarchies of species and genera in nature nor that if there are hierarchies they will be connected in the way these two are under a common genus. To the understanding such hierarchies and the connections between them are contingent and are only known empirically.³⁰ The second example Kant lists will be directly relevant for our discussion of the Second Analogy. Kant writes:

[T]o our understanding it initially appears inevitable that for the specific variety of natural effects just as many different types of causality must be assumed, nevertheless they may stand under a small number of principles, with the search for these we have to occupy ourselves. (*CJ*, 185)

The constitutive principles of understanding do not guarantee that the force that causes the motion of De Chéseaux's comet of 1744, for example, is the

29. At this point this start toward a definition of the constitutive principles will be the best we can do. We can't positively define the constitutive principles without a thorough examination of the appropriate passages in the first *Critique*. By setting some ground rules, however, this negative definition will help immensely when we come to positively define the constitutive principles (well, again at least one of them—the causal principle of the Second Analogy) later on.

30. See *CJ*, 185.

same as the cause of the motion of any other body. It is only through regulative principles that we come to the

unity of the cause of all laws of their motion (gravitation), from which we later expand our conquests, and also seek to explain all varieties and apparent deviations from these rules from the same principle, eventually even . . . uniting the distant parts of, for us, an unlimited world system, that is connected through one and the same moving force. (A663/B691)

So it is not understanding, but the regulative principle of reason that allows us to say:

Nature specifies its universal [*allgemeinen*] laws according to the principle of purposiveness for our cognitive ability i.e., to the appropriateness for human understanding in its necessary business to find the universal [*Allgemeine*] for the particular which is presented to it by perception, and on the other hand connection in the unity of the principle for variations. (*CJ*, 186)

Without the regulative guidance of reason,

the specific variety of the empirical laws of nature together with their effects nevertheless could be so great that it would be impossible for our understanding to discover a comprehensible order, to divide its products into genera and species, in order to also use the principles of explanation and understanding [*Verständnisses*] of the one for the explanation and understanding [*Begreifung*] of the other and from such confused materials (actual infinite diversity, our power of comprehension could not measure) to make a connected experience. (*CJ*, 185)

With this discussion of the scope of regulative principles of reason we should have a clearer idea of what would not be included in the constitutive principles of understanding and this will serve us well as we once again move forward in our positive understanding of one of these principles of understanding.

ANALOGIES OF EXPERIENCE

In the third section of the system of principles, Kant states that the names of the four groups of principles were “carefully chosen so that the differences, with regard to the evidence and the execution, of these principles is not left unnoticed” (A161/B200). Kant may have intentionally chosen the names of

the four groups of principles, but his explanation of his reasons for making these choices, it seems to me, is not much more than a hint. In this section I will try to formulate (from Kant's hints) an explanation of the significance of the term *analogy of experience*.

The first hint at an explanation of the significance of the term *analogy of experience* comes when Kant gives his comparison of mathematical analogies with philosophical analogies (A179–80/B222–23). In a mathematical analogy we assert that the relation of one number to a second number is the same as the relation of a third number to a fourth number. Mathematical analogies allow us to determine any one of the four numbers if we already know the other three. So for example if we know that $1:3 = x:9$, then we know that $x = 3$. So, a philosophical analogy, we might expect, would allow us to determine any one of the four members if we already know the other three. But, Kant tells us, philosophical analogies will *not* allow us to determine the fourth member given the other three. For “in philosophy analogies signify something very different from what they represent in mathematics” (A179/B222).

According to Kant, mathematical analogies assert that the relation in which one item stands to a second item is *quantitatively* the same as the relation in which a third item stands to a fourth item. Philosophical analogies, however, assert that the relation in which one item stands to a second item is *qualitatively* the same as the relation in which a third item stands to a fourth. The difference between quantitative relations and qualitative relations is an important one. For it is

only the concept of quantities that allows of being constructed, that is, exhibited [*darlegen*] *a priori* in intuition. Qualities, however, can be exhibited [*darstellen*] in no other intuition than empirical intuition. (A714–15/B742–43)³¹

Now, “mathematics does not only construct magnitudes (*quanta*) as in geometry, but also mere magnitude (*quantitatem*) as in algebra” (A717/B745). So, with mathematical analogies if three of the quantities are given, then the fourth quantity can be constructed *a priori* in intuition.

