SCHEMATISM AND THE POSSIBILITY OF EXPERIENCE

τὸν φρονεῖν βροτοὺς ὁδώ-
σαντα, τὸν πάθει μάθος
θέντα κυρίως ἔχειν.

--Aeschylus

SCHEMATISM AND THE POSSIBILITY OF EXPERIENCE: A PRELIMINARY STUDY OF THE OVERALL ARGUMENT OF KANT'S CRITIQUE OF PURE REASON

By

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ABSTRACT

The goal of this study is to reveal to the reader of Kant's Critique of Pure Reason a course he might choose to follow through the text in his journey of interpretation--if, that is, the reader is content to accept as his (temporary) destination the chapter on "schematism." It is here suggested that this chapter can only be understood as belonging to one overall argument which begins as early as the Preface and concludes much further on in the Analytic of Principles (if it can be said to "begin" or "conclude" in the first Critique at all). This study presents the overall argument and offers a "making-sense-of" the schematism as one of its necessary steps.

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Wayne Cole, for his interminable wit and dreams of Pound, visions of Dylan (Valhalla?...Can this really be the end?);

Pat Allan, who suffered the unfortunate role of preserver of the author's physical and mental being überhaupt;

And to John Borders, who carries the weight, griefs of the ages, and who whistles a peculiar song, der Aolsharfe gleich (Sweet Thames, run softly). I thank him for the borrowed Beauty (closed on weekends) of that song.

TABLE OF CONTENTS

Appendix

Introduction

The Critique of Pure Reason may be regarded as Kant's attempt to accomplish a twofold task: (1) to defend mathematics and the natural sciences against Hume's skeptical conclusions, and (2) to expose the illusions of speculative metaphysics and to substitute for them metaphysics as science.[1] Kant sets out to accomplish the former in the Transcendental Aesthetic (the first part of the Transcendental Doctrine of Elements) and in the Transcendental Analytic (the first division of the Transcendental Logic, which is the second part of the Doctrine of Elements). This task is completed when the possibility of the a priori synthetic judgments dealt with in these sciences is found to rest upon those conditions of sensibility and understanding which lie a priori in the mind as the necessary and universal conditions of the possibility of all experience. Just as the Transcendental Aesthetic demonstrates that sensibility has its particular a priori forms of space and time, so does the Transcendental Analytic demonstrate that the understanding has its a priori forms, the pure concepts. The Analytic further attempts (1) to show that the application of the pure concepts is of necessity valid, (2) to explain how these concpets are applied to appearances, and (3) to exhibit the result of the application. It is with the treatment of those portions of the Analytic--specifically, with the Transcendental Deduction

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[1] See Lewis White Beck's introduction to Kant's Prolegomena (Indianapolis: Bobbs-Merrill, 1950), pp. xiii-xiv.

and the Schematism of the pure concepts--which deal with the manner in which these concepts are applied to appearances that we are primarily concerned in this work. Various problems shall be exposed and interpretations offered in the attempt to determine which solutions are most profitable for an understanding of the text.

The problems we must confront shall arise as the result of reading the Aesthetic and Analytic as together comprising one overall argument of the Critique--namely, the argument that cognition is possible only through the relation of intuitions to concepts. Only when regarded as parts of this larger argument which encompasses them can the many individual arguments found in the Metaphysical and Transcendental Deductions and the Schematism be fully understood. The solutions to the problems confronted shall take the form of interpretations of several of these individual arguments.

As I see it, there is only one major difficulty in the Metaphysical Deduction with which we must deal, and this involves the nature of the unity expressed in judgment. The proper understanding of this unity is essential to our understanding of the development of the argument in the Transcendental Deduction and Schematism. Therefore, in Section II, we must not only have exposition of the text--which is our primary concern in the first section--but we must have some critical work as well.

Our next two sections, dealing with the Transcendental Deduction as offered in each edition of the Critique, present difficulties too numerous to list here. One of the major problems, of course, lies in the very fact that Kant found it necessary to substitute another version of the Deduction in the second edition. If it is in fact the case that

the Aesthetic and Analytic together comprise one argument, and that the conclusion of this argument--that concepts are necessarily related to objects--is firmly established in the Schematism, which tells us how concepts are related to objects, we must determine whether the arguments in the A Deduction differ from those in the B Deduction in regard only to form, or also to content. If the arguments differ in content--if, that is, there are contradictions in the text of the two--it would seem that the chapter on Schematism, which was not altered in the second edition, could not be employed as a step in the argument as offered in both editions. Since Kant did not find it necessary to alter this chapter, I suggest that the two versions of the Deduction differ only in respect of their form. I am in agreement with Vleeschauwer when he states:

> This brief account of the [B] deduction proves that it is consistent with its predecessor of 1781 and that Schopenhauer, Fischer, and company are wrong in taking exception to it on the ground that there has been contradiction and retraction.[2]

Vleeschauwer claims, however, that imagination was replaced in the second edition "by a more logical factor, formal intuition."[3] I suggest that imagination was not, as Vleeschauwer maintains, replaced, but merely that its activity was regarded with emphasis not upon its subjective aspect (as synthesis) but upon its objective aspect (as combination). That the reader must never lose sight of the distinction between these two "aspects" is mandatory--equally essential, however, is that he never cease to recognize them as only aspects of that one "synthetic" process which gives rise

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[2] H.-J. de Vleeschauwer, The Development of Kantian Thought tr. by A.R.C. Duncan (Edinburgh: Thomas Nelson and Sons Ltd., 1962), p. 106.

[3] Op. cit., p. 107.

to experience. We shall deal with this process in the fifth section of our study, in our analysis of the Schematism.

One of the most familiar opinions regarding the chapter on Schematism is rendered by Norman Kemp Smith, who regards the subsumption here explained as either impossible or unnecessary:

> For if category and sensuous intuition are really heterogeneous, no subsumption is possible; and if they are not really heterogeneous, no such problem as Kant here refers to will exist.[4]

It shall be demonstrated in the fifth section of this study that Kemp Smith's observations on this chapter reflect a monumental misunderstanding of the text, resulting most likely from lack of attention to what I call Kant's overall argument. Since, however, the Schematism, as well as much of the Transcendental Deduction, is concerned with the manner in which the imagination makes possible the link between sensibility and understanding--how it "builds a bridge" between the two--we must first clarify the distinction between sensibility and understanding. With this purpose in mind, we shall begin, in Section I, with a discussion of the connection between sensibility and intuition as described in the Critique (in the Methodenlehre, Introduction, and Aesthetic), the Prolegomena, the Dissertation, and the prize Essay of 1764.[5] This connection is of the utmost importance to the arguments of the Transcendental

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[4] Norman Kemp Smith, A Commentary to Kant's "Critique of Pure Reason" (New York: Humanities Press, 1962), p. 334.

[5] The choice of these texts is not my own. In response to Jaakko Hintikka's essay "On Kant's Notion of Intuition (Anschauung)" (The First Critique: Reflections on Kant's Critique of Pure Reason. Penelhum & MacIntosh (Belmont, 1969), pp. 38-53), in which he cites the arguments of these texts as indicating that intuition is not always connected with sensibility, I have considered each argument cited and have demonstrated, I believe, that his understanding of these texts is not complete.

Deduction, especially as presented in the second edition.[6] After examining this connection, we shall proceed to a more detailed discussion of the Analytic.

As stated above, Section II shall be concerned with the Metaphysical Deduction. The first part of Section III shall present an exposition of the text of the A Deduction; the second part of this section shall comprise a reconstruction of the first two sections of the A Deduction, accompanied by commentary. Section IV shall offer a reconstruction of the arguments presented sub-section by sub-section in the B Deduction, accompanied by occasional commentary. And in Section V we shall examine the Schematism, concentrating on that manifold activity of a priori and empirical synthetic combination in which lies the possibility of experience.

Observation Regarding the Patchwork in General

The major difficulty I confronted in composing this thesis is, I suspect, quite similar to that confronted by Kant in pulling together his first Critique. I began with the specific problem of how concepts can be related to objects--I began, that is, with the Schematism. To understand the Schematism, I found it necessary to recognize this chapter as presenting merely one step in a larger argument. And so I proceeded to examine the Aesthetic, the Metaphysical Deduction, and the Transcendental Deduction in order that I might determine the part they play in this larger--or,

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[6] This connection is stressed, for example, in the passages of the second edition found at: B68, 72, 135, 139, 146, 147, 148, 150, 159, and 165.

as I have already referred to it, the "overall"--argument. In the course of this expository and critical analysis, no major problems arose in regard to the connection between sensibility and intuition. In my first analysis of the Metaphysical Deduction, I also had no major problems. When, however, I sat down to analyze in detail the first edition of the Transcendental Deduction, I realized that my earlier analysis of the Metaphysical Deduction was--in my approach to the text as much as in my attentiveness to detail--thoroughly wrong. I had been misled by the commentators--Prichard and Paton, in particular--in respect of what is perhaps the most significant point being made in this chapter--the point, namely, that unity is always unity of a single representation. (Be this representation a concept or an intuition.) And so I had to go back and rewrite my second section, defending my interpretation of unity against that of Prichard and Paton. When I then proceeded to analyze the second edition of the Transcendental Deduction, I realized that I had made several errors in respect of the terms "synthesis" and "combination." Not only are the two terms not synonymous--as I had originally believed to be the case--but the repercussions of the distinction between the two are to be recognized throughout the text. And so I had to go back and rewrite the third section in light of this new "development." (Fortunately, this did not demand extensive revision of the second section.) When I finally arrived in the fifth section, from which I had originally set out, I was convinced that the Schematism is, in fact, that necessary next step in the overall argument which I had originally supposed it to be. And I set down my thoughts on paper, making only minor alterations in the text of the presentation of the argument in the preceding four sections.

The end result of all this writing and rewriting is a text comprising passages written at different times, with many of those passages contained in the third section having been written after the completion of the fifth section. For this reason, the reader may, in a given passage, find himself suddenly confronted with a term--or with a combination of terms, or with a grammatical construction peculiar to a certain combination of particular terms--which he had not seen in any of the preceding passages, and which he shall not see again intil the significance of this term (or combination, or construction) is central to the argument being developed in detail. But if the reader can persevere in his confusion, perhaps making note of these troublesome terms, until the last word is read, he can then return to a consideration of these terms in light of that overall argument in respect of which alone they can be properly understood.

It is impossible to overestimate the necessity of precision in the translation of the Kantian terminology. It was, in fact, through the analysis of the German text of the first edition of the Transcendental Deduction that I first became aware of my misunderstanding of the central point made in the Metaphysical Deduction. This necessity of precision in translation has resulted in my reliance upon the German text (Academy edition). I have, as much as possible, retained Kemp Smith's phraseology in my treatment of the arguments. Often, however, I have found it necessary to offer translations of certain passages which differ drastically from those offered by Kemp Smith. Instead of noting each instance of such variance with what is undoubtedly the best English translation of the Critique, I have appended to this study a

brief analysis of many of those German words which must present great difficulty to any translator--difficulty which I, as translator, have often found insurmountable. The reader is referred to this appendix now, and the reading of this appendix, prior to that of the text, is suggested. In so far, however, as this appendix generally deals with one German term in its relation to another, and this relation is itself determined by the arguments in which these terms appear, it is also suggested that the reader consult this appendix again upon completion of the reading of the text.

As a final note, I must insist that the reader regard every passage, and every word in every passage, as being simply one part of a larger passage which is itself the overall argument of the Critique, with only the early development of which we are in this study concerned.

Section I

It was stated in the Introduction that "the Transcendental Aesthetic demonstrates that sensibility has its particular a priori forms of space and time." This crude statement must now be refined. We may begin with an analysis of Kant's terminology. What is meant by the terms "transcendental" and "aesthetic"?

The German word transzendental seems, as Paton observes, "to be derived from the schoolmen, who spoke of certain concepts--ens, res, aliquid, unum, verum, bonum--both as transcendentia and as transcendentalia, on the ground that they transcended the categories."[7] For the schoolmen, such a term is said to "transcend" the categories in that what it expresses is not confined to any one of the categories. That is, transcendental terms, such as "being," "one," and "true," express something different from that which is expressed by such categorical terms as "substance," "quantity," and "quality."

Kant, however, does not use the word "transcendental" in this sense. A term employed in this way would, for Kant, represent an "empty" concept, for it would have no foundation in experience.[8] As explained in the Appendix to the Prolegomena:

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[7] H.J. Paton, Kant's Metaphysic of Experience (London: George Allen & Unwin Ltd., 1936), vol. I, p. 230. (Paton cites Ross, Aristotle, p. 156.) This observation finds corroboration in the standard philosophical dictionaries. (See Johannes Hoffmeister, Wörterbuch der philosophischen Begriffe (Hamburg: F. Meiner, 1955), pp. 617-618.)

[8] See B114.

> ...the word "transcendental"...does not signify something passing beyond all experience but something that indeed precedes it a priori, but that is intended simply to make cognition of experience possible.[9]

In other words, the term "transcendental" indicates something preceding experience a priori which makes cognition of this experience possible. It must be understood here that when Kant speaks of something "preceding" experience, he is not suggesting any sort of temporal priority, but merely a logical priority. To say that something precedes experience a priori is to say that this something is a logically necessary condition of experience. (We shall be dealing in great detail with such conditions of experience in the last three sections of this study.) We must also note here that "transcendental" is to be commonly employed in reference to cognition, be it to the "faculty of cognition" or to the cognition itself. This is explicitly stated earlier in the Prolegomena (Part One, the third Remark to Section 13):

> But the word "transcendental"...with me never means a reference of our cognition to things, but only to the cognitive faculty....[10]

When, therefore, we speak of cognition as being transcendental, we are speaking of "cognition which is occupied not so much with objects as with our cognition of objects in so far as this cognition is to be possible a priori" (All-12=B25).[11] Transcendental cognition thus described would seem to be a sort of cognition about cognition. The complexity

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[9] Prolegomena, ed. L.W. Beck, pp. 122-123n.

[10] Op. cit., p. 41.

[11] All page references to the Critique of Pure Reason are to the pages of the first and second editions as cited in the margin of Kemp Smith's translation.

becomes more apparent in the following passage (A56=B80-81):

> And here I make a remark which the reader must bear well in mind, as it extends its influence over all that follows. Not every kind of cognition a priori should be called transcendental, but that only by which we know that--and how--certain representations (intuitions or concepts) can be employed or are possible purely a priori. The term "transcendental", that is to say, signifies such cognition as concerns the a priori possibility of cognition, or its a priori employment.

To paraphrase, transcendental cognition is cognition that certain representations are both possible a priori and employed a priori, and also how certain representations are both possible a priori and employed a priori. Thus we are left with a fourfold division, as it were, of transcendental cognition. Further discussion of this division is not necessary at this stage, for we need only recognize here that all transcendental cognition is of an a priori nature. It is that cognition which precedes and makes possible a posteriori cognition, as well as that a priori cognition which consists in the determination of pure a priori representations, as does that cognition which gives rise to pure geometrical determinations of space.

In summary, the term "transcendental" is employed as an adjective modifying those sorts of pure a priori cognition which together comprise the necessary condition of the possibility of all experience, which, as we shall see in the final section of this study, is itself a peculiar sort of empirical cognition. Thus in the Transcendental Aesthetic, as the first part of the Doctrine of Elements, we are concerned with the identification of those elements of experience which have their source in the transcendental character of the aesthetic. What, now, does Kant

mean by the term "aesthetic"?

Kant discusses the use of the German word "Ästhetik" in a footnote to the first sub-section of the Transcendental Aesthetic. He suggests in this passage (A21=B36) that we not use the word as did Baumgarten--who employed the word in the sense in which we continue to employ it today--bur rather in a new sense, a sense which is, in fact, that of "the ancients":

> For this reason it is advisable either to give up using the name aesthetic in this sense of critique of taste, and to reserve it for that doctrine of sensibility which is the true science--thus approximating to the language and sense of the ancients, in their far-famed division of cognition into αἰσθητὰ καὶ νοητά--or else to share the name with speculative philosophy, employing it partly in the transcendental and partly in the psychological sense.

This "sense of the ancients," in their distinction between the terms αἰσθητὰ (sensible things) and νοητὰ (intellectual things), is that in which Aristotle employs the words in the following passage from the Metaphysics (999b1-4):

> Now if there were nothing but particulars [τὰ καθ' ἕκαστα], there would be nothing intellectual [νοητὸν], but all things would be sensible [αἰσθητὰ] and there would be knowledge [ἐπιστήμη] of nothing--unless it were maintained that sense perception [or "sensation": αἴσθησιν] is knowledge.

Adhering to this "sense of the ancients," Kant employs the term "Aesthetic" in reference to the human capacity to perceive sensible things. This "capacity (receptivity) for receiving representations through the mode in which we are affected by objects, is entitled sensibility" (A19-B33). Thus Kant defines "aesthetic" as "the science of the rules of sensibility in general" (A52=B76). Since that which is transcendental must be concerned with that which is a priori, the Transcendental Aesthetic is

defined as "the science of all principles of a priori sensibility" (A21=B35). Moreover, since that which is transcendental must also be concerned with that which is pure, it is necessary to determine to what extent the "capacity for receiving representations" does not derive from an empirical origin. The task of the Transcendental Aesthetic is then twofold. As stated in the conclusion of the first sub-section (A22=B36):

> In the transcendental aesthetic we shall, therefore, first isolate sensibility, by taking away from it everything which the understanding thinks through its concepts, so that nothing may be left save empirical intuition. Secondly, we shall also separate off from it everything which belongs to sensation, so that nothing may remain save pure intuition and the mere form of appearances, which is all that sensibility can supply a priori.

Before dealing with the manner in which Kant approaches this task, we must clarify still more of his terminology. In particular, we must determine what is meant by "sensibility" and "intuition." It is helpful here to paraphrase the opening paragraph of the Aesthetic: Intuition is that through which a cognition is in immediate relation to objects. Intuition takes place only in so far as an object is given to us. An object is given to us only in so far as the mind is affected in a certain way. Sensibility is the capacity of the mind to be affected in a certain way. Thus sensibility yields us intuitions. Further, since all thought must relate ultimately to intuitions, all thought must rely ultimately upon sensibility.

In that sensibility and intuition are here described in relation to one another, this passage would seem to indicate an intimate connection between the two. That intuition is always sensible and never intellectual is, in fact, a dogmatic position from which Kant never withdraws.

For this reason perhaps the best manner in which to clarify what is meant by "intuition" and "sensibility" is simply to describe the relationship existing between the two.

