

Kant begins the Transcendental Logic by reiterating the distinctions enumerated at the outset of the Trans. Aesthetic. Here, of course, the focus is on the other member of each pair: understanding instead of sensibility, spontaneity instead of receptivity, functions instead of affections, and concepts instead of intuitions. However, there is one overriding point to be made in respect of all these pairings: insofar as **cognition** is concerned — and this is always Kant's preeminent concern in the *Critique* — each member of a pair requires the other: “The understanding can intuit nothing, the senses can think nothing. Only through their union can cognition arise.” “Thoughts without content are empty, intuitions without concepts are blind.” The problem is therefore twofold: to comprehend how concepts can be made *sensible* (how what is thought in them can be intuited as an object of the senses) and how intuitions can be rendered *intellectual* (by rendering their data thinkable).

The thing that most needs to be stressed here, to understand Kant's problem in the transcendental logic, is the radical heterogeneity between sensibility and its principles (space and time), on the one hand, and understanding and its principle (the logical forms of judgment), on the other hand. If there is one thing fundamental for Kant it is the utter, radical disparity between the sensible and the intellectual, a reaction to Leibniz, who denied there was any real difference at all. In the *Inaugural Dissertation*, this is dealt with by positing two worlds: the sensible and the intelligible. The pure concepts of understanding have no sensible content whatsoever, and in particular are not concepts of space or time (which concepts run the gamut from mathematics and the application to appearances of logical principles like non-contradiction to empirical cognition normally so-called). Accordingly, the Kant of 1770 distinguished the *real* from the merely *logical* employment of the understanding. All employment of the understanding is logical; this means simply that the understanding furnishes the forms by which any object may be thought in general, sensible or non-sensible. But it is only in its purely intellectual employment, when all abstraction is made from the senses and space and time, that its employment becomes real; it is real in that here its content (object) is not borrowed from the material of the senses but derived wholly from itself. Not that the understanding produces its object (this only God can do); it merely thinks the object through a priori necessary universal principles of objects; but the employment is nevertheless real because the object is thought devoid of its ideal, imaginary outer coating of space and time, and so cognized as it is in itself.

Kant drew away from this position by 1772, when he began seriously to examine the question how such an intelligible object may be given, if all intuition of it is lacking, and it is supposed to be known only through principles of intellect. This is where the encounter with Hume proved decisive. Hume raised the question, on what basis do we know — what is the nature of our certainty — that these principles actually apply to anything outside our thought? As Kant soon realized, this is a question that, in fact, applies to sensible objects as well: how can purely intellectual concepts be supposed to be valid of objects of the senses? These latter lie outside our thought and have no need of understanding merely to appear in perception, i.e. be given to consciousness; so, on what basis can pure concepts of the understanding be supposed to be valid not simply of the thought of these object but of the intuition too whereby they are given? This problem is sketched out most clearly at A90/B122-3: “For appearances can certainly be given in intuition independently of functions of the understanding . . .”

So, in its most radical and farreaching formulation, the problem becomes: how can pure concepts of the understanding be anything more than mere logical forms? how can they be supposed to have the least objective content or objective validity, when they are not necessary to the *giving* of any object, nor can any application to objects in themselves be secured for them? That is Kant's problem throughout the Transcendental Analytic; but here I simply want to stress the radical heterogeneity between understanding and sensibility it entails. How can any representation purely intellectual in nature correspond to (i.e. have even the potential for truth with regard to) appearances, which are purely sensible in nature, much less things in themselves, whose real stranger is completely obscured from us? If the concepts founded on pure understanding are concepts neither of space nor

time, and moreover exclude all content from sensation, how is that they can think appearances, which in form are spatial and temporal, in matter sensation, and in no sense whatever intellectual? How can the twain ever meet? how can they possibly be brought into agreement? how is truth possible? Let us call this the problem of bringing sensibility into agreement with understanding the problem of *transcendental truth*.

In dealing with this problem, there are two obvious ways of going, both of which in effect treat the divide between sensibility and understanding as unreal, apparent, non-ultimate. In the one case, the Leibnizian, sensory consciousness is taken to be merely a confused, imperfect form of intellectual consciousness; and the more a thing is intellectualized (say by applying mathematics to it), the truer (clearer and more distinct) its representation. The sensible does not furnish data which the understanding only thinks, rather the understanding gives itself its data, which it then thinks, with either greater or lesser clarity and distinctness; the sensible is therefore reduced to a mere mode of consciousness of data supplied by understanding, and so is subsumed within the understanding, as a lower, primitive form of intellectual consciousness of things.

Kant contrasts the Leibnizian intellectualization of the sensible with Locke's sensibilization of the intellectual. According to Locke, all concepts without exception are derived through the senses; that is, not only are space and time not a priori but derived through sensation a posteriori, but so too are metaphysical concepts like substance, cause and effect, existence, necessity, and magnitude. The implication of this view is that the intellect is the source of no concepts at all; it merely compares data given via the senses. Curiously, just as in Leibniz, its business is confined simply to reflection, that is, clarifying and making distinct the data furnished it; the only difference between Leibniz and Locke is where this data comes from: innately from understanding itself or empirically from the senses. In neither case, however, is there any problem of transcendental truth: since for Leibniz the senses furnish no data, there is nothing needing to be brought into agreement with pure concepts of the understanding; in Locke's case, there are no pure concepts of understanding, only empirical concepts derived through the senses, and so again no problem bringing sensibility and understanding into agreement. Kant viewed both positions as instances of one and the same fallacy which he dubbed *transcendental amphiboly*; they do not so much solve the problem as bury it.

The transcendental amphiboly makes clear that, for Kant, the divide between sensibility and understanding is absolutely fundamental, something impossible to heal or bridge.¹ One is, however, obliged to avow that Kant is virtually alone in maintaining the existence of this divide and holding that the problem of the possibility of experience consists in overcoming it. For Fichte, and later Schelling and Hegel, the problem of the relation of understanding to objects can be both posed and solved without any reference to sensibility at all. Others complain that Kant's notion of sensibility is unacceptably idealist, hardly different from Berkeley's. Still others (Heideggerians for the most part) complain that the division does no work in the theory, and that, for all intents and purposes, receptivity is simply swallowed up into understanding. A common complaint today (among analytic philosophers) is that Kant's initial position confuses uninteresting psychological questions of the origin of concepts with interesting logical and epistemic questions of their content and validity; it would therefore have been best had he not introduced faculties into his system at all and simply considered how concepts function in our knowledge.

¹Heidegger's notion that the common root of the two faculties, on which Kant speculated early in the *CPR*, is affirmed near the end, and should be identified as imagination, is a misreading. Kant never affirmed this root; in the *Anthropology*, for example, which postdates the *CPR*, he writes "In their heterogeneity, understanding and sensibility are so closely united in effecting our cognition that it is as if one had its origin in the other, or both sprang from a common stem. Yet this cannot be; or at least, it is impossible for us to conceive how things so heterogeneous could spring from the same root." (§31,c)

These, and other critiques, undoubtedly contain grains of truth. But all too often they are rooted in faulty notions of what exactly Kant meant by “understanding” and “sensibility,” and why he understood them that way rather than some other. Both faculties, though defined in the traditional manner, are so thoroughly transformed upon transcendental analysis, as to be unlike anything before them, and this cannot be forgotten for a moment when interpreting Kant. For example, philosophers of mathematics tend to overlook or ignore the novelty of Kant's conception of understanding and focus exclusively on his claim that pure intuition is necessary for both arithmetic and geometry. If they so often find the theory wanting or impossible to make sense of, it is not, in my view, because Kant had so exotic a notion of *sensibility*, but because they overlook what is unique about his conception of the *understanding*: the understanding, for Kant, is the most minimal such faculty conceivable; it furnishes no concepts in its own right, no objective content at all; it is defined solely by means of logical forms of judgment that take on the value of categories only insofar as they are related to the sensibility (when, in the 2nd *Critique*, they are related to the faculty of desire as subordinated to pure practical reason, we get a completely different set of categories; hence, logical forms can yield pure concepts only after a solution has been found to the problem of relating the understanding to another faculty, not before). Once Kant's notion of understanding is grasped, one can then see how helpless it is to achieve any sort of objective determination, much less advance to new cognition from old, without the aid of sensibility (and, as in the case of mathematics, pure sensibility).