With philosophical analogies, however, “from three given members we can cognize and give *a priori* only the relation to a fourth, not *this* fourth member itself” (A179–80/B222). For qualities cannot be constructed *a priori*

31. See also Section III of the Introduction of the *Jäsche Logic*—although there it is suggested that qualities cannot be exhibited in intuition at all. There Kant writes: “The reason, however, why in mathematics we consider quantities more, lies in that quantities can be constructed in intuition *a priori*, qualities on the other hand cannot be exhibited [*darstellen*] in intuition.”

in intuition. So, a philosophical analogy does not give us the means to construct the fourth member *a priori* in intuition,³² but rather it gives us the knowledge that a fourth member that stands in the specified relation to the three given members is to be found in experience.

The problem with this hint at the meaning of “analogies of experience” is that although we are told what philosophical analogies are not (i.e., they are not mathematical analogies), it doesn’t really give us anything positive about analogies in philosophy. One of the things we most want to know about philosophical analogies is where we come up with *two* relations. In the general statement of the Analogies of Experience³³ Kant brings up one relation with which the analogies will deal and with principles of understanding it will be the main relation with which we will be concerned. This is the relation of one perception (*appearance* in A) to another (A177/B218). If this is the first relation, what is the second relation to which it is equal?

One suggestion concerning the source of this second relation is that we should look to the *unity of apperception* as the source of the second relation. Kant himself suggests that “the general principle of the three analogies rests on the necessary *unity* of apperception” (A177/B220). Furthermore, in what is usually considered to be part of one of Kant’s early attempts at a transcendental deduction, we find the suggestive remarks that

[a]pperception is the consciousness of thought, i.e., of representations as they are placed in the mind. In this there are three exponents: (1) the relation to the subject, (2) the relation of succession among one an-

32. This is the sense in which the analogies (and postulates) “are admittedly constitutive in regard to *experience*, as they make possible *a priori* the *concepts* without which no experience takes place,” but they are not “constitutive as regards intuition” (A664/B692). The principles of the analogies and the postulates (and all principles of understanding for that matter) are in Kant’s standard sense constitutive principles in that they are required for the possibility of experience. That is, they make experience possible. In this section Kant is using “constitutive” in an unusual way. He is not using “constitutive” and “regulative” in regard to experience, but rather in regard to intuition. Something counts as constitutive *here* only if the object can be constructed *a priori* in intuition. Here Kant includes only the axioms of intuition and anticipations of perception as constitutive in this special sense. “Since these cannot be constructed, they will only concern the relation of existence and can provide nothing other than merely regulative principles. Thus here neither axioms nor anticipations are to be thought, but if a perception in a time relation to another (although undetermined) is given, then it cannot be said *a priori*: *which* other and *how big* a perception, but how its existence is necessarily connected to the first in this mode of time” (A179/B221–22). When I use “constitutive” and “regulative” in this book I will use them in the standard Kantian sense as spelled out earlier in this chapter and not in the special sense we find here.

33. “All appearances stand, as regards their existence, *a priori* under rules of the determination of their relation to one another in one time” (A176–77). “Experience is possible only through the representation of a necessary connection of perceptions” (B218).

other, (3) of collection. . . . The three relations in the mind require therefore three analogies of appearance, in order to change the *subjective functions* of the mind into objective ones and thereby make them into concepts of the understanding, which give reality to the appearances. (*Reflexionen*, 4674–75)³⁴

I take this to suggest there is an analogy between the mind and appearances (experience). That is, we should expect to find an analogy between the organization of the items united in one consciousness and the organization of the items united in one experience. In consciousness we will be concerned with connections of representations in general, while in experience we will be concerned with connections of perceptions. This is suggested in the second edition statement of the principle of the analogies as well as at A177/B220. Just as representations, which make up one consciousness, must stand in the three relations to one another, there will be three analogous relations in which perceptions that make up one experience must stand to one another.