In his essay "On Kant's notion of Intuition (Anschauung),"[12] Jaakko Hintikka argues that Kant occasionally speaks of intuition as being unconnected with sensibility. If this is the case, it is evident that Kant contradicts himself when he denies the possibility of non-sensible, i.e. intellectual, intuition.[13] Such a contradiction would prove devastating, laying waste to many of those arguments so essential to the development of the overall argument of the Critique.[14] It is, therefore, by no means labour lost if, through an analysis of the relevant passages cited by Hintikka, we can determine whether Kant does, in fact, speak of non-sensible intuition. With this as our goal, the remainder of this section of our study shall be in the form of a response to Hintikka.

Hintikka begins his essay by noting Frege's observation that Kant makes no mention of any connection between intuition and sensibility in his Logic.[15] Hintikka proceeds to raise several questions concerning the meaning of the term Anschauung and the relation of this notion to sensibility. The remainder of his essay presents his treatment of these questions. It is evident that Hintikka's main concern lies in the relationship between intuition and sensibility, for his understanding of this

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[12] In Penelhum & MacIntosh, loc. cit.

[13] This denial is explicitly stated at B72.

[14] See above, p. 5, note 6.

[15] Hintikka's reference is to Frege's Die Grundlagen der Arithmetik, eine logisch-mathematische Untersuchung über den Begriff der Zahl. (Breslau, 1884).

relationship is fundamental to his interpretation of Kant's theory of mathematics. Before we involve ourselves too deeply in the analysis of this relationship, it is best that we follow Hintikka and investigate the meaning of the term Anschauung.

In explaining why Kant chose Anschauung to denote "intuition," Hintikka states that it "had been introduced into the German philosophical terminology (probably by Christian Wolff) as a translation of the (medieval) Latin term 'intuitus'." This is borne out by the fact that Kant used the Latin term in his Dissertation in the same way in which he was to use Anschauung in his critical writings. (And, as we shall see in what follows, the meaning of Anschauung in these later works is also similar to its meaning in the pre-critical Essay of 1764.) Hintikka proceeds to briefly describe the use of the term "intuition" as it appears in the works of some of Kant's predecessors (namely, Descartes, Spinoza, and Leibniz). What is disturbing in Hintikka's essay is not the brevity of his analysis of these predecessors, bur rather his failure to adequately explore the etymology of the word Anschauung.[16]

Perhaps the most appropriate account of this etymology is to be found in Trübners Deutsches Wörterbuch. After describing the etymology itself--old high German anascouwon, middle high German aneschouwen, modern high German Anschauung--the account continues:

> Already in the early middle high German, anschauen (as the simple seeing [wie das einfache schauen]) is also used of supersensible contemplation [übersinnliche Betrachtung]: "To contemplate [ane

[16] Hintikka mentions "the etymology of the word Anschauung" on the first page of his essay, but he offers the reader only a superficial description of this etymology.

> schowen] the soul And one like you (a maiden), oh noble lady" [Heinrich von Melk, Von des Todes Gehügde 193]. So it was suited for rendering the meaning carried over from the Latin intueri and contemplari, and could develop into an important concept of our scientific [wissenschaftlichen] language: The "intuitive cognition [anschauende Erkenntnis]" is explained by Christian Wolff as that which represents the thing itself, as opposed to the figurative [figürlich: "figurative" here in the sense of "symbolic," i.e. having to do with figures] [Vernunft Gedanken v. Gott, 1720, §316].[17]

This account reveals a certain consistency in the "supersensible" connotation of the word Anschauung, a connotation which accompanied the usage of the word since the early middle high German period,[18] and which was still evident in the works of the eighteenth century.[19] Now just as Kant alters the sense in which two other words he makes use of ("transcendental" and "aesthetic") had been employed by his predecessors, so does he alter this sense of "intuition," for he wishes to rid this word of all supersensible connotations it might previously have borne. Intuition, for Kant, is always the "product" of sensibility, and, as we see when we bear

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[17] Trübners Deutsches Wörterbuch (Berlin: Walter de Gruyter & Co., 1939), vol. I, p. 96. (It is perhaps worthy of comment en passant that Kant will later (at B141) employ the term "figurative" when speaking of the transcendental synthesis of imagination.)

[18] We may arbitrarily set the date of the beginning of this period as 1050 A.D. (cf. Werner P. Friedrich, An Outline-History of German Literature (New York: Barnes & Noble, 1970), p. 10).

[19] It might be noted here that Descartes' description of intuition was that of a purely intellectual activity, which would seem to be a radical extension of the "supersensible" connotation of Anschauung. (Cf. Descartes, Rules for the Direction of the Mind, esp. Rule III. See also Leonard G. Miller, "Descartes, Mathematics, and God," The Philosophical Review, vol. LXVI (1957), esp. p. 453.) For a brief discussion of the similarity of Descartes' notion of intuition to that of Locke see Thomas A. O'Kelley, "Locke's Doctrine of Intuition was not borrowed from Descartes," Philosophy, vol. XLVI (1971), pp. 148-151.

in mind his use of the term "aesthetic" (in the sense of the ancients), intuition can never be of purely intellectual, i.e. non-sensible, things. Hintikka's interpretation of Kant's theory of mathematics relies, however, upon his conviction that Kant does not always maintain the connection between intuition and sensibility. We shall now turn to an examination of the evidence he offers in support of this conviction.

Hintikka distinguishes "two different, though not unrelated levels of Kant's philosophy of mathematics," which he calls the "preliminary theory" and the "full theory."[20] The difference between them, he claims, is that in the former there is no connection assumed between intuition and sensibility, while in the latter "Kant tries to show that all intuitions are sensible." When one proceeds to interpret the Kantian notion of intuition after having posited such a distinction, one is led, like Hintikka, to the conclusion that there exists no "direct conceptual connection between Kant's notions of intuition and his concept of sensibility," and, further, that if such a connection must be assumed, there arises an incongruity (if not a contradiction) in that it is a connection of two things previously distinguished one from the other. But this conclusion is entirely in opposition to Kant's explicit description of the relationship existing between the two.[21] Although it cannot be denied that such apparent incongruities do occasionally appear throughout the text of the Critique, it shall become evident in the course of the following

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[20] According to Hintikka, the preliminary theory appears in the Methodenlehre, the Introduction to the first Critique, sections 6-8 of the Prolegomena, and the Essay of 1764; the full theory appears in the Transcendental Aesthetic, the Dissertation, sections 9-13 of the Prolegomena, and in some parts of the Transcendental Analytic.

[21] See, for instance, A19-20=B33-34.

investigation that this is not one of them, and that Hintikka's distinction is grounded on a misconception of the relationship which does in fact exist between intuition and sensibility. We shall begin with a discussion of the passages cited by Hintikka in support of his interpretation in which the term "intuition" (intuitus, Anschauung) appears. We shall begin with the earlier works and, postponing treatment of the Aesthetic, end with the latest: the prize Essay of 1764, the Dissertation, the Methodenlehre, the Introduction to the first Critique, and the Prolegomena. We can then concern ourselves with the Aesthetic.

In the Essay of 1764, "Enquiry concerning the Clarity of the principles of Natural Theology and Ethics," Kant is primarily concerned with demonstrating the difference between the mathematical method and the philosophical method. It is in the Third Reflection ("of the nature of philosophical certainty") of this short essay that we find mention of intuition. Kant begins this Reflection with the statement that the certainty of a cognition is greater in proportion to the degree to which the necessity of its truth is intuitive (sec. 1, II 290-1).[22] He goes on to explain that the intuitive nature of mathematical cognition is greater than that of philosophical knowledge [Weltweisheit], "for in the former the object is regarded concretely, in sensible signs [sinnlichen Zeichen]; but in the latter, the object is always examined only in universal, abstract concepts, whose clear impression cannot be nearly so great as that of the former" (sec. 1, II 292). He concludes this Reflection with the assertion that although mathematics "is easier and partakes of a greater

[22]Volume and page references are to Kants Werke (Berlin: Walter de Gruyter & Co., 1968).

intuition [einer grossern Anschauung]" than does metaphysics, the latter is nevertheless equally capable of the certainty necessary for conviction (sec. 3, II 296).

In the First Reflection of the Essay, Kant deals in greater depth with the method of mathematics. For the sake of our discussion, however, it is enough simply to note that he speaks there of mathematics examining universals "under symbols in concreto" (sec. 2, II 278). These "symbols" are "sensible signs," and it is through an examination of these that we come to the proper estimation of the intuitive nature of mathematical cognition. Although Kant has yet to have elaborated upon his notions of intuition and sensibility, the above passages seem nevertheless to indicate some relationship between the capacity of sensibility and the intuitive certainty of mathematical cognition.

The Dissertation, "On the Form and Principles of the Sensible and Intelligible World," is divided into five major sections. We need here only concern ourselves with Section II (§'s 10 & 12) and Section III (§'s 14 & 15). Hintikka rightly observes that this work presents what he calls the "full theory"--that is, intuition is here described as existing in connection with sensibility. This may be verified by briefly referring to the above mentioned sub-sections. In §10 Kant describes space and time as comprising the "formal principle of intuition" which is "the condition under which something can be the object of our senses..." (II 396). He proceeds, in §12, to describe pure intuition as "a singular concept in which [as constrasted to under which], sensibles no matter what are thought, and so it [pure intuition] contains the concepts of

space and time" (ii 397). In §'s 14 and 15 Kant deals with these concepts in much the same manner as in Sections I and II of the Transcendental Aesthetic (A22-49=B37-66). What is most noteworthy in the Dissertation's treatment of space, time, and intuition is to be found in the concluding remarks to the Corollary of Section III (II 406):

> ...each of the concepts [of space and time] is like an immutable diagram and so is to be cognised intuitively. For sensations excite this act of the mind but do not influence the intuition. Nor is there anything else here born with us except the law of the mind according to which it joins its own sensa together in a fixed manner as a result of the presence of an object.

In the Methodenlehre of the first Critique, chapter I, section 1 ("The Discipline of Pure Reason in its Dogmatic Employment"), Kant is once again concerned with exhibiting the difference between the method of mathematics and that of philosophy. Hintikka claims that there is no connection assumed between intuition and sensibility in this section. Although such a connection is not explicitly described, it is nevertheless most certainly assumed. The argument of this section goes roughly as follows: If we are to cognize more about an object than that which is already contained in the concept we have of it, we must be able to construct synthetic a priori propositions in regard to this object. If our cognition is to be certain, these propositions must be apodeictic. In order to construct such propositions, we must have a method, or system of principles, in accordance with which our reason, in its philosophical employment, may proceed. It is seen that the method of the employment of reason in mathematics yields synthetic a priori propositions which are apodeictic and indubitable; we must, therefore, inquire

as to whether our reason might not be employed in philosophy in accordance with this same method. In the course of the inquiry we find a fundamental difference: "Philosophical cognition is the cognition of reason [Vernunfterkenntnis] from concepts; mathematical cognition is the cognition from the construction of concepts" (A713=B741). Reason must, therefore, discover other principles, different from those of mathematics, in accordance with which it can proceed.

As we are concerned at the moment with the connection between intuition and sensibility, we need only discuss Kant's description in these passages of the construction of concepts in mathematics. He states that the construction of a mathematical concept is the a priori exhibition of the intuition which corresponds to the concept in question, and that, since we do not yet cognize this concept a posteriori, we therefore need a non-empirical, a priori intuition (A713=B741). Kant states further that "the only intuition that is given a priori is that of the mere form of appearances, space and time" (A720=B748). It will be recalled that Kant has already dealt at some length with the relation between intuition and sensibility in the Aesthetic--we speak here only of the final form of the first Critique--and he no doubt chooses to avoid repeating that which he has already stated so many times, namely: "These [extension and figure] belong to pure intuition, which, even without any actual object of the sense or of sensation, exists in the mind a priori as a mere form of sensibility" (A21=B35). In short, the relationship between intuition and sensibility is so fundamental that any further discussion of it in this section would serve simply to obscure the line of the argument here presented. The connection between the two is

precisely what Hintikka claims it need not be: It is assumed.

The passages dealing with mathematics in the Introduction to the Critique are supposed by Hintikka to be similarly lacking in regard to this connection. It is certainly dangerous to rely too greatly upon this Introduction as a source of evidence in support of one's interpretation of the text, for the arguments there presented are stated so briefly as to be almost misleading. And those concerned with mathematics and intuition are no exception. In section V, part 1 (to which Hintikka seems to be referring), Kant states that all mathematical judgments--the propositions of geometry as well as those of arithmetic--are synthetic. He also states that the synthesis whereby these propositions are constructed is not possible without the aid of intuition (B16-17). Intuition is necessary for this synthesis in that the proposition is concerned not only with quality (the concept of "straight," for example), but also with quantity. Kant offers the following example of a synthetic proposition in geometry: "the straight line between two points is the shortest" (B16). This proposition is synthetic in that while the concept of "straight" involves quality, the concept of "shortest" involves quantity, which cannot be derived analytically, derived, that is, "through any process of analysis," from the concept of a straight line. Only intuition can supply us with the quantity contained in the concept of "shortest." (The brevity of Kant's explanation is typical of the arguments in the Introduction: he does not here tell us how intuition assists in this synthesis.) To assert on the basis of such a superficial mention of intuition that sensibility is not involved is to make an assertion where

none should be made. Indeed, judging from the context, one might conclude that intuition, as it is here described, is little more than sense perception, for in this passage--as well as in the preceeding discussion of (arithmetical) addition, where the intuition is described as corresponding to individual units, "our five fingers, for instance" (B15)--intuition contributes to synthesis the quantity which is presented to the mind in sensation. This line of reasoning is further supported by Kant's earlier treatment, in section IV (B12), of the distinction between analytic and synthetic judgments. He states that the predicate "weight" is synthesized with the concept of "body" in experience, which "is itself a synthetic combination of intuitions"[23]; and "experience" has earlier (A1-2=B1-3) been described as the "product of" the interaction of our understanding and the raw material of our sensible impressions. The concept of "body" is supplied by intuition (which would seem here to be empirical intuition); the two are synthesized in experience. This synthesis is similar to that of mathematical propositions, and it would therefore be not at all unreasonable to suppose the intuition of this mathematical synthesis to be similarly sensible in nature. Although this may not be the case--as stated above, any interpretation is dangerous at this stage of the Critique--to assert that intuition, as it is described

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[23]The corresponding passage of the first edition is more explicit: "In the case of empirical judgments, judgments of experience, there is no difficulty whatsoever in meeting this demand. This X is the complete experience of the object which I think through the concept A--a concept which forms only one part of this experience. For though I do not include in the concept of a body in general the predicate 'weight', the concept nonetheless indicates the complete experience through one of its parts; and to this part, as belonging to it, I can therefore add other parts of the same experience" (A8).

in this context, need not be assumed to have any connection to sensibility is entirely unjustified.

Equally unjustified is Hintikka's assertion that sections 6-8 of the Prolegomena, unlike the following sections 9-13, give no evidence of a connection between intuition and sensibility. These three sections serve only to lay the foundation for the discussion which follows. This is not to say that they are presenting the premisses of an argument to follow--they serve merely to formulate the questions which must be answered. It is first asked (in section 6) how reason can produce mathematical cognition, which carries with it "thoroughly apodictic certainty," entirely a priori. It is noted (in section 7) that mathematical cognition "must first exhibit its concept in intuition and indeed a priori." The first question of the next section is "how is it possible to intuit anything a priori?" This question is restated in the conclusion of this section as "how can the intuition of the object precede the object itself?" Section 9 answers that the intuition can be prior "if my intuition contains nothing but the form of sensibility, antedating in my mind all the actual impressions through which I am affected by objects." And further, "intuitions which are possible a priori can never concern any other things than objects of our senses." The next four sections present a further elaboration of Kant's treatment of the roles of sensibility and intuition in synthetic a priori cognition. These eight sections, along with the three concluding Remarks at the end of the first part, together comprise Kant's discussion of the manner in which mathematical cognition proceeds in its a priori synthesis of propositions. To isolate any group of three or

four sections and proclaim, as does Hintikka, that it presents a different "theory of mathematics" than that of the other sections is to pry the words out of their context, thereby laying the foundation of a false interpretation of the text. There are not two theories presented here--there is only one.

The course we have been following in this section of our study might best be described as a "negative approach," and our goal in so doing has been, as Kant would say, to reject error. To summarize the above, Hintikka claims that the "preliminary theory forms...the premisses of the full theory," and that Kant, in order to solve the problems involved in these premisses, is led to assume that intuitions are subjective. Hintikka concludes that Kant, by thus relating intuition to sensibility, erases the distinction between the two with which he began his discussion (in the statements of the preliminary theory). As we have seen, however, the distinction with which Kant begins his treatment of the relationship between intuition and sensibility is never so drastic as Hintikka believes; despite whatever distinction there may be, the connection between intuition and sensibility is always assumed. With the goal of arriving at a satisfactory conclusion regarding the nature of this connection, how two such separate capacities or faculties can be so related, we shall now turn to an analysis of the Transcendental Aesthetic. We must not, like Hintikka, assume that such a connection reveals a contradiction--we must rather attempt to discover how the two can be related without a contradiction.

It will be recalled that the twofold task of the Aesthetic is (1) to isolate sensibility, and (2) to determine what sensibility can supply

a priori. We must begin with a clarification of what is meant by "isolate sensibility." The term "isolate" is used in a similar sense in at least three other passages in the Critique (A62=B87, A305=B362, A842=B870), and it seems to signify simply the distinguishing from one another of the various capacities and faculties of the mind, or--what amounts to the same thing--the "separating out from our cognition" (A62=B87) of those elements of experience which have their origin in a capacity or faculty other than that being isolated. When Kant speaks of "isolating sensibility," he is then merely speaking of treating this capacity without regard to any other faculty of the mind--and particularly to the understanding, the pure concepts of which are necessarily employed in all cognition. The difficulty in such a recondite endeavor is obvious, and it did not pass unnoticed by Kant (A842=B870):

> It is of the utmost importance to isolate the various cognitions according as they differ in kind and in origin, and to secure that they be not confounded owing to the fact that usually, in our employment of them, they are combined.

Although sensibility and intuition are always combined in our experience--"experience" being defined as "itself a species of cognition" (Bxvii)--we must regard as possible such a distinguishing of the two from one another if we are to proceed in our investigation of their respective contributions to experience.