Heidegger and interpreters of his camp do much better than others in my view; however, they still tend to interpret “understanding” as it is defined in the transcendental deduction (A117f.) rather than on its initial appearance at A68-70. In the deduction, it is the unity of apperception and imagination; but this presupposes relation of the intellectual to the non-intellectual (*viz.* imagination), and so belongs to a context where it is already possible to speak of pure concepts of the understanding. This can only mislead one into believing that Kant either changed his original conception of understanding or never meant it in the first place; either way, it follows that he had no use for the stripped down notion, and conceived of understanding as intrinsically a source of concepts (rather than only such a source when the problem of relating it to another, non-intellectual faculty is solved). In fact, the stripped down conception of understanding is a direct legacy of empiricists like Locke and Hume, especially the latter, whose theory of associative imagination allowed him to account for universals without invoking special mental faculties of abstraction (distinctions of reason, the ability immediately to perceive aspects, as in Locke and Berkeley); this, together with his generalized associational account of reasoning in matters of fact, allowed Hume to assert, in a passage near the end of the first book of the *Treatise* (that was almost certainly known to Kant since it was translated and published in the *Königsberger Zeitung* in 1771): “The memory, senses, and understanding are, therefore, all of them founded on the imagination, or the vivacity of our ideas.”

Kant therefore faced the task of rehabilitating understanding; he could not presuppose the existence of representations peculiar to it (concepts, universals), but had to demonstrate their existence without having resort to abstraction; that is, he had to meet and overcome the associationalist challenge. This he would not do until the transcendental deduction; but it is were recognizing here since it shows that and why Kant arrived at so bare and, seemingly at least, innocent a conception of understanding — one so devoid of all pretensions to objective content and validity that not even Hume could have found it objectionable. So, let us turn now to the text and review the logical considerations bearing on concepts and judgment in which his conception of understanding is framed.

Logic

Kant begins with a section dealing with logic in general. **Logic** is the science of rules of *understanding* in general. He begins by distinguishing **general logic**, or the logic of the employment of the *understanding in general*, from the logic of any *particular* employment of the understanding. “The former contains the absolutely necessary rules of thought without which there can be no employment whatsoever of the understanding. It therefore treats of understanding without any regard

to difference in the objects to which the understanding may be directed.” A logic adapted to the objects of moral thought is necessarily very different from a logic adapted to the objects of mathematical thought or the objects of artistic thought; general logic, on the other hand, is the science of rules for thinking any object whatsoever, for thinking as such, and so concerns itself with understanding alone, exclusive of all other faculties. It is this which makes general logic important: since Kant will soon be in search of the pure concepts that have their source in the understanding, he will need to rely heavily on the guidance of general logic, which in effect is the anatomical science of pure understanding.

General logic can be either pure or applied. In pure, abstraction is made “from all empirical conditions under which our understanding is exercised, i.e. from the influence of the senses, the play of imagination, the laws of memory, the force of habit, inclination, etc., and so from all sources of prejudice, indeed from all causes from which this or that cognition may arise or seem to arise.” It thus ignores the whole question of the origins of a given item of thought as well of our attitude towards it (belief, doubt, etc.): innate or acquired, original or derived, pure or empirical, sensible or intellectual, true or false, certain or doubtful, etc. Pure general logic is therefore a *formal logic* in the strictest sense: for, from this vantage point, we are in no position to discriminate good thoughts from bad or their consequences and antecedents: nothing is left but the bare mechanics of discursive combination.

Applied general logic too makes no distinction among the objects of judgment; yet it concerns itself with the psychology of judgment, with the aim of providing rules by which to remove practical impediments to thinking, e.g. how to keep one's attention focused and direct it in the right place, which kinds of error one typically needs to be concerned about and how best to avoid or deal with them, kinds of doubt whether it is worth bothering to dispel them, and if so, how best to do so, etc. Most of Kant's logic courses were taken up with considerations of this kind, although he well knew that there was no justification for doing so beyond tradition and custom. Applied general logic has no place in a pure science of discursivity; so, when abstraction is made from everything psychological and empirica, there remain only the pure forms of conception, judgment, and reasoning.

Kant then proceed to sketch the notion of **Transcendental Logic**. A transcendental logic, if it existed, would be a logic of the pure thought of an object; it would be distinct from *general* logic because it concerned objects, but distinct from all other thought of *objects* because it is pure. Kant claims to have shown in the Transcendental Aesthetic that pure thought of objects does in fact exist. For since space and time are pure representations and yet not themselves concepts, they are not concepts but genuine objects of sensibility and so fall outside understanding; a pure science of the thought of an object in space and time in general is therefore at least a possibility, and would be a transcendental logic. [*Actually, it is not a science of pure thought of objects in space and time as such but, more generally, of pure intuitions whatever they may be, i.e. conditions for the possibility of consciousness of sensations as ordered and posited in certain relations—be it spatial and temporal or something else. For had we been constituted differently, our pure intuitions would have been other than space or time, and transcendental logical would the be concerned with them.*]

But this does not yet exhaust the brief of transcendental logic: “it would also treat of the origin of our cognitions of objects insofar as that origin cannot be attributed to the objects.” (A55/B80) In other words, pure *general* logic concerns itself with origin only to the extent that understanding contributes the *form* of a thought in general; the question whether it, or any other faculty of the mind, contributes to the *content* of thought is beyond the purview of general logic. Transcendental logic, on the other hand, is concerned precisely with this question: discovering what, if anything, the mind contributes a priori to cognition, whether simply through thought of an object or even in the object's perception, insofar as this may prove essential for cognition. The pure intuitions of space and time are of course examples of contents contributed by the mind in perception that have a direct bearing on cognition, and indeed on science (viz. mathematics).

Kant then proceeds to explicate more precisely what kind of cognition he denominates **transcendental**. Cognition of the possibility of cognition a priori, as well as of the employment of

such cognition, is transcendental. This definition is meant to distinguish it from metaphysical, mathematical, and empirical cognition: metaphysics is a priori cognition of *actual* objects, and so must borrow from experience its concepts of what actually is (viz. the concepts of body and thinking being — A848); transcendental cognition thus takes no account of what objects actually exists, but deals instead with cognition of a possible object in general. Mathematics, and indeed pure space and time themselves, are excluded from transcendental cognition properly so called because a priori intuitions are not intuitions of existing things, even possible ones; they simply take no account of, ignore, questions of reality and existence, whereas cognition is concerned with what can be known of the reality and existence of possible objects completely a priori. However, insofar as space and time are capable of relating a priori to possible objects (that is, insofar as they are forms of sensibility to which all appearances in perception must necessarily conform), they become the concern of the transcendental philosopher.

One final ingredient is, however, necessary for a transcendental logic: pure *concepts* of objects. Transcendental aesthetic was found to be possible only because it could be shown that space and time are intuitions a priori, which precede and make possible all empirical perception of the successive and juxtaposed. Similarly, transcendental logic is envisagable only if there exist concepts that are derivable from neither experience nor pure sensibility, by means of which an object may be thought completely a priori. Once the existence of such concepts is ascertained, and the concepts themselves identified, then the question of the conditions and limitations of their valid application can be posed. The first task is that of the metaphysical deduction of the categories (chapter 1: B91-B115); the second that of the transcendental deduction (A84-A130; B116-B169). On this basis, it then becomes possible to frame actual synthetic a priori judgments in which these concepts are predicated of possible objects: one set of judgments which express the conditions and limitations of their possible employment, thereby realizing them (the chapter on the Schematism — A137-A147), plus a second set of judgments which express the possible objects (not the actual — that would be metaphysics) these concepts determine (constitute) under the conditions realized by their schemata.

This transcendental cognition of the concepts and judgments on which the possibility of a priori cognition rests comprises the whole of what Kant will call the Transcendental Analytical portion of the transcendental logic; the latter is rounded up with what Kant calls Transcendental Dialectic. Kant introduces the distinction by way of the immemorial problem of **truth**, the agreement of cognition with its object. Philosophers have sought vainly through the millenia for a “general and sure criterion of the truth of any and every cognition.” (A58/B82) This quest Kant deems absurd because impossible; and he who requires the philosopher to offer such a criterion is no less ridiculous than the one trying to find one (Kant applies the old saw of one man trying to milk a he-goat while his colleague holds a sieve beneath). [*What he would have thought of Tarski, and especially those who have followed after Tarski, one can only guess; I am inclined to think he would regard it as an ideal illustration of what comes of milking the he-goat, since the whole procedure comes perilously close to treating the formal, nominal criterion of truth (correspondence) as a material and real criterion.*]

Kant thinks, that to get at truth, we must abstract from the object, and thus from the correspondence, and look solely at the nature of cognition itself, and specifically what he terms its *form*. The form of cognition is that which is the concern of pure general logic. Since the time of Aristotle, logicians have known the universal, necessary rules of understanding whereby alone judgment is possible at all. Logic thus permits one to claim quite generally that any judgment that breaks these rules cannot be correct, whatever its content, whereas any judgment that conforms to them is true so far as concerns its form; for that is as far as we can go. So, pure general logic teaches us **truth** as the **agreement of cognition not with any object, but with the understanding itself**. In trans. logic we will get something similar: truth as the agreement of cognition not with object, nor with understanding per se, but **the conditions by which understanding may be brought into agreement with sensibility**.