This suggestion is supported and made more explicit by a second possible source for this second relation. This second suggestion is that we look to the *unity of concepts* as the source of the second relation. Kant writes that we are, “through these principles, justified in combining appearances only according to an analogy with the logical and general unity of concepts” (A181/B224). Of course, it is not just any concept that he has in mind here. He is thinking of the categories (specifically the categories of relation) in their strictly logical employment—that is, the *unschematized* categories. “The category,” Kant says, “contains a function that is restricted by no sensible condition” (A181/B224). Such a concept can only be employed as “the unity of the thought of a manifold in general.” “Through a pure category . . . no object is determined, but rather only the thought of an object in general, according to various modes, is expressed” (A247/B304).

In the principles, however, we are concerned not with thought in general, but with the contents of human sensibility. What Kant thinks we need from the principles is a function that is, unlike a pure category, restricted by sensible conditions, but nonetheless remains *analogous* to the pure category. In order to get both of these, the principle must provide a formula for the unity of a given sensible manifold. The principle will thus be restricted by sensible conditions, but it will also be analogous to the category, because the category provides a formula for the unity of the thought of a manifold in general. The principle will attain this twofold goal by utilizing the *schema* of a pure concept of understanding. An analogy, in particular, will attain this twofold goal by utilizing the schema of the appropriate category of relation.

34. *Kants gesammelte Schriften*, Volume 17, 647–48.

As we saw above, a schema of a pure concept of understanding expresses a determinate temporal structure. For the categories of relation in particular the schema will express a determinate temporal relation between representations. By following the formula of the schema we would thus ensure that we were staying within the bounds of appearances (i.e., we would be restricting ourselves to sensible conditions), because we will always be concerned with some determinate temporal relation. This is precisely what occurs in the principles. It is not the pure concept that Kant invokes in each principle, but it is the *schema* of the pure concept. So by sticking with the schema in the principles it is guaranteed that the principles are restricted to sensible conditions.

The use of the schema in the principles also ensures that the principles are analogous to the pure concepts. Again as we saw above, the schema of a pure concept translates into a determinate temporal structure what was, in the pure concept, only a determinate structure of thought. So, when in the principles we utilize the schema of a pure concept we will be dealing with a determinate temporal structure that is the sensible analog of the determinate structure of thought that is found in the pure concept. For the analogies, in particular, when we utilize the schema of a category of relation we will be dealing with a determinate temporal relation that is the sensible analog of the determinate relation of thought that is found in the appropriate pure concept.

Thus, in the analogies the use of the schema not only provides the conditions that restrict the use of the analogies to experience, but it also reveals the source of the second relation. For the use of the schema in the analogies allows the three relations of items in sensible intuition (as expressed in the analogies) to be equated with the three relations of items in thought (as expressed in the categories of relation).

KANT AND HUME

The Second Analogy is often regarded as the central text in which Kant attempted to answer Hume's skepticism concerning the causal principle. Evaluating the success of the Second Analogy in this regard is not a particularly easy task. This evaluation is complicated in large part by the controversial choices one must make in order to begin to evaluate the Second Analogy as an answer to Hume. Two claims that generally are not regarded as being controversial are these: there is some causal principle that Hume in some way doubted, and in the Second Analogy Kant intends to prove some causal principle that Hume in some way doubts. This is where widespread agreement ends. From this point in order to evaluate how Kant's proof of the causal principle stands as an answer to Hume we must be clear about three main things.

First is the nature of Hume's doubt. Naturally, if we hope to solve anything we must be clear about which causal principle (or principles) Hume doubts. We must also be clear about the precise nature of Hume's skepticism concerning the causal principle(s) in question.

Second is the nature of Kant's arguments in the Second Analogy. In terms of Kant's arguments in the Second Analogy, we first must be clear about the precise nature of the principle Kant intends to prove. We must also be clear about the strategy Kant uses to prove this causal principle, and of course we must be clear about whether or not Kant's proof is any good.