Having isolated sensibility, we are left with empirical intuition. Since, however, the second part of the task at hand is to determine what sensibility can supply a priori, we must now "separate off from it everything which belongs to sensation" (A22=B36). Doing so, we are left with nothing but that condition of sensibility under which alone an object can

be given to us in intuition. This condition comprises the two "forms of intuition," space and time. That these two forms of intuition constitute the condition under which alone intuition is possible, and that they are supplied a priori by sensibility, Kant demonstrates in the remainder of the Aesthetic, which we may summarize as follows:

Space is described as a pure intuition (A25=B39) and as a necessary a priori representation (A24=B38); that is, our representation of space is a pure a priori intuition (B40). It must be understood that space is not, strictly speaking, a concept of any sort--although we can have a concept of space, space itself is not a concept. Nor is space a "something" which actually (objectively) exists, and in which objects exist (A28=B44). Space is merely one of the "forms of intuition." Time, the other form of intuition, the representation of which is also a pure a priori intuition (A31=B47, A33=B50), is similarly "not something which exists of itself" (A32=B49); that is, time also has no actual (objective) existence. These two forms of intuition together constitute the subjective condition of sensibility, which is also described as the condition of representations. Whereas space is the pure form of all outer intuition, and is therefore the condition of the possibility only of outer appearances, time, on the other hand, is the pure form of both inner and outer intuition, and is therefore the condition of the possibility of "all appearance whatsoever" (A34=B50).

We may now summarize the relationship existing between sensibility and intuition as follows: When the human mind is confronted with an object, this object is said to be "given to" the sensibility, and intuition of this object as appearance arises. The sensibility, which is the

structure of the mind, is said to "receive" the object to the extent that its appearance exhibits the forms of space and time--to the extent, that is, that the appearance of the object is structured in the same way as is the mind. A cognition is in immediate relation to objects through intuition. The forms of intuition are supplied by sensibility. These forms are space and time, and they are identical to the conditions of sensibility. When the conditions of sensibility are met with by the appearance of an object, intuition occurs. Intuition can occur only when these conditions are met with. Thus we can never have intuition without sensibility, and, therefore, whenever intuition is said to occur, there must always be assumed a connection between sensibility and intuition.

It is perhaps fitting that we conclude this section of our study with a discussion of Frege's assertion (quoted by Hintikka) that Kant makes no mention of any connection between intuition and sensibility in his Logic. This is the section of Frege's work to which Hintikka refers:

> KANT in his Logic (ed. Hartenstein, vol. VIII, p. 88) defines it [intuition] as follows:
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> "An intuition is an individual idea (REPRAESENTATIO SINGULARIS), a concept is a general idea (REPRAESENTATIO DISCURSIVA)."
>
> Here there is absolutely no mention of any connexion with sensibility, which is however, included in the notion of intuition in the Transcendental Aesthetic, and without which intuition cannot serve as the principle of our knowledge of synthetic a priori judgements. In the Critique of Pure Reason (ed. Hartenstein, vol. III, p. 55) we read:
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> "It is therefore through the medium of sensibility that objects are given to us and it alone provides us with intuitions."[24]
>
> It follows that the sense of the word "intuition" is wider in the Logic than in the Transcendental Aesthetic. In the sense of the Logic, we might perhaps be able to call 100,000 an intuition; for it is not a general concept

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[24]The reference is to A19=B33.

> anyhow. But an intuition in this sense cannot serve as the ground of our knowledge of the laws of arithmetic.[25]

Frege claims here that "intuition" has a different meaning in the Logic than in the Aesthetic, and that the difference lies in the absence, in the Logic, of any connection between intuition and sensibility. Frege, however, is guilty of the same error in reading of which we have already accused Hintikka: in the search for a definitive statement of what intuition is, they have each isolated one passage, pulling it out of its context, and they have claimed this passage to adequately define intuition. We shall let Kant, as he writes in the introduction to the Logic, respond to Frege's reading of the text:

> When we reflect on our cognitions in respect of the two essentially different basic faculties[26] of sensibility and understanding from which they spring, we meet with the difference between intuitions and concepts. All our cognitions, viewed in this respect, are either intuitions or concepts. The former have their source in sensibility--the faculty of intuitions; the latter in the understanding--the faculty of concepts. This is the logical distinction between the understanding and sensibility, according to which the latter furnishes nothing but intuitions, the former nothing but concepts.[27]

Again, the connection between intuition and sensibility is fundamental: there can be no intuition without sensibility, and sensibility is comprised of the forms of intuition. As Kant explains further (two paragraphs

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[25]Frege, Die Grundlagen der Arithmetik (The Foundations of Arithmetic), tr. by J.L. Austin (Oxford: Basil Blackwell, 1950), p. 19.

[26]"Basic faculties" translates Grundvermögen. Vermögen is generally rendered in English as "faculty," but "faculty" must not be construed as anything but capacity, be this capacity active, as is the understanding, or passive, as is the sensibility.

[27]Logic, tr. by Robert S. Hartman & Wolfgang Schwarz (New York: Library of Liberal Arts, 1974), p. 40.

later):

> This perfection is beauty: that which pleases the senses in intuition and for that very reason can be the object of a general pleasure, because the laws of intuition are general laws of sensibility [weil die Gesetze der Anschauung allgemeine Gesetze der Sinnlichkeit sind].

The conclusion of our response to Hintikka is that the forms of intuition are the conditions of sensibility. There must always be assumed a connection between the two.

Having now dealt with sensibility, the next major task to be undertaken in our analysis of the Critique is to determine what the understanding supplies a priori. We approach this task in the same manner as in the Aesthetic--namely, by isolating the understanding. This is effected in Book I of the Transcendental Analytic, the Analytic of Concepts, to which we now turn our attention.

Section II

The second part of the Transcendental Doctrine of Elements is entitled the Transcendental Logic, which is divided into Transcendental Analytic and Transcendental Dialectic. The Transcendental Analytic comprises in turn two Books, the Analytic of Concepts and the Analytic of Principles. The Analytic of Concepts contains two chapters, "The Clue to the Discovery of All Pure Concepts of the Understanding" and "The Deduction of the Pure Concepts of Understanding." The former chapter contains what is commonly referred to as the "Metaphysical Deduction," and the latter the "Transcendental Deduction." In this second section of our study we are concerned with the Metaphysical Deduction. In order to better understand the problems being dealt with in this chapter, it is necessary that we begin with a summary of the content of the four sections of the Introduction to the Transcendental Logic, entitled "Idea of a Transcendental Logic."

It is helpful to bear in mind that this entire major division of the Critique is entitled "The Transcendental Doctrine of Elements," for this explains the divisions which follow. The first section of the Introduction has as its heading "Logic in General." It is stated here that "Intuition and concepts constitute, therefore, the elements of all our cognition, so that neither concepts without an intuition in some way corresponding to them, nor intuition without concepts, can yield cognition" (A50=B74). As we have already dealt with the intuitive

element of our cognition in the Transcendental Aesthetic, we have now to deal with the conceptual element. Just as we found that there are empirical intuitions which are possible a posteriori, while there are also pure intuitions possible a priori--which are supplied a priori by sensibility--so do we now find that there are empirical concepts which are possible a posteriori, while there are also pure concepts possible a priori, these latter being supplied a priori by the understanding. The "understanding" is here defined as "The faculty...which enables us to think the objects of sensible intuition..." (A51=B75). While "aesthetic" is defined as "the science of the rules of sensibility in general," the "science of the rules of understanding" is the definition given to "logic" (A52=B76). Logic may be divided, in accordance with its employment, into "general" and "special" logic.[28] Whereas special logic is to be regarded as "the organon of this or that science," general logic is to be regarded as the "logic of elements." The former comprises the rules of thought with regard to a particular sort of objects, while the latter comprises the rules of thought with no regard whatsoever to objects, but solely with regard to the employment of the understanding generally. The general employment of logic may be either pure or applied. Each of these "refers to the employment of the understanding without regard to

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[28]The English translation of two of the words in this section demands clarification. The words are überhaupt and allgemein, both of which are rendered as "general." The title of this section, "Von der Logik überhaupt." is translated "Logic in General"; the phrase "allgemeine Logik" is translated "general logic." The two are not interchangeable. To speak of logic in general (überhaupt) is merely to discuss the science of logic generally, that is, of the science as a whole, without regard to the various divisions or sorts of logic it comprises. One of these "sorts" of logic is general (allgemeine) logic, which is contrasted to special (besondere) logic on the basis of the different object to which it is applied.

the difference in the objects" (A53=B77), but while in applied logic we are concerned with the employment of the understanding under subjective empirical conditions, in pure logic we "abstract from all empirical conditions" and concern ourselves only with the a priori principles of all employment of the understanding whatsoever. Thus pure general logic is that science which treates of the a priori principles of the form of thought, without borrowing anything from psychology, which deals with the subjective empirical conditions considered in applied general logic.

In the second section of this Introduction, Kant expresses the necessity of yet another sort of logic, namely, the transcendental. General logic, as we have seen, treats only of the form of thought in general--that is, it is concerned solely with the logical form exhibited in the relationship between representations. (In the act of "thinking," the understanding relates representations. Thus "thought" is to be described as merely a logical function (B428).) Neither pure nor applied general logic is concerned with the content of thought--that is, with the "objects" the representations of which are related in thought--but only with its form. If, therefore, we are to be capable of thinking of objects, we need another sort of logic, in accordance with the rules of which we may do so. Special logic deals with the rules of thought with regard to objects given in empirical intuition, but if we are to be capable of thinking about objects entirely a priori, we must have a science which comprises the rules of the understanding in its thinking of objects a priori. As described at the close of this section (A57=B81-82):

> Such a science, which should determine the origin, the scope, and the objective validity of such cognition, would have to be called transcendental logic, because,

> unlike general logic, which has to deal with both empirical and pure cognition of reason, it concerns itself with the laws of understanding and of reason solely in so far as they relate a priori to objects.

The last two sections of the introduction are concerned, at least in part, with truth. Kant concurs with the traditional definition of "truth" as "the agreement of cognition with its object" (A58=B82). Since, however, general logic is not at all concerned with objects, it cannot supply an adequate criterion of truth. In so far as it does supply the "purely logical criterion of truth, namely, the agreement of cognition with the general and formal laws of the understanding and reason," it may be said to supply the "negative" condition of truth--it cannot, however, offer a sufficient general criterion. In transcendental logic, on the other hand, the understanding is isolated, and the elements which it contributes a priori to our cognition are identified. These elements comprise "the principles without which no object can be thought," and thus, in its concern with the objects of thought, transcendental logic is said to be "a logic of truth" (A62=B87), for it supplies both a general and a sufficient criterion of truth.

The division of this second part of the Critique which deals with these elements, the "pure concepts," is entitled the Transcendental Analytic. In the first Book of this division, the Analytic of Concepts, we shall fulfill the task laid out in the passage of the second section discussed above--that is, we shall determine "the origin, the scope, and the objective validity" of the elements of the understanding. In the first chapter of this Book, "The Clue to the Discovery of all Pure Concepts of the Understanding," we shall identify their origin and scope; in the

second chapter, "The Deduction of the Pure Concepts of Understanding," we shall establish their objective validity. We can now turn to a discussion of the former chapter, in which, as Kant says (A66=B91):

> We shall...follow up the pure concepts to their first seeds and dispositions in the human understanding, in which they lie prepared, till at last, on the occasion of experience, they are developed, and by the same understanding are exhibited in their purity, freed from the empirical conditions attaching to them.

Since the understanding is a unity (A67=B92), the pure concepts which it comprises must be connected in accordance with one concept or idea, which may serve, in turn, as a rule by means of which we may detect both the relationships existing among them and the completeness of the system which they constitute. We have already seen, in the Transcendental Aesthetic, that our "passive" sensibility yields us intuitions. Besides the cognition arising through this intuition, there is also that yielded by the concepts of our "active" understanding, these concepts being themselves the product of the activity of our understanding--that is, these concepts "rest on functions" (A68=B93) of the understanding. A "function" is defined here as "the unity of the act of bringing various representations under one common representation." In other words, the function of the understanding, as here defined, is its activity in the relating of representations to one another. "Judgment" is the name given to this particular activity, and it is only in the act of judgment that our understanding can make use of these concepts. Thus "all judgments are functions of unity among our representations..." (A69=B93-94), and our understanding, in its capacity as an active faculty of thought, is to be described as a "faculty of judgment." If, then, we are to identify

the functions of the understanding which, when analyzed, shall serve to indicate those pure concepts which we now seek to identify, we need only describe the "functions of unity in judgments."

When we analyze a particular judgment, or act of judging--that is, of our thinking of one representation as being related to, or "brought under" another--we may break down this judgment into its content (i.e. its matter, the representations which are related) and its form (i.e. the manner in which the representations are related). If we abstract from the content of this judgment, we are left with the purely logical form of thought exhibited in this judgment. This form is reflected in the functions of judgment, which we can identify as being of four major sorts--that is, when we regard only the form of thought, we can detect only four ways in which representations may be related to one another. They are related in respect of: (1) quantity (universal, particular, singular); (2) quality (affirmative, negative, infinite); (3) relation (categorical, hypothetical, disjunctive); and (4) modality (problematic, assertoric, apodeictic).[29]

These twelve "forms" of judgment constitute the ways in which representations are related--or united--by the understanding in thought. These "functions of unity in judgment" indicate all the possible logical functions of the understanding in its connection of representations. This connection of representations--the function which produces unity among our representations, thereby transforming them into (unified) concepts (A76=B102)--is achieved through a process of analysis. This "analysis"

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[29] A more thorough discussion of these divisions than that offered in the Critique is to be found in the Logic, second section, §'s 20-30.

is no more than the combining of representations in a certain manner, or "form," and the "analytic unity" exhibited in a judgment is identical with the concept resulting from this judgment--but solely in respect of the form of this concept.

It is necessary at this point that we take a slight detour from our path of exposition. These few pages of the Metaphysical Deduction have enjoyed the frequent attention of the commentators, and for good reason. The difficulties in comprehending the line of Kant's reasoning often seem insurmountable. One such difficulty--regarding what is perhaps the central point of the present discussion--arises when we try to understand in precisely what sense a judgment may be said to unify representations. Two questions must be asked here: (1) What does it mean to produce unity?, and (2) What sort of unity is produced? Before attempting direct answers to these questions, we must backtrack (to A68-69= B93-94) for a moment and analyze the general form of a judgment.

A judgment contains a subject and a predicate united in such a way as to give us information concerning the object being "judged." Both the subject and the predicate are representations, and, moreover, they are cognitions, which are one of the two sorts of representation (A320= B376-7). There are two sorts of cognitions, intuitions and concepts. Intuitions are immediate representations of objects given to the mind through sensibility; they are either empirical or pure, depending upon whether the content of the objects represented is empirical or pure. Concepts are mediate representations of objects which are thought through understanding; either they are empirical, when the objects are given to the mind in empirical intuition, or they are pure, when the objects are

given to the mind in pure intuition. The subject-representation of a judgment can be either the former or the latter sort of cognition, while the predicate-representation can be only the latter. In other words, the subject-representation of a judgment may refer either immediately to the object as an intuition, or mediately to this object by means of another representation which refers to it immediately as an intuition. The predicate representation, on the other hand, can refer only to the subject-representation, and thus must always refer only mediately to the intuited object. This analysis might help us to detect the problems involved in understanding the following passage (A68-9=B93-4):

> In every judgment there is a concept which holds of many representations, and among them of a given representation that is immediately related to an object. Thus in the judgment, 'all bodies are divisible', the concept of the divisible applies to various other concepts, but is here applied in particular to the concept of body, and this concept again to certain appearances that present themselves to us. These objects, therefore, are mediately represented through the concept of divisibility. Accordingly, all judgments are functions of unity among our representations; instead of an immediate representation, a higher representation, which comprises the immediate representation and various others, is used in knowing the object, and thereby much possible cognition is collected into one.

The major problem, it seems, is this: Precisely what things are being unified? Is it the subject-representation and the predicate-representation, or is it several possible subject-representations in respect of their homogeneity with the predicate-representation?

When we now return to the two questions posed above--what it means to produce unity, and what sort of unity is produced--we find that our answers must rely ultimately upon which of the two just mentioned possibilities we choose to maintain. Both Prichard and Paton offer plausible

answers to these questions, which we ought briefly to examine.

The brevity of Prichard's discussion allows us to quote:

> If we do so [ignore Kant's account of perception, and also his statement that judgement is the mediate knowledge of an object], we see that Kant's account of judgement simply amounts to this: 'Judgement is the use of a conception or 'universal'; the use of a conception or universal consists in bringing under it corresponding individuals or species. Consequently, judgement is a function producing unity. If, for instance, we judge 'All bodies are divisible', we thereby unify 'bodies' with other kinds of divisible things by bringing them under the conception of divisibility; and if we judge 'This body is divisible' we thereby unify this divisible body with others by bringing it and them under the conception of divisibility.' Again, since 'the understanding in general can be represented as a faculty of judging', it follows that the activity of the understanding consists in introducing unity into our representations, by bringing individuals or species--both these being representations--under the corresponding universal or conception.[30]

To clarify Prichard's answer to "What does it mean to produce unity?", he claims that unity is produced through the subject of a judgment being unified with other subjects which might be "brought under" the same predicate. This unity consists then in the subject being unified with other possible subjects of a judgment having the same predicate. This position explains why, in the two pages immediately following the above passage.[31] Prichard concludes--in answer to the question "What sort of unity is produced?"--that "There is only one kind of unity, that of a group of particulars unified through relation to the corresponding universal." He regards this to be the case because, as he reads Kant, "a judgement unifies particulars by bringing them under a universal." In

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[30] H.A. Prichard, Kant's Theory of Knowledge (Oxford: Clarendon Press, 1909), pp. 148-9.

[31] Op. cit., pp. 150-151.

summary, Prichard maintains that "to produce unity" means to yield the unification of possible subject-representations in respect of their homogeneity with the predicate-representation.

Paton, although he does indicate another possible answer, concurs nevertheless with Prichard:

> I believe him [Kant] to mean that instead of intuiting each body separately, we gather together our different intuitions of many individual bodies under the concept of divisibility. More simply, we unite different individual bodies before our minds by means of their common mark of divisibility.[32]

> ...all judgement makes use of universal or general concepts for the purpose of knowing, directly or indirectly, a world of sensible individual objects; and even that (whatever else it may do) it gives unity to a plurality of different individual objects, so far as these individual objects are thought by means of a common mark (or marks). The unity so given may be called an 'analytic unity', a unity dependent on an act of analysis.[33]

> ...all judgements are functions of unity (that is, of unification) in our ideas. Every judgement is supposed by Kant to unite different ideas: the categorical judgement unites (or relates) the subject-concept and the predicate-concept, while hypothetical and disjunctive judgements unite (or relate) different judgements (which, I presume, are themselves categorical). Nevertheless in the present passage [A79=B104-5], as in the previous one [A69=B94], I believe that Kant's main concern is not with the unification of concepts or judgements, but with a more elementary and fundamental aspect of thought. In all judging or conceiving we unite different intuitions (that is, intuitions of different objects) under a concept; or, more simply, we hold many individual objects before our minds by means of a common mark (or marks). The different ideas united in the judgement are the individual objects referred to by the judgement; and they are united in the sense that they are thought together in virtue of their common characteristics.[34]

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[32] H.J. Paton, Kant's Metaphysic of Experience (London, 1936), vol. 1, pp. 254-5.