Insofar as pure general logic is concerned with these necessary, universal rules of formal truth, Kant entitles it **analytic**. However, any attempt to use principles of formal truth for the attainment of material truth — that is, as a technique to *expand* our knowledge, rather than merely to render it

internally consistent — can lead nowhere but to error and delusion, and this Kant calls **dialectic**. There is need in transcendental logic too to distinguish the logic of truth from that of illusion. Transcendental analytic is concerned with the elements of the pure cognition of an object insofar as such knowledge is based on representations rooted in the understanding rather than sensibility, and its task is to specify universal, necessary rules without which no object can be thought. To contradict these rules is for thought to lose all relation to the object, all content, but not for it to be impossible altogether: it may still be formally true, i.e. agree with the pure forms of thought specified in general logic, which abstracts from the question of thought's relation to an object. However, one may be tempted to employ the rules of trans. logic without regard to the specific sensible conditions under which alone thought can have this relation to an object; and when one violates these conditions, or simply fails to factor in that which is involved in conforming to them, transcendental analytic straightaway becomes transcendental dialectic: the mere illusion that thought has relation to its object (e.g. “the soul is immortal,” “man is free,” “a supremely perfect being exists”).

Towards the Table of Judgments

Kant entitled the first chapter of the *Analytic of Concepts* “The Clue to the Discovery of All Pure Concepts of the Understanding”. He states that if there are such things as pure concepts of the understanding, they would have to “spring, pure and unmixed, out of the understanding, which is an absolute unity; and must therefore be connected with each other according to one concept or idea. Such a connection supplies us with a rule, by which we are enabled to assign its proper place to each pure concept of the understanding, and by which we can determine in an a priori manner their systematic completeness. Otherwise we would be dependent in these matters on our own discretionary judgment or merely on chance.” In Kant's eyes, nothing is more important or central to the organization of an a priori philosophy than a rule of completeness; and he deemed it an essential characteristic and overriding merit of his philosophy that every one of its elements and all its parts are derivable from such a rule. Yet, nothing in his philosophy has been more criticized than his dogged attachment to this belief, and the almost formulaic manner in which he grinds out one thing after another according to this supposed plan, which almost everyone finds, arbitrary, unconvincing, alien to the matter, and so highly disorienting and distracting. Kant's failure to see that it could be perceived so and to philosophize less rigidly has been repeatedly condemned, especially in recent times when, with the advent of the new logic since Frege, the logic on which Kant's system, his entire architectonic, is grounded now seems narrow and incomplete (anything but a completed edifice, never to be added to, which he presents it as being). I shall leave you to draw, or not draw, your own conclusions as you see fit; I simply want you to know, and be forewarned, that the sections we are about to discuss are generally regarded as among the most problematic in Kant's philosophy — its Achilles heel.

The first section of the chapter is called *The Logical Employment of the Understanding*. It is the first of Kant's several attempts positively to characterize the understanding: there are several to follow (see summing up at A126), but this is, in a sense, the most important of all since it defines the understanding as such, in isolation, independently of any of the roles it plays in conjunction with other faculties: intuition, will, sensation, pleasure and pain, etc. But this said, it is no accident that this section was preceded by the *Transcendental Aesthetic*. By showing that all human intuition is sensible, even the a priori intuition involved in simple arithmetic, Kant was breaking with a deeply entrenched tradition — one that continues right after to him to Frege and into our own time. According to this tradition, simple arithmetical truths, and objects like numbers, are emblematic of intellect; the intellect *perceives* truth, or at least rational connections that make truth more probable; it is the perceiver of essences, the beholder of a *Wesenschau*; it is a distinct, special consciousness in its own right, with its own objects, its own conduit upon reality. Kant, like Hume before him, would have none of this. By establishing, to his own satisfaction at least, that mathematics is not purely intellectual, and, insofar as it is intuitive, proving it to be sensible, he could declare the understanding *per se* to be divested of all powers of intuition, insight, immediate relation to essences or existents.

Intellect is therefore in no sense a self-sustained faculty of consciousness; by itself, it never is conscious of anything.

Section 1 of the chapter dealing with the discovery of pure concepts of the understanding focuses on the general logical side of the employment of pure understanding, and it deserves close attention. According to Kant, insofar as understanding is a cognitive faculty, it must be so by means of *concepts* — intuitions being representations exclusive to sensibility. But what exactly are concepts? Their ground is something Kant calls a **function**, which he presents as the spontaneity counterpart to an affection of receptivity: the senses are affected; thought, by contrast, works on the basis of functions. Functions are defined as “the unity of the act of ordering (*ordnen*) various representations under a common (*gemeinschaftlichen*) representation.” A function is therefore bound up with generality, a representation capable of being common to several others (= universals). In a sense, the problem of generality is the basic problem of the analytic of concepts.

One thing that should be kept in mind is that judgment, regarded from a purely logical perspective (as is here the case), is a matter not of the *subsumption* of objects under concepts, of the unification of intuitions with concepts, but the *subordination* and/or *coordination* of concepts with one another. Nothing ever enters into judgments as subject or predicate except concepts — a judgment, regarded formally, is in fact nothing but a combination, or synthesis, of one concept (the subject) with another (the predicate). It is a question of **logical subordination**, where one concept is brought within the sphere (extension) of another. For Kant, the term 'extension' does not have its modern sense: it is not the set of objects of which a given predicate is true; it is rather the concepts that are subordinate to another concept as species to genus. The concept “metal” falls within the **extension** of the concept “body” (other concepts, actual or possible, fall within it too); the concept “body” belongs to the **intension** of the concept “metal” since being a body is part of the very meaning of metal (i.e. “every metal is a body” is analytic). The point to keep in mind is that intuitions never enter into judgments directly; only via the concepts involved, and therefore indirectly (mediately), does judgment relate to intuition and so constitute cognition of an object. Thus, Kant characterizes **judgment** as both the act through which distinct concepts are combined and the *mediate* cognition of an object: no intuition can ever enter immediately into a judgment; a judgment is always a combination of concepts, and therefore can only count as cognition insofar as the concepts combined in it already themselves relate to an object via intuition. (*How concepts can combine with intuition to relate to an object is not the issue Kant is addressing here: we must simply be content to assume that concepts have a sensible content, our purpose being to determine what in that content derives specifically from the understanding, i.e. is purely intellectual in nature and origin; and this turns out to be judgment, considered simply as to form.*) At any rate...

Kant's principal claim in section 1 is that **judgments are the functions of unity among our representations**. In the judgment, “all bodies are divisible,” the concept divisible applies to various other concepts, but here in particular to body, which itself applies to other concepts, which in turn relate, directly or indirectly, to appearances which present themselves to us *immediately* in intuition. Here, many representations (possible as well as actual since we are dealing with universals/concepts) are brought together under the common representation of divisibility, and the ground of their unification is the judgment. This is the sole cognitive power of our feeble understandings: to combine cognitions, including intuitions, in ways they could not otherwise be combined. Nor is it even an intrinsically cognitive power: only insofar as the concepts united through the logical functions of judgment can be conjoined with intuitions (the task of the T.D.) can judgment attain cognitive value; otherwise, it is mere thought, devoid of cognitive value. This is important once we see what all this has been leading to: firstly, he showed that only the sensibility intuits, whereas the understanding has no direct channel to objects at all; secondly, and in consequence of this, he showed that the only sort of cognition of an object possible to understanding is *mediated*, through the combination of concepts in judgment. So, on the one hand, the understanding, by itself, is not at all a cognitive faculty — it can become so only when concepts can be united with the data only sensibility can supply; on the other hand, and even more importantly, this proves that understanding — limited

as it is to the indirect, mediate representation of an object — is, in and of itself, simply a power to judge (*Vermögen zu urteilen*), nothing more: **understanding is nothing other than the capacity for judgment**. This proves that the act of judgment is definitive of the faculty of understanding, and a full analysis of the former will yield the complete anatomy of the latter: “The functions of the understanding can, therefore, be discovered if we can give an exhaustive statement of the functions of unity in judgments.”

To do this, we need only abstract from all content of judgments (which comes from sensibility, the only source of intuition), leaving only the bare form of understanding in judgment. The form is presented in the table...

Table of Judgments

Let us look now at these judgmental functions, bearing always in mind that they concern the unifying of concepts only with one another, never with intuitions. First of all, the functions of quantity, or magnitude. The meaning of a universal judgment is that all possible specifications of the subject concept are specifications also of the predicate concept; the meaning of a particular judgment is that only some, but not all possible specifications of the subject concept are specifications of the predicate concept; and the meaning of a singular judgment is that no specifications of the subject concept fails to be a specification of the predicate concept (its meaning is therefore, logically speaking, the same as the universal judgment; only by anticipation of transcendental logic is it necessary to distinguish the singular from the universal on the ground that singularity implies that the subject concept admits of no specification—that is the logical meaning of saying that a judgment is singular, and which makes it a distinct function from the universal judgmental function).

Turning to the quality of judgments, an affirmative judgment means that the subject concept is an *actual* specification of the predicate concept; a negative denies this, and an infinite judgment, though logically the same as an affirmative, differs transcendently because the *predicate* concept, as unbounded, is unspecifiable. The difference with the quantity of judgments is therefore this: judgmental functions of quantity concern possible specifications of the predicate and subject concepts, whereas judgmental functions of quality concern the predicate and subject concepts themselves, and assert that the subject is or is not a species of the predicate.