The third thing we must be clear about is the way Kant's arguments relate to Hume's doubt. In order to be clear about the relationship between Kant's arguments and Hume's doubts there are three further things we must be clear about. First of all it will be helpful to determine what Kant takes Hume's doubt to involve. Naturally, if Kant misunderstands Hume's doubt, it will be less likely that his argument in the Second Analogy constitutes a successful answer to Hume. Secondly, we need to decide whether or not the causal principle Kant argues for is the same as at least one of the principles that Hume doubts. Clearly, if Hume doubts one principle while Kant proves a different principle, this will make it extremely unlikely that Kant's argument constitutes a successful answer to Hume. Lastly, we must be clear about what sort of "answer" we are looking for. On the one hand, we might think an argument provides an answer to someone's position in the sense that the argument provides a sound refutation of the person's position. For an answer in this sense what counts is simply arguing validly from true premises to a conclusion that is inconsistent with the other person's position. On the other hand, we might think an argument provides an answer to someone's position in the sense that the argument provides a refutation which that person does or should (if that person wants to maintain a logically consistent position) accept. That is, for an answer in this sense what counts is arguing validly from premises that the other person accepts as true to a conclusion that is inconsistent with the other person's position. It should be clear that Kant believes his answer to Hume is an answer in the first sense—that is, it is a sound refutation of Hume's skepticism concerning the causal principle. It is important to keep in mind, however, that it does not appear Kant intends to provide an argument that is an answer to Hume *only* in the first sense. As Lewis White Beck suggests, Kant intends for his proof of this causal principle to be one that proceeds from premises that Hume does or should (if he is to remain consistent with himself) accept.³⁵ In this book when I focus on how Kant's argument stands as an answer to Hume I will focus more on

35. See "A Prussian Hume and a Scottish Kant," in *Essays on Kant and Hume* (New Haven: Yale University Press, 1978), 111–29.

whether Kant's argument is an answer in the second sense than on whether it is an answer in the first sense.

Hume's Doubt

At the beginning of his discussion of cause and effect Hume writes that he will examine two questions concerning this idea:

First, for what reason we pronounce it *necessary*, that everything whose existence has a beginning, should also have a cause?

Secondly, why we conclude, that such particular causes must *necessarily* have such particular effects; and what is the nature of that *inference* we draw from the one to the other and of the *belief* we repose in it?³⁶

The causal principle that is to be the subject of Hume's doubt and Kant's proof is the principle mentioned in the first of these two questions. That is, as Hume puts it, the principle that "whatever begins to exist, must have a cause of existence."³⁷ This is reminiscent of the formulation we find in the first edition version of the principle of the Second Analogy, where Kant states the principle he is going to prove as, "Everything that happens (begins to be) presupposes something upon which it follows *according to a rule*" (A189).

When we say that this is the principle that is the subject of Hume's doubt and Kant's proof, we need to be clear about exactly what is at issue. It is often thought that what is at stake is simply the truth of this causal principle. As it turns out, however, this is not right. Hume writes:

'Tis a general maxim in philosophy, that *whatever begins to exist, must have a cause of existence*. This is commonly taken for granted in all reasonings, without any proof given or demanded. 'Tis suppos'd to be founded on intuition . . . but here is an argument, which proves at once, that the foregoing proposition is neither intuitively nor demonstrably certain.³⁸

It is the possibility of demonstrating this causal principle that Hume doubts. That is, Hume denies that the "Principle, *that whatever begins to exist must have a Cause of Existence* . . . was founded on *demonstrative* or *intuitive Certainty*."³⁹ It is not the principle itself that Hume doubts, but

36. *Treatise*, Bk. I, pt. III, § III, 78.

37. *Ibid.*

38. *Ibid.*, 78–79.

39. *A Letter from a Gentleman to His Friend in Edinburgh*, ed. Eric Steinberg (Indianapolis: Hackett Publishing Company, 1977), 118. See also Hume's claim at *Treatise* Bk. I, pt. III, § III, 82.