[33] Op. cit., p. 256.

[34] Op. cit., pp. 281-2.

I find it necessary to disagree with this interpretation offered by Prichard and Paton. Although a judgment may in fact result in the unification of many possible subject-representations--that is, of several individual objects the representations of which can be brought under one predicate (or concept, e.g. "divisible")--I do not believe that Kant is primarily concerned with demonstrating this in the passages now under examination. It seems to me that Kant is merely describing the unity deriving from the unification of subject-representation and predicate-representation, that which Paton refers to as "the unification of concepts or judgements." I base my interpretation upon two things: first, upon a close analysis of the above quoted passage (A68-9=B93-4), and second, upon the consideration that we are dealing here not with transcendental logic, but with general logic.

In regard to the quoted passage, I first call attention to the phrase in the second sentence: "but is here applied in particular to the concept of body." Here Kant is explicitly stressing that the concept "divisible" is not being applied to many representations of bodies, but to the concept of body itself. The unity which results is not that comprising many bodies, but that comprising only the two representations "body" and "divisible." Unfortunately, this reading is obscured by the following line, "These objects...are mediately represented through the concept of divisibility." In respect of the preceding phrase, it would not be doing injustice to the text to read this sentence as "Each of these objects...is mediately represented through the concept of divisibility," for, in so reading, we are consistent in our emphasis of the unification of the subject-representation with the predicate-representation. Continuing

our reading beyond the above passage, we are confronted with an identical difficulty in what follows (A69=B94):

> Thought is a cognition by means of concepts. But concepts, as predicates of possible judgments, relate to some representation of a not yet determined object. Thus the concept of body means something, for instance, metal, which can be known by means of that concept. It is therefore a concept solely in virtue of its comprehending other representations, by means of which it can relate to objects. It is therefore the predicate of a possible judgment, for instance, 'every metal is a body'.

I call attention to the use of the singular in the second sentence of this passage: "some representation," "a not yet determined object." It seems here that the predicate-representation is to be related to one subject-representation (which may, however, be a plural term, eg. "metals"). If this is in fact the case, we may read the following line as: "It is therefore a concept solely in virtue of its comprehending another representation, by means of which it can relate to an object." If we read these sentences as I have suggested, it becomes evident that the unity arising from a judgment is not that comprising several possible subject-representations (i.e. representations of many individual objects), but that it is rather the unity of the combined subject-representation and predicate-representation.

This interpretation finds further support in the fact that we are dealing here with general, not transcendental, logic. Kant stresses that general logic is concerned only with the form of the relationship existing between the representations--that is, the subject and the predicate--being dealt with in a judgment. This being the case, I see no justification for the interpretation offered by Prichard and Paton, which claims, again, that it is subject-representations which are being united with

one another in reference to one predicate-representation. With this mention of the concern of general logic with form, as opposed to content, we may now return to our task of exposition.

It was stated above that the analytic unity exhibited in a judgment is identical with the concept resulting from this judgment in regard solely to the form of this concept. We have identified twelve such "forms". Since, however, these twelve forms of judgment are concerned simply with the logical form of judgments, as determined in accordance with the rules of general logic, the concepts which result through the manners in which these forms specify the connection of representations are empty, for the content of the judgments has been abstracted. If, therefore, these concepts are to acquire meaning, they must be related to the content of the judgment--i.e. to the representations being united--and this demands intuition, under the conditions of which alone can the mind receive representations. Unlike general logic, which has no regard to the content of cognition--that is, it is concerned not with the representations themselves, but solely with the form of the relationship between representations--transcendental logic is concerned primarily with just this content. It has "at its disposal" the pure forms of space and time supplied a priori by sensibility, which (forms) supply in turn the material for the concepts, assuring that these concepts are not without content. The forms of space and time contain a manifold of pure a priori intuition which, when "gone through in a certain way, taken up, and connected," yields us representations. This activity is called "synthesis." Before general logic can tell us how to unite representations in judgments (through analysis), we must first

acquire these representations through this activity of synthesis. ("Synthesis" is described here (A78=B103) as "the mere result of the power of imagination." In the next three sections of our study, we shall investigate this "synthesis of the imagination" in some detail.) Transcendental logic has then the task of describing how concepts are related to the pure synthesis of representations, which alone can supply content to these concepts.

The possibility of the relating of concepts to the pure synthesis of representations rests upon three conditions: First, the manifold of pure intuition must be given; second, the imagination must synthesize this manifold; and third, the synthesis of this manifold must be supplied with unity. We may clarify this as follows. "Synthesis" is, quite literally, the central notion here: on the one hand, it must be supplied with the manifold of pure intuition, i.e. the forms of space and time; on the other hand, it must be supplied with unity, which, it is now claimed, consists in the forms of the understanding, i.e. the pure concepts (A79=B105). Given the forms of space and time and the pure concepts of the understanding, the imagination can synthesize a manifold, thereby producing representations. The pure forms of space and time supply the content, or "material," of this representation, and the pure concepts, which function as rules of synthesis in accordance with which this content is unified to yield the representation, supply the form. (The form of a representation is revealed in the manner in which its content is unified.)

The next step in Kant's overall argument in this chapter is summed up in the following passage (A79=B104-5):

> The same function which gives unity to the various representations in a judgment also gives unity to the mere synthesis of various representations in an intuition; and this unity, in its most general expression, we entitle the pure concept of the understanding.

Since, as stated above, this chapter of the Analytic of Concepts is concerned merely with identifying the elements supplied a priori by the understanding, determining their "origin" and "scope," it is not at all surprising that Kant offers no arguments here in support of this statement. This shall be one of the tasks confronted in the next chapter, "The Deduction of the Pure Concepts of Understanding." Due to the absence of such arguments in this chapter, we must, if we are to follow Kant's overall argument, simply agree with him that this is the case. Granted, then, that this is the case, what exactly is being said here?

In this passage Kant is claiming that one "function" gives both the unity of a judgment, which consists in unified representations, and the unity of individual representations, which consists in the unified manifold of intuition. In other words, this unity, which is identified as the pure concept, and which is identical in both a judgment and a representation, is given--i.e. supplied--by one function. This "function" we may identify as that activity of the understanding which supplies the pure concept to its act of judgment. In so far as a judgment consists of both content (i.e. representations) and form (i.e. the relationship between representations), this function of the understanding--its supplying of the pure concept--is twofold: first, it supplies synthetic unity to the synthesis of the manifold of intuition whereby are produced representations; and second, it supplies analytic unity to the unification of representations in the analysis of a judgment. Since the

unity in both cases is to be identified as the pure concept, and this pure concept is supplied by one and the same function of the understanding, "there arise precisely the same number of pure concepts of the understanding which apply a priori to objects of intuition in general, as, in the preceding table, there have been found to be logical functions in all possible judgments" (A79=B105). These pure concepts are entitled "categories" and are listed as the categories: (1) of quantity (unity, plurality, totality); (2) of quality (reality, negation, limitation); (3) of relation (inherence and subsistence, causality and dependence, community); and (4) of modality (possibility-impossibility, existence-non-existence, necessity-contingency).

We have now identified that element which the understanding supplies a priori to our cognition. While our sensibility supplies the forms of space and time, our understanding supplies the pure concepts listed above. Kant's task in the Analytic of Concepts is, however, not yet completed. Whereas the objective validity of the forms of intuition, space and time, has been demonstrated in the "Transcendental Expositions" of the Transcendental Aesthetic (A28=B44; A35=B52), the objective validity of the pure concepts remains to be established. This is the fundamental concern of the next chapter, with which we shall now deal in the third section of our study.

Section III

In this third section we shall analyze the Transcendental Deduction as it appears in the first edition of the Critique. Before immersing ourselves in the complexity of the text, however, it is helpful to recall Kant's earlier mention of this chapter in the Preface (to the first edition: Axvi-xvii):

> They the "enquiries" contained in this chapter are also those which have cost me the greatest labour--labour, as I hope, not unrewarded. This enquiry, which is somewhat deeply grounded, has two sides. The one refers to the objects of pure understanding, and is intended to expound and render intelligible the objective validity of its a priori concepts. It is therefore essential to my purposes. The other seeks to investigate the pure understanding itself, its possibility and the cognitive faculties upon which it rests; and so deals with it in its subjective aspect. Although this latter exposition is of great importance for my chief purpose, it does not form an essential part of it. For the chief question is always simply this:--what and how much can the understanding and reason cognize apart from all experience? not:--how is the faculty of thought itself possible?...For this reason I must forestall the reader's criticism by pointing out that the objective deduction with which I am here chiefly concerned retains its full force even if my subjective deduction should fail to produce that complete conviction for which I hope.

This passage tells us two things. It tells us, first, that we can expect to have some difficulty in understanding this chapter, and, second, that the task of the chapter is twofold: its primary task is to establish the objective validity of the pure concepts; its secondary task is to investigate the faculty of thought, in respect of both its constitution and its possibility. Much of our difficulty in understanding this chapter shall

result from the manner in which Kant attempts to fulfill this twofold task, for, as we shall see, the objective and subjective aspects of the Deduction are not clearly distinguishable from one another, but are instead interwoven in such a way as to render the two almost inextricable.

I do not regard this confusion of the objective with the subjective as detracting from Kant's arguments--in fact, it indicates precisely what Kant meant by describing them as two "sides" of one and the same argument. Unfortunately, this confusion, which adds to the already considerable complexity of Kant's treatment of the problems involved in his "enquiry," has led several commentators to regard this chapter not as presenting one unified argument, but rather as being a composite of several different "layers," each of which presents a separate argument or theory. This view--the "patchwork theory"--is advanced in some detail by Hans Vaihinger[35] in his essay "The Transcendental Deduction of the Categories in the First Edition of the Critique of Pure Reason."[36] According to Vaihinger, the Transcendental Deduction is composed of four separate layers, each written at a different period and each presenting a different view or theory, often conflicting with one or more of the others. If Vaihinger is correct, the Deduction cannot be regarded as presenting one unified argument. And if there is no unified argument here, it would be questionable to regard this chapter as one part of a larger unified

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[35]Variations of this theory are also advanced by (as cited by Vaihinger) Riehl, Erdmann, and Adickes. And Kemp Smith, of course, accepts Vaihinger's version down to the last chronological detail (cf. his Commentary, pp. 202-234).

[36]The first two parts of this essay are reprinted in Gram's collection of essays entitled Kant: Disputed Questions (Chicago: Quandrangle Books, 1967), pp. 23-61.

argument, which view, of course, it is the purpose of this study to elaborate. I, however, maintain that the Deduction does indeed present one unified argument, and I accept Paton's response to Vaihinger[37] as providing adequate grounds for the rejection of the patchwork theory, at least in so far as this theory is adopted in order to indicate that there are contradictory arguments offered in the text. Instead of repeating Paton's response, however, and instead of taking it upon ourselves to refute the individual arguments presented by Vaihinger--a task which lies outside the scope of our present study--let us survey the text as it stands, and summarize the content of its various sections and sub-sections. Following this expository work, we can attempt a critical reconstruction of the argument.

1: Exposition

The first section contains two sub-sections (§'s 13 & 14). In the first sub-section, entitled "The Principles of Any Transcendental Deduction" (A84-92), Kant is primarily concerned with demonstrating the necessity of a deduction, and specifically of a transcendental deduction, of the pure concepts. The word "deduction" is used here in a legal, not in a logical, sense.[38] The pure concepts have already been "logically

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[37] H.J. Paton, "Is the Transcendental Deduction a Patchwork?" Reprinted in Gram's Kant: Disputed Questions, pp. 62-91.

[38] By "logical sense" Kant means in this passage that connotation which the word "deduction" carries with it when this deduction is proceeding in accordance with the rules of general logic. The "legal sense," on the other hand, is that in which we must regard the deduction of transcendental logic.

deduced" in the previous chapter--what we now must do is establish the objective validity of the employment of these pure concepts, that is, we must justify their pure a priori use. To do so, we cannot rely upon an empirical deduction, which could only show "the manner in which a concept is acquired through experience," and which could therefore only concern the origin of these concepts, not their legitimacy. Such legitimacy can only be established through a transcendental deduction, which is here described as the explanation of the manner in which pure concepts can relate a priori to objects which are not present to the mind at the moment of cognition.

The second sub-section, "Transition to the Transcendental Deduction of the Categories" (A92-95), demands closer scrutiny than the first. We shall examine each of its three paragraphs separately.

Paragraph (1):

There are two ways in which a representation may be related to an object: either the object makes possible the representation, or the representation makes possible the object. In the former case, the representation is not possible a priori; the matter of such a representation can only be acquired through the empirical intuition of that element of the appearance of the object which belongs to sensation. In the latter case, on the other hand, the representation is possible a priori, for it is "a priori determinant of the object." That is, it is only through the a priori representation that we are able to cognize a thing as an object. The possibility of the cognition of an object rests upon two conditions, intuition and concept. The former condition lies a priori

in the mind as the "formal condition of sensibility"; all appearances, in respect of their sensible aspect, must conform to this condition if they are to be given in intuition. Thus the condition constitutes the "formal ground"--i.e. supplies the possibility--of an object appearing in such a way that its appearance can be united. Besides the intuition of an object, however, our experience also contains the concept of an object, by means of which we are enabled to think an object. That is, we can only cognize that which is being given in intuition as an object if we can think of this thing as an object, and this we can do only if we have a concept of an object. "Concepts of objects in general thus underlie all empirical cognition as its a priori conditions. The objective validity of the categories as a priori concepts rests, therefore, on the fact that, so far as the form of thought is concerned, through them alone does experience become possible."

Paragraph (2):

Experience consists of intuition and thought. The possibility of experience rests upon the conditions of intuition and thought which we now know to be a priori. Thus the transcendental deduction of all a priori concepts proceeds according to the principle that these concepts constitute the objective ground, i.e. supply the a priori conditions, of the possibility of experience.

Paragraph (3):

The conditions of the possibility of all experience are contained in three sources (capacities [Fähigkeiten] or faculties [Vermögen] of the soul) which are not derivable from any other faculties of the mind--namely,

sense, imagination, and apperception. Upon sense is grounded the synopsis of the manifold a priori; upon imagination is grounded the synthesis of this manifold; upon apperception is grounded the unity of this synthesis. Each of these faculties has both an empirical and a transcendental employment. The latter "concerns the form alone, and is possible a priori." We have already dealt with sense in the Transcendental Aesthetic. We must next deal with the imagination and apperception.

The second section of this chapter, "The A Priori Grounds of the Possibility of Experience" (A95-114), consists of an introductory discussion, a Preliminary Remark, and four "Numbers": I. The Synthesis of Apprehension in Intuition; II. The Synthesis of Reproduction in Imagination; III. The Synthesis of Recognition in a Concept; and IV. Preliminary Explanation of the Possibility of the Categories as Cognitions a priori.

The introductory discussion proceeds as follows.[39] (1) A priori concepts, like all concepts, must have both form and content. An a priori concept without content would be merely the logical form of a (possible) concept. The content of an a priori concept is acquired only through the relation of this concept to experience, or, more precisely, to the intuitive element of experience. (2) A priori concepts, if they are to be pure, can contain nothing empirical. They must, however, constitute a priori conditions of a possible experience, for upon this alone does their objective reality rest. (3) We must determine what these a

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[39] In the following exposition, the various paragraphs of the text of the Kemp Smith translation shall be indicated by prefacing the summary of each of them with a number in parentheses.

priori conditions of a possible experience are. In so doing we can discover how pure concepts of understanding are possible, for these pure concepts "universally and adequately" express formal and objective conditions of experience. (4) The categories contain a priori the pure thought involved in every experience. "If we can prove that by their means alone can an object be thought, this will be a sufficient deduction of them, and will justify their objective validity." Since, however, the thought of an object involves more than the one faculty of thought (or, of cognition), i.e. the understanding, if we are to determine how the understanding can relate to, i.e. cognize, objects, we must first consider the transcendental constitution of the subjective sources "which from the a priori foundation of the possibility of experience." (5) Cognition arises through the comparison and connection of representations, which always rests upon a threefold synthesis. To sense we ascribe the synopsis of the manifold in intuition. This alone, however, yields no cognition, for cognition demands not only receptivity, but also spontaneity. This spontaneity is the ground of the threefold synthesis, which consists of: (i) the apprehension of representations in intuition; (ii) their reproduction in imagination; and (iii) their recognition in a concept. These three aspects of the synthesis point to the three subjective sources of cognition we shall now consider.

The next portion of this section is one short paragraph, entitled "Preliminary Remark," which informs the reader that the remainder of the section consists of material which is offered merely to prepare him for the next section, in which a systematic exposition "of these elements of the understanding" shall be given.

The remainder of this section consists of four "Numbers." The first of these, "I. The Synthesis of Apprehension in Intuition," proceeds as follows. (1) All our representations, whether their origin be pure or empirical, are modifications of the mind; they "belong to inner sense." The possibility of representations rests therefore upon the formal condition of inner sense, i.e. time, in which they are ordered, connected, and related. (2) A single representation, since it is contained in a single moment, is an absolute unity. Since every intuition contains a manifold, if this manifold is to be connected in such a way as to be contained in a single representation, it must be connected in respect of time. That is, the unity of intuition demands that the manifold be "run through, and held together." This act is called the synthesis of apprehension. (3) In respect of non-empirical representations, i.e. the a priori representations of space and time, this synthesis proceeds a priori as the "pure synthesis of apprehension."

The second Number concerns "The Synthesis of Reproduction in Imagination." (1) It is an empirical law that representations which have often followed or accompanied one another come to be associated in such a way that the mind, regarding one of these representations, is led to regard the other. This empirical law presupposes, however, that the appearances themselves follow a certain sequence or co-existence in accordance with a certain rule (which corresponds to the empirical law), for otherwise our representations would never follow or accompany one another in such a way as to be associated through the empirical synthesis of reproduction. (2) The possibility of the reproduction of appearances, which demands that appearances contain a necessary synthetic unity, must

rest therefore upon an a priori ground of this unity. This ground is revealed in the fact that all appearances "are the mere play of our representations" and reduce ultimately to "determinations of inner sense." This ground, in order that it be a priori, must then be found in a pure transcendental synthesis of imagination "conditioning the very possibility of all experience," which (experience) presupposes the reproducibility of appearances. (3) "The synthesis of apprehension is thus inseparably bound up with the synthesis of reproduction." This reproductive synthesis is a transcendental act of the mind, and the faculty which performs this act is therefore entitled the transcendental faculty of imagination.