Relational judgmental functions are a more complicated matter: they involve the notion of a judgmental *condition*, or *ground* of the unity of difference concepts, and so introduce a hierarchy among concepts and among judgments. A categorical judgement subordinates the extension of one concept to that of another, the condition of the subordination assumed to be met. In a hypothetical judgment, the condition of subordination is not assumed to be met; its meaning is simply that if a certain condition is met, then the subordination follows. E.g. “Bodies are divisible” and “If bodies are composite, then bodies are divisible”: by giving the first a categorical form, the condition, whatever it may be, for the subordination of the one to the other, is assumed to have been met; in the second, a particular condition is specified which needs to be met before subordination can occur. According to Kant, these are two quite distinct judgmental functions, or ways of unifying diverse representations under a common representation. Finally, disjunctive judgments: these are judgmental functions which determine a number of judgments to be, in respect of their conditions, mutually exclusive, complementary members of a single *logical community* (what Wittgenstein was to call a “logical space”). The disjunctive judgmental function brings together various representations under a common concept as follows: when the condition for the subordination of the subject concept to the predicate is satisfied, the conditions which would enable the same subject concept to be subordinated to other predicates are thereby nullified. This capacity to exclude is what characteristic of the disjunctive function and distinguishes it from the hypothetical function (the meaning of which involves nothing that would preclude the possibility of other judgments). For example, “a triangle is either scalene, isosceles, or equilateral” is a disjunctive judgment meaning: if the condition for a subject concept to be scalene is satisfied (viz. a 3-sided figure with three unequal angles), then the conditions for its being isosceles or equilateral are unsatisfiable. It does not say anything about the conditions for its being other things being satisfiable or unsatisfiable (e.g. “the triangle is a right

triangle”); only those terms embraced by the disjunctive function are affected. In sum, we can say categorically, “T is scalene”; hypothetically, “if T is a 3-sided figure with three unequal angles, then T is scalene”; or disjunctively, “T is either scalene, isosceles, or equilateral”: each of these is a distinct logical relation, quite apart from their different implications regarding truth—the one assuming the conditions for subject-predicate combination satisfied, the other stating a condition which needs to be satisfied for such combination to occur, and the last stating a community of conditions for such combination, the satisfaction of any one of which precludes the possibility of the others.

Lastly, there are the modality judgmental forms: problematic, assertoric, and apodeictic. These are different from the other judgmental forms: the logic of concepts is completely determined by their quantity, quality, and relations; the modality judgmental forms are logical determinations not of the *concepts* involved in judgments but only of the *copula* connecting them. They determine three different ways in which diverse representations may be brought together under a common concept through the other logical functions, in accordance with a condition: something may make the combination necessary; actual but not necessary; or merely possible, but not actual (i.e. not true, but possibly true). The judgment that is the conclusion of a valid syllogism like modus ponens is apodeictic provided that the premises are assertoric (true). E.g. “If Danton has been guillotined, then Danton is dead”; “Danton has been guillotined”; therefore “Danton is dead”. The conclusion, “Danton is dead”, is obviously not a necessary truth: there is no logical contradiction in supposing that he is alive, that he miraculously survived being guillotined and somehow is still alive now. Yet, if the two premises are assertoric, then “Danton is dead” is apodeictic: it is impossible for it to be false if the two premises are true. The premises, let us say, are assertoric; even so, the antecedent of the first is only problematic since it is, logically speaking, conditional (that is its logical meaning; the consequent is assertoric).

Table of Judgments

Every judgment just have a quantity, quality, relation, and modality; in each case there are three possibilities, or moments: a judgment may be either universal, particular, or singular in quantity; affirmative, negative, or infinite in quality; categorical, hypothetical, or disjunctive in relation; and problematic, assertoric, or apodeictic in modality.

In considering each of this titles of judgment from a logical point of view, it should always be borne in mind that they are logical functions of the relation of one concept to another; no other type of representation ever enters into judgments (except other judgments, compounded from concepts). According, the logical (formal) meaning of a universal judgment is that the whole of the subject-concept is either included in the predicate-concept (if its quality is affirmative) or excluded (if its quality is negative). To say that it is included is to say that all possible specifications of the subject-concept are specifications of the predicate concept, from which it follows that no concept can have the subject-concept in its intension without also having the predicate-concept as well.

In the particular judgment, only part of the extension of the subject is contained in the predicate (e.g. “some animals are men”). Kant does not regard a judgment like “some generals are French” to be particular except by accident, since, the concept “French” is not part of the concept general; it is only if all of the predicate-concept is contained within the extension of the subject concept that it counts as a true part of that concept's sphere, and the resulting judgment has the form of particularity. Thus, a judgment is particular only if, when the predicate and subject concepts change places, the universal judgment is true; the particular judgment as logical form is therefore to be understood as the contrary of the universal [Venn diagram].

The singular judgment is, in one sense, logically indistinct from the universal: “in both the predicate holds of the subject without exception. In the singular proposition, Caius is mortal, for example, there can just as little be an exception as in the universal one, All men are mortal.” (J.§18) In singular and universal judgments alike, a constraint is placed on the subject-concept of the judgment that every specification of it will be contained within the extension of the predicate; in the

case of a singular judgment, the subject-concept is by definition non-specifiable, so the condition holds trivially. Nevertheless, even within the purely logical context, it is necessary to distinguish the singular from the universal as a distinct form of judgment in order to take account of cases where the subject-concept is without extension, and un-specifiable; it is a kind of degenerate universal judgment.

What this means can perhaps best be understood by considering the qualitative forms of judgment. The affirmative judgment subordinates the subject-concept to the predicate, that is, places it within the extension of the predicate-concept (as part to whole). The negative judgment does just the reversal: it places the subject-concept outside the sphere of the predicate-concept. The infinite judgment, like the singular, is logically indistinct from the first moment of its heading, in this case affirmative: just as with the universal, the infinite judgment subordinates the subject-concept to the predicate (likewise: just as with the universal judgment, the singular treats the subject-concept as part of the extension of the predicate-concept). But the infinite judgment remains degenerate case, and so deserves a separate place in logic because the subordination to the predicate-concept is abortive: since the predicate is defined purely negatively (non-mortal), it does not admit of specification; hence, properly speaking, the subject-concept has not been logically determined, that is, not been subordinated to any determinate concept. It is just the reverse of the case of singular judgment: there, not the predicate but the subject-concept does not admit of specification, and so is not itself, properly speaking, a species of any other concept. It is a logically defective subject-concept, just as in the infinite judgment there is a logically defective object-concept. And the reason is the same in both cases: in order for the defects of singular judgments and infinite judgments to be remedied (that is, for them to carry a positive sense instead of being the empty place-holders they are from the logical point of view), intuition has to be added: intuition alone can give us singulars, intuition alone can give us infinites. For example, there is a positive meaning if I say that you are non-present in Philadelphia: intuition puts you in logical space as it were, placing you positively somewhere in space, but outside of Philadelphia.

The relational forms of judgment divide up according to the kind of subordination involved: the subordination of one concept to another is categorical judgment; the subordination of one judgment to another judgment is hypothetical judgment, that is, a ground/consequence relation; and the coordination of different judgments by means of the specification of a given concept is called a disjunctive judgment.

Categorical subordination is simple enough: the subordinating concept is the predicate, the subordinated concept is the subject. In a hypothetical judgment, the subordinated judgment is the consequent, the subordinating judgment the antecedent. The feature to which Kant draws attention to relate hypothetical to categorical judgment is the modality of the subordination: in a categorical judgment, the subordination is assertoric, asserted; in the hypothetical judgment, only the consequent is assertoric, the antecedent however is problematic. So regarded, the obvious structural difference between the two forms, such that one form connects concepts and the other judgments, can be ignored and their affinity becomes apparent: in one case a judgment is asserted without condition, in the other it is asserted but only conditionally. The hypothetical judgment adds the thought of a condition of assertion, the conditional character of which is expressed by its being expressed in the problematic modality. The connection in a hypothetical judgment thus takes either of two forms: modus ponens or modus tollens, according to the consequence drawn (the truth of the consequent, the falsity of the antecedent).

Also in terms of modality, Kant distinguishes the disjunctive judgment: here all the constituent judgments are in problematic in modality. But since they are thought of as jointly dividing up the sphere of a given concept, any subspecies of that concept must fall into the sphere of at least one of these species; thus, one of the judgments is assertoric but it is not specified which (in contrast to the case of the hypothetical judgment, where the consequent is assertoric). For example, under the condition that a hue is a subspecies of color, it follows that any concept of a hue must be a species of a species of color, that is, either a kind of yellow, a kind of red, a kind of green, etc.; hence, under the condition that a concept S is subordinate to a concept P, then S must be subordinate to any division (disjunction) of P, pA, pB, ... pZ. Thus, the disjunctive judgment allows us to say,

under that this condition, that one of the following is asserted : S is pA, S is pB, ..., or S is pZ.²

Lastly, there are the modality judgmental forms: problematic, assertoric, and apodeictic. These are different from the other judgmental forms: the logic of concepts is completely determined by their quantity, quality, and relations; the modality judgmental forms are logical determinations not of the *concepts* involved in judgments but only of the *copula* connecting them. They determine three different ways in which diverse representations may be brought together under a common concept through the other logical functions, in accordance with a condition: something may make the combination necessary; actual but not necessary; or merely possible, but not actual (i.e. not true, but possibly true). The judgment that is the conclusion of a valid syllogism like modus ponens is apodeictic provided that the premises are assertoric (true). E.g. "If Danton was guillotined, then Danton is dead"; "Danton was guillotined"; therefore "Danton is dead". The conclusion, "Danton is dead", is obviously not a necessary truth: there is no logical contradiction in supposing that he is alive, that he miraculously survived being guillotined and somehow is still alive now. Yet, if the two

²The relation functions of judgment are those Kant most intimately associated with the unity of consciousness, as is clear in his logic lectures: "The given representations are subordinated one to another for the unity of consciousness, namely, either as *predicate* to *subject*, or as *consequence* to *ground*, or as *member of the division* to the *divided concept*." (J.§23) The form of the categorical judgment is the copula; through it, the concepts conjoined are originally defined as subject-concept and predicate-concept. The categorical judgment, indeed all judgments of relation, imply some ground whereby the unification of concepts may take place. Do not make the mistake of supposing that the only kind of ground that is pertinent here is identity, for in no sense is general logic confined to analytic judgments. In fact, the ground on which the copulation of concepts as subject and predicate of a judgment rests is the synthetic unity of apperception: "if I investigate more precisely the relation of the given cognitions in any judgment, and distinguish it, as belonging to the understanding, from the relation according to laws of the reproductive imagination, which has only subjective validity, I find that a judgment is nothing but the manner in which given cognitions are brought to the objective unity of apperception. This is what is intended by the copula (*Verhältniswort*) 'is.' It is employed to distinguish the objective unity of given representations from the subjective. It indicates their relation to original apperception, and its *necessary unity*." The necessary unity of apperception belongs to transcendental, not general, logic; it belongs to a different kind of analysis of what the understanding is (the role it performs in representation and the conditions that must be met in order for it to do so). So far as general logic is concerned, it suffices to recognize that the ground in question is that of *judgment as such*, not the ground of the *truth* of the judgment (be it identity, as in the case of analytic judgments, or something else, as in the case of empirical or mathematical or metaphysical judgments). For it is vital not to confuse them; the one concerns the possibility of truth (the capacity to be true or be false), the other the actuality of truth and falsity: a distinction not unlike that later logicians made between sense, or meaning, and truth. From a purely logical point of view, the relation of agreement or opposition between concepts indicated by the copula ("is" or "is not") is simply subordination.

premises are assertoric, then “Danton is dead” is apodeictic: it is impossible for it to be false if the two premises are true.³

Remark on Kant and modern logic. Undoubtedly, there is much that is wanting in Kant's account of logic. There can be no question that Kant could have explained himself more completely (even his contemporaries had trouble with this part of his teaching). Nor am I able to justify Kant's view that judgment consists of the twelve forms in his table, necessarily no more and no less. Nevertheless, many objections current today rest on a sense of post-Fregean logical superiority that may not be altogether well-founded. Kant's concern with understanding and his conception of its task were quite different from those of Frege and his analytic philosophical successors. Two points are worth emphasizing here: 1.) It was not Kant's concern to furnish an analysis of language, or even that part of it in the indicative mode to which the predicates 'true' and 'false' may attach. His concern was with cognition, the consciousness of an object. Language, by contrast, is not by nature an instrument of cognition but of human purposes and designs — it is cut and tailored to the purposes of our lives, an historical artifact adapted to the needs of each time and place. So, while there is undeniably a degree of overlap between the forms of language and the forms of discursive cognition, they are fundamentally distinct and are determined in accordance with different criteria. Accordingly, if Kant's table is concerned only with subject/predicate form and excludes relations like “x introduces y to z” or even the spatial relation “x is between y and z”, this is because Kant's concern was exclusively with the contributions of understanding to cognition of an object, to the exclusion of everything empirical, sensible, historical, cultural, and so forth. His table of judgments should therefore not be criticized for its shortcomings as logical analysis of language — for this is something it was never really intended to be. 2.) The more important criticism from which Kant probably deserves to be exonerated is his failure to take account of quantification, and so too the entire apparatus of set theory. Again, Kant was concerned to confine logic exclusively to the contributions to representation of the understanding; everything else, everything in any way indebted to sensibility, had to be excluded. Among the things dependent on sensibility are concepts of number; and since quantification, as Frege said, is merely an indeterminate assertion of number, it seems likely that Kant would have deemed the quantifiers 'some' and 'all' dependent on sensibility as well, i.e. pure space and time (some = at least one — perhaps 2, perhaps 72; all = not even one is not). Indeed, one could probably go further and say that even the categories — the pure concepts of an object in general — are excluded from the domain of logic, from understanding as logically conceived. The categories express the relation of the understanding to pure sensibility in abstraction from the particular forms in accordance with which its manifold is synthesized (pure space and time in the case of beings with sensibility constituted like our own). Here there is still a relation to sensibility presupposed; the understanding is not taken in and for itself, as it must be in logic, as Kant conceived it. So, even objects in complete abstraction from their concrete manifestation to the

³As in the case of relation, there is a relation to the mind: the logical forms of modality express “the relation of the whole judgment to the faculty of cognition ... The problematic ones are accompanied with the consciousness of the mere possibility of the judging, the assertoric ones with the consciousness of the actuality of the judgment, and the apodeictic ones with the consciousness of the necessity of the judging.” (J.§30) In the CPR, Kant adds this note: “Just as if thought were in the problematic a function of the understanding; in the assertoric, of the faculty of judgment; in the apodeictic, of reason.” (A75) Here then is the basis for the division of the cognitive faculty into understanding, judgment, and reason. It accords with the traditional division, according to which the understanding simply frames the thought without judging whether it is true, so that judging is defined as assertion; and reason is consciousness of the necessary truth in the union of conditioned with its (complete) condition.

senses are unknown to Kant's logic; that is, it cannot, in its pure form, be a subsumption logic at all; no objects, only concepts, can be considered in it; therefore there is no place in it to talk of sets or their members. Or, in other words, one must already invoke transcendental logic to talk of truth and its logic, including even the most abstract, set theoretical forms of truth. This, for Kant, is really mathematics, or something of the same kind. And this is important: if one reads books like Friedman's, the articles of Parsons, or the work of other philosophers of mathematics and science, it is asserted that, could Kant only have known set theory, he would not have been so rash as to claim that geometry is synthetic (for set theory can give a purely "logical" representation of notions like continuity). The mistake these critics make, as I see it, is to focus almost exclusively on the problem of interpreting Kant's notion of pure sensibility (for it is the 20th century controversy concerning intuitionism that largely draws them to Kant) while ignoring completely the fact that Kant conceived the understanding in such a way as to render it impossible to reconcile quantification logic and set theory with his conception of pure logic (again, for him, what we call logic is not what he would).

The Metaphysical Deduction of the Categories

After presenting his table of judgments, Kant proceeds, in section 3, to the metaphysical deduction of the categories proper, one of the most key parts of his philosophy. It begins with a reminder of the difference between general and transcendental logic. Here the task of general logic is defined as the transformation of representations "into concepts by a process of analysis." Kant had not previously used the word "analysis" in this way, to describe the process of transforming representations into concepts. It will not surprise one if one keeps in mind that he is not talking of analytic judgment, but the process of analysis, or analytic unity (B105), whereby concepts are born. Analytic judgment serves merely to make concepts one already has clearer, more distinct; analysis in the sense he has in mind here is that whereby representations first become common to other representations, that is, become universals ("it is a mere tautology to speak of universal or common concepts — a mistake that is grounded in an incorrect division of concepts into *universal, particular, and singular*. Concepts themselves cannot be so divided, but only *their use* [in judgments]." J.§1).

The *forms* of analytic unity are the logical functions of judgment. For a representation becomes a concept only when it can be used to judge with (concepts are "predicates of possible judgment," B94). The understanding, as we saw last time, is a capacity to judge (*Vermögen zu urteilen*); for this to come about, it is necessary that representations be injected with logical form, and thereby be transformed into potential subjects and predicates of possible judgments. To produce concepts is thus for representations to conform to the logical forms of judgment. Here 'form' simply means the capacity to be ordered and related in a certain way. It is exactly analogous to the sensible forms of transcendental aesthetic: a representation becomes an intuition when it conforms to the forms of space and time, which render it orderable and relatable; that is, it then can be combined, or synthesized, with others in perception, by way of juxtaposition or succession. Similarly, a representation becomes a concept when it conforms to the logical forms of judgment, which render it logically orderable and relatable; that is, it can then be combined, or synthesized, with others in judgments, by way of possible predication, that is, the potential for logical subordination.

The process whereby a representation becomes logically orderable and relatable is what Kant is here calling analysis, and it is the presupposition to its combination, or synthesis, with other such representations in *actual* judgments. [*Do not confuse judgment=synthesis with synthetic judgment, which is something quite different: all judgment, even analytic judgment, is a synthesis of concepts: see B131n.*] He calls the process by which concepts are generated "analysis" because he is thinking in terms of getting many from one, rather than one from many (as in synthesis): it is a case of getting many from one because, if a representation is common to others, then, a representation involving it (that is, a judgment of which it is the subject), will hold true of all the other representations as well — objects as well as concepts — to which it is common (i.e. if something is true of it, then that something is true also of everything it is true of). Analysis — commonness to others, universality — is the prerequisite not for any and every synthesis but specifically for that mode of combination called judgment since one has to have concepts in order to have judgments (i.e. *synthesis*

intellectualis of B150). It therefore is important to realize that, in general logic (the purely intellectual sphere), synthesis presupposes analysis, not the other way around: universality is needed in order to have judgment, not vice versa; and universality is the result of the conformity of representations to the logical forms of judgment.

But Kant's question here is how is such conformity possible? What, in general, are the conditions for analysis (commonness, universality)? This is the departure, the move from general to transcendental logic. The latter finds before it the manifold of pure intuition discussed in the aesthetic. This manifold is totally without logical order and relation; it is utterly incommensurate with the logical functions since, in order to be given and perceived as successive and juxtaposed, appearances do not need to conform to these functions. Some kind of mediating operation is therefore requisite, and so it is here that Kant introduces, for the first time, the notion of a synthesis of imagination: non-intellectual combination of representations. **Synthesis** is the act whereby the manifold offered by sense, and perceived in conformity with pure space and time, is “gone through a certain way, taken up, and combined.” In its most general signification, Kant defines synthesis as “the act of adding (*hinzutun*) various representations to one another, and conceiving their manifoldness in one cognition.” Note the presence here of the word 'conceiving.' In your text it is translated as 'grasp', which is not wrong, but obscures the reference to conception obvious in German and in virtue of which alone Kant can claim to have defined synthesis at its very most general. Should this be interpreted as saying that conception is an essential element of a synthesis? I do not think so: if concepts were essential, then it would be contradictory to refer to synthesis, as Kant does in the next paragraph, as needing to be *brought* to concepts by the understanding; there he says that synthesis in the absence of concepts is blind, not that it is impossible (contradictory). So, I take Kant's “most general” definition to embrace two distinct types of synthesis, intuitive and judgmental: the first lays representations out in sequences, that is, sets them alongside one another (juxtaposition) or sets them after one another (succession); and this it may do either in random ways (arbitrarily), in conformity with our psychology (e.g. Humean principles of association by resemblance, contiguity, and constant conjunction), or under the guidance of concepts, serving as rules of synthesis. This latter type of synthesis (subsequently referred to as synthesis of recognition), whereby the manifold of intuition is represented in one cognition through a concept, or common representation, is judgment [*again: do not confuse synthesis intellectualis with synthetic judgment; even analytic judgments are a synthesis intellectualis*].

Kant's prime concern in this paragraph and the next is the first sort of synthesis, which he elsewhere calls figurative synthesis, or *synthesis speciosa*. The first point he makes is that such a thing as a pure synthesis is possible, namely, the manifold synthesized to make the pure intuition of space or of time. But note: there is not some formal datum of sense, over and above sensations that renders pure synthesis pure. Pure intuition has no special, mysterious material unto itself; its material is the same as any other synthesis: sense perceptions and their images in memory or fantasy. What makes the intuitions of space and time pure is simply that they precede and make possible all perception wherein juxtaposed and successive manifolds.

Kant next proceeds to introduce us to the faculty of **imagination**, defined here as the power of the mind responsible for synthesis (excepting the purely intellectual sort in judgment, which Kant ascribes to the faculty of understanding). Imagination is “a blind but indispensable function of the soul, without which we should have no cognition whatsoever, but of which we are scarcely ever conscious. To bring this synthesis *to concepts* is a function which belongs to the understanding, and it is through this function of the understanding that we first obtain cognition properly so called.” The similarity between this statement and that in section 1 of this chapter that intuitions without concepts are blind, is obvious, and suggests that intuition and imagination are one and the same (i.e. intuition is one of the functions performed by imagination, and the most important so far as the critique of cognition is concerned).

Imagination is also presented here as a bridging faculty between the senses (which yield a manifold in their synopsis) and the understanding, which furnishes the forms of judgment whereby alone concepts are possible. This bridging role is perhaps the most distinctive performed by

imagination in transcendental philosophy, and it would hard to exaggerate its importance: it asserts itself time and again, always at the most critical junctures in the argument, yet always seems to elude the reader's grasp (in addition to being characterized as blind, its functioning is described as hidden in the depths of the human soul). One thing, however, can be said with certainty about this mediating function, and should never be forgotten: instead of the impossible task of effecting a transcendental truth between appearances, which are sensible and can only be given a posteriori, and pure concepts of the understanding, which are intellectual and giveable only a priori — items so heterogeneous, so incommensurate, that any direct agreement between them can only be effected via a fallacy of transcendental amphiboly — the introduction of pure imagination completely transforms things: it is no longer the manifold offered by sense that needs to be brought under concepts but its synthesis in imagination; no longer sense data that needs to be united with concepts, but the sensible as synthesized by the imagination. [See *handout*]

This move totally transforms Kant's problematic. To see how, let us recall what it is Kant is after in the metaphysical deduction of the categories. He is seeking a principle by means of which to discover pure concepts of an object which have their origin exclusively in the understanding. (i) First, this required an exhaustive analysis of the understanding taken in and for itself, and what one finds there, Kant realized in the wake of Hume, is no such concepts at all. Instead of a faculty of metaphysical concepts, the understanding is merely a capacity to judge; it contributes no concepts, nothing of objective content or significance, merely the bare logical functions, which are simple forms of intellectual synthesis, making possible the joining of two concepts to form a judgment. In short, Kant reduced the understanding to the vanishing point of mere logical functions — items so barren and void of all objective signification that even Hume could countenance them (which of course was the whole point). (ii) But then Kant also shows that these same logical functions make possible analysis, the production of concepts for use as predicates of possible judgments. This was what general logic had to tell us: it requires that representations be brought into conformity with the logical forms of judgment if they are to become thinkable, that is, if it is to be possible to exercise our capacity to judge. It does not, however, tell how this is to be possible. (iii) This question Kant takes up in the next section, when he introduces us to the synthesis in imagination, especially its pure variety. Here Kant redefines the problem: it is not one of bringing to concepts the representations received in sensibility to concepts, but rather one of bringing to concepts their synthesis in imagination; thus: “General logic deals with how, analytically, various representations are brought *under* a concept. But transcendental logic deals with how not representations but the *pure synthesis* of representations are brought *to* concepts.” (A78/B104). Why does Kant redefine the problem in this way? He is not yet ready to make this clear; it has to do with the implications of his transcendental idealism vis à vis the unity of consciousness, which will not be explored until the Transcendental Deduction. Here, however, Kant's concern is much more restricted: how to explain the possibility of pure concepts of the understanding, or categories, without resorting to innatism, on the one hand, or deriving such concepts from sensibility, on the other hand. In other words, his concern here is solely to explain what such concepts are, and only later how we are able to acquire them.

So here the question is simply: under what conditions can the pure synthesis of imagination be brought to concepts? And the answer explains what pure concepts of the understanding are and under what conditions it would be possible to acquire them: a pure synthesis that conforms to the logical functions of judgment lends itself to analysis, that is, its universal representation in concepts. In other words, if the pure syntheses of imagination were somehow subjected to the logical functions of judgment, *these syntheses themselves* could then be represented universally, and thus transformed into concepts. This in fact, Kant claims, is just what a pure concept of the understanding is: “*pure synthesis, represented universally*, gives the pure concept of the understanding.” This is both a definition of what a category is and a specifications of the conditions under which these concepts might be acquired; pure concepts derive from the conformity of pure synthesis to the logical functions of judgment, since then pure syntheses, represented universally, can serve as predicates of possible transcendental judgments (these are in fact exactly what we get in the Analytic of

Principles). Thus, we come to the culminating passage of the metaphysical deduction of the categories, and one of the great and most important texts in all of Kant's writing: the claim, at A70/B105, the logical functions give unity to the pure synthesis of intuitions in imagination just as they furnish unity to concepts synthesized in judgment: "The same [logical] function which gives unity to various representations in a *judgment* also gives unity to the bare synthesis of various representations *in an intuition*; and this unity, expressed universally [*i.e. in a concept — a universal representation*], we entitle the pure concept of the understanding. The same understanding, through the very same operations, whereby it brought about (*brachte zustande*) the logical form of a judgment in concepts by means of **analytic unity**, also brings a transcendental content into its representations, by means of the synthetic unity of the manifold in intuition in general, for which reason they are called pure concepts of the understanding, which relate to (*gehen auf*) objects a priori (with which general logic has nothing to do)." That is: i) analysis, the process by which representations are transformed into concepts, requires these representations to be subordinated to (*i.e. conform to*) the logical functions of judgment; ii) this happens not directly but through the subordination of the pure synthesis of representations in imagination to the logical functions; iii) and the unity these logical functions thereby introduce into pure synthesis are, when represented universally (*i.e. expressed in the form of concepts*), none other than the pure concepts of the understanding. *QED*. Crystal clear?

To check to see if Kant has what he set out to get, we need to determine whether the concepts he has identified are (i) intellectual in nature and origin and (ii) contain an objective content, *i.e.* actually are capable of representing an object of our human, sensory intuition. It should be clear by now that Kant has come remarkably far towards satisfying — or at least outlining the satisfaction of — these two criteria. He supposes that the logical functions of judgment which make possible the analysis whereby representations are transformed into concepts also underlie (give unity to) the pure synthesis of the manifold of space and time in imagination; he then identifies the categories as being nothing other than the conceptual representation of this unity. Such conceptual representation has to be possible if the synthesis conforms to the logical functions, for these make possible analysis, the transformation of representations into concepts; only here it is the transformation of the pure synthesis of representations into concepts that is achieved. Since these concepts represent simply and solely the unity of the pure synthesis, and since this unity comes directly from pure understanding (*i.e.* it is nothing other than the pure logical forms of judgment themselves), the content of these concepts is strictly intellectual in origin and nature. And their objectivity? Since they represent the unity of the pure synthesis of the manifold in space and time, they represent an object of our intuition completely a priori. Objective, intellectual, a priori. Thus has Kant achieved his goal, and so is able to claim that "In this manner 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. For these functions specify the understanding completely, and yield an exhaustive inventory of its powers. These concepts we shall, with Aristotle, call *categories*, for our primary purpose is the same as his, although widely diverging from it in manner of execution." He then presents his table of categories.

This permits us to see how Kant could claim that the categories are acquired, not innate, even though they are not derived from anything outside the understanding: i) If they were innate, they would be present in the intellect prior to and independently of its relation to objects via the sensibility. ii) However, according to Kant, only logical functions are native to understanding; and these are not concepts, or indeed representations at all, but merely forms of representation. iii) Only when pure synthesis has been subordinated to these forms (in addition to the sensible forms space and time) are the categories possible as actual representations (*i.e.* concepts, conceptual consciousness). iv) In other words, pure synthesis has first to be subordinated to logical functions so that there is a unity of synthesis set in place — a unity that can then be represented universally, by means of concepts (*i.e.* the categories). Thus Kant claims that the categories are acquired. v) But he further claims that they are original acquisitions, that is, they are not derived by intellect from something external to itself as is the case with all empirical, mathematical, and metaphysical concepts: since the unity they represent comes from the understanding, consists of nothing other than

logical functions of judgment, the logical functions make up the entire content of the categories. They are thus acquired by the understanding but original, i.e. from itself alone.⁴

Is the table complete? Kant was obviously inspired by Aristotle, who defined substance as that which is always subject and never predicate, thus using the logical function of categorical judgment to define the category substance/accidental. Kant's originality lay in tracing all his categories to logical functions, and using logical functions as criteria of completeness for the categories; hence, instead of treating his categories as predicates of objects as Aristotle did, Kant defined them in effect as second-order predicates, i.e. predicates of predicates of objects (predicates of the act of predication, i.e. the act of judging objects). This is clearest in the *Prolegomena* and in a passage added in the B edition of *CPR*, B128-9 . . . Here the categories is used as a predicate of the judgment: applying the category substance/accident to the judgment "all bodies are divisible" we get as result that the concept "body" must always be treated as subject of predication, never itself the predicate of a subject. This is the *transcendental content* the categories add to our representation; they relate to objects only mediately, via our judgments about objects, that is, they are predicates of our judgment, giving logical specificity, and thus objectivity, to all our mediate, discursive cognitions.

Of course, this is far from being the whole story; if it were, Kant could not have claimed that the categories make possible synthetic a priori judgments, that they are valid of the objects of experience a priori, and indeed constitutive of these objects themselves, not merely our thought (judgments) about these objects. Their a priori objective validity presupposes the subordination of pure synthesis to them. However, as we have just seen, it is not really to them but to the logical functions that pure synthesis is subject. What the categories express is merely the outcome of this subordination; they express the *accomplished* subordination of pure synthesis (the sensibly intuited manifold in general) to the logical function, the understanding's determination of sensibility by means of a logical function; given this, only then does the universal representation (conception) of pure synthesis, and so the acquisition of the pure concepts, become possible. This therefore points up an important fact about how to read the *CPR*, that almost invariably is overlooked, and indeed has only been brought out in a recent book (!) on the *Critique*: we cannot understand either the transcendental deduction or the principles without keeping always in mind that it is the logical function, not the category per se,

⁴You no doubt remember our earlier consideration of the charge levelled against Kant that his theory of space and time is innatist. In the handout I gave you where Kant answered the charge most fully, you may also recall that his denial of innatism extends also to the categories. Perhaps now you can see why. For if the categories are nothing but the logical forms of judgment, how can they preexist actual judgment? How can we be said to have these concepts, or anything more than the bare potential to acquire them, until we have concepts at our disposal, make judgments, and then reflect out these concepts by attending to the formal side of this act? Strictly speaking, that is, by any standard of conceptual concept, the categories have none; so it would be ridiculous, impossible to conceive what, not to mention how, would we would be supposing innate in their case. In a judgment, the categories contribute no content at all; they merely represent the forms in which two concept may be put together to yield a judgment. Such forms cannot precede the act itself, except as a potential; but apart from the act, what is it we would be talking about? What content? None, obviously; the mind quite rightly draws a blank. So, if we think the matter through, we can recognize that it is actually nonsensical to suppose an innate origin for the categories; and this is shown by the fact that their are derived entirely from the logical functions of judgment.

that must be shown to govern the pure synthesis of imagination; the category is simply the product of this relation of understanding to sensibility, not its basis.

Kant's task in the metaphysical deduction of the categories is to unearth a principle by means of which to discover all and only pure concepts of the understanding, whereby an object might be thought entirely a priori (as is essential if metaphysics is to be possible). That principle is enshrined in his definition of the understanding as a *capacity to judge*. For once it is recognized that this is all the understanding is, in and for itself, we have only to determine in what this capacity consists in order to arrive at an exhaustive, systematic tabulation of the acts of understanding. To this end, the labor of the logicians are ready to hand: a judgment is a synthesis of concepts or of judgments consisting of moments of quantity, quality, relation, and modality, each of which consists of three distinct *logical functions*, which in essence define what it is to be a predicate in a judgment; and since concepts have no use except as predicates in judgments, logical functions thus define what it is to be a concept. Logical functions are constitutive principles of concepts, forms to which any representation must conform insofar as it is to perform the role of predicate in a judgment. Thus, the process of concept-acquisition, or *analysis*, must conform to the logical functions; otherwise, these processes remain at the level of psychology, and lack the logical dimension necessary for judgment and cognition.

First, he focused on logical functions as that which makes possible analysis, the production of concepts for use as predicates of possible judgments: this, general logic tells, requires that representations be brought into conformity with the logical functions of judgment. Next, he shifted to transcendental logic and focused on the synthesis in imagination, especially its pure variety. It is a necessary condition for possible cognition (and so of experience) that this synthesis be brought to concepts by the understanding (“General logic deals with how, analytically, various representations are brought *under* a concept. But transcendental logic deals with how not representations but the *pure synthesis* of representations are brought *to* concepts” A78/B104). Putting the two together, it is clear how this pure synthesis can be brought to concepts: a pure synthesis that conforms to the logical functions of judgment lends itself to analysis, that is, the production of concepts. In other words, if the pure syntheses of imagination conform to the logical functions of judgment, *these syntheses themselves* could then be represented universally, and thus be transformed into concepts. This in fact, Kant claims, is just what a pure concept of the understanding is: “*pure synthesis, represented universally*, gives the pure concept of the understanding,” which is both a definition of what a category is and an explanation of how these concepts are acquired. Pure concepts of the understanding are grounded in the conformity of pure synthesis to the logical functions of judgment, since then pure syntheses, represented universally, can serve as predicates of possible transcendental judgments (these are in fact exactly what we get in the Analytic of Principles).

We then come to A79/B105: “The same [logical] function which gives unity to distinct representations in a *judgment* also gives unity to the bare synthesis of distinct representations *in an intuition*; and this unity, expressed universally [*i.e. in a concept — a universal representation*], we entitle the pure concept of the understanding. The same understanding, through the very same operations, whereby it brought about (*brachte zustande*) the logical form of a judgment in concepts by means of **analytic unity**, also brings a transcendental content into its representations, by means of the **synthetic unity** of the manifold in intuition in general, for which reason they are called pure concepts of the understanding, which relate to (*gehen auf*) objects a priori (with which general logic has nothing to do).” i) Analysis, the process by which representations are transformed into concepts, requires these representations be subordinated to (*i.e. conform to*) the logical functions of judgment; ii) this happens not directly but through a mediating pure synthesis, the subordination of which to the logical functions renders possible concepts of the unity of the synthesis in imagination of the manifold offered in intuition (= recognition); iii) and the unity these logical functions thereby

introduce into pure synthesis are, when represented universally (i.e. expressed in the form of concepts), none other than the pure concepts of the understanding. *QED.*

The synthetic unity of which Kant here speaks is not analyzed until the Transcendental Deduction of the Categories, and until it is, its signification and importance must remain obscure. But this is not a hindrance for Kant's present purpose, which is merely to convince us how there could be pure concepts of an object of intuition in general which, as such, are transcendental, have their origin solely in the understanding, and yet are not innate. Let us see how these conditions are each met:

(i) Intellectual. The categories have their origin in the understanding, for although their object is the pure synthesis of the imagination, which is sensible and not intellectual, all they represent of this synthesis is the unity which the logical functions introduce in this synthesis, and these logical functions do have their origin in the understanding.

(ii) Transcendental. The unity introduced by the logical functions is a transcendental content added to representations because it alone makes it possible to bring the synthesis of the manifold to concepts. Such synthesis is otherwise blind to objectivity; it is only insofar as it can be combined with concepts that cognition of objects becomes possible; and since only that which conforms to the logical functions of judgment can be conceptualized, the conformity of the pure synthesis of imagination to logical functions renders such syntheses conceptualizable, and therefore makes possible cognition. Since transcendental philosophy is the science of the possibility of cognition of an object of intuition in general, this is just to say that the subordination of pure synthesis to logical functions introduces a transcendental content into our representations — representations that would otherwise be quite literally inconceivable, and thence useless for cognition of objects. [*This of course leaves the question how pure synthesis, which is sensible, can be subordinated to the logical functions, which are merely intellectual — there seems no room for any agreement (= pure synthetic unity) here. This problem is postponed for the transcendental deduction. Here we simply assume this is possible and ask what follows: the universal representation of pure synthesis is not only possible but it represents precisely that in virtue of which representations generally are able to relate to an object, viz. that which makes them conceivable and thence cognitive.*]

(iii) Acquired. Pure concepts of the understanding are not innate because they express the relation of understanding to sensibility. That is, although their sole and entire content is intellectual, they become possible representations only after the pure synthesis of the imagination, which is sensible, has been subordinated to the logical functions. Sensibility contributes no content whatever to the pure concept of the understanding, but its relation to the logical functions (which are innate) is essential to the having of these concepts, to their being as concepts of an object of intuition in general, and this relation is not an innate content of any kind, but something that has to be produced, made, acquired.

Earlier version: It should now be evident that, at the very least, Kant came remarkably close to satisfying these criteria. He supposes that the manifestly purely logical, and thence intellectually grounded, functions of judgment (which make possible the analysis whereby representations are transformed into concepts) also underlie the pure synthesis of the manifold of space and time in imagination; so who can contest his claim that when this unity, common to all synthesis, it is represented universally, in concepts, that these concepts are void of all sensible content, and therefore pure concepts of the understanding? Yet, who equally could deny his claim that they have objective reference, and so at least the potential for objective validity, insofar as all objects of intuitions are products of pure synthesis under the pure forms space and time, and this synthesis is subject to the pure intellectual unity of judgment represented by these concepts? To say that synthesis is subject to the same unity on which analysis is founded, the unity which is thought in these concepts, is just to say that the objects of intuition produced in conformity with pure synthesis must likewise conform to the pure concepts of the understanding; and this just means that the prospect of thinking an object through these concepts entirely a priori now begins to seem a realistic possibility. In fact, all that remains to be shown is that and how the unity thought in these concepts is transcendental, i.e. that

and how, through the conformity of pure synthesis to the logical functions, experience and objects of experience both first become possible. This is what Kant sets out to do in the Transcendental Deduction of the Pure Concepts of the Understanding (most visibly in the A edition, which takes as its principal topic the synthesis of imagination; in the B edition version, this is complemented by a far more detailed and satisfactory account of the possibility of judgment, that is, the analysis this synthesis makes possible, and how through pure concepts specifically experience becomes possible).

How, according to the metaphysical deduction, are pure concepts of the understanding possible as concepts (i.e. conceptual representations, actual conceptual consciousness)? To answer this we need only to keep in mind that such a concept is nothing more the consciousness (thought) of the unity of pure synthesis, that is, the conceptual representation of pure synthesis in conformity to the logical functions. The possibility of such conceptual representation cannot be doubted since it is based on the conformity of pure synthesis to the same logical functions on which is analysis is grounded — the process whereby concepts are produced and thought (judgment, the combination of concepts) first becomes possible. Thus was Kant able to claim that “In this manner 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. For these functions specify the understanding completely, and yield an exhaustive inventory of its powers. These concepts we shall, with Aristotle, call *categories*, for our primary purpose is the same as his, although widely diverging from it in manner of execution.”

The Aristotealian inspiration is not difficult to discern. Aristotle defined substance as that which is always subject and never predicate, thus using the logical function of categorical judgment to define the category substance/accident. Kant's originality lay in tracing *all* of his categories to logical functions, thereby using logical functions as criteria (i.e. the principle of an understanding conceived strictly as a *Vermögen zu urteilen*), of completeness for the categories. So, instead of treating his categories as predicates of objects as Aristotle did, Kant defined them in effect as second-order predicates, i.e. predicates of predicates of objects, so that the only thing they directly determine is the relation of concepts in judgment (where concepts are understood as rules of synthesis, consciousness of the unity of intuitional separating and combining). This is clearest in the *Prolegomena* and in a passage added in the B edition of *CPR*, B128-9:

[T]he categories ... are concepts of an object in general whereby its intuition is regarded as *determined* in respect of one of the *logical functions* of judging. Thus the function of *categorical* judgment was the relation of the subject to the predicate, e.g. all bodies are divisible. But in respect to merely the logical use of understanding, it remained undetermined to which of the two concepts one wanted to give the function of subject to which that of predicate. For one can also say: something divisible is a body. But if I bring the concept of a body under the category of substance, it is thereby determined that its empirical intuition must always be considered as subject in experience, never as mere predicate; and so too for all the remaining categories.

Categories are universal representations of Imaginative Synthesis

1. I exist as an intelligence which is conscious sheerly of its capacity of combination (*Verbindungsvermögen*); but, with regard to the manifold to be combined, it is subject to a limiting condition, viz. inner sense.⁵
2. One cannot become conscious of a composite immediately, but only of the composition (synthesis), i.e. the self-act

⁵ B158.

ivity of composition; hence, the categories.⁶

3. The understanding relates directly to the objects of intuition, or rather their synthesis in the imagination.⁷

4. Pure *synthesis, represented universally*, gives us the pure concept of the understanding. I understand by such synthesis that which rests on a ground of a priori synthetic unity... Bringing to concepts not representations but the *pure synthesis* of representations is what transcendental philosophy teaches.⁸

5. [The categories] are only rules for an understanding whose sole capacity consists in thought, i.e. the action of bringing the synthesis of the manifold given to it elsewhere in intuition to the unity of apperception.⁹

6. Thus, there will just as many a priori concepts in understanding under which objects of the senses must stand as there are kinds of composition (synthesis) with consciousness, i.e. kind of synthetic unity of apperception in the manifold given in intuition.¹⁰

7. If what is given to me is the transcendental concept of a reality, substance, force, etc., then it designates neither an empirical intuition nor a pure intuition but simply the synthesis of empirical intuitions... The concept is a rule of the synthesis of perceptions... It includes nothing but the synthesis of possible perceptions...¹¹

8. The transcendental synthesis of imagination underlies all our pure concepts of the understanding... [A]pppearances are elements of a possible cognition only insofar as they stand under the transcendental unity of the synthesis of imagination. Now the categories are nothing other than the representations of something (appearance) in general insofar as it is represented through transcendental synthesis of imagination.¹²

⁶Werke XVIII §6360 (p. 689) [c. 1796].

⁷A326/B383. Cf. A220/B267.

⁸A79/B104.

⁹B145.

¹⁰*Progress in Metaphysics*, section 2, Ak 271.

¹¹A719/B747, A722/B750 n., and A722/B750.

¹²Werke XXIII, B12, p. 18f. (loose sheet relating to first edition version of the *Critique of Pure Reason*).