Immanuel Kant, *Prolegomena to Any Future Metaphysics That Will Be Able to Come Forward as a Science* (1783)[1]

Preface

255 These *Prolegomena* are not for the use of students, but prospective teachers, and even the latter should not expect that they will be of help in organizing the exposition of an already existing science, but rather in discovering this science in the first place.

There are scholars to whom the history of philosophy (both ancient and modern) is philosophy itself; the present *Prolegomena* are not written for them. They must wait until those who attempt to draw upon the source of reason itself have completed their work; it will then be their turn to inform the world of what has been done. Failing that, nothing can be said that in their opinion has not been said before and in fact the same prophecy could hold for all future time; for since human understanding has speculated upon innumerable objects in various ways for many centuries, it is hardly to be expected that for each new thing something old cannot be found that bears a certain similarity to it.

My aim is to persuade all those who think metaphysics worth studying that it is unavoidably necessary to pause a moment and, viewing everything that has been done so far as if it had not been done, to propose first the preliminary question, 'Whether such a thing as metaphysics is at all possible?'

If it is a science, why is it that it cannot obtain universal and lasting recognition as other sciences do? If 256
not, how can it maintain its pretensions and keep the human understanding in suspense with never ceasing, yet never fulfilled hopes? Thus, whether we demonstrate our knowledge or our ignorance in this field, for once we must come to something certain about the nature of this supposed science, which cannot possibly remain on its present footing any longer. It seems almost ridiculous that, while every other science is continually advancing, in this science, which pretends to be wisdom incarnate and for whose oracle everyone inquires, we should constantly turn around the same spot without making any progress. Its supporters have decreased and we do not find that men who are confident of their ability to shine in other sciences venture their reputation here, where everybody, however ignorant they may be in other matters, presumes to deliver a final verdict, because in this area there is still no standard weight and measure to distinguish thoroughness from shallow chatter.

After all, in the elaboration of a science it is not extraordinary that, when men begin to wonder how

1. [Translated from the German by Paul Carus (Chicago, 1902), revised by Eric Watkins.]

far it has advanced, the question should finally arise whether and how such a science is at all possible. Human reason so delights in building things that it has repeatedly erected a tower but then razed it in order to examine the nature of its foundation. It is never too late to become reasonable and wise; but if the insight comes late, it is always more difficult to implement it.

To ask whether a science is possible presupposes a doubt as to its actuality. But such a doubt offends everyone whose entire possessions may perhaps consist of this supposed jewel; therefore, whoever raises such a doubt must expect opposition on all sides. Some, in the proud consciousness of their holdings, which are ancient and therefore considered legitimate, will take their metaphysical compendia in their hands, and look down on him with contempt; others, who never see anything unless it is identical to what they have seen somewhere else, will not understand him and for a while everything will remain as if nothing had happened to raise concerns about or hopes for an impending change.

Nevertheless, I venture to predict that any reader
257 of these *Prolegomena* who thinks for himself will not only doubt his previous science but subsequently be fully persuaded that it cannot exist unless the demands expressed here on which its possibility depends are satisfied and, since this has never been done, that so far no such thing as metaphysics exists. But because the demand for it can never cease,[2]—since the interests of human reason in general are so intimately interwoven with it—he must confess that a radical reform or rather a new birth of the science according to a previously unknown plan is unavoidable, however men may struggle against it for a while.

Since the *Essays* of Locke and Leibniz or rather since the origin of metaphysics as far as history reaches, nothing has ever happened which could have been more decisive to its fate than the attack made upon it by David Hume. He shed no light on this kind of knowledge, but he certainly struck a spark from which light might have been obtained, had it caught some combustible substance and had its smoldering fire been carefully kindled and developed.

Hume started primarily from a single but important concept in metaphysics, namely that of the *connection of cause and effect* (including its derivative concepts of force and action, etc.). He challenged reason, which pretends to have given birth to this concept from her womb, to answer him by what right she thinks anything to be so constituted that if that thing is posited, something else must necessarily be posited as well; for this is the meaning of the concept of cause. He demonstrated irrefutably that it was perfectly impossible for reason to think such a combination *a priori* and by means of concepts, for it contains necessity. We cannot at all see why, as a consequence of the existence of one thing, another must necessarily exist or how the concept of such a combination can arise *a priori*. Therefore, he inferred that reason was altogether deluded about this concept, which she erroneously considered to be one of her children, whereas in reality it was nothing but a 258
bastard of imagination, impregnated by experience, which subsumed certain representations under the law of association; it passed off subjective necessity, i.e., habit, for an objective necessity arising from insight. Therefore, he concluded that reason had no power to think such combinations, even in general, because her concepts would then be purely fictitious and all her pretended *a priori* cognitions nothing but common experiences marked with a false stamp. In plain language, there is not and cannot be any such thing as metaphysics at all.[3]

2. Says Horace:

> "Rusticus expectat, dum defluat amnis, at ille
> Labitur et labetur in omne volubilis aevum;"
> "A rustic fellow waits on the shore
> For the river to flow away,
> But the river flows and flows on as before,
> And it flows forever and a day."

3. Nevertheless Hume called this very destructive science metaphysics and attached great value to it. "Metaphysics and morals are the most important branches of science; mathematics and physics are not nearly so important." (Essay 4, p. 214 in the German translation [in fact the passage is a rather free translation from Essay 5 of Hume's *Essays, Moral and Political*, Edinburgh, 1741–2].) But the acute man merely looked to the negative use arising from the moderation of speculative reason's

However hasty and mistaken Hume's conclusion was, at least it was founded upon investigation and this investigation deserved the concentrated attention of the brighter spirits of his day as well as determined efforts on their part to discover, if possible, a more satisfying solution to the problem in the sense proposed by him, all of which would have speedily resulted in a complete reform of the science.

But the fate of metaphysics, which has been unfavorable for a long time, would have it that he was understood by no one. It is positively painful to see how utterly his opponents, Reid, Oswald, Beattie, and finally Priestley, missed the point of the problem; for while they were always taking for granted what he doubted and demonstrating with zeal and often with impudence what he never thought of doubting, they so misconstrued his valuable suggestion that everything remained in its old condition as if nothing had happened. The question was not whether the
259 concept of cause was legitimate, useful, and even indispensable for our knowledge of nature—for this Hume had never doubted—but rather whether that concept could be thought by reason *a priori* and consequently whether it possessed an inner truth, independent of all experience, implying a wider application than merely to the objects of experience. This was Hume's problem. It was a question concerning only the origin, not the *indispensability* of its use. Were the former decided, the conditions of its use and the sphere of its valid application would already have been given.

But in order to solve the problem, the famous man's opponents ought to have penetrated very deeply into the nature of reason insofar as it is concerned with pure thought—a task which did not suit them. They found a more convenient method of being defiant while lacking any insight, namely an appeal to **common sense**. It is indeed a great gift from heaven to possess proper or (as it has recently been called) plain common sense. But this common sense must be shown in deeds, by well-considered and reasonable thoughts and words, not by appealing to it as an oracle when one can provide no rational justification. To appeal to *common sense*, when insight and science fail, and no sooner—this is one of the subtle discoveries of modern times by means of which the shallowest babbler can safely engage the most thorough thinker and hold his own. But as long as a bit of insight remains, no one would think of having recourse to this subterfuge. Seen in the light of day, what is it but an appeal to the opinion of the multitude, of whose applause the philosopher is ashamed, while the popular charlatan glories and boasts in it? I should certainly think that Hume could appeal to common sense as much as Beattie and, in addition, to a critical reason (which the latter certainly did not possess) that keeps common sense in check and prevents it from speculating, or, if speculations are under discussion, attempts not to decide because it is not in a position to justify its own principles. By this means alone can common sense remain sound. Chisels and hammers may suffice to work a piece of wood, but for copper plates we require an etching 260
needle. Thus common sense and speculative understanding are both useful in their own way: the former in judgments which apply immediately to experience, the latter when we judge universally from mere concepts, e.g., in metaphysics where common sense that calls itself sound (despite the fact that it often expresses the contrary) has no right to judge at all.

I openly confess that remembering David Hume was the very thing that first interrupted my dogmatic slumber many years ago, and gave my investigations in the field of speculative philosophy a completely different direction. I was far from following him in his conclusions, which arose only because he did not raise the whole of his problem, but only a part, which cannot be informative without taking the whole into account. If we start from a well-founded but undeveloped thought that another has left us, by continued reflection we can certainly hope to advance further than the acute man whom we should thank for the first spark of this light.

So I first tried to see whether Hume's objection could not be put into a general form and soon found

extravagant claims in order to resolve completely the many endless and troublesome controversies that confuse mankind. He overlooked the positive injury which results, if reason is deprived of its most important prospects, which can alone supply to the will the highest aim for all its endeavor.

that the concept of the connection of cause and effect was by no means the only concept by which the understanding thinks the connection of things *a priori*, but that metaphysics consists altogether of such concepts. I tried to determine their number and when I had attained adequate success in this by starting from a single principle, I proceeded to the deduction of these concepts that I was now certain one could not deduce from experience, as Hume had done, but arose from the pure understanding. This deduction (which seemed impossible to my acute predecessor and which had never even occurred to anyone else, though everyone had confidently used the concepts without investigating the basis of their objective validity) was the most difficult task which ever could have been undertaken on behalf of metaphysics; and the worst thing about it was that metaphysics, such as it then existed, could not assist me in the least, because this deduction was supposed to make metaphysics possible in the first place. But as soon as I had succeeded in solving Hume's problem, not merely in a particular case, but with respect to the whole
261 faculty of pure reason, I could proceed safely, though slowly, to determine the whole sphere of pure reason completely and from universal principles, in its limits as well as in its contents. This was required for metaphysics in order to construct its system according to a secure plan.