The third Number describes "The Synthesis of Recognition in a Concept." (1) If we are to employ a particular representation in thought, we must be conscious that this particular representation which is reproduced in this moment is identical with the particular representation which was reproduced the moment before. It is this consciousness which imparts to the representation that unity which it must necessarily possess if it is to be reproduced over a period of time in such a way as to form a whole, i.e. a single representation of a manifold. For example, the concept of a number is the consciousness of the unity of the synthesis whereby the representations of successive units are reproduced in such a way as to comprise a manifold which can be represented as a whole, i.e. as a single representation of a manifold of previously reproduced representations. (2) "The word 'concept [Begriff]' might of itself suggest this remark."[40] A manifold which is thus intuited successively and

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[40] Begriff is the substantive deriving from the verb begreifen, "to grasp."

reproduced is united by one consciousness in one representation. Without such consciousness, all concepts, and thus all cognition of objects, would be impossible. (3) Since we have said above that appearances are no more than sensible representations, we must clarify what we mean by the expression "an object of representations." We speak of an object as corresponding to, and thus as distinct from, our cognition of the object. Since, however, the object lies outside our cognition of it, and we can cognize nothing of that which lies outside our cognition, we can cognize nothing of the correspondence of the object with our cognition of it. Thus the object of our representation can only be thought of as "something in general=x." (4) The object is commonly viewed as that which in some way determines a priori our cognition of it. (5) Since, however, we have only the manifold of our representations with which we can deal, and the object=x is not such a representation, the unity which this object makes necessary is "nothing else than the formal unity of consciousness in the synthesis of the manifold of representations." Thus we can say that we "cognize an object" only when we have united the manifold of intuition. The producing of this unity is possible only in so far as the intuition is generated through a function of synthesis in accordance with a rule in such a way as both to impart a priori necessity to the reproduction of the manifold of intuition, and to make possible a concept in which this manifold is united. In other words, the manifold can only be united when it has been synthesized in accordance with a rule which imparts unity to it. It is then this unity of rule which determines the manifold in such a way that this manifold becomes subject to the conditions of the possibility of the unity of apperception. The concept of

the unity of the manifold is the representation of the object=x, which is thought through the predicates we attribute to this object in regard to the manner in which the rule determines its unity. (6) The concept is, in fact, the rule which determines the form in which the manifold is united; it represents the necessary reproduction of the manifold of intuition, and thus it also represents the synthetic unity in our consciousness of this manifold. (7) Since all necessity is grounded in a transcendental condition, if the reproduction of the manifold of intuition through synthesis is necessary, then the unity of consciousness, which constitutes the rule of unity in accordance with which the synthesis proceeds, must have a transcendental ground, or "condition." (8) "This original and transcendental condition is no other than transcendental apperception." Contrasted to this is empirical apperception, or "inner sense," which is the consciousness of self "according to the determinations of our state in inner perception." Just as the "inner appearances" are in a state of flux, so is this consciousness of self, which is dependent upon the data of (inner) intuition. (9) The representation of the object is, however, only possible in relation to a unity of consciousness which precedes all data of intuition. This "pure original unchangeable" consciousness is entitled transcendental apperception, the numerical unity of which is the ground of all concepts. (10) This numerical unity, the transcendental unity of apperception, connects, according to laws, all the representations which are possible in one experience. This unity of consciousness is possible only on the condition that the mind is conscious of the identity of the function whereby it (the mind) combines the manifold of intuition in one cognition. The consciousness of the identity of

the self is thus at the same time the consciousness of the unity of the synthesis whereby manifold representations are combined according to concepts, i.e. rules. The mind can only think its identity a priori if it has "before its eyes" the identity of its act [Handlung] whereby the empirical synthesis of apprehension is subordinated to a transcendental unity, by means of which alone empirical representations can be combined in synthesis in accordance with a priori rules. (11) Again, in regard to our concept of an object in general, since all that is given to us is the appearance, and the appearance is merely a representation the object of which cannot be given to us in intuition (and thus cannot be given to us immediately), this object must be named "the non-empirical, that is, transcendental object=x." (12) The pure concept of this transcendental object is actually always of the same sort =x, and it is by means of this pure concept alone that all empirical concepts are related to objects, thus acquiring objective reality. This concept contains no determinate intuition--it refers only to the unity of the manifold in any cognition in so far as this cognition stands in relation to an object. This relation consists in both the unity of consciousness and the unity of the synthesis whereby the manifold is combined in one representation. This unity must be necessary a priori if a cognition is to relate to an object. Empirical cognitions attain objective reality only through their relation to a transcendental object, and this relation rests upon the transcendental law that all appearances must be subject to the a priori rules of synthetic unity in accordance with which alone these appearances may be combined in an empirical intuition. "In other words, appearances in experience must stand under the conditions of the necessary unity of apperception, just

as in mere intuition they must be subject to the formal conditions of space and time."

The fourth and final Number of this section presents a "Preliminary Explanation of the Possibility of the Categories as Cognitions a priori." (1) There is only one experience to which all our perceptions, which we speak of as being different experiences, belong, and in which they are represented as connected in such a way as to establish a unity. This synthetic unity of perceptions is the form of experience; it is the "synthetic unity of appearances in accordance with concepts." (2) If the unity of synthesis in accordance with empirical concepts is to be necessary, these objects must have a transcendental ground of unity. (3) The a priori conditions of a possible experience in general are also conditions of the possibility of objects of experience, and have therefore objective validity. Just as space and time are the conditions of intuition in a particular experience, so are the categories the conditions of thought in the same experience. Thus the categories have objective validity. (4) The necessity of the categories rests on the relation of sensibility and all possible appearances to original apperception. The conditions of the unity of self-consciousness are the universal functions of synthesis, to which everything in original apperception must conform. These functions of synthesis proceed in accordance with concepts, and only in the function of synthesis is the complete and necessary identity of apperception a priori manifested. A pure concept is thus the unity of a synthesis proceeding according to concepts. (5) By means of the empirical rule of association we combine and order representations in such a way as to exhibit among these representations a sequence which is necessary. The

possibility of association, "so far as it lies in the object," is grounded in the affinity of the manifold. In so far, however, as the character of necessity cannot be derived from experience, the possibility of such association, if this association is to be necessary, must have an a priori foundation. (6) The synthesis of the apprehension of appearances takes place in accordance with a priori conditions, for all synthesis depends upon the identity of original apperception. It is due to the necessity of original apperception of the manifold of intuition that we are able to comprehend the affinity of the manifold. Thus the empirical affinity which we apprehend in the manifold is a result of the transcendental affinity of the manifold. (7) That which we call Nature is not a thing in itself, but only an aggregate of representations. Since representations must be combined in accordance with the transcendental unity of apperception in order to yield experience and thereby cognition, it is not surprising that we can discover Nature only in that unity which we have entitled transcendental apperception, on account of which alone can Nature be called an object of possible experience.

The third section of this chapter, "The A Priori Grounds of the Possibility of Experience," presents the systematic exposition and interconnection of those "elements of the understanding" just described separately in section 2. (We shall summarize each paragraph separately.)

(1) The possibility of experience in general and of the cognition of the objects of experience rests upon three subjective sources of cognition--sense, imagination, and understanding. Each of these is an a priori element, or "foundation," which makes possible its empirical

application: "Sense represents appearances empirically in perception, imagination in association (and reproduction), apperception in the empirical consciousness of the identity of the reproduced representations with the appearances whereby they were given, that is, in recognition."

(2) All perceptions are grounded a priori in pure intuition, i.e. in time, "the form of their inner intuition as representations"; association is grounded in pure synthesis of imagination; and empirical consciousness is grounded in pure apperception, i.e. "in the thoroughgoing identity of the self in all possible representations."

(3) Representations can only represent something in so far as they are combined in one consciousness in such a way as to constitute a united manifold of representations. The unity of this manifold is synthetic, thus the principle supplied by pure apperception is "a principle of the synthetic unity of the manifold in all possible intuition."

(Footnote to paragraph (3):) If we are to be conscious of our representations, they must have a necessary relation to a possible empirical consciousness. All empirical consciousness has a necessary relation to a transcendental consciousness "which precedes all special experience." This transcendental consciousness is the consciousness of oneself as original apperception. All consciousness in one's cognition must therefore be contained in one single consciousness, that of oneself. This manifold of all consciousness is synthetically united and is cognized a priori, thus it constitutes the ground for synthetic a priori propositions concerning pure thought. The "absolutely first and synthetic principle of our thought in general" is the synthetic proposition that all empirical consciousness must be combined in one single self-consciousness. The

representation "I"--which makes possible the unity of the manifold of all representations--is transcendental consciousness. The possibility of the logical form of all cognition is necessarily conditioned by relation to this consciousness, or apperception, as a faculty.

(4) The possibility of the synthetic unity of the manifold given in intuition rests upon a synthesis; if this synthetic unity is to be a priori necessary, the synthesis must be a priori. The transcendental unity of apperception is an a priori condition of the possibility of the pure synthesis of imagination by means of which the manifold is combined in one cognition. The productive synthesis of the imagination takes place a priori, while the reproductive rests upon empirical conditions. The necessary unity of the pure (productive) synthesis of imagination is thus the principle which constitutes the ground of the possibility of all cognition.

(5) The a priori combination of the manifold is yielded by the transcendental synthesis of the manifold in imagination. If the unity of this synthesis is represented as a priori necessary in relation to the original unity of apperception, which is the condition of the possibility of all cognition, this unity is called transcendental. This transcendental unity of the synthesis of imagination is the pure form of all possible cognition, "and by means of it all objects of possible experience must be represented a priori."

(6) The understanding is the unity of apperception in relation to the synthesis of imagination; the pure understanding is the unity of apperception in relation to the transcendental synthesis of imagination. The necessary unity of the pure synthesis of imagination in respect of

all possible appearances is contained in the pure cognitions of the understanding, i.e. in the pure concepts of the understanding, as the categories. Thus "pure understanding, by means of the categories, is a formal and synthetic principle of all experiences, and...appearances have a necessary relation to the understanding."

(7) The necessary connection in which the understanding, by means of the categories, stands to appearances will now be explained, beginning with the empirical. An appearance is given to the mind. When combined with consciousness, this appearance is called a perception. Since every appearance contains a manifold, and every perception occurs separately from all others, this manifold of perceptions must be synthesized. The faculty which performs this synthesis is the imagination, and when this synthesis is of a manifold of perceptions, it (the activity of synthesis) is called apprehension. The imagination must first apprehend the perceptions before it can construct of them an image.

(Footnote to paragraph (7):) The combination of the impressions [Eindrücke] supplied by the senses is achieved not through the receptivity of sense alone, but through the function of their synthesis. Thus imagination is a necessary ingredient of perception [Wahrnehmung].

(8) Impressions are connected in such a way as to produce an image only when the perceptions are so ordered as to constitute a series. This ordering of perceptions is performed by "the reproductive faculty of imagination, which is merely empirical."

(9) If the reproduction of representations is to give rise to cognition, these representations must be connected in a determinate order. Thus their reproduction must take place in accordance with a rule which

determines the manner in which representations are connected with one another in imagination. "This subjective and empirical ground of reproduction according to rules is what is called the association of representations."

(10) If the manner in which perceptions are connected in our cognition is not to be accidental, appearances must necessarily be apprehended by the imagination under the condition of a possible synthetic unity of this apprehension. If apprehension in accordance with this condition is to be necessary, not only a subjective, but an objective ground of this unity of association is demanded. This objective ground of all association of appearances is called their affinity. This affinity is to be found in the principle of the unity of apperception, for all appearances must be apprehended in such a way that they conform to the unity of apperception, for only then can we become conscious of them. The synthetic unity in their connection is, therefore, objectively necessary.

(11) "The objective unity of all empirical consciousness in one consciousness, that of original apperception, is thus the necessary condition of all possible perception; and the affinity of all appearances... is a necessary consequence of a synthesis in imagination which is grounded on a priori rules."

(12) Since the imagination is a faculty of a priori synthesis, we call it the productive imagination. In so far as the productive imagination is concerned only with the producing of the necessary unity in the synthesis of the manifold of appearances, its function is called transcendental.

(13) Just as all sensible intuition, as representation, belongs to

a pure inner intuition, i.e. to time, so does all consciousness belong to "an all-comprehensive pure apperception," i.e. to the "abiding and unchanging 'I'."

(14) By means of the pure imagination we connect the manifold of intuition with the condition of the necessary unity of pure apperception. It is through the transcendental synthesis of pure imagination that sensibility and understanding are brought into necessary connection, thus making possible experience. Experience is itself constituted by the three aspects of this synthesis--namely, apprehension, association (reproduction), and recognition of appearances. The formal unity of experience, and thereby the objective validity of empirical cognition, is made possible by the categories, which supply the conditions of the recognition of the manifold of appearances.

(15) Since we must be certain that the unity of the connection of appearances is a priori necessary, and since such synthetic unity can only be established a priori if the grounds of this unity are contained a priori in the cognitive powers of the mind, which grounds must be both subjectively and objectively valid, we conclude that it is the nature of the mind which introduces the order and regularity of that aggregate of appearances we entitle Nature.

(16) The understanding has been defined in several ways: as a spontaneity of cognition (as contrasted to the receptivity of sensibility), as a power of thought, as a faculty of concepts, and as a faculty of judgments. When properly understood these definitions are identical. We can now define the understanding as the faculty of rules; for, as we have seen, while sensibility gives us the forms of intuition, understanding

gives us rules. In so far as these rules are objective, thus necessarily depending upon the cognition of objects, they are called laws. These laws are supplied a priori by the understanding. Thus we see that the understanding makes possible that synthetic unity of the manifold of appearances according to rules which we entitle Nature. Further, since this Nature is only possible as an object of cognition in an experience when it is contained in one consciousness, the unity of apperception is the transcendental ground of the necessary conformity to law of all appearances.

(17) Although empirical laws do not derive their origin from pure understanding, they necessarily have their foundation in the understanding in so far as all empirical laws are merely "special determinations of the pure laws of understanding."

(18) In the categories, the pure understanding is the law of the synthetic unity of all appearances, and therefore the pure understanding makes possible all experience as regards its form. We have thus established the objective validity of the pure a priori concepts.

(19) This final paragraph presents a "Summary Representation of the Correctness of this Deduction of the Pure Concepts of Understanding, and of its being the only Deduction possible." Since our cognition has to deal not with things in themselves but only with appearances, it must be necessary that certain a priori concepts precede our empirical cognition of objects. This is the case because all objects of cognition, as appearances, exist in us as modifications of our sensibility. To say that these appearances exist in us, as determinations of one identical self, is to assert that there is a complete unity of them in one identical

apperception, i.e. in one unity of consciousness. This unity of consciousness constitutes the form of all cognition of objects, for only through this unity can the manifold of appearances be thought as belonging to ~~one~~ single object. In so far as these appearances are to be employed in thought, therefore, the form of these appearances, as objects of cognition, must precede the actual experience of these appearances as the mode in which the manifold of appearances can belong to one consciousness. Thus the possibility of all experience, as regards its form, rests upon the synthesis of the manifold by means of pure imagination and the unity of all representations in relation to original apperception, both of which precede all experience.

2: Reconstruction

If we are to make sense of Kant's argument in the Deduction we must begin with an understanding of the problem to which he is here attempting to offer the solution. As stated above, the problem is essentially the manner in which the objective validity of the categories may be--or must be--established. When we regard the first part of the Critique, the Transcendental Doctrine of Elements, as presenting one overall argument, we can see how this problem arose. The major difficulty lies in the nature of human experience and cognition. In the Transcendental Aesthetic and the other works dealt with in the first section of this study, sensibility, in its connection with intuition, has been identified as that condition of human nature which supplies the sensible element of experience. In the Analytic of Concepts, understanding is

identified as that condition which supplies the intellectual element. The problem of the Deduction is to establish the necessity of the connection of these two faculties in such a way as to unite in one single experience those fundamentally different elements of experience which these two "faculties" supply. This is accomplished through the demonstration that without the categories supplied by the understanding there could be no cognition, for the possibility of cognition rests upon precisely that unity of experience which these categories make possible.

We are now in a position to appreciate the overwhelming significance of the Deduction, and the central role it must play in the Critique. As evidenced in the above exposition, however, the argument here presented is so complex that the reader might remain uncertain as to whether Kant does in fact accomplish the task to which he sets himself. We shall now attempt to clarify this argument by means of reconstruction and commentary.[41]

Section 1

(a) (A84-95) Since we are concerned with the deduction of the pure concepts, we must begin with the analysis of experience, whereby we can determine those conditions under which alone experience and cognition are possible. We must not merely "unfold" experience in such a way as to isolate and identify its elements, but we must inquire into the objective grounds of the possibility of an experience containing such elements. To cognize an empirical object we must experience that object. This experience must, however, be known to be experience--that is, experience must itself be a

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[41] Reconstruction of the text shall be indicated by an (a) in the margin, commentary by a (b).

sort of empirical cognition. When we analyze our experience of an object, we find that this experience contains two elements, the matter of cognition and the form of cognition. The matter of the cognition of an empirical object is that element of the cognition which is empirical. This empirical element is given to the mind through sensibility--that is, through the mind's ability to be affected by such an empirical element--as an appearance of the object. This appearance of the object is all that the mind is given--the object itself remains apart from the mind. When the mind is affected by the object the mind is said to have an intuition of the object as appearance. Every empirical object presents a manifold of appearances to the mind in its intuition of the object. If, therefore, we are to be able to experience an object as an object, and to be thereby enabled to cognize this object, the manifold of appearances in the intuition of the object must be so ordered as to enable us to experience these appearances as appearances of one object. Appearances must, if they are to be given to the mind, conform to the formal conditions of sensibility which lie a priori in the mind. These conditions alone, however, could not determine that appearances be so constituted as to allow of being united in thought (as cognition). Unless appearances conform also to the conditions of the synthetic unity of thought, they could not be ordered and connected in such a way as to enable us to experience these appearances as appearances of one object. These conditions of the synthetic unity of thought are therefore as fundamental to cognition and experience as are the formal conditions of sensibility. The pure concepts of the understanding, by means of the categories, supply the conditions of synthetic unity, and they lie, therefore, a priori in the mind as those conditions under

which alone objects can be thought. The principle of the transcendental deduction which follows is then that the categories must be recognized as a priori conditions of the possibility of all experience in so far as it contains an element which must be thought. The categories, along with the conditions of sensibility, thus yield the objective ground of the possibility of all experience and are for this reason necessary. The conditions of the possibility of all experience are contained in "three original sources (capacities or faculties of the soul)." These are sense, imagination, and apperception. Upon sense is grounded the synopsis of the manifold; upon imagination is grounded the synthesis of this manifold; upon apperception is grounded the unity of this synthesis. Having already dealt with sense in our earlier discussion of the conditions of sensibility, we must now deal with imagination and apperception in the following investigation of the categories. We shall concentrate on the transcendental employment of these two faculties, which regards only the form of experience.

(b) This first section of the Deduction prepares the reader for the two which follow. This it does, first, by restating and summarizing material dealt with earlier, and second, by introducing the claim that the categories are necessary for the operation of the three sources of experience. That which is restated is (1) the intimate connection of experience and cognition; (2) the assertion that appearances are representations existing in the mind; (3) that experience and cognition consist in the relation of two elements, matter and form; and (4) that sensibility supplies the former element, while understanding supplies the latter. The claim now introduced is that the relation of the two elements of matter and form

relies upon the relation of sensibility to understanding, and that this relation arises necessarily in all experience. Since this relation is necessary, it cannot depend upon the accidental character of the empirical element of experience, but must instead rely upon its a priori element. This a priori element is that form of all experience and cognition which is to be found in the mind--specifically, in the formal conditions of sensibility and the categories. We have already dealt at some length with the necessity of the former, so we must now investigate the latter, determining both their possibility and their necessity in respect of the possibility of experience. This we shall do by examining the "three sources" which make experience possible. In the course of this examination, we shall discover that the operation of these three sources depends upon the categories. As we are concerned with the necessary conditions of all possible experience, this examination shall be of the transcendental nature of these sources, regarding these sources as they are related to one another prior to experience.

Section 2

(a) (A95-100) An a priori concept through which an object is thought must relate to experience, for only in the intuitive element of experience is the object, as appearance, to be met with. Without such relation to experience, an a priori concept would lack content and be reduced to merely the logical form of a concept. If an a priori concept is pure, it obviously can contain nothing empirical. Nevertheless, the objective reality of a pure a priori concept can rest only on its being an a priori

condition of a possible experience. Since experience consists in the relation of the two elements of experience supplied by sensibility and understanding, if we are to discover how the pure concepts of understanding are possible, we must investigate the manner in which this relation is a priori established. And this we can do by examining the transcendental constitution of the subjective sources which together constitute the a priori foundation of the possibility of experience. These sources are sense, imagination, and apperception. Sensibility yields intuitions; each intuition contains a manifold of appearances. The containing of this manifold is entitled the synopsis of the manifold through sense. Experience and cognition are possible only when these appearances are connected, and this connection is the result of one synthesis which is of a threefold nature: the appearances, i.e. sensible representations, must be apprehended, reproduced, and recognized. We shall now examine these three aspects of the synthesis as it occurs prior to experience.

All representations, whether empirical or pure, are merely modifications of the mind, and thus belong to inner sense. Since they belong to inner sense, they must conform to its formal condition, i.e. time, in which they are ordered. The representations contained in a manifold are distinguished from one another in respect of the time involved in the sequence of their occurrence in the mind. If these representations are to be connected in such a way as to constitute one single representation of the manifold, they must be held together throughout the period of time involved in their occurrence in the mind as separate representations. This holding together of representations is called the synthesis of apprehension in intuition. This synthesis is exercised a priori in the case

of representations which occur in the mind a priori, having a pure origin. The a priori representations of space and time, which do not themselves have an empirical origin but rather are presented by the very nature of our sensibility prior to experience offer evidence in support of the a priori exercise of this aspect of the synthesis.

(b) Three points are worthy of note here. First, it must be understood that the synopsis of the manifold is neither an activity nor an aspect of the threefold synthesis. The synopsis is merely the product of the passive, or "receptive," character of sensibility; and this synopsis, in so far as it is the containing of the manifold, is a necessary condition, or pre-condition, of the following synthesis whereby the manifold is united. Second, we already see the emphasis being laid on unity. It is essential that we understand this unity to be that of one single representation, which is nothing but that unity which comprises many--i.e. a manifold of--separate representations. (As we shall see in what follows, unity, in respect of representations, is always to be understood in this fashion. The passages in the Deduction dealing with unity lend support to the interpretation of the unity of a judgment for which we argued in the second section of this study.) Third, in order to understand Kant's mention of the representations of space and time, we must recall that space and time are intuitions, and since intuitions are singular, our representations of space and time are singular. Being singular representations, they must therefore be united, and this unity demands apprehension in its synthesis. Thus we see that while it is necessary that representations be held together throughout a period of time, it is precisely this "holding together"

which enables one to become conscious of time as a singular intuition.

(a) (A100-102) Representations, which have often occurred in the mind in a particular order come to be associated in such a way as to lead the mind from one representation to the other with which it is associated, even in the absence of the object which the latter represents. This empirical law of association and reproduction presupposes that the (sensible) representations are themselves subject to a rule in accordance with which they occur in the mind in a determinate order. This rule is the necessary synthetic unity of (sensible) representations. Since particular representations, as modifications of the mind, are nothing but particular determinations of inner sense, the synthetic unity of representations has its ground a priori in the transcendental synthesis of imagination which produces determinations of inner sense prior to experience, which (experience) presupposes precisely this synthesis as the condition of the reproducibility of all representations.

(b) This section contains a passage which Vaihinger offers in support of his view that the Deduction is a patchwork. The passage reads: "And as the former [the synthesis of apprehension] constitutes the transcendental ground of the possibility of all cognitions whatosever...the reproductive synthesis of the imagination is to be counted among the transcendental acts of the mind." Later (A118, B152), Kant will claim that only the productive imagination operates a priori, while the reproductive demands the empirical element of experience. Paton recognizes the difficulty and suggests that Kant is not entirely certain of the character of this particular activity of the imagination. I suggest that Kant's problem lies not in his understanding,

but in his expression of that which he does in fact understand. To briefly anticipate that which we shall discuss in more detail later, the synthesis of the productive imagination is distinguished from that of the reproductive in that while the former determines the sensibility a priori, the latter is subject to the empirical law of association. Bearing this in mind, how can we understand the passage with which we are now concerned? How can the reproductive synthesis of imagination be transcendental if it must rely upon the empirical law of association? These questions can be answered once we understand what Kant means when he asserts, in the sentence immediately preceding that quoted above, that the synthesis of apprehension is "inseparably bound up with" the synthesis of reproduction. We must remember that we are now considering the "sources" of experience in their "transcendental constitution." We have seen that the synthesis of apprehension is exercised a priori. The claim is made in the second paragraph of this Number (A101-102) that the manifold which is apprehended must be so combined as to render possible the reproduction of its representations. In other words, even the apprehension of the manifold rests upon the condition that the representations which it contains be so constituted as to make possible their reproduction. Thus the reproducibility of representations is a condition of the possibility of the apprehension of representations, and the synthesis of apprehension is possible only in conjunction with the synthesis of reproduction--these are, after all, only two aspects of one and the same synthesis. In so far as the former is exercised a priori, and is thus transcendental, so is the latter. Returning now to the distinction between productive and reproductive imagination, the "pure transcendental synthesis of imagination" which occurs prior to

experience must itself operate in accordance with the condition that those representations produced can be reproduced in such a way as to be connected and united in a single representation of one manifold. The reproductive synthesis of imagination can, then, be regarded as transcendental to the extent that its possibility is itself a condition with which the pure transcendental synthesis of productive imagination must conform. (This should become clearer to the reader in the fifth section of this study.)

(a) (A103-114) We have seen that the manifold of representations must be produced in such a way as to enable them to be reproduced in a manner whereby they can be connected with one another to form one single representation. If, however, we are to be able to employ this single representation in thought (which is "cognition by means of concepts" (A69=B94)), we must be able to recognize that the representation which occurred in our mind a moment ago is identical to that which is occurring now. This recognition is the consciousness of the identity of the two representations. We are conscious of this identity only through the particular unity which is manifested in the manner in which the manifold of representations is connected and united so as to form one single representation. That is, we are conscious of the identity of these representations only in so far as we can recognize these representations as being united in an identical manner. The synthesis whereby the representations are so united operates in accordance with a rule. This rule determines the manner in which the representations are to be connected in such a way as to comprise a particular unity. The concept which corresponds to this

particular unity is itself the rule in accordance with which the synthesis proceeds. That this synthesis should operate in accordance with a rule demands, however, a still more fundamental rule, one which supplies the necessary condition of the possibility of synthesis itself. This rule is supplied by the unity of consciousness, which demands that synthesis proceed in accordance with a rule of unity, i.e. a concept, so that the synthesis shall result in the reproduction of a representation which can be recognized as belonging to one consciousness, and can therefore be employed in thought. In so far as this synthesis is exercised a priori, this fundamental rule, or ground, of synthesis is entitled the transcendental unity of apperception. It is this unity which determines a priori the manner in which all representations are to be connected in accordance with the rules of unity supplied by the pure concepts of the understanding.

(b) These last two Numbers of the second section of this chapter may be regarded as the climax of the Deduction, for it is here that the three distinct aspects of the threefold synthesis are brought together, and the a priori ground of this synthesis identified as that unity of consciousness which precedes the experience of which we are to become conscious. Since we are concerned in this study with the development of Kant's overall argument, we may note that the structure of this section, when compared with that of the next, suggests a certain coherence of argumentation which might be regarded as evidence in support of the rejection of the patchwork theory.[42] In his examination of the three sources of experience,

[42] According to Vaihinger, the fourth Number of this second section (A110-114) belongs to the "second level," that of the "Categories without the Productive Imagination." Vaihinger claims that the passages here contained were written earlier than those found at A76-79, A94-95 (both third level: of the "Productive Imagination without the Threefold Synthesis"), and A97-104 (fourth level: of the "Threefold Synthesis"). He claims further that the opening passages of the third section (A115-116: third level) were written later than those found at A94-95,

which led to a detailed discussion of that threefold synthesis which involves these three sources, Kant finally concluded that this entire synthesis rests upon the unity of apperception--or, more precisely, since we are dealing here with a priori synthesis, upon the transcendental unity of apperception. When we now turn to section 3 of this chapter, which purports to present the systematic interconnection of these three sources of experience, it is stated that we must begin with this fundamental ground of that synthesis through which experience is made possible--with, namely, pure apperception, that "sort" of consciousness which precedes all experience. Thus the argument as presented in section 3 begins with the foundation of experience just revealed in the conclusion of section 2. The entire argument proceeds, in fact, in precisely the opposite direction as that of the argument as presented in the preceding section: it begins with pure apperception, and it concludes with the "orderly character" of appearances. Since we have already presented a rather detailed exposition of the third section, and have since become still more familiar with the nature of those three sources which it "systematically interconnects," we may regard the reconstruction of its individual arguments as unnecessary. Let us proceed instead to an examination of this step of the overall argument as it is presented in the second edition of the Critique.

Section IV

The Deduction as restated in the second edition of the Critique contains two sections, the first comprising two sub-sections, the second comprising thirteen. The first section of this (B) edition of the Deduction is identical to the first (A) edition, with the exception of one alteration: for the last paragraph of this section in the A edition are substituted three new paragraphs in the B edition. The omitted paragraph of the A edition is that in which the three "sources" of the possibility of experience are identified, and their employment described in relation to the threefold synthesis examined in the next two sections. Of the three paragraphs which are substituted in the B edition, the third is of most importance to us, for we can expect that in so far as it makes mention of the "logical functions of judgment" identified in the Metaphysical Deduction, ignoring any mention of synthesis, the restatement of the continuation of the argument offered in the B Deduction is going to emphasize the logical aspect of the activity whereby concepts are related to objects. That the A Deduction was concerned with the function of judgment cannot be denied, for it involved the operation of the understanding as the "faculty of rules," and this definition of the understanding is merely another way in which to define it as a faculty of judgments (A126). The B Deduction does, however, make more obvious this concern with judgment, and it is certainly less difficult to regard the arguments as they are here presented as belonging to one overall argument. The emphasis upon the

function of judgment shall become apparent as we now reconstruct the arguments as presented in sub-sections 15-27 of the B Deduction, offering comments wherever necessary.

§15: The Possibility of Combination in General

(a) The combination [Verbindung] of a manifold is "an act of spontaneity of the facult of representation [Vorstellungskraft[43]]." This faculty is the understanding, and this particular activity of the understanding is the combination either of the manifold of various concepts or of the manifold of various representations in an intuition, which (intuition) may be either empirical or non-empirical.[44] This act of combination is entitled synthesis. The concept of combination includes the concept of the manifold and its synthesis and the concept of the unity of the manifold. Thus combination is the act whereby the synthetic unity of the manifold is represented. This combination does not give rise to the representation of unity, but rather is itself the product of the joining together of the representation of unity with the representation of the manifold and its synthesis. That unity the representation of which is combined with another representation in this activity of synthesis must therefore precede a priori

[43] "Faculty of representation" is not a literal translation. Literally, this whole clause reads: "for it is an act of the spontaneity of the power of representation." Note Kemp Smith's earlier translation of Vorstellungsfähigkeit as "faculty of representation" (A19=B34). By "act of spontaneity [Actus der Spontaneität]" we must understand the activity of a particular cognitive ability of the mind, in contrast to the passivity of the receptivity of the mind's "sensibility."

[44] Kemp Smith, as indicated in his note to this passage, reads, with Mellin, empirischen oder nicht empirischen for sinnlichen oder nicht sinnlichen (as it stands in the Academy edition). In respect of what has been said in Section I above, we must agree with Kemp Smith.

all concepts of combination. The unity represented in the concept cannot be the category of unity, for all categories are grounded in logical functions of judgment in which combination, and thus the unity of "given concepts," is already thought. That is, "the category presupposes combination." This unity must therefore be found in that which contains the ground of the unity of the concepts being combined in judgment, which is, therefore, also that which contains the ground of the possibility of the understanding, "even as regards its logical employment."

(b) There are three questions we must answer here. First, what is meant by "combination" and "representation"? Second, what is a "concept of combination"? And third, what are these "given concepts" the unity of which is already thought in the logical functions of judgment? (1) "Combination" is described both as "an act of the spontaneity" of the understanding and as "representation" of the synthetic unity of the manifold. If we join these two descriptions, we must understand by "representation" not a particular concept, but the act of cognition itself--that is, the activity of the understanding, its representing of the synthetic unity of the manifold. The representing of the synthetic unity of the manifold is the combining of the two concepts (of the manifold and its synthesis, and of the unity of the manifold). (2) The combining of these two concepts results in another concept. This is called a "concept of combination." The particular manner in which the two concepts are combined will determine the particular concept which arises from this act of combination. (3) It is stated in the first paragraph of this sub-section that combination is either of the manifold of various concepts or of the manifold of

various representations in an intuition. We must determine the significance of this distinction. To recall our discussion in Section II above, when the mind, through sensibility, is presented with a manifold of representations in an intuition, it combines, through understanding, these manifold representations into one united representation--into, that is, a single representation of one manifold of representations. In so far as the understanding is employed in the act of combining, and since all acts of the understanding are judgments (A69=B94), this combining of the manifold is itself an act of judgment. In any act of judgment, a manifold of representations is brought under, or combined in, one single representation. The particular function of judgment whereby this combination occurs corresponds to a particular function of the understanding. Each particular function of the understanding corresponds, in turn, to a particular concept of the understanding. When the representations being combined are not concepts but intuitions, that concept which corresponds to the function of the understanding in its activity of combination is the concept of the unity of the manifold of these intuitions. This concept of the unity of the manifold is "contained in" the concept produced through the combination of the manifold only in so far as it "rests on" the function whereby this combination occurs (A68-B93). In other words, this concept of the unity of the manifold is contained in the concept produced through the representation--or representing--of the synthetic unity of the manifold, in that this act of representation is nothing but the combining of the manifold of two concepts--the combining, namely, of the concept of the manifold and its synthesis with the concept of the unity of the manifold. It is this concept of unity which is "thought in"

the function of the understanding upon which rests the concept of the manifold. Thus we cannot look to the concept of the understanding which corresponds to the function of judgment in our search for the ground of this unity, but "must therefore look yet higher."

§16: The Original Synthetic Unity of Apperception

(a) "It must be possible for the 'I think' to accompany all my representations...." If something were represented in me without being accompanied by "I think," this something could not be thought, for it is through this accompaniment by "I think" that this representation is my representation. Only if I have representations--that is, only if representations are mine--can I think. Intuition is that representation which is given before all thought. The manifold representations given in a certain [gewissen] intuition would not together [insgesammt] be my representations if they did not together belong to one self-consciousness. In order to belong to one self-consciousness, they must conform to that condition under which alone they can stand together [zusammenstehen] in one general [allgemeinen] self-consciousness, namely, the condition of the unity of self-consciousness. To regard a representation as mine, I must be able to think the identity of the subject--myself--in which these representations occur. This subject is the self which is self-conscious, and the representation of the identity of this self-consciousness is possible only through the consciousness of the unity of that synthesis whereby the manifold representations given in an intuition are combined in one single representation. The unity of this synthesis is the synthetic unity of apperception. When, therefore, I am conscious of the unity of the synthesis, I am conscious

of the unity of apperception; and to be conscious of the unity of apperception is to be able to represent, and thereby to think, the identity of this self-consciousness, the identity of myself.

(b) One can be conscious of the identity of one's self when one recognizes that all the representations which occur in the mind are, in fact, occurring in one mind--when, that is, one can call all the representations one's own. Own can only do this when one is conscious of the unity of the combination of representations; and this combination, i.e. the synthesis whereby the synthetic unity of the manifold is represented, being "an act of the self-activity of the subject" (B130), must contain--i.e. in part consist in--the representation of that unity which is the synthetic unity of apperception. Only when one is thus conscious of the unity of the combination can one be conscious of the unity of the subject in which this combination takes place, and only through this latter consciousness can one recognize the identity--i.e. the "sameness"--of the self, and thus be enabled to think. All this activity of consciousness and self-consciousness, in so far as it makes possible all thought (and thereby all cognition and experience), takes place a priori. The fundamental condition of the possibility of all this a priori activity can therefore be called the transcendental unity of apperception.

§17: The Principle of the Synthetic Unity of Apperception is the Supreme Principle of all Employment of the Understanding

(a) In relation to the sensibility, the highest principle of the possibility of all intuition is that all that is manifold in intuition conform to the formal conditions of space and time. In relation to the understanding,

the highest principle of all intuition is that all that is manifold in it conform to conditions of the original-synthetic unity of apperception. Understanding is the faculty of cognitions [das Vermögen der Erkenntnisse], which (cognitions) consist in the determinate relation of given representations to an object. An object is that in the concept of which the manifold of a given intuition is united. Since unity of consciousness is necessary for all unification, it is this unity which constitutes the relation of representations to an object through which alone these representations acquire objective validity and become cognitions. Thus we see that the possibility of the understanding itself rests upon the unity of consciousness. The unity of the act [Handlung] whereby a determinate combination of the given manifold is synthetically produced is that unity through which an object is first cognized [erkannt wird]. This is the unity of consciousness. In so far as its act of combination is synthetic, it must be called the synthetic unity of self-consciousness. This synthetic unity is a condition of all cognition, for only when the representations related in cognition conform to this condition is their combination possible. As this unity is a condition of the possibility of cognition, it is called the transcendental unity of apperception.

§18: The Objective Unity of Self-Consciousness

(a) Only by means of the transcendental unity of apperception is it possible to unite all that which is manifold in an intuition in one representation of the object. This unity is therefore called objective and is contrasted to the subjective unity of consciousness. The latter unity is a determination of the inner sense whereby that which is manifold in the

above mentioned intuition is empirically given to the mind.

(b) To summarize these last two sections: In order to cognize [erkennen] something in space, the form of outer sense, one must synthetically "bring into being" a determinate combination of the manifold of representations given in an intuition (B138). That is, one must determine the outer sense in such a way as to combine the manifold in a particular manner--the determining is the combining, and this combining consists in the introducing of unity. The unity introduced, or "manifested," is that of apperception. This manifesting of unity is a synthetic act, thus the unity manifested is the synthetic unity of apperception. Since the manifesting of unity is the uniting of a manifold of representations in one concept of an object (which concept is that "concept of the manifold and its synthesis" discussed above), the synthetic unity which is manifested is an objective unity of apperception. That is, this unity of consciousness is, in the act of combining, directed toward the object, not the subject: the "sense" determined is the outer, not the inner. Determination of the inner sense is thus subjective, in that the unity of consciousness here involved is directed toward the affecting of the subject by empirical conditions, or "circumstances," through which the form of the outer sense is modified.

§19: The Logical Form of all Judgments consists in the Objective Unity of the Apperception of the Concepts which they contain

(a) A judgment is nothing but the manner in which given cognitions are brought to the objective unity of apperception. A judgment is, further, a relation of representations which is objectively valid, for the principle in accordance with which the act of relating these representations

in a judgment proceeds is the principle of the objective unity of apperception. A relation of representations which proceeds in accordance with the empirical laws of association, that is, with the laws of the reproductive imagination, is not, strictly speaking, a judgment, for it has only subjective validity. For example, the statement "bodies are heavy" is a judgment; it has objective validity. This statement does not involve the claim that the two representations being related are necessarily related in the object of empirical intuition itself--it involves only the claim that these representations are necessarily related in the cognition of that which is empirically intuited, i.e. in the representation of the manifold of representations in an empirical intuition. In other words, that act of cognition which consists in the relating of representations in a judgment necessarily has objective validity, for the act of synthesis whereby manifold indeterminate representations are combined in one determinate representation--which (representation) is combined with another representation in an act of judgment--itself proceeds in accordance with principles which are derived from the fundamental principle of the transcendental unity of apperception, which is objective.

§20: All Sensible Intuitions are subject to the Categories, as Conditions under which Alone their Manifold can come together in one Consciousness

(a) That which is given as manifold in an intuition--i.e. the manifold of indeterminate representations--is combined in such a way as to yield one determinate representation; that is, the indeterminate manifold is determined in a particular manner. The particular manner in which this manifold is determined depends upon the particular function of judgment

which is involved in the combination of this determinate representation with another determinate representation. In other words, the determination of the manifold given in intuition is the means whereby this manifold can be brought to one consciousness at all [überhaupt], as a single, united representation of an intuition. (The determination of a manifold of such single representations, be they of intuitions or of concepts, is the means whereby these representations can be brought to self-consciousness, as a single, united representation of a concept.) A manifold of indeterminate representations can be brought to one consciousness only when it has been so determined as to constitute a unity. This unity, as we have seen (in §17), is that of the original-synthetic unity of apperception. Thus apperception supplies the principle (of unity) in accordance with which the manifold of indeterminate representations is first determined. This manifold is determined by the understanding in the logical function of judgment (§19); and the particular manner in which the understanding determines the manifold depends upon the particular function of judgment involved in this act of determination. The categories are these particular functions, and they comprise therefore the conditions under which alone the manifold of representaitons in an intuition can come together in one consciousness.

§21: Observation

(a) That which is manifold which is contained in an intuition which I call mine is represented as belonging to the necessary unity of self-consciousness by means of the synthesis of the understanding. This act of synthesis proceeds in accordance with the category. This indicates

that just as an empirical intuition stands a priori under a pure intuition, so does the empirical consciousness of a manifold given in a single intuition stand a priori under a pure self-consciousness. For, as we have seen, it is the unity of just this self-consciousness which is manifested in the particular manner in which the manifold is determined in regard to the particular logical function of judgment, i.e. in regard to the particular category. Thus are the categories merely those rules in accordance with which (that is, "whereby," or "through which") the understanding manifests [zu Stande bringt] the a priori unity of self-consciousness in the single representation of a manifold of representations of which we are empirically conscious. This manifesting of unity is called thought [Denken].

§22: The Category has no other Application in Cognition than to Objects of Experience

(a) To cognition belong two factors, the concept of an object and the intuition of an object. That is, a cognition consists in the combining, the determining, of content (the intuition of the object) in respect of a particular form (the concept of the object). Sensible intuition is the only intuition possible to us. When, therefore, we think an object by means of a concept, this thought can only become a cognition of the object if this concept is related to the object as an object of the senses. Sensible intuition is either pure or empirical. When we determine a pure sensible intuition in respect of--or "by means of"--a pure concept of the understanding (as we do in mathematics), this act of determining is an a priori cognition of an object as an appearance, but only in regard to its form. That is, this act of determining yields the form of pure sensible

intuition in accordance with which alone an empirical object can be presented to our sensibility in the empirical intuition of this object. Things in space and time can only be given to the mind, through sensibility, as perceptions (i.e. as representations with consciousness) which are accompanied by sensation (i.e. the modification of the state of the subject); they can only be given, that is, through empirical representation. Therefore the pure concepts can only yield cognition if the a priori intuitions which they determine can be related to empirical intuitions as the form of all intuition in general. Therefore, these categories must also be related--indirectly, through their application to pure intuition--to empirical intuition if they are to yield cognition of things, that is, empirical cognition. This empirical cognition is called experience. Thus the categories have no use in the cognition of things except in so far as they can be applied to objects of a possible experience--to objects, that is, of a possible empirical cognition.

§23

(b) This sub-section demands no reconstruction, for it merely contains observations, all of which are redundant, concerning §22. There are, however, two sentences which are significant. The first reads: "Beyond these limits they [space and time] represent nothing; for they are only in the senses, and beyond them have no reality." What is here noteworthy is the explicit statement that space and time are only in the senses. Space is in the outer sense as the form of this sense, which (form) is modified when an object is given to the mind in "outer" intuition. Time is in the inner sense as the form of this sense, which is similarly

modified when an object is given to us in "inner" intuition. The second sentence reads: "They [the pure concepts of understanding] are mere forms of thought [Gedankenformen], without objective reality, since we have no intuition at hand to which the synthetic unity of apperception, which constitutes the whole content of these forms [die jene allein enthalten], could be applied, and in being so applied determine an object." In other words, the categories are merely forms of thought, and these forms of thought contain only the synthetic unity of apperception. To say that a "form" has the "content" of unity is simply to say that a form is constituted by, or consists in, unity. And this unity is that of apperception, that self-consciousness which precedes all experience.

§24: The Application of the Categories to Objects of the Senses in General [überhaupt]

(a) The mind performs two distinct transcendental acts of synthesis: figurative synthesis and combination. (1) Figurative synthesis is that transcendental synthesis of the productive imagination whereby the understanding acts a priori upon the sensibility in accordance with the unity of apperception in such a way as to determine the form which a given intuition must exhibit if this intuition is to be given in inner sense. (This transcendental synthesis of productive imagination is the condition of the possibility of the empirical synthesis of the reproductive imagination, which (empirical synthesis) must conform to the empirical laws of association in so far as it determines the form which an empirical intuition does exhibit. This determining of the form of an empirical intuition consists, however, in no more than the introducing into the manifold of this empirical intuition that form which has been previously determined in the transcendental

synthesis of productive imagination.) This transcendental synthesis, then, produces an a priori determination of the manifold in inner sense. (2) Combination of understanding [Verstandesverbindung] is the act whereby one becomes conscious of the determination of the manifold in inner sense. This is the act of combining a manifold of representations in such a way as to produce one united representation, i.e. one determinate intuition. This act proceeds in accordance with one of the rules of unity--that is, in accordance with a particular category.

(b) We have already dealt at some length with "combination," and reference to the comment to §15 above does much to clarify Kant's treatment of this activity here. The return to "combination" suggests to the reader that the argument may now be about to circle back on itself. As we shall see in what follows, this is precisely what happens in §26, in which the categories are connected with combination and the logical functions of thought.

§25

(b) This sub-section also demands no reconstruction. It seems to have been included merely in order to emphasize the fact--so often stated before (see the introduction to this study. p. 4n)--that since intuition is always sensible, and cognition demands intuition, one can never cognize oneself as one is "in oneself," for the self is not an intuitable object.

§26: Transcendental Deduction of the Universally [allgemeinen] Possible Employment in Experience of the Pure Concepts of the Understanding

(a) We must now explain--in respect not of the form of the intuition of objects, but of the laws of their combination--the possibility of a priori cognition of these objects by means of categories. By "synthesis of

apprehension" is understood the "setting together [Zusammensetzung]" of that which is manifold in an empirical intuition. It is through this synthesis that perception [Wahrnehmung]--that is, empirical consciousness of the empirical intuition (as appearance)--becomes possible. Space, like time, is represented as an intuition containing a manifold, and thus the representing of space (and time)--like any act of representing--consists in the introducing of synthetic unity into an intuition; it consists, that is, in the determining of an intuition in accordance with a rule of synthetic unity. The representations of space and time are the forms of all outer and inner sensible intuition. Thus the act of synthesis of apprehension, since it is the "setting together" of that which is manifold in an intuition, must conform of these forms of intuition. Since these forms of intuition themselves contain--or consist in--a determination of synthetic unity, the synthesis of apprehension must also conform to this determination of synthetic unity as to a condition of its possibility. This synthetic unity is that of the act of combining, in accordance with the categories, that which is manifold in a given intuition in one original (ursprüngliche] consciousness, Thus even the synthesis of apprehension in empirical intuition is subject to the categories. Further, since experience is cognition by means of connected perceptions [verknüpfte Wahrnehmungen], "the categories are conditions of the possibility of experience, and are therefore valid a priori for all objects of experience." Now since appearances are no more than empirical sensible representations, they must, as representations, be subject to those laws of connection in accordance with which alone their representation is possible. When we appreciate the fact that Nature is nothing but the sum of all these

appearances, we can understand how the laws of this Nature are precisely those laws which are prescribed to all representations--those laws, namely, which are the categories.

§27: Outcome of this Deduction of the Concepts of Understanding

(a) (The preceding reconstruction and commentary has, it is hoped, adequately equipped the reader with all that is necessary for an understanding of the text as it stands. For this reason, it is unnecessary to reconstruct the text which follows--we need only quote:)

> We cannot think an object save through categories; we cannot cognize an object so thought save through intuitions corresponding to these concepts. Now all our intuitions are sensible; and this cognition, in so far as its object is given, is empirical. But empirical cognition is experience. Consequently, there can be no a priori cognition, except of objects of possible experience.
>
> But although this cognition is limited to objects of experience, it is not therefore derived from all experience. The pure intuitions and the pure concepts of understanding are elements in cognition, and both are found in us a priori. There are only two ways in which we can account for a necessary agreement of experience with the concepts of its objects: either experience makes these concepts possible or these concepts make experience possible. The former supposition does not hold in respect of the categories (nor of pure sensible intuition), for since they are a priori concepts, and are therefore independent of experience, the ascription to them of an empirical origin would be a sort of generatio aequivoca. There remains, therefore, only the second supposition--a system, as it were, of the epigenesis of pure reason--namely, that the categories contain, on the side of the understanding, the grounds of the possibility of all experience in general [überhaupt]. How they make experience possible, and what are the principles of the possibility of experience that they supply in their application to appearances, will be shown more fully in the following chapter on the transcendental employment of the faculty of judgment.

We shall now turn to an analysis of this "following chapter," in which the two versions of the Transcendental Deduction shall be regarded as merely two versions of one and the same overall argument, the heart of which lies in the activity of schematism.

Section V

The chapter entitled "The Schematism of the Pure Concepts of Understanding" is the first of three chapters contained in the Analytic of Principles (which is the second Book in the first Division of the Transcendental Logic). Immediately preceding this chapter on Schematism we find a general note on the Analytic of Principles and an introduction to "Transcendental Judgment in General": (1) The purpose of the former is to explain that since reason attempts to extend cognition beyond the limits of possible experience, the rules in accordance with which it proceeds are not those prescribed by the science of transcendental logic now under consideration. Therefore, in the three chapters which follow, we shall be concerned only with the understanding and the judgment [Urtheilskraft], both of which are involved in the cognition of objects of possible experience, and to both of which, therefore, the science of transcendental logic prescribes rules in accordance with which they proceed in their act of cognition; (2) The purpose of the latter is to specify the direction of the discussion which follows. The understanding is the faculty of rules, and judgment is the faculty of subsuming under rules. (To subsume under a rule is to distinguish [unterscheiden] whether something does or does not stand under [unterstehen] a given rule.) Since general logic is concerned only with the form of cognition--since, that is, it is concerned only with analytically "setting apart [aus einander zu setzen]" cognition in concepts, cognition in judgments, and cognition in inferences--it can

prescribe no rules of judgment, for judgment is a synthetic act of subsumption, and it must always involve consideration of the synthesis of the content of that which is being subsumed. In so far as this synthesis is a transcendental synthesis, it must proceed in accordance with those rules prescribed by that transcendental doctrine of judgment which we shall now expound. The first chapter of this doctrine "will treat of the sensible condition under which alone pure concepts of understanding can be employed, that is, of the schematism of pure understanding."

Since this chapter relies upon the conclusions of the arguments of the Transcendental Deduction, our analysis of this chapter shall consist largely in the combining of much of the material contained in the previous two sections of this study. The goal of this analysis is to present a summary illustration of the manner in which Kant establishes the possibility of experience.

The overwhelming significance of experience is already made evident in the first line of the Introduction to the Critique: "all our cognition begins with experience" (B1). Various definitions of "experience" are to be found throughout the text. We must compare some of these definitions and attempt to determine precisely in what experience consists. Experience is: "the first product which our understanding brings forth in its working on [bearbeitet] the raw material of sensible sensations [sinnlicher Empfindungen[45]]" (A1); "a species of cognition [eine Erkenntnissart]" (Bxvii); "a synthetic combination [Verbindung] of intuitions" (A8=B12); "empirical cognition" (B147, B166); "cognition.

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[45]The corresponding expression in the second edition is sinnlicher Eindrücke (sensible impressions) (B1).

through connected perceptions [verknüpfte Wahrnehmungen]" (B161); "an empirical cognizing, that is, a cognizing [ein Erkenntnis] which determines an object through perceptions" (B218); "a certain [eine solche] synthesis of perceptions which increases my concept (which I possess by means of a perception) through adding to my concept other perceptions" (B792).

What is most evident in these definitions is that experience is cognition, that this cognition is empirical, and that this empirical cognition involves sensation, and therefore also appearances. This observation indicates the basic problem with which the Critique is concerned--the problem, namely, of establishing the possibility of those sciences which profess to yield a priori synthetic judgments. Since necessity must always be grounded on a transcendental condition (A106), if the cognitions which are related in a judgment are empirical, or are derived from cognitions which are empirical, how can a judgment be possible a priori--how, that is, can it be thought with "necessity and strict universality"? Kant's solution to this problem lies in his demonstration that some of the rules in accordance with which empirical cognition proceeds are a priori. Kant demonstrates, in fact, that the very possibility of all empirical cognition, and ultimately of all experience, rests upon certain a priori cognitions and transcendental acts and conditions of the mind through which these a priori cognitions are produced.

Our analysis of Kant's demonstration of the possibility of experience begins with a statement of the problem involved in the construction of a strict definition of "experience." Experience has been defined as a sort of empirical cognition. Now a cognition is either an intuition or a

concept (A320=B376-7); an empirical cognition would seem therefore to be either an empirical intuition or an empirical concept. In so far as experience involves sensation, i.e. the effect of an empirical object upon the mind, it must involve empirical intuition. Since, however, experience is a synthetic combination of intuitions, it cannot be strictly identified as itself an empirical intuition, for combination is always an act of the understanding (B130). In so far, then, as experience involves the understanding, we might wish to identify it as a concept--specifically, as an empirical concept. This possibility, however, we are also denied, for Kant gives as an example of an empirical concept the concept of a plate (A137=B176). Experience, therefore, is neither an empirical intuition nor an empirical concept--yet it must be an empirical cognition? This is not, I believe, a contradiction, but merely a paradox. And this paradox may be somewhat resolved in the definition of experience I now suggest: Experience is the act of applying concepts to intuitions, and thereby categories to appearances. To understand the possibility of this act, we must first determine the origin of the elements involved. We begin with appearance.

"Appearance" is defined as the "undetermined object of an empirical intuition" (A20=B34). To be more precise, an appearance may be described as an empirical sensible representation, a manifold of which is contained in an empirical intuition of an object. An appearance has both matter and form: its matter is that which affects the mind in sensation; its form is that which determines the manner in which it is ordered in certain relations with the other appearances in the manifold. This ordering of appearances is the uniting of understanding with sense, through which an empirical intuition arises as a single representation of a determinate relation of

many empirical sensible representations. This act of ordering, or uniting, is entitled the reproductive synthesis of imagination. This "threefold synthesis" consists in apprehension in the intuition, reproduction in the imagination, and recognition in the concept. The first aspect of this synthesis, apprehension, demands that the mind be presented with a manifold of appearances in an empirical intuition. It is sensibility which yields an intuition, and it is sense which contains this manifold in intuition. This "synopsis of the manifold through sense" is, then, a condition of the possibility of apprehension, and thereby of the synthesis as a whole. Now each appearance contained in this empirical manifold appears in the mind "in a single moment." If, therefore, these appearances are to be united, i.e. synthesized, in a single empirical intuition, they must be "held together" over a period of time. This "holding together" of appearances is called apprehension: to "apprehend" a manifold of appearances in an empirical intuition is to hold together these appearances while they are being united. Since each appearance occurs in the mind in a single moment, and they are apprehended one after the other, if the earlier appearances are not reproduced while the later appearances are occurring, they cannot be united at all. In short, reproduction of the appearances is also necessary. This reproduction in imagination--which is "the faculty of representing in intuition an object that is not itself present" (B151)--takes place in accordance with those empirical laws of association which are grounded in the empirical observation that certain appearances have usually been united with certain other appearances.

This law of reproduction "presupposes" that the appearances are themselves subject to such a law, and that the order of their appearance

in the mind over a period of time is determined not empirically, but a priori. This is the first suggestion that the possibility of experience--which involves the synthesis now being considered--is grounded upon a priori principles. The reproducibility of appearances presupposes a law which determines the order of their appearance through time. Since appearances are nothing but (empirical sensible) representations and are therefore modifications of the mind, appearances must belong to inner sense and thus be subject to its condition, time. Appearances are, in short "empirical determinations of inner sense." And the law which determines the order of these determinations is the determination of the form of inner sense, i.e. the determination of time. If this law is presupposed, prior to experience, it is a "transcendental determination of time," which is the product of the transcendental synthesis of pure a priori imagination. This transcendental synthesis conditions, therefore, the possibility of all experience. (We shall discuss this synthesis in more detail in what follows.)

Besides the apprehension and reproduction of appearances, their uniting in synthesis also demands that they be recognized as identical; they must, that is, be identified as the same appearances which were reproduced one moment ago. (Appearances, again, are only modifications of the mind.) If the appearances which affect the mind through sensibility are appearances of an object in space, it is the outer sense of the mind which is affected, and a determination of outer sense will arise. To recognize the identity of appearances, then, is to recognize the identity of determinations of outer sense. Now to recognize something one must be conscious of it. Thus one must be conscious of the identity of these determinations of outer sense. Since, however, these

determinations occur over a period of time, to say that one is conscious of this determination of outer sense as being identical to that which occurred a moment before is to presuppose that both instances of empirical consciousness belong to one and the same consciousness. Thus the possibility of empirical consciousness--by means of which alone is the recognition of appearances possible--is itself grounded a priori on the transcendental condition of the synthetic unity of apperception.

We now see that the possibility of experience rests upon yet another transcendental condition, the transcendental unity of apperception. Before analyzing the connection between these two conditions, however, one thing remains to be said in regard to this last aspect of the synthesis. In §20 of the B Deduction (B143) is stated the following:

> But that act of understanding by which the manifold of given representations (be they intuitions or concepts) is brought under one apperception, is the logical function of judgment. All the manifold, therefore, so far as it is given in a single empirical intuition, is determined in respect of one of the logical functions of judgment, and is thereby brought into one consciousness. Now the categories are just these functions of judgment, in so far as they are employed in determination of the manifold in a given intuition.

Thus we see that the particular manner in which the manifold in empirical intuition is united is determined by the particular category which serves as the rule in accordance with which the synthesis proceeds. This category determines the particular manner in which the unity of apperception is manifested in the single empirical intuition in the activity of synthesis, which is necessarily a logical activity. It now becomes evident that the "psychological" act of synthesis is, in fact, the "logical" act of subsumption. The above passage does not indicate that Kant replaced the synthesis

of the imagination dwelt upon in the first edition with the subsumption of the understanding in the second edition--as Vleeschauwer maintains--but merely that due to the widespread misunderstanding of this activity as it was described in the first edition, he found it necessary to emphasize its logical character in the second. Passages similar in content to the one above are to be found in the first edition--as those, for instance, at A110 and A119--but, although essential to the argument, they are not stressed. Whatever Kant's reason for this lack of emphasis in the first edition, it must nevertheless be understood that his description of the activity of synthesis in both editions is that of a fundamentally logical activity. And this logical activity is a condition of the possibility of all experience.

It will be recalled that this condition of the possibility of experience itself rests upon two transcendental conditions, the transcendental unity of apperception and the transcendental synthesis of pure a priori imagination. It is in his discussion of the latter, in the chapter on Schematism, that Kant finally tells us how concepts are related to objects. Before analyzing the mechanics of this transcendental synthesis, it is necessary that we deal with a major difficulty in the understanding of the text.

As might be expected, we confront this difficulty in the first paragraph. It is here stated that in all subsumptions of an object under a concept, the representation of the former must be homogeneous with the latter, for only in respect of this homogeneity can an object be said to be contained under a concept. The next two lines read (in Kemp Smith): "Thus the empirical concept of a plate is homogeneous with the pure

geometrical concept of a circle. The roundness which is thought in the latter can be intuited in the former." The Academy text (of both editions) reads, however, quite differently, concluding that "the roundness which is thought in the former can be intuited in the latter."[46] I suggest that it is significant that Kant did not alter the text here--as he did in two other passages in this chapter (at A139 and A147; cf. Nachträge lviii and lxi)--and that the understanding of the text of this sentence as it stands is essential to an understanding of the entire chapter. We must therefore determine what is meant by the claim that we think roundness in an empirical concept and intuit roundness in a pure geometrical concept.

All cognitions arise, as we have seen, through the logical activity of synthesis in which understanding and sense are united. Cognitions are either intuitions or concepts. Now a concept, in so far as it is empirical, must consist in part in the uniting of understanding and sense in that synthesis which is of the reproductive imagination. It is this synthesis which yields the concept of the manifold and its synthesis. An empirical concept--that of a plate, for example--consists, however, in more than this one concept alone. (An empirical concept is merely "grounded on" an empirical intuition (A47=B64).) It consists, namely, in the combination of this concept with the concept of the unity of the manifold. In the case of the empirical concept (of combination) of a plate, the concept of the unity of the manifold is the pure geometrical concept of a circle. Therefore, in the empirical concept of a plate, the concept of the manifold and

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[46] A more literal translation of the German is of interest: "the roundness...allows itself to be intuited in the latter." This use of the passive voice recalls to the reader the receptive character of sensibility.

its synthesis is united with this pure concept of a circle in such a way as to represent the round object "plate." "Roundness" is thought in the empirical concept of a plate; it is not represented in the concept immediately, as one of the concepts being united, but mediately; it is thought in the empirical concept through, i.e. by means of, the pure geometrical concept of "circle." This pure geometrical concept, however, does contain an immediate, and thus intuitable, representation of roundness, for the pure concept of a circle consists in the uniting of the concept of the pure manifold of space and its synthesis with the concept of roundness. (As we shall see in what follows, this concept of roundness is actually the schema of the particular category which is applied in that synthesis of the pure manifold of space which gives rise the pure geometrical concept of a circle.) Either one of these two concepts, when regarded as the object of cognition, is capable of being intuited, for they are both presented immediately to cognition.

The fact that both Kemp Smith and Vaihinger find it necessary to rewrite this sentence suggests what I consider to be a disastrous misunderstanding of the text. The association which these scholars maintain of "thought" with "pure concept" and "intuition" with "empirical concept" reveals the difficulty involved in--and the absolute necessity of--understanding the entire Critique as it is contained in every one of its passages. For example, if we read the above passage with Kemp Smith and Vaihinger, the pure concept of a circle could not contain the concept of roundness directly, but only indirectly by means of the empirical concept. Thus that which is pure would be dependent upon that which is empirical--that is, a pure concept would be derived from an empirical concept. But

the entire Introduction to the Critique is concerned primarily with the necessity of our pure concepts not being so derived. (Reading with Kemp Smith and Vaihinger, then, we would have to conclude that the whole Critique is a patchwork.) The manner in which these two scholars understand this passage indicates a still more fundamental misunderstanding than that just mentioned. This is the view that intuition always demands the immediate relation of the mind to some physical object, such as a table or a chair--but this is not the case at all. The object of intuition can just as easily be the concept of a table--it can, in fact, be the concept of any object, or the concept of any concept, to which the mind, in its cognition, can be immediately related. This observation may shed considerable light on a rereading of the first few pages of the Transcendental Aesthetic. But this I leave to the reader, for we must now turn our attention to that activity of a pure a priori imagination which produces the schemata of sensible concepts, by means of which alone can pure concepts of the understanding be applied to the manifold of appearances in an empirical intuition.

The problem is obvious: how can the pure intellectual categories, which are heterogeneous from empirical sensible appearances, be applied to these appearances? The solution is equally obvious: through the mediation of some "third thing" which both have in common. Now an appearance is the indeterminate representation of that which is manifold in the empirical intuition which arises when an object affects (modifies) both the inner and the outer sense of the mind. In so far as an appearance necessarily involves the modification of inner sense, it is subject to

the formal conditions of inner sense. That is to say, an appearance will consist in part in the form of inner sense--it will, in short, contain time. Now a category, as a pure a priori concept, contains a priori the formal conditions of inner sense; it contains the conditions of time. These conditions of time consist in the various manners in which the form of inner sense can be modified. When inner sense is modified, its form is altered, i.e. determined. Thus the a priori formal conditions of inner sense are the transcendental determinations of time contained in a category. The particular transcendental determination of time contained in a pure a priori concept is the transcendental condition of the possibility of inner sense being modified by an object in such a way as to yield an intuition containing a manifold of a particular sort of appearances. The transcendental determination of time is, therefore, that third thing which mediates in the application of the category to appearances, i.e. in the subsumption of appearances under the category.

The transcendental determination of time contained in a pure a priori concept is called the schema of this concept. The procedure [Verfahren] of the understanding with these schemata is called the schematism of the understanding. This schematism is "an art concealed in the depths of the human soul" (A141=B180-181), and we can never be entirely certain of how this schematism proceeds. We can, however, make the following observations regarding the role played by schemata in empirical cognition.

All cognition begins with experience. Cognition arises in the uniting of understanding with sense. In the act of experience, we unite the pure concepts of our understanding with the empirical objects which we sense. When we sense an empirical object--when, that is, such an object is given

to our mind in its affecting of our sensibility, yielding the intuition of an indeterminate manifold of appearances--our pure concepts act upon the sensation of this object in such a way as to produce an indeterminate (empirical sensible) representation of this object. Since cognition consists in the relating of representations, this indeterminate representation alone is not cognition. When, however, one such representation is united with another, cognition arises. This cognition consists in the representation of unity between two indeterminate representations--that is, it consists in the representation of a single determinate intuition of a manifold of empirical sensible representations which are, by themselves, indeterminate. This empirical cognition arises through a threefold act of synthesis performed by the reproductive imagination.

Having already dealt at some length with this synthesis, the repetition of the details it involves is unnecessary here. It may, in fact, contribute to our understanding of that entire act of cognition, of which this synthesis constitutes only one part, if we briefly summarize it as follows: When the mind is confronted with an empirical object, this object affects the sensibility of the mind, which comprises both the outer and the inner sense. In regard to the former, the effect of the object consists in the presentation to the mind of a manifold of a particular sort of empirical sensible material [Stoff]. In regard to the latter, the effect of the object consists in the particular (i.e. determinate) moment of time in which this presentation is occurring in the mind. When the mind is not only presented with the effects of the object, but also immediately represents to itself these effects, it is said to intuit the object. Every empirical intuition consists in the representation to the

mind of a manifold of appearances. If, therefore, intuition is to be of one object, and a single indeterminate empirical sensible representation is to be thereby produced, this manifold must be held together, i.e. apprehended, in such a way as to allow of being intuited as a unity. Further, since each appearance is presented to the mind in a single moment, a manifold of appearances must be held together through time, and therefore reproduced by the imagination. In order, however, that the imagination reproduce representations which are identical to those which occurred previously, its synthetic activity of reproduction must proceed in accordance with a rule which makes possible this identity. This rule is contained in that pure concept of the understanding under which the representations of the object are subsumed.

When these empirical sensible representations are subsumed under a pure concept in empirical cognition, an empirical concept arises. (Recall the discussion earlier in this section of the empirical concept of a plate and the pure concept of a circle.) Thus empirical cognition consists not only in empirical representations, but also in pure concepts. It consists, in fact, in the act of combining of the two. In this activity of combination, the effect which the indeterminate empirical sensible representation, i.e. the appearance, is to have on the outer sense of the mind is determined in accordance with the effect it is to have on the inner sense of the mind. That is, the manner in which the matter of the appearance is to be combined is determined by its form, and this form consists in the determination of time peculiar to this appearance. The condition of the possibility of the form of the inner sense of the mind being determined in a particular manner does not, however, have its ground in the form of the

appearance, but in the form of the inner sense itself. The inner sense can only be modified in a particular manner if this form allows itself to be so determined. Since the inner sense is of the mind, the manners in which it can be modified lie a priori in the mind as transcendental determinations of time. The pure concept under which an appearance is subsumed in the synthetic activity of combination in empirical cognition is that which contains the transcendental determination of time in accordance with which, as a rule, this synthetic activity proceeds.

We conclude from the above that the possibility of empirical cognition is grounded in the pure concept, in that this concept contains the transcendental determination of time to be employed as a rule in that synthetic uniting of understanding with sense which gives rise to this empirical cognition. We must now inquire as to what is meant by a pure concept "containing" this schema. We begin with an account of the nature of the schema.

It is essential that we understand that a schema is not the image of an object which is to be represented in empirical cognition, but is rather the rule in accordance with which the synthesis in this cognition proceeds. Whereas an image is a product of the empirical synthesis of the productive imagination, a schema is a product of the pure synthesis of the a priori imagination. In this pure a priori synthesis, the imagination combines the transcendental unity of apperception with that form of the pure manifold of inner sense corresponding to a particular category, yielding a schema of this category.

Now what does it mean to say that a pure concept "contains" a schema? Unfortunately, an explicit answer to this question is not to be

found in the text. Perhaps we can best describe the role played by the pure concept in experience, and how it may be said to "contain" a schema, by concluding this study with a concise summary of the various conditions and activities involved in empirical cognition.

When an empirical object is presented to the mind through sensibility, perception of the object arises (synopsis). If this perception is accompanied by consciousness, the mind perceives this object as an appearance (in intuition). Since every appearance occurs in the mind in a single moment, if the mind perceives this object (as an appearance) over any length of time, it must "hold together" all its appearances so that they can continue to be perceived as appearances of the same intuited object (apprehension). To hold together consecutive appearances, however, presupposes that those appearances having occurred earlier continue to be reproduced over this length of time (reproduction-association). Further, if the mind is to "have" such a single intuition, it must be able to recognize a particular appearance as identical to its predecessor (recognition). Now each appearance has both matter and form, combined in a particular manner, and two appearances are recognized as identical in respect of the identical manner in which their matter, i.e. that which is manifold in each of them, exhibits a particular form; they are recognized, that is, in respect of the particular unity of their matter and form. This act of recognition is a cognitive activity, in which an appearance is recognized as a unity in respect of that pure concept which alone, as a rule, determines which form must be manifested in the appearance if we are to be at all conscious of our perception of the object (apperception). This pure concept is, then, nothing but the rule in accordance with which the matter

and form of an appearance is united so as to allow this appearance to be an object of consciousness. (The proper "choice" of the rule to be employed depends upon the ability of the subject to "judge" properly.) This rule which we call the pure concept is itself constituted of two elements of matter and form: the matter of the pure concept is the pure manifold of outer sense, and its form is the schema of the category to which the pure concept belongs. And the schema of the category, the transcendental determination of time corresponding to the category, arises through the combining, in the pure productive synthesis of the a priori imagination, of the category, as a particular function of the understanding, with the condition of all consciousness--with, that is, the transcendental unity of apperception.

Concluding Observation

The possibility of experience rests ultimately upon that transcendental synthesis of the imagination through which transcendental determinations of time are produced in accordance with the transcendental unity of apperception. The possibility of experience rests, then, upon an a priori synthetic activity, the rules of which we have now discovered. We have discovered also that these rules correspond to those which we employ in judgment. We have, therefore, established the possibility of a priori synthetic judgments. In so doing, we have not only established the possibility of those sciences which profess to yield such judgments--mathematics and the natural sciences--but we have also laid the foundation of the "Queen of all the sciences," metaphysics.

APPENDIX

A translation does to a Kantian text what a Xerox machine does to a Rembrandt. With one exception: a machine (I am told) does not try to make sense of its re-presentation. In the case of a text the arguments of which, even as presented in the language of the author, often hover precariously on the brink of incoherency, any translator is destined to grasp at whatever might seem to him to be the most deeply rooted handhold available. (Kant would call this a Leitfaden.) My translations of passages and words which are employed throughout this study are no exception. They evidence my (perhaps peculiar) approach to an understanding of the text. And my Leitfaden is this: the German "Erkenntnis" does not carry with it the same connotations as does the English "knowledge."

In the earlier drafts of this study, I retained the familiar translations of Kemp Smith, "knowledge" and "mode of knowledge." Eventually, however, (when working over the B Deduction) I was forced to substitute the word "cognition," and occasionally "cognizing." My reason for so doing lies in the fact that Erkenntnis signifies more the activity, or process, of knowing than it does knowledge itself, or the having of knowledge. The latter would be a sort of Wissen, as indicated in the word Wissenschaft, i.e. "science," which is a body of collected Wissen which has been acquired through judgments. (In fact, in at least one passage (B128), Kant employs the term ein Erkenntnis (note the neuter article), which may be translated as "a judgment." I have translated it "a cognizing.") Further, the use

of the verb erkennen, as in sub-sections 17 and 18 of the B Deduction, would also seem to indicate that the corresponding substantive ought not to connote the static character of the English "to know." And finally, the understanding is described as the "faculty of cognition" [Erkenntnisvermögen]. Bearing in mind that the understanding is always active--in contrast to the "passive" receptivity of sensibility--one can more easily appreciate the "spontaneous" chacter of the cognitions themselves. (This translation results, of course, in a rather startling reevaluation: Kant is not immediately concerned with the possibility of a priori knowledge, but rather with the possibility of establishing the means whereby we might ultimately acquire knowledge in such a way that this knowledge, when finally attained, shall be unquestionable, indubitable--for it shall have been acquired by means of a process of cognition and judgment carried out in accordance with necessary and universal laws.)

My translation of das Mannigfaltige might also catch the reader's eye. The usual translation is "the manifold." Although I have often retained this translation (in order to avoid unspeakable grammatical complexity), I have just as often rendered the German as "that which is manifold." The point of this translation should become clear when the reader runs across it in its context.

Regarding the distinction between überhaupt and allgemein, I have considered it best to add a footnote (#28) to the text (p. 32) concerning those passages in which this distinction first acquires significance worthy of mention. I would add to this, however, the suggestion to the reader that he accompany his understanding of the term überhaupt with something like the English "at all." When, for example, Kant speaks of the possibility

of something überhaupt, he does not mean the general possibility of the thing (Kemp Smith), but the possibility of the thing at all: without the conditions of this possibility, this thing would not be possible at all.

The German ursprünglich is far more provocative than the English "original"--which, unfortunately, seems nevertheless to be the most adequate translation. If we emphasize the word "origin" in the latter, and understand by this the fundamental origin, we might better appreciate Kant's use of the term when he is discussing apperception and the sources [Quellen = "wells"] of experience.

One last dangerous observation concerning several terms employed throughout the A and B Deductions. I offer this only as a general guideline (another Leitfaden), and I confess that I am not yet entirely certain as to its absolute reliability.... When you see the word zusammenstehen (stand together), think of affinity; when zusammensetzen (set together), think of synopsis; when Verknüpfung (connection), think of intuition and reproduction - association; when Verbindung (combination), think of recognition; and when you see Vereinigung (uniting), think of apperception.

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