Hume doubts that this principle is subject to a rational demonstration.⁴⁰ Hume is emphatically clear on this point. In responding to criticism of his supposed denial of this principle in the *Treatise*, Hume writes that

it being the Author's Purpose, in the Pages cited in the Specimen, to examine the Grounds of that Proposition; he used the Freedom of disputing the common Opinion, that it was founded on *demonstrative* or *intuitive Certainty*; but asserts, that it is supported by *moral Evidence*, and is followed by a Conviction of the same Kind with these Truths, *That all Men must die*, and that *the Sun will rise To-morrow*. Is this any Thing like denying the Truth of that Proposition, which indeed a *Man must have lost all common Sense to doubt of?*⁴¹

It is interesting to note that on this score Kant gets Hume exactly right. That is, Kant realizes that what is at stake is not the principle itself, but rather the rational grounding of that principle. Kant writes that for Hume

the question was not whether the concept of cause was right, useful and, in view of the whole of natural cognition [*Naturerkenntnis*], essential, for Hume had never called this into question, but whether it could be thought through reason *a priori*. . . . It was only a question of the source of this concept not the indispensability of its use. (*Prolegomena*, 258–59)

It appears that Hume also has doubts concerning the principle that “particular causes must *necessarily* have such particular effects”⁴² Again it looks to me that Hume does not doubt the principle itself, but he doubts that the inference we draw from cause to effect is grounded in reason. Instead, “‘Tis only from experience and the observation of their constant union, that we are able to form this inference; and even after all, the inference is nothing but the effects of custom on the imagination.”⁴³ We will see in chapter 5 that whatever Kant thinks about this principle in general, proving this principle does not figure in as part of his proof in the Second Analogy. So answering Hume’s doubts about this principle will not play a role in his response to Hume in the *Second Analogy*.

40. Of course, if we believe that the causal principle is false, then this would give us reason to doubt there could be a demonstration of the causal principle (on the assumption that nothing false can be demonstrated), but this is not, as we will see below, Hume’s reasons for doubting the causal principle can be demonstrated.

41. *A Letter from a Gentleman to His Friend in Edinburgh*, 118.

42. *Treatise*, Bk. I, pt. III, § III, 78.

43. *Ibid.*, Bk. II, pt. III, § I, 405.

Hume's reasons for doubting the possibility of demonstration

According to Hume, a belief can be grounded in one of two ways: either we can provide a demonstration for it or else it is founded on observation and experience. According to Hume, the opposite of any belief that can be given a demonstration is itself impossible. That is, the negation of any belief that can be demonstrated implies a contradiction or absurdity.⁴⁴ In the case of the causal principle it is the possibility of a demonstration that is at issue. To demonstrate the causal principle, we have to be able to demonstrate that every beginning of existence must have a cause of existence. Demonstrating this requires that the opposite of the causal principle be impossible. That is, it must be impossible for there to be a beginning of existence that does not have a cause. In order to show this we would have to show that the possibility of a beginning of existence without a cause implies some contradiction or absurdity. Hume argues, however, that the possibility of a beginning of existence without a cause does not imply any contradiction or absurdity. Hume's argument for this relies on his separability thesis.

Hume introduces his separability thesis when he argues against the view that abstract ideas can represent a multitude of different things equally well, because abstract ideas are themselves general—that is, the features of the ideas are themselves imprecise.⁴⁵ Hume's separability thesis consists in the following four claims: (1) "whatever objects⁴⁶ are different are distinguishable," (2) "whatever objects are distinguishable are separable by the thought and imagination," (3) "whatever objects are separable [by the thought and imagination] are also distinguishable," and (4) "that whatever objects are distinguishable are also different."⁴⁷ Hume's argument against the possibility of demonstrating the causal principle utilizes the first two claims of the separability thesis.

Hume argues that the idea of a cause and the idea of a beginning of existence are distinct ideas, because " 'twill be easy for us to conceive any

44. Hume's views on the results of demonstrations can be found in a number of places. See for example the Abstract of the *Treatise*, 650, The beginning of Section IV of the *Enquiry*, the end of Section IV of the *Enquiry*.

45. *Treatise*, Bk. I, pt. I, Section VII. Hume's argument in this section is more simply, but less straightforwardly labeled his argument against abstract ideas. Whenever I refer to Hume's argument against abstract ideas this should be taken as shorthand for referring to Hume's argument against the view that abstract ideas can represent a multitude of different things equally well, because the features of the ideas are themselves general.

46. It may be worth reminding ourselves that, at least here when dealing with the separability thesis and the argument against abstract ideas, when Hume writes about an object he means an object that can appear to the senses—that is, an impression. So the *objects* in the separability thesis will not be some third division along with the *impressions* and *ideas* of the copy thesis because the *objects* in the separability thesis just are the *impressions* of the copy thesis.

47. *Treatise*, Bk. I, pt. I, § VII, 18.

object to be non-existent this moment, and existent the next, without conjoining to it the distinct idea of a cause or productive principle.”⁴⁸ Since a cause and a beginning of existence are distinct ideas, according to the first part of the separability thesis, it follows that they are also distinguishable ideas. Since the idea of a cause and the idea of a beginning of existence are distinguishable ideas, according to the first part of the separability thesis, it follows that they are also separable by the thought and imagination. Hume then concludes that since the idea of a cause and the idea of a beginning of existence are separable by the thought and imagination, so too can a cause be separated from a beginning of existence in reality. In order to reach this conclusion Hume utilizes his copy thesis in much the same way as he does in his argument against abstract ideas.⁴⁹

Hume’s copy thesis requires that (1) “All our simple ideas in their first appearance are deriv’d from simple impressions, which are correspondent to them, and which they exactly represent,”⁵⁰ (2) “every simple impression [has] a correspondent idea,”⁵¹ and (3) all complex ideas are composed of simple ideas.⁵² As a result, according to Hume “impressions and ideas differ *only* in their strength and vivacity.”⁵³

In his argument against abstract ideas Hume argues that all of our impressions (that is, the objects that “can appear to the senses”)⁵⁴ must appear in the mind in a precise degree of quantity and quality. In order to apply this same conclusion to ideas, Hume utilizes this result of the copy thesis. Since the conclusion that all of our impressions must appear in the mind in a precise degree of quantity and quality “is not founded on any particular degree of vivacity,”⁵⁵ the same must be true of our ideas—that is, ideas must appear in the mind in a precise degree of quantity and quality. *Here* Hume will argue, since the argument for the separability of the idea of a cause and the idea of a beginning of existence “is not founded on any particular degree of vivacity,” there is nothing to keep us from applying this argument to the objects that can appear to the senses (that is, impressions). Since the idea of

48. *Ibid.*, Bk. I, Pt. III, § III, 79.

49. See note 45 above in this chapter.

50. *Treatise*, Bk. I, pt. I, § I, 4. There are italics in the original text.

51. *Ibid.*, 3.

52. At *Treatise*, Bk. I, pt. I, § I, 4, Hume writes that “we find, that all simple ideas and impressions resemble each other; and as the complex are formed from them, we may affirm in general, that these two species of perception are exactly correspondent.” In the *Enquiry* Hume writes that “when we analyse our thoughts or ideas, however, compounded or sublime, we always find, that they resolve themselves into such simple ideas as were copied from a precedent feeling or sentiment.” (§ II, 11).

53. *Treatise*, Bk I, pt. I, § VII, p. 19, italics added.

54. *Ibid.*

55. *Ibid.*

a cause is separable from the idea of beginning of existence, so too can a cause be separated from a beginning of existence in reality.

Now, since it is possible that a cause is separated from a beginning of existence in reality, the supposition of “the actual separation of these objects is so far possible, that it implies no contradiction nor absurdity.”⁵⁶ Since the possibility that there is a beginning of existence without a cause does not imply any contradiction or absurdity, it will not be possible to demonstrate that every beginning of existence must have a cause.

Transcendental proof and Kant’s proof of the causal principle

Kant agrees with Hume that the causal principle cannot be proven (demonstrated) exclusively by use of the principle of contradiction. That is, Kant agrees that the negation of the principle does not imply a contradiction. The possibility of an uncaused beginning of existence does not imply any contradiction. The negation of the principle would imply a contradiction only if the principle was what Hume would call a relation of ideas and Kant would call an analytic claim. According to Kant, in an analytic claim the concept of the predicate is in some sense contained within the concept of the subject. In other words, it does not extend the concept of the subject. The causal principle is not analytic, so Kant agrees with Hume that the concept of a cause is not included in the concept of a beginning of existence.

According to Hume, if the causal principle is not a relation of ideas, then it must be a matter of fact. According to Kant if the causal principle is not analytic, then it must be synthetic. For a synthetic claim the concept of the predicate is not contained within the concept of the subject. That is to say, concept of the predicate extends (goes beyond) the concept of the subject. Whether or not the concept of the predicate is rightly applied to the concept of the subject cannot be determined by simply examining the content of either or both of the two concepts. Since the correctness of a synthetic judgment cannot be determined solely by the content of one or both of the two concepts, something else is required for determining correctness. In order to prove a synthetic claim, we need some “third thing” to test our claim against. Typically, we need some intuition in which the subject and the predicate are connected as claimed.

If this is Kant’s position, it begins to look as if he must simply give in to Hume and accept that the causal principle can only be proven through observation and experience. For, on the one hand, Hume says that there are only two types of proof: demonstrations and proofs based on observation and experience. Since Kant believes no contradiction is implied by the negation

56. *Treatise*, Bk. I, pt. III, § III, 80.

of the causal principle, then as Hume says there cannot be any demonstration of the causal principle. Hence, it looks as if Hume can argue that the causal principle must be based on observation and experience just as he thought. Kant believes, however, this conclusion can and must be avoided. Clearly Hume would be right if demonstrations and proofs from observation and experience actually were the only two possibilities. Kant argues, however, that as a result of his limited empiricist framework, Hume failed to realize there is a third type of proof—*transcendental* proof.

Transcendental proofs have something in common with each of the other two types of proof. Like proofs based on observation and experience, transcendental proofs are used to prove synthetic claims. So like proofs based on observation and experience, transcendental proofs require some third thing to make the connection between the subject and the predicate. In the case of some claims, such as those of mathematics, this third thing is still some intuition as it was for proofs based on observation and experience, but it is an *a priori* intuition. We give proofs in mathematics by making reference to the features of the pure intuitions of space and time. We can demonstrate the connection between the subject and predicate by showing that they are properly connected in the pure intuition of space and time. For some other claims, however, this third thing is not simply the *a priori* intuitions of space and time. Transcendental proofs of these claims instead appeal to what is required for the *possibility of experience*. In order to demonstrate these claims we must show that unless the subject and predicate are connected in the appropriate way, experience itself is not possible. That is, we must show that no possible experience is one in which the subject and predicate are *not* connected in the appropriate way.

Although transcendental proofs are used, like proofs from observation and experience, to prove synthetic claims, they are also similar in some ways to demonstrations. Transcendental proofs are like demonstrations in that transcendental proofs provide necessity. That is, the conclusion of a transcendental proof must be true. For transcendental proofs that depend on *a priori* intuition to make the connection between subject and predicate, the necessity comes in because the intuition is *a priori*. For transcendental proofs that depend on the possibility of experience, the necessity comes in because in order for experience to be possible, the subject and the predicate must be connected in the specified way.

According to Kant, the causal principle is one of these synthetic claims that must, if it is to be proven at all, be proven through a transcendental proof that depends on the possibility of experience. The causal principle is demonstrated through a transcendental proof and so is not proven through observation and experience. At this point, in order to complete the evaluation of Kant's argument as an answer to Hume's skepticism about the causal principle,

we must examine the details of his transcendental proof. Happily, this is one of the main purposes of this book. Unhappily for the continuity of the discussion in this section, the examination of the proof will take the next four chapters to complete. It is only at that point that we will be able to revisit Kant's relationship to Hume. But for now it is time to turn to the details of the argument of the Second Analogy.