But I fear that the *exposition* of Hume's problem in its greatest possible extent (namely in my *Critique of Pure Reason*) will fare as the *problem* itself fared when it was first proposed. It will be misjudged because it is misunderstood and misunderstood because men prefer to skim through the book rather than to think it through—a disagreeable task, since the work is dry, obscure, opposed to all common ideas, and, besides that, long winded. Now I must confess that I did not expect to hear complaints from philosophers about a lack of popularity, entertainment, and facility, when what is at stake is the existence of a highly prized cognition that is indispensable to humankind and that cannot be established otherwise than by the strictest rules of scholarly precision. Popularity may follow, but it is inadmissible at the outset. Yet as regards a certain obscurity, arising partly from the vast scope of the plan, owing to which the principal points of the investigation are easily lost sight of, the complaint is just and I intend to remove it by the present *Prolegomena*.

The previous work, which discusses the faculty of pure reason in its whole extent and limits, will remain the foundation to which the *Prolegomena* refer as a preliminary exercise; for that critique must first be established as science, systematic and complete in its smallest parts, before we can think of letting metaphysics appear on the scene or even have the most distant hope of attaining it.

We have long been accustomed to seeing antiquated knowledge produced anew by taking it out of its former context and fitting it into a systematic new dress of any fancy pattern with new labels. Most readers will initially expect nothing else from the *Critique*; but these *Prolegomena* may persuade them that 262
it is a perfectly new science, which no one has even thought of previously, the very idea of which was unknown, and for which nothing accomplished up to now can be of the least use except the suggestion of Hume's doubts. Yet even he did not suspect such a formal science, but, for safety's sake, grounded his ship on the beach (of skepticism) letting it lie there and rot. By contrast, my object is to give it a pilot, who, by means of safe navigational principles drawn from a knowledge of the globe and provided with a complete chart and compass, may steer the ship safely, wherever he like.

If we start in on a new science that is wholly isolated and unique in its kind with the prejudice that we can judge it by means of putative knowledge that has been acquired previously, despite the fact that its reality is precisely what must be called into question in the first place, we should only fancy that we saw everywhere what we had already known because the expressions have a similar sound. But everything would appear utterly deformed, senseless, and unintelligible, because we would be basing it all on our own thoughts, made second nature by long habit, instead of the author's. However, the long-windedness of the work insofar as it depends on the subject matter and not its exposition, its consequent unavoidable dryness, and its scholastic precision are qualities

which can only be of benefit to the science, though they may be disadvantageous to the book.

Few writers are gifted with the subtlety and at the same time with the grace of David Hume, or with the depth as well as the elegance of Moses Mendelssohn. Yet I flatter myself that I could have made my own exposition popular, had my object been merely to sketch out a plan and leave its completion to others, instead of having my heart in the welfare of the science, to which I had devoted myself for so long; in truth, it required considerable perseverance and even self-denial to resist the temptation of an immediate positive reception in favor of the prospect of a slower but longer lasting reputation.

Making plans is often the occupation of an opulent and boastful mind, which thus gains the reputation of a creative genius by demanding what it cannot
263 itself supply, by censuring what it cannot improve, and by proposing what it does not know how to attain. And yet something more should belong to a sound plan of a general critique of reason than mere conjectures if this plan is to be different from the usual declamations of pious aspirations. But pure reason is a sphere so separate and self-contained that we cannot touch a part without affecting all the rest. We can therefore do nothing without first determining the position of each part and its relation to the rest; for insofar as our judgment in this sphere cannot be corrected by anything external to it, the validity and use of every part depends upon the relation in which it stands to all the rest within the domain of reason just as in the structure of an organized body, the purpose of each member can only be deduced from the full conception of the whole. It may, then, be said of such a critique that it is never trustworthy unless it is *perfectly complete*, down to the smallest elements of pure reason. In the sphere of this faculty you can define and determine either *everything* or *nothing*.

Although a mere sketch preceding the *Critique of Pure Reason* would be unintelligible, unreliable, and useless, it is all the more useful as a sequel. For in this way we are able to grasp the whole, to examine in detail the main points of importance in the science, and to improve our exposition in many respects as compared to the first execution of the work.

With that work complete, I offer here a *plan* that is sketched out according to an *analytic method*, while the work itself had to be carried out in the *synthetic method*, so that the science may present all its articulations, as the structure of a very special cognitive faculty, in their natural combination. But should any reader still find this plan—which I publish as the *Prolegomena to Any Future Metaphysics*—obscure, let him consider that it is not necessary for everyone to study metaphysics and that many minds will succeed very well in the exact and even in profound sciences, which are more closely allied to intuition, though they cannot succeed in investigations 264
dealing exclusively with abstract concepts. In such cases they should apply their talents to other subjects. But whoever attempts to judge or, even more, to construct a system of metaphysics must satisfy the demands made here, either by adopting my solution or by thoroughly refuting it and substituting another. To dismiss it is impossible. Finally, let it be remembered that this much-decried obscurity (frequently serving as a mere pretext under which people hide their own indolence or dullness) has its uses, since all who observe a judicious silence in other sciences, speak authoritatively in metaphysics and make bold decisions, because here their ignorance does not stand in contrast to the knowledge of others. Yet it does contrast with sound critical principles, which we may therefore commend in the words of Virgil: "Ignavum, fucos, pecus a praesepibus arcent."[4]

Preamble on the Peculiarities of All Metaphysical Cognition 265

§ 1. *Of the Sources of Metaphysics*

If one wants to present any cognition as scientific, it will first be necessary to determine accurately its distinguishing feature that no other science has in common with it and thus that is unique to it; otherwise the boundaries of all sciences become blurred and none of them can be treated thoroughly according to its nature.

4. "Bees are defending their hives against drones, those indolent creatures."

This distinguishing feature may consist of a simple difference of *object*, or of the *sources of cognition*, or of the *kind of cognition*, or several if not all of these together. On this, therefore, depends the idea of the possible science and its territory.

First, as concerns the *sources* of metaphysical cognition, its very concept implies that they cannot be empirical. Its principles (including not only its fundamental propositions but also its basic concepts) must never be derived from experience. It must not be physical but metaphysical cognition, namely cognition lying beyond experience. It can therefore have for its basis neither outer experience, which is the source of physics proper, nor inner experience,
266 which is the basis of empirical psychology. It is therefore *a priori* cognition from pure understanding and pure reason.

But this alone would not distinguish metaphysics from pure mathematics; it must therefore be called pure philosophical cognition; for the meaning of this term I refer to the *Critique of Pure Reason* (Book II. "Transcendental Doctrine of Method," Chapter I, Section 1), where the distinction between these two uses of reason is explained sufficiently. So much concerning the sources of metaphysical cognition.

§ 2. *Concerning the Kind of Cognition Which Can Alone Be Called Metaphysical*

a. *On the Distinction between Analytic and Synthetic Judgments in General*— The distinguishing feature of the sources of metaphysical cognition demands that it must consist of nothing but *a priori* judgments. But whatever their origin or their logical form may be, there is a distinction in the content of judgments according to which they are either merely *explicative*, adding nothing to the content of the cognition, or *ampliative*, increasing the given cognition: the former may be called analytic judgments, the latter synthetic.

Analytic judgments express nothing in the predicate but what has already been actually thought in the concept of the subject, though not so clearly or with the same consciousness. If I say: "All bodies are extended," I have not amplified my concept of body in the least, but have only analyzed it, since extension was really thought to belong to that concept before the judgment was made, though it was not expressed; this judgment is therefore analytic. By contrast, the judgment, "Some bodies are heavy," contains in its predicate something not actually thought in the universal concept of the body; it amplifies my cognition 267
by adding something to my concept and must therefore be called synthetic.

b. *The Common Principle of All Analytic Judgments Is the Principle of Contradiction*— All analytic judgments depend wholly on the principle of contradiction and are by their very nature *a priori* cognitions, whether the concepts that supply them with matter are empirical or not. Because the predicate of an affirmative analytic judgment is already contained in the concept of the subject, it cannot be denied of the subject without contradiction. In the same way, in an analytic, but negative judgment its opposite is necessarily denied of the subject by the same principle of contradiction. Such is the case with the judgments: "All bodies are extended" and "No bodies are unextended (simple)."

For this very reason all analytic judgments are *a priori* even if the concepts are empirical, as, for example, gold is a yellow metal; for to know this I require no experience beyond my concept of gold, which included that this body is yellow and a metal. For this constitutes my very concept and I need only analyze it without looking beyond it to anything else.

c. *Synthetic Judgments Require a Principle Different from the Principle of Contradiction*— There are synthetic *a posteriori* judgments of empirical origin; but there are also those that are certain *a priori* and that arise from pure understanding and reason. Yet they both agree in that they cannot possibly spring solely from the principle of analysis, namely the principle of contradiction, but require a completely different principle. However, from whatever principle they may be deduced, they must be *subject to the principle of contradiction*, which must never be violated, even though everything cannot be deduced from it. I shall first classify synthetic judgments.

1. *Judgments of Experience* are always synthetic. For it would be absurd to base an analytic judgment 268
on experience, since our concept suffices for the

purpose without requiring any testimony from experience. That a body is extended is a judgment that is established *a priori* and is not an empirical judgment. For, before appealing to experience, we already have all the conditions of the judgment in the concept, from which we have only to elicit the predicate according to the principle of contradiction and thereby to become conscious of the *necessity* of the judgment, which experience could never teach us.

2. *Mathematical Judgments*, as a whole, are synthetic. This fact seems altogether to have escaped the notice of those who have analyzed human reason until now; it even seems directly opposed to all their conjectures, despite the fact that it is incontestably certain and has very important consequences. For since it was discovered that the conclusions of mathematicians all proceed according to the principle of contradiction (as is demanded by apodeictic certainty), men persuaded themselves that the fundamental principles were known from the principle of contradiction. This was a great mistake, for a synthetic proposition can indeed be comprehended according to the principle of contradiction, but only by presupposing another synthetic proposition from which it follows, but never by that principle itself.

First of all, we must observe that mathematical judgments proper are always *a priori* and never empirical, because they carry with them necessity, which cannot be derived from experience. But even if this is not granted, I can still confine my assertion to *pure mathematics*, the very concept of which implies that it contains pure *a priori* and not empirical cognition.

Initially, one might easily think that the proposition 7 + 5 = 12 is a merely analytic judgment, following from the concept of the sum of seven and five according to the principle of contradiction. But on closer examination it appears that the concept of the sum of 7 + 5 contains merely their union in a single number, but what the particular number is that unites them is not contained in that thought. The concept of twelve is by no means thought by merely
269 thinking of the combination of seven and five; and even if we analyze this possible sum as long as we like, we shall not discover twelve in the concept. We must go beyond these concepts by calling to our aid an intuition that corresponds to one of them, i.e., either our five fingers or five points (as Segner has it in his *Arithmetic*), and we must successively add the units of the five, given in an intuition, to the concept of seven. Hence our concept is really amplified by the proposition 7 + 5 = 12 and we add a second concept to the first that was not at all thought in it. Arithmetical judgments are always synthetic and we can see this more plainly when we consider larger numbers; for in such cases it is clear that, however closely we analyze our concepts, by such mere dissection we can never find the sum without calling intuition to our aid.

Nor is any principle of pure geometry at all analytic. That a straight line is the shortest path between two points is a synthetic proposition. For my concept of straightness contains nothing of quantity, but only a quality. The concept of the shortest is therefore completely new and cannot be obtained by any analysis of the concept of a straight line. Here, too, intuition must come to our aid. It alone makes the synthesis possible.

Some other principles, assumed by geometers, are indeed actually analytic and depend on the principle of contradiction, but, as identical propositions, they serve only as a method of concatenation and not as principles, e.g., a = a, the whole is equal to itself, or a + b > a, the whole is greater than its part. And yet even these, though they are recognized as valid from mere concepts, are admitted in mathematics only because they can be represented in some intuition.

What usually makes us believe that the predicate of such apodeictic judgments is already contained in our concept and that the judgment is therefore analytic is the ambiguity of the expression. We *are supposed* to add a certain predicate to a given concept and this necessity attaches to the concepts. But the question is not what we are *supposed to add* to the given concept, but what we *actually think* together in it, though obscurely; and there it is clear that the predicate certainly belongs to these concepts necessarily, but by means of an added intuition rather than immediately.

The essential and distinguishing feature of pure 272
mathematical cognition compared to all other *a*

priori cognitions is that it cannot at all proceed *from concepts*, but only by means of the construction of concepts (see *Critique* II, Transcendental Doctrine of Method, Chapter I, Section I). Thus, because it must proceed in its propositions beyond the concept to what the concept's corresponding intuition contains, these propositions neither can nor ought to arise by dissecting the concept analytically, but are therefore, as a whole, synthetic.

I cannot refrain from pointing out the disadvantage to philosophy that results from the neglect of this easy and apparently insignificant observation. When Hume felt called (as is worthy of a philosopher) to cast his eye over the whole field of *a priori* cognitions in which the human understanding claims such vast possessions, he inadvertently severed from it an entire and indeed its most valuable province, namely pure mathematics. For he imagined that its nature or, so to speak, the legal constitution of this empire depended on totally different principles, namely on the principle of contradiction alone; and although he did not divide judgments formally and universally or with the same terminology as I have done here, what he said was equivalent to this: that mathematics contains only analytic, but metaphysics synthetic *a priori* judgments. In this, however, he was terribly mistaken and the mistake had a decidedly injurious effect upon his whole conception. For if he had not made this mistake, he would have extended his question concerning the origin of our synthetic judgments far beyond the metaphysical concept of causality and in-
273 cluded in it the possibility of mathematics *a priori* as well, for he would have to have assumed that it was equally synthetic. And then he could not have based his metaphysical claims on mere experience without also subjecting the axioms of mathematics to experience, something he was far too acute to do. The good company into which metaphysics would thus have been brought would have saved it from the danger of contemptuous ill-treatment, for the blows intended for it would have landed on mathematics, which was not and could not have been Hume's intention. Thus that acute man would have been led into considerations which must be similar to those that occupy us now, but which would have gained inestimably from his inimitably elegant style.

3. *Metaphysical* judgments *proper* are, as a whole, synthetic. We must distinguish judgments *belonging* to *metaphysics* from *metaphysical* judgments *proper*. Many of the former are analytic, but they only afford the means for metaphysical judgments, which are the whole end of the science and always synthetic. For if concepts, as, for example, that of substance, belong to metaphysics, then the judgments arising from a simple analysis of them also necessarily belong to metaphysics, as, for example, the judgment that substance is that which exists only as subject etc.; and by means of several such analytic judgments, we try to arrive at the definition of these concepts. But since the analysis of a pure concept of the understanding (which metaphysics contains) does not proceed in a manner different from the dissection of any other, even empirical concepts that do not belong to metaphysics (such as: air is an elastic fluid, the elasticity of which is not destroyed by any known degree of cold), it follows that the concept surely is, though the analytic judgment certainly is not, properly metaphysical. For the production of *a priori* cognitions in this science has something special and unique to it that must therefore be distinguished from the features it has in common with other rational cognition. Thus, for example, the judgment that all the substance in things is permanent is a synthetic and properly metaphysical judgment.

If the *a priori* concepts that constitute the materials and building blocks of metaphysics have been collected according to fixed principles, then the analysis of these concepts will be of great value; it might be taught separately from the synthetic propositions that constitute metaphysics proper and as a special part (as a *philosophia definitiva*) containing nothing but analytic judgments belonging to meta- 274
physics. For in fact these analyses are not of much value except in metaphysics, i.e., for the synthetic judgments that are to be generated from these previously analyzed concepts.

The conclusion drawn in this section is thus that metaphysics is properly concerned with synthetic *a priori* propositions and these alone constitute its

end, for which it indeed requires various dissections of its concepts and thus its analytic judgments, but the procedure is no different from that in every other kind of cognition, where we merely seek to render our concepts distinct by analysis. But the *generation* of *a priori* cognition according to both intuitions and concepts, finally, also of synthetic *a priori* propositions in philosophical cognition in particular, constitutes the essential subject matter of metaphysics.

270 § 3. *A Remark on the General Division of Judgments into Analytic and Synthetic*

This division is indispensable for the critique of human understanding and therefore deserves to be called *classical*, though it is of little use otherwise. But this is the reason why dogmatic philosophers, who always seek the sources of metaphysical judgments in metaphysics itself and not external to it in the pure laws of reason in general, altogether neglected this apparently obvious distinction. Thus the celebrated Wolff and his acute follower Baumgarten could seek the proof of the principle of sufficient reason, which is clearly synthetic, in the principle of contradiction. In Locke's *Essay concerning Human Understanding*, however, I find a hint of my division. For in Book IV (Chapter III, § 9, seq.), after already having discussed the various connections of representations in judgments and their sources, one of which he identifies as the principle of identity or contradiction (analytic judgments), and another as the coexistence of representations in a subject (synthetic judgments), he confesses (§ 10) that our *a priori* cognition of the latter is very narrow and amounts to almost nothing. But in his remarks on this kind of cognition, so little is definite and based on rules that we should not be surprised that no one, not even Hume, took this as an occasion for investigating this kind of judgment further. For such general and yet definite principles are not easily learned from others who have had them in their minds only obscurely. One must first discover them through one's own reflections and then one may find them in other places, where one could not possibly have found them at first, because the authors themselves did not know that their own observations were based on such an idea. Those who never think for themselves still have the acuteness to discover everything after it has been shown to them in what was said long ago, though no one was ever able to see it there before.

§ 4. *General Question of the Prolegomena—Is Metaphysics at All Possible?* 271

If a metaphysics that could maintain its place as a science were actual, could we say: here is metaphysics, learn it, and it will convince you irresistibly and irrevocably of its truth? This question would be useless and the only remaining question would be a test of our acuteness rather than a proof of the existence of the subject matter itself, namely: "How is the science possible, and how does reason come to attain it?" But human reason has not been so fortunate in this case. There is no single book to which you can point, as you do to Euclid's, and say: this is metaphysics; here you may find the noblest aim of this science, cognition of a highest being and of a future existence, proved from principles of pure reason. For one can surely show us many judgments that are apodeictically certain and can never be questioned; but these are all analytic and concern the materials and the scaffolding for metaphysics rather than an extension of cognition which is supposed to be our proper aim in studying it (§ 2). Even if you present synthetic judgments, such as the principle of sufficient reason (which you have never proved, as you ought to, from pure reason *a priori*, though we gladly concede its truth), when you want to use them for your main goal, you lapse into such illicit and dubious assertions that in all ages one metaphysics has contradicted another, either in its assertions or the proofs thereof, and thus has itself destroyed its own claim to lasting assent. Even the attempts at bringing about such a science are undoubtedly the first cause of the early appearance of skepticism, a mental attitude in which reason treats itself with such violence that it could never have arisen unless we fell into complete despair of ever satisfying our most important aims. For long before men began to investigate nature methodically, they consulted abstract reason, which had to some extent been exercised by means of ordinary experience; for reason is ever present to

us, whereas laws of nature must usually be discovered with labor. Thus metaphysics floated to the surface, like foam, which dissolved the moment it was scooped off. But immediately more foam appeared on the surface, which some will always eagerly collect, while others, instead of seeking the cause of the phenomenon in the depths, thought they showed their wisdom by ridiculing the idle labor of the former.

274 Weary therefore of dogmatism, which teaches us nothing, and of skepticism, which does not even promise us anything—not even the quiet state of contented ignorance—disquieted by the importance of cognition that we need so much, and, lastly, rendered suspicious by long experience of everything that we believe we possess or that offers itself under the name of pure reason, there remains but one critical question on the answer to which our future conduct depends, namely: *Is metaphysics at all possible*? But this question must be answered not by skeptical objections to the claims of some actual system of metaphysics (for at this point we do not admit that such a thing exists), but on the basis of a conception of a science of this kind, which is currently merely problematic.

In the *Critique of Pure Reason* I have attempted to treat this question *synthetically* by inquiring into pure reason itself and trying to determine in this source itself the elements as well as the laws of its pure use according to principles. The task is difficult and requires a reader who is determined to penetrate into the system gradually, based on no data except reason itself, and who therefore seeks to unfold cognition from its original germs without relying upon any fact. The *Prolegomena*, however, are supposed to be warm-up exercises; they are intended to point out what we have to do in order to actualize a science (if it is at all possible) rather than to propound
275 it. They must therefore depend upon something already known to be trustworthy, from which we can set out with confidence and ascend to sources as yet unknown, the discovery of which will not only explain to us what we knew but also display the extent of many cognitions that all arise from the same sources. Consequently, the method of *Prolegomena*, especially of those cognitions designed as a preparation for future metaphysics, is *analytic*.

But it happens, fortunately, that though we cannot assume metaphysics is an *actual* science, we can say with confidence that certain pure synthetic *a priori* cognitions, namely *pure mathematics* and *pure natural science* are actual and given; for both contain propositions that are thoroughly recognized as apodeictically certain, partly by mere reason, partly by general consensus arising from experience, and yet as independent of experience. Therefore, we have at least some *uncontested* synthetic *a priori* knowledge and need not ask *whether* it is possible, since it is actual, but rather *how it is possible* so that we may deduce from the principle that makes the given cognitions possible the possibility of everything else.

§ 5. *The General Problem*: *How Is Cognition from Pure Reason Possible*?

Above we have seen the significant distinction between analytic and synthetic judgments. The possibility of analytic propositions was easily comprehended, because they are based merely on the principle of contradiction. The possibility of synthetic *a posteriori* judgments, i.e., of those that are gathered from experience, also requires no special explanation; for experience is nothing but a continual conjoining (synthesis) of perceptions. There remain therefore only synthetic *a priori* propositions of which the possibility must be sought or investigated, because they must depend upon principles other than the principle of contradiction.

But here we need not first seek the *possibility* of 276
such propositions, i.e., to ask whether they are possible. For enough of them are of undoubted certainty and since our present method is supposed to be analytic, we shall start from the fact that such synthetic but purely rational cognition actually exists; but we must now *investigate* the basis of this possibility and ask how such cognition is possible so that we can put ourselves in a position to determine the conditions of its use, sphere, and limits from the principles of its possibility. The proper problem upon which everything depends, when expressed with scholarly precision, is therefore: *How are synthetic* a priori *propositions possible*?

For the sake of popularity I have expressed this problem somewhat differently above, as an inquiry into purely rational cognition, which I could do on that occasion without obscuring the desired insight, because, since our concern here is only with metaphysics and its sources, the reader will, I hope, after my previous remarks, keep in mind that when we speak of purely rational cognition, we do not mean analytic but rather synthetic cognition.[5]

Metaphysics stands or falls with the solution of this problem; its very existence depends upon it. Let any one make metaphysical assertions with ever so
277 much plausibility, let him overwhelm us with conclusions; but if he has not previously been able to answer this question adequately, I have a right to say: this is all vain, baseless philosophy and false wisdom. You speak through pure reason and presume, so to speak, to create *a priori* cognitions not only by dissecting given concepts but also by asserting connections which do not rest upon the principle of contradiction and which you believe you conceive quite independently of all experience, how do you discover this and how will you justify your pretensions? An appeal to the consent of the common sense of mankind cannot be allowed; for that is a witness whose authority depends merely upon rumor. Says Horace: "Quodcunque ostendis mihi sic, incredulus odi."[6]

The answer to this question is as indispensable as it is difficult; and though the principal reason that it was not given long ago is that the possibility of the question never occurred to anybody, there is yet another reason, namely that a satisfactory answer to this one question requires a much more persistent, profound, and painstaking reflection than the most diffuse work on metaphysics, which promised immortality to its author on its first appearance. And every insightful reader, when he carefully reflects what this problem requires, must at first be struck with its difficulty and would regard it as insoluble and even impossible if pure synthetic *a priori* cognitions did not actually exist. This really happened to David Hume, though he did not conceive the question in its entire universality as is done here and as must be done if the answer is to be decisive for all of metaphysics. For how is it possible, says that acute man, that when I am given a concept, I can go beyond it and connect with it another that is not contained in it in such a manner as if the latter *necessarily* belonged to the former? Nothing but experience can furnish us with such connections (thus he concluded from the difficulty which he took to be an impossibility), and all that vaunted necessity, or, what is the same thing, all cognition assumed to be *a priori* is nothing but a long habit of accepting something as true and hence of mistaking subjective necessity for objective.

Should my reader complain of the difficulty and the trouble I cause him in my solution of this prob- 278
lem, he is free to solve it himself in an easier way. Perhaps he will then feel indebted to the person who has undertaken a labor of such profound inquiry for him and be surprised at the facility with which the solution has been attained, considering the nature of the subject. Yet it has cost years of work to solve the problem in its whole universality (using the term in the mathematical sense, namely for what is sufficient for all cases), and finally to exhibit it in an analytic form, as the reader will find it here.

All metaphysicians are therefore solemnly and legally suspended from their affairs until they have adequately answered the question: "How are synthetic *a priori* cognitions possible?" For the answer contains the only credentials they must show when they have anything to offer in the name of pure reason. But if they do not possess these credentials, they can expect

5. It is unavoidable that, as cognition advances, certain expressions that have become classical after having been used since the infancy of science will be found inadequate and unsuitable and the newer and more appropriate use of these terms will run the risk of being confused with their older use. The analytic method, insofar as it is opposed to the synthetic method, is very different from what constitutes the essence of analytic propositions: it means only that we start from what is sought, as if it were given, and ascend to the only conditions under which it is possible. In this method we often use nothing but synthetic propositions, as in mathematical analysis, and it would be better to call it the *regressive method*, in contrast to the synthetic or *progressive* method. A principal part of logic too is distinguished by the name analytic, which means the logic of truth in contrast to dialectic, without considering whether the cognitions belonging to it are analytic or synthetic.

6. "Whatever you show me in this way, I reject and despise."

nothing else of reasonable people, who have been deceived so often, than to be dismissed without further ado.

If, however, they desire to carry on their affairs, not as a *science*, but as an *art* of wholesome persuasion suited to the common sense of man, they cannot be legitimately prevented. They will then speak the modest language of a rational belief and they will grant that they are not allowed even to *presume*, much less to *know*, anything that lies beyond the limits of all possible experience, but only to *assume* (not for speculative use, which they must abandon, but for practical purposes only) the existence of something that is possible and even indispensable for the guidance of the understanding and the will in life. In this manner alone can they be called useful and wise men, and the more so as they renounce the title of metaphysicians; for the latter profess to be speculative philosophers, and since, when *a priori* judgments are under discussion, poor probabilities cannot be admitted (for what is declared to be known *a priori* is
279 thereby announced as necessary), such men cannot be permitted to play with presumptions, but their assertions must be science or nothing at all.

It may be said that the entire transcendental philosophy, which necessarily precedes all metaphysics, is nothing but the complete solution of the problem propounded here in systematic order and completeness and that until now we have never had any transcendental philosophy; for what goes by its name is properly a part of metaphysics, whereas the former science is supposed to establish the possibility of the latter in the first place and must therefore precede all metaphysics. And it is not surprising that when a whole science, deprived of all help from other sciences, and consequently quite new in itself, is required to answer a single question satisfactorily, we should find the answer troublesome and difficult, even shrouded in obscurity.

As we now proceed to this solution—and according to the analytic method, in which we assume that such cognitions from pure reason actually exist—we can only appeal to two sciences of theoretical cognition (which alone is under consideration here), namely pure mathematics and pure natural science. For these alone can exhibit to us objects in intuition and consequently (if a cognition should occur in them *a priori*) can show the truth or conformity of the cognition to the object *in concreto*, that is, *its actuality*, from which we could proceed to the basis of its possibility according to the analytic method. This facilitates our work greatly, for here universal considerations not only are applied to facts but even start with them, while in a synthetic procedure they must be derived from concepts wholly *in abstracto*.

But, in order to ascend from these actual and at the same time well-grounded pure *a priori* cognitions to a possible cognition of the same kind as we are seeking, namely to metaphysics as a science, we must understand what occasions and underlies it as a merely naturally given *a priori* cognition (one that is not, however, above suspicion regarding its truth), the elaboration of which is commonly called metaphysics though it has occurred without any critical investigation of its possibility. In a word, we must 280
comprehend the natural conditions of such a science as a part of our inquiry and thus the transcendental problem, divided into four questions, will be answered step by step:

1. *How is pure mathematics possible*?
2. *How is pure natural science possible*?
3. *How is metaphysics in general possible*?
4. *How is metaphysics as a science possible*?

It can be seen that the solution to these problems, though primarily designed to present the essential content of the *Critique*, nonetheless possesses something special that deserves attention in its own right, namely it searches for the sources of given sciences in reason itself so that its faculty of cognizing something *a priori* may be investigated and measured by its own deeds. By this procedure these sciences gain, if not with regard to their contents, then at least to their proper use, and while they throw light on the higher question concerning their common origin, they also provide an occasion for a better explanation of their own nature.

The Main Transcendental Problem: Part One

How is pure mathematics possible?

§ 6. Here is a great and established branch of knowledge, encompassing even now a wonderfully large domain and promising an unlimited extension in the future. Yet it carries with it thoroughly apodeictic certainty, i.e., absolute necessity, which does not rest upon any empirical basis. Consequently, it is a pure product of reason and, moreover, is thoroughly synthetic. "How then is it possible for human reason to produce such a cognition entirely *a priori*?" Does not this faculty, since it neither is nor can be based upon experience, presuppose some ground of *a priori* cognition which lies deeply hidden, but which might reveal itself by its effects, if only their first beginnings were diligently ferreted out?

281 § 7. But we find that all mathematical cognition has this unique feature: it must first exhibit its concept *in intuition* and in fact *a priori*, therefore in an intuition that is not empirical, but pure. Without this means mathematics cannot take a single step; hence its judgments are always intuitive, whereas philosophy must be satisfied with *discursive* judgments *from mere concepts* and, though it may illustrate its apodeictic doctrines through intuition, it can never derive them from intuition. This observation on the nature of mathematics gives us a clue as to the first and highest condition of its possibility, namely that it must presuppose *some pure intuition*, in which it can exhibit or, as it is called, *construct* its concepts *in concreto* and yet *a priori*.[7] If we can discover this pure intuition and its possibility, we may then easily explain how synthetic *a priori* propositions are possible in pure mathematics and consequently how this science itself is possible. For just as empirical intuition enables us, without difficulty, to amplify the concept which we form of an object of intuition with new predicates that intuition itself presents synthetically in experience, so too does pure intuition, only with this difference: that in the pure case the synthetic judgment is *a priori* certain and apodeictic, whereas in the empirical case it is only *a posteriori* and empirically certain, because the latter contains only what occurs in contingent empirical intuition, whereas the former contains what must necessarily be discovered in pure intuition, since, as an *a priori* intuition, it is inseparably conjoined with its concept *prior to all experience* or any individual perceptions.

§ 8. But this step seems to cause our perplexity to increase rather than to diminish. For now the ques- 282
tion is: "How is it possible to intuit anything *a priori*?" An intuition is a representation that would depend immediately upon the presence of the object. Hence it seems impossible originally to intuit *a priori*; because in that event intuition would take place without either a previous or a present object to refer to and thus could not be intuition. Concepts indeed are such that we can easily form some of them *a priori*, namely those that contain nothing but the thought of an object in general without finding ourselves in an immediate relation to the object. Take, for instance, the concepts of quantity, cause, etc. But, in order to be meaningful and significant, even these require a certain concrete use—that is, an application to some intuition by which their object is given to us. But how can an *intuition* of the object precede the object itself?

§ 9. If our intuition had to be of such a nature as to represent things *as they are in themselves*, there would be no *a priori* intuition; rather, intuition would always be empirical. For I can know only what is contained in the object in itself when it is present and given to me. Of course, even then it is incomprehensible how the intuition of a present thing should make me know this thing as it is in itself, since its properties cannot migrate into my faculty of representation. But even if this possibility were granted, such an intuition would not take place *a priori*, that is, before the object is presented to me; for without this one cannot imagine a basis for any relation between my representation and the object, unless it depended upon inspiration. Therefore, there is only one way in which my intuition can anticipate the actuality of the object and be an *a priori* cognition, *namely if my intuition contains nothing but the form of sensibility that precedes in me as a subject all the actual impressions through which I am affected by objects*. For I can know *a priori* that objects of the senses can be intuited only according to

7. [Cf. A713/B741.]

this form of sensibility. Hence it follows that propositions that concern only this form of sensible intuition are possible and valid for objects of the senses. The converse holds as well, namely that intuitions that are possible *a priori* can never concern any things other than objects of our senses.

283 § 10. Accordingly, it is only the form of sensible intuition by which we can intuit things *a priori*, but by which we can know objects only as they appear to us (to our senses), not as they are in themselves; and this assumption is absolutely necessary if synthetic *a priori* propositions are to be granted as possible or, in case they actually occur, if their possibility is to be understood and determined in advance.

Now, space and time are the intuitions that pure mathematics lays at the foundation of all its cognitions and judgments that arise as both apodeictic and necessary. For mathematics must first present all its concepts in intuition and pure mathematics must do the same in pure intuition, that is, it must construct them. If it proceeded in any other way, it would be impossible to make any progress, for mathematics does not proceed analytically by dissection of concepts, but synthetically, and if pure intuition were lacking, there would be nothing in which the matter for synthetic *a priori* judgments could be given. Geometry is based upon the pure intuition of space. Arithmetic brings about its concept of numbers by the successive addition of units in time; and especially pure mechanics cannot bring about its concept of motion except by means of the representation of time. Both representations, however, are mere intuitions; for if we leave everything empirical, namely everything that belongs to sensation, out of the empirical intuitions of bodies and their alterations (motion), space and time still remain, which are therefore pure intuitions that underlie empirical intuitions *a priori* and for that reason can never be omitted. However, because they are pure *a priori* intuitions, they prove that they are mere forms of our sensibility, which must precede all empirical intuition, i.e., all perception of actual objects, and according to which objects can be cognized *a priori* but of course only as they appear to us.

§ 11. The problem of the present section is therefore solved. Pure mathematics, as synthetic *a priori* cognition, is possible only by referring to no objects other than those of the senses whose empirical in- 284
tuition presupposes a pure, and even *a priori*, intuition (of space and time). This is possible because pure intuition is nothing but the mere form of sensibility, which precedes the actual appearance of the objects in that it in fact makes them possible in the first place. Yet this faculty of intuiting *a priori* does not concern the matter of the appearance, that is, what is sensation in the appearance, for this constitutes what is empirical, but rather its form, namely space and time. Should anyone venture to doubt that both of these determinations do not adhere to things in themselves, but merely to their relation to our sensibility, I would like to know how it can be possible to know how the intuition of things must be constituted *a priori* and thus before we have any acquaintance with them and before they are presented to us as, however, is precisely the case with space and time. But this is easily understood as soon as both are held to be nothing more than formal conditions of our sensibility and the objects viewed merely as appearances; for then the form of the appearance, i.e., pure intuition, can by all means be represented from ourselves, that is, *a priori*.

§ 12. In order to add something by way of illustration and confirmation, we need only observe the ordinary and unavoidably necessary procedure of geometers. All proofs of the complete equality of two given figures (where the one can be substituted for the other in every respect) ultimately come down to the fact that they coincide. This is evidently nothing other than a synthetic proposition resting upon immediate intuition and this intuition must be pure and given *a priori*. Otherwise the proposition could not rank as apodeictically certain, but would have only empirical certainty. In that case, it could only be said that it is always found to be so and holds good only as far as our perception had reached. That all-encompassing space (which is itself not the limit of another space) has three dimensions and cannot have any more is based on the proposition that no more than three lines can intersect at right angles

285 in one point; but this proposition cannot be shown from concepts by any means, but rests immediately on intuition and, indeed, on pure *a priori* intuition, because it is apodeictically certain. That we can require a line to be drawn to infinity (*in indefinitum*) or that a series of changes (for example, spaces traversed by motion) shall be continued infinitely, presupposes a representation of space and time that can attach only to intuition, namely insofar as it in itself is limited by nothing, for it could never be inferred from concepts. Consequently, mathematics really presupposes pure intuitions, which make its synthetic and apodeictically valid propositions possible. Hence our transcendental deduction of the concepts of space and of time also explains the possibility of pure mathematics. Without such a deduction and without assuming "that everything that can be given to our senses (to outer sense in space, to inner sense in time) is intuited by us as it appears to us, not as it is in itself" the truth of mathematics may be granted, but its existence could by no means be understood.

§ 13. Those who cannot yet rid themselves of the notion that space and time are actual qualities inhering in things in themselves can practice their skills on the following paradox. After they have attempted its solution in vain and are free from prejudice at least for a few moments, they will suspect that the demotion of space and of time to mere forms of our sensible intuition may perhaps be well founded.

If two things are quite equal in all respects as much as can be ascertained by all means possible (quantitatively and qualitatively), it must follow that in all cases and under all circumstances the one can replace the other and this substitution would not occasion the least perceptible difference. In fact this is true of plane figures in geometry; but, despite complete internal agreement, some spherical figures exhibit such a difference in their outer relations that the one figure cannot possibly be put in the place of the other. For instance, two spherical triangles on op-
286 posite hemispheres, which have an arc of the equator as their common base, may be quite equal, in both their sides and their angles, so that nothing is to be found in either that would not equally be applicable to both, if it is completely described for itself alone; and yet the one cannot be put in the place of the other (namely in the opposite hemisphere). For there is an *inner* difference between the two triangles that our understanding cannot describe as inner and that manifests itself only through outer relations in space. But I shall mention some more typical examples taken from common life.

What can be more similar to my hand and to my ear in every respect and in every part than their images in a mirror? And yet I cannot put such a hand as is seen in the mirror in the place of its archetype; for if this is a right hand, the one in the mirror is a left hand and the reflection of the right ear is a left one that can never serve as a substitute for the other. In this case there are no inner differences that our understanding could determine by thought alone. Still, as the senses teach, the differences are inner. For, despite their complete equality and similarity, the left hand cannot be enclosed within the same limits as the right one (they cannot be congruent); a glove for one hand cannot be used for the other. What is the solution? These objects are not representations of things as they are in themselves and as the pure understanding would cognize them, but rather sensible intuitions, that is, appearances, the possibility of which rests upon the relation of certain things unknown in themselves to something else, namely to our sensibility. Space is the form of outer intuition of this sensibility and the inner determination of every space is possible only by determining its outer relation to the whole space of which it is a part (its relation to outer sense). That is to say, the part is possible only through the whole, which is never the case with things in themselves as objects of the mere understanding, but which does occur with mere appearances. Hence the difference between similar things that are equal but not congruent (for instance, two contrary, but symmetric helices) cannot be made intelligible by any concept, but only by the relation to the right and the left hands, which immediately refer to intuition.

Remark I. Pure mathematics and especially pure 287
geometry can have objective reality only under the condition that they refer to objects of sense. But with respect to the latter the principle has been established

that our sensible representation is not a representation of things in themselves, but of the way in which they appear to us. Hence it follows that the propositions of geometry are not the determinations of the mere creativity of our poetic imagination and therefore that they cannot be referred to actual objects with certainty; but rather that they are necessarily valid of space and, consequently, of all that may be found in space, because space is nothing other than the form of all outer appearances and it is this form alone in which objects of the senses can be given. Sensibility, the form of which underlies geometry, is that upon which the possibility of outer appearances depends. Therefore, these appearances can never contain anything but what geometry prescribes to them. It would be quite otherwise if the senses had to represent objects as they are in themselves. For then it would not at all follow from the representation of space, which the geometer presupposes *a priori* with all its properties, that all of this, together with what is inferred from it, must be so in nature. The space of the geometer would be considered a mere fiction and objective validity would not be attributed to it, because we cannot at all understand how things must necessarily agree with an image of them that we make spontaneously and prior to our acquaintance with them. But if this image, or rather this formal intuition, is the essential property of our sensibility, by means of which alone objects are given to us, and if this sensibility does not represent things in themselves, but rather only their appearances, then we shall easily comprehend and at the same time indisputably prove that all external objects of our sensible world must necessarily coincide in the most rigorous way with the propositions of geometry, because sensibility makes those objects possible as mere appearances in the first place by means of its form of outer intuition (space), with which the geometer is occupied. It will always be a remarkable phenomenon in the history of philosophy that there was a time when even mathematicians who were also philosophers began to doubt, not the correctness of their geometrical propositions insofar as they con-
288 cerned space, but their objective validity and of the applicability of this concept itself and of all its determinations to nature. For they were concerned that a line in nature might indeed consist of physical points and consequently that true space in the object might consist of simple parts, while the space which the geometer has in mind cannot. They did not understand that this mental space renders possible physical space itself, i.e., the extension of matter; that this pure space is not at all a quality of things in themselves, but a form of our sensible faculty of representation; and that all objects in space are mere appearances, i.e., not things in themselves but representations of our sensible intuition. Since space as the geometer conceives it is exactly the form of sensible intuition which we find in us *a priori* and contains the ground of the possibility of all outer appearances (according to their form), the latter must necessarily and most rigorously agree with the propositions of the geometer, which he does not draw from any fictitious concept, but from the subjective basis of all outer appearances, namely sensibility itself. In this and no other way can geometry be made secure as to the undoubted objective reality of its propositions against all the chicaneries of a shallow metaphysics, however strange this must seem to metaphysics, because it has not gone back to the sources of its concepts.

Remark II. Whatever is to be given to us as an object must be given to us in intuition. All our intuition, however, takes place only by means of the senses; the understanding intuits nothing, but only reflects. Now since we have just shown that the senses never and in no way enable us to know things in themselves, but only their appearances, which are mere representations of sensibility, we conclude that 'all bodies, together with the space in which they are found, must be considered nothing but mere representations in us and exist nowhere but in our thoughts.' Now, is this not manifest idealism?

Idealism consists in the assertion that there are only thinking beings; all other things that we be- 289
lieve to be perceived in intuition are nothing but representations in thinking beings, to which no object outside them in fact corresponds. I say, by contrast, that things are given to us as objects of our senses existing outside us, yet we know nothing of what they may be in themselves, but rather only

their appearances, i.e., the representations which they cause in us by affecting our senses. Accordingly, by all means I grant that there are bodies outside us, that is, things which, though quite unknown to us as to what they are in themselves, we yet know by the representations which their influence on our sensibility creates for us and which we call bodies, a term signifying merely the appearance of the thing which is unknown to us, but not therefore less actual. Can this be termed idealism? It is the very contrary.

Long before Locke's time, but even more so since then, it has generally been assumed and granted without detriment to the actual existence of outer things that many of their predicates may be said to belong not to the things in themselves, but to their appearances and to have no proper existence outside our representation. Heat, color, and taste, for instance, are of this kind. Now, if I go farther and for important reasons also consider as mere appearances the remaining qualities of bodies, which are called primary, such as extension, place, and in general space, with everything that belongs to it (impenetrability or materiality, shape, etc.)—no one can raise the least reason for its inadmissibility. As little as the man who admits colors not as properties of the object in itself, but only as modifications of the sense of sight, should on that account be called an idealist, so little can my system be called idealistic, merely because I discover that even more, in fact, *all the properties that constitute the intuition of a body* belong merely to its appearance. For the existence of the thing that appears is not thereby destroyed, as in genuine idealism, but rather it is only shown that we cannot possibly know it through the senses as it is in itself.

I would like to know what my assertions must be so that they do not contain any idealism. Undoubtedly, I would have to say that the representation of space is
290 not only perfectly conformable to the relation which our sensibility has to objects—that I have said—but also quite similar to the object—an assertion in which I can find as little meaning as if I said that the sensation of red has a similarity to the property of cinnabar, which excites this sensation in me.

Remark III. For this reason we may at once dismiss an easily foreseen but futile objection, "that by admitting the ideality of space and time the whole sensible world would be turned into mere illusion." At first all philosophical insight into the nature of sensible cognition was spoiled by making sensibility merely a confused mode of representation, according to which we still know things as they are, but without being able to reduce everything in our representation to a clear consciousness. By contrast, we have shown that sensibility consists, not in this logical distinction of clarity and obscurity, but in the genetic one of the origin of cognition itself. For sensible perception represents things not at all as they are, but only the way in which they affect our senses, and consequently by sensible perception appearances only and not things themselves are given to the understanding for reflection. After this necessary correction, the objection arises from an unpardonable and almost intentional misconception, as if my doctrine turned all the things of the sensible world into mere illusion.

When an appearance is given to us, we are still quite free as to how we should judge the matter. The appearance depends upon the senses, whereas the judgment depends upon the understanding and the only question is whether or not there is truth in the determination of the object. But the difference between truth and dreaming is not ascertained by the nature of the representations that are referred to objects (for they are the same in both cases), but by their connection according to those rules that determine the coherence of the representations in the concept of an object and to the extent to which they can subsist together in experience. And the appearances are not at fault if 291
our cognition takes illusion for truth, i.e., if the intuition by which an object is given to us is taken to be a concept of the thing or even of its existence that the understanding can only think. The senses represent to us the paths of the planets first as progressive, then as retrogressive, and there is neither falsehood nor truth in this, because as long as we hold that this is initially mere appearance, we do not pass judgment on the objective nature of their motion. But since a false judgment may easily arise when the understanding is not on its guard against taking this subjective mode of

representation to be objective, we say that they appear to move backward; it is not the senses, however, which must be charged with the illusion, but the understanding, whose province alone it is to pass objective judgment on the appearances.

In this way, even if we did not at all reflect on the origin of our representations, whenever we connect our sensible intuitions (whatever they may contain) in space and in time according to the rules of the coherence of all cognition in experience, illusion or truth will arise depending on whether we are negligent or careful. That concerns merely the use of sensible representations in the understanding and not their origin. In the same way, if I consider all the representations of the senses, together with their form, space and time, to be nothing but appearances, and space and time to be a mere form of the sensibility, which is not to be met with in objects outside sensibility, and if I use these representations in reference to possible experience only, there is nothing in my regarding them as appearances that can lead astray or cause illusion. For they can nonetheless cohere properly according to rules of truth in experience. In this way all the propositions of geometry hold good of space as well as of all the objects of the senses, consequently of all possible experience, whether I consider space as a mere form of sensibility or as something adhering to the things themselves. However, only in the former case can I comprehend how I can know *a priori* these propositions concerning all objects of outer intuition. Otherwise, everything else with respect to all possible experience remains just as if I had not departed from the typical view.

But if I dare to go beyond all possible experience with my concepts of space and time, which is unavoidable if I proclaim them qualities inherent in things in
292 themselves (for what should prevent me from letting them hold good of the same things, even though my senses might be different and unsuited to them?), then a grave error may arise due to an illusion. For I would thus proclaim to be universally valid what is merely a subjective condition of the intuition of things and clearly valid only for all objects of the senses, namely for all merely possible experience, because I would refer these qualities to things in themselves and not limit them to the conditions of experience.

My doctrine of the ideality of space and of time is, therefore, so far from reducing the whole sensible world to mere illusion that it is rather the only means of securing the application of one of our most important cognitions (namely that which mathematics presents *a priori*) to actual objects and of preventing its being regarded as mere illusion. For without this observation it would be absolutely impossible to determine whether the intuitions of space and time, which we borrow from no experience, but which still lie in our representation *a priori*, are not mere phantasms of our brain, to which objects do not correspond, at least not adequately, and consequently, whether geometry itself is a mere illusion. To the contrary, we have been able to show its unquestionable validity with regard to all objects of the sensible world precisely because they are mere appearances.

Secondly, though these principles turn the senses' representations into appearances, they are so far from transforming the truth of experience into mere illusion that they are rather the only means of preventing the transcendental illusion by which metaphysics has been deceived until now, leading to the childish endeavor of chasing after soap bubbles, because appearances, which are mere representations, were taken for things in themselves. Here originated the remarkable occurrence of the antimony of reason, which I shall mention below and which is resolved by the single observation that appearance, as long as it is employed in experience, produces truth, but the moment it transgresses the limits of experience and becomes transcendent, it produces nothing but pure illusion.

Since I thus grant reality to things that we represent to ourselves through the senses and only limit 293
our sensible intuition of these things in such a way that they in no way, not even in the pure intuitions of space and of time, represent anything more than mere appearance of those things, but never their constitution in themselves, I have not invented a sweeping illusion for nature. Further, my protestation against all charges of idealism is so valid and clear that they would even seem superfluous, if there were not incompetent judges, who, while they would have an ancient name for every deviation from their perverse though common views and never judge of the

spirit of the philosophical terminology, but cling to the letter only, are ready to replace well-defined concepts with their own folly and thereby deform and distort them. For the fact that I myself have given my theory the name of transcendental idealism cannot authorize anyone to confuse it either with the empirical idealism of Descartes (indeed, his was only an insoluble problem, owing to which he thought everyone free to deny the existence of the corporeal world because it could never be proved satisfactorily) or with the mystical and fanatical idealism of Berkeley (against which and other similar phantasms our *Critique* contains the proper antidote). For my idealism does not concern the existence of things (the doubting of which, however, constitutes idealism in the received sense), since it never occurred to me to doubt that, but rather the sensible representation of things, to which especially space and time belong. Concerning space and time and consequently all appearances in general, I have shown only that they are neither things (but mere modes of representation) nor determinations belonging to things in themselves. But the word "transcendental," which for me means a reference of our cognition, not to things, but only to the *cognitive faculty*, was meant to obviate this misunderstanding. But before this word gives further occasion to misunderstandings, I would like to retract it and prefer that my idealism be called critical. But if it is really an objectionable idealism to convert actual things (not appearances) into mere representations, by what name shall we call someone who conversely turns mere representations into things? It may, I think, be called *dreaming* idealism, in contrast to the
294 former, which may be called *fanatical*, both of which are to be refuted by my transcendental, or, better, *critical* idealism.

The Transcendental Problem: Part Two

How is natural science possible?

§ 14. *Nature* is the *existence* of things insofar as it is determined according to universal laws. If nature is supposed to signify the existence of things *in themselves*, we could never cognize it either *a priori* or *a posteriori*. Not *a priori*, for how can we know what belongs to things in themselves, since this can never be done by the dissection of our concepts (analytic judgments)? For I do not want to know what is contained in my concept of a thing (for that belongs to its logical being), but what it is in the actuality of the thing that is added to our concept and by which the thing itself is determined in its existence apart from the concept. My understanding and the conditions under which alone it can connect the determinations of things in their existence do not prescribe any rule to things themselves; these do not conform to our understanding, but rather it would have to conform to them; they must therefore first be given to me in order to gather these determinations from them, but then they would not be cognized *a priori*.

A cognition of the nature of things in themselves *a posteriori* would be equally impossible. For if experience is to teach us laws, to which the existence of things is subject, these laws, insofar as they concern things in themselves, would also have to belong to them *necessarily* even outside my experience. But experience teaches me what exists and how it exists, but never that it must necessarily exist so and not otherwise. Therefore, experience can never teach me the nature of things in themselves.

§ 15. We nevertheless actually possess a pure natural science that presents *a priori* and with all the 295
necessity requisite to apodeictic propositions laws to which nature is subject. I need only call as a witness that propaedeutic of natural science which, under the title of a universal natural science, precedes all physics (which is founded upon empirical principles). In it we find mathematics applied to appearances and also merely discursive principles (derived from concepts), which constitute the philosophical part of the pure cognition of nature. But there are several things in it that are not quite pure and independent of empirical sources: such as the concept of *motion*, that of *impenetrability* (upon which the empirical concept of matter rests), that of *inertia*, and many others, which prevent us from calling it a completely pure natural science. Besides, it refers only to objects of outer sense and therefore does not provide an example of a universal natural science in the strict sense, since such a science must bring

nature in general, whether it regards the objects of outer or inner sense (the objects of physics as well as psychology), under universal laws. But among the principles of this universal physics several actually have the universality that we demand; for instance, the propositions that "substance is permanent," and that "every event is determined by a cause according to constant laws," etc. These are actual universal laws of nature, which exist completely *a priori*. There is then in fact a pure natural science and the question now is: *How is it possible*?

§ 16. The word *nature* assumes yet another meaning, which determines the object, whereas in the former sense it implies only that the existence of things in general must be determined *according to laws*. Nature considered *materialiter* (materially) is *the sum of all objects of experience*. And we are concerned with nature only in this sense, because things that can never be objects of experience, if they are to be cognized according to their nature, would force us to concepts whose meaning could never be given *in concreto* (in any example of possible experience)
296 and of whose nature we would have to form concepts whose reality (i.e., whether they actually refer to objects or are mere beings of thought) could never be determined. The cognition of what cannot be an object of experience would be hyperphysical and we are not concerned here with hyperphysical things, but rather with the cognition of nature whose actuality can be confirmed by experience, although it is possible *a priori* and precedes all experience.

§ 17. The formal aspect of nature in this narrower sense is therefore the conformity to law of all objects of experience and, insofar as it is cognized *a priori*, their *necessary* conformity. But it has just been shown that the laws of nature can never be cognized *a priori* in objects insofar as they are considered not in reference to possible experience, but as things in themselves. But here we are concerned not with things in themselves (the properties of which we set aside), but rather with things as objects of possible experience, and the sum of these is what we properly call nature. And now I ask, when the possibility of a cognition of nature *a priori* is in question, whether it is better to pose the problem thus: How can we cognize *a priori* that *things* as objects of experience necessarily conform to law? or thus: How is it possible to cognize *a priori* that *experience* itself necessarily conforms to law with respect to all its objects in general?

Closely considered, the solution of the question, represented in either way, amounts entirely to the same thing with regard to the pure cognition of nature (which is the point of the question). For the subjective laws, under which alone an empirical cognition of things is possible, are also valid for these things as objects of possible experience (certainly not as things in themselves, which are not under consideration here). It does not matter at all whether I say: A judgment of perception can never be valid for experience without the law that "whenever an event is observed, it is always referred to some antecedent, which it follows according to a universal rule" or whether I express myself such: "Everything, of which experience teaches that it happens, must have a cause."

It is, however, more convenient to choose the 297
former statement. For *a priori* and prior to all given objects we can have a cognition of those conditions under which alone experience is possible, but never of the laws to which things in themselves may be subject without reference to possible experience. Accordingly, we cannot study the nature of things *a priori* otherwise than by investigating the conditions and the universal (though subjective) laws, under which alone such a cognition as experience (concerning its mere form) is possible and according to which we determine the possibility of things as objects of experience. For if I should choose the second statement and seek the *a priori* conditions under which nature is possible as an *object* of experience, I might easily fall into a misunderstanding and imagine that I was speaking of nature as a thing in itself and then move around in endless circles in a vain search for laws concerning things that are not at all given to me.

We shall therefore be concerned here only with experience along with the universal conditions of its possibility that are given *a priori* and determine nature as the whole object of all possible experience on that basis. I think it will be understood that I do not mean here the rules of the *observation* of a nature

that is already given, for these already presuppose experience. I do not mean how we can study the laws of nature (through experience)—for in that case they would not be *a priori* laws and would not yield us a pure natural science—but rather how the *a priori* conditions of the possibility of experience are at the same time the sources from which all universal laws of nature must be derived.

§ 18. We must first of all note that, although all judgments of experience are empirical (i.e., are based in immediate sense-perception), the reverse, namely that all empirical judgments are for that reason judgments of experience, does not hold, but in addition to what is empirical and, in general, to what is given in sensible intuition, special concepts must still be added which have their origin completely *a priori* in the pure understanding and under which every perception must first of all be subsumed and can then by their means be changed into experience.

298 *Empirical judgments, insofar as they have objective validity*, are **judgments of experience**; but those that are *only subjectively valid*, I call mere **judgments of perception**. The latter require no pure concept of the understanding, but only the logical connection of perceptions in a thinking subject. But, in addition to the representations of sensible intuition, the former always require *special concepts originally created in the understanding*, which make the judgment of experience objectively valid.

All our judgments are initially mere judgments of perception; they are valid only for us (i.e., for our subject) and only later do we give them a new reference (to an object) and desire that they shall always be valid for us and in the same way for everybody else; for if a judgment agrees with an object, all judgments concerning the same object must likewise agree among themselves, and thus the objective validity of the judgment of experience signifies nothing other than its necessary universality. And, conversely, when we have reason to consider a judgment necessarily universal (which never depends upon perception, but upon the pure concept of the understanding, under which the perception is subsumed), we must consider it to be objective too, that is, that it expresses not merely a relation of our perception to a subject, but a quality of the object. For there would be no reason for the judgments of others to agree with mine necessarily, if it were not the unity of the object to which they all refer and with which they agree, and for that reason they must all agree with one another.

§ 19. Therefore, objective validity and necessarily universal validity (for everybody) are equivalent concepts, and though we do not know the object in itself, when we consider a judgment as universally valid and thus necessary, we understand by this that it has objective validity. Through this judgment we cognize the object (even if it remains otherwise unknown as it is in itself) by the universally valid and 299
necessary connection of given perceptions. Since this is the case with all objects of the senses, judgments of experience take their objective validity not from the immediate cognition of the object (which is impossible) but merely from the condition of the universal validity of empirical judgments that, as has been said, never rests upon empirical or even sensible conditions in general, but rather upon a pure concept of the understanding. The object always remains unknown in itself; but if a concept of the understanding determines as universally valid the connection of the representations that are given to our sensibility, then the object is determined by this relation and the judgment is objective.

Let's illustrate the matter: that the room is warm, sugar sweet, and wormwood bitter,[8] are merely subjectively valid judgments. I do not at all expect that I or everyone else shall always find it as I now do; each judgment merely expresses a relation of two sensations to the same subject, namely myself, and

8. I readily grant that these examples do not represent judgments of perception that could ever become judgments of experience, even if a concept of the understanding were added, because they refer merely to feeling, which everybody recognizes as merely subjective and which therefore can never be attributed to the object and consequently can never become objective. I only wished to give an example of a judgment that is merely subjectively valid, containing no basis for universal validity and thereby containing no basis for a relation to the object. An example of judgments of perception that become judgments of experience through added concepts of the understanding will be given in the next footnote.

that only in my present state of perception; for that reason they are not valid of the object. I call them judgments of perception. Judgments of experience are of a completely different nature. What experience teaches me under certain circumstances, it must always teach me and everyone else and its validity is not limited to the subject or to its current state. For that reason I express all such judgments as objectively valid. For instance, when I say that the air is elastic, this judgment is initially only a judgment of perception, since I simply refer two of my sensations to one another. However, if I want to call it a judgment of experience, then I require that this connection stand under a condition that makes it universally valid. Thus I desire that I and everybody else should always necessarily connect the same perceptions under the same circumstances.

300 § 20. Consequently, we must analyze experience in general in order to see what is contained in this product of the senses and the understanding and how the judgment of experience itself is possible. An intuition of which I become conscious, i.e., perception (*perceptio*), which pertains merely to the senses, is the first presupposition. But, second, acts of judging (which belong only to the understanding) are also required. But this judging may be twofold—first, I may merely compare perceptions and connect them in a consciousness of my state; or, second, I may connect them in consciousness in general. The former judgment is merely a judgment of perception and is to this extent of subjective validity only: it is merely a connection of perceptions in my mental state without reference to the object. Hence it is not, as is commonly imagined, enough for experience to compare perceptions and to connect them in consciousness through judgment; by these means no universality and necessity arises, on account of which alone it can be objectively valid and experience.

Therefore, quite another judgment is required before perception can become experience. The given intuition must be subsumed under a concept, which determines the form of judging in general with respect to the intuition, connects its empirical consciousness in consciousness in general, and thereby establishes universal validity for empirical judgments. Such a concept is a pure *a priori* concept of the understanding, which does nothing but determine for an intuition the general way in which it can be used for judgments. If the concept of cause is such a concept, it determines the intuition which is subsumed under it, e.g., that of air, relative to judgments in general, namely that the concept of air serves with regard to its expansion in the relation of antecedent to consequent in a hypothetical judgment. The concept of cause is thus a pure concept of the understanding, which is totally disparate from all possible perception and serves only to determine the representation subsumed under it, with respect to judging in general, and so to make a universally valid judgment possible.

Now, before a judgment of perception can be- 301
come a judgment of experience, it is first requisite that the perception be subsumed under such a concept of the understanding; for instance, air falls under the concept of cause, which determines our judgment about the air as hypothetical with respect to its expansion.[9] The expansion of the air is thereby represented not as merely belonging to the perception of the air in my present state or in several states of mine or in the perceptual state of others, but as belonging to it *necessarily*. The judgment: the air is elastic, becomes universally valid and a judgment of experience only because certain judgments preceding it subsume the intuition of air under the concept of cause and effect, thereby determining the perceptions not merely with respect to one another in me as a subject, but relative to the form of judging in general, which is hypothetical in this case, and in this way rendering the empirical judgment universally valid.

If we analyze all our synthetic judgments that are objectively valid, we will find that they never

9. To take an example that is easier to comprehend, consider the following: When the sun shines on a stone, it grows warm. This judgment, however often I and others may have perceived it, is a mere judgment of perception and contains no necessity; perceptions are only usually conjoined in this manner. But if I say: The sun warms a stone, I add to the perception a concept of the understanding, namely that of cause, which connects the concept of heat with that of sunshine as a necessary consequence and the synthetic judgment necessarily becomes universally valid and consequently objective, and is converted from a perception into experience.

consist of mere intuitions connected into a judgment only by comparison (as is commonly supposed), but rather that they would be impossible if, in addition to concepts abstracted from intuition, we did not add a pure concept of the understanding under which the former are subsumed and first combined in this manner into an objectively valid judgment. Even the judgments of pure mathematics in their simplest axioms are not exempt from this condition. The principle: a straight line is the shortest distance between two points, presupposes that the line is subsumed under the concept of magnitude, which is certainly no mere intuition, but has its seat in the understanding alone and serves to determine the intuition (of the line) with respect to the judgments that may be made about it relative to their magnitude, that is, to plu-
302 rality (as *judicia plurativa*).[10] For in the case of such judgments it is understood that a given intuition contains a plurality of homogenous parts.

§ 21. To prove, therefore, the possibility of experience insofar as it rests upon pure *a priori* concepts of the understanding, we must first represent in a complete table what belongs to judgments in general and the various moments of the understanding. For the pure concepts of the understanding, which are nothing more than concepts of intuitions in general insofar as these are determined with respect to one or the other of these moments of judging in themselves, that is, necessarily and universally, must run parallel to these moments. In this way the *a priori* principles of the possibility of all experience, as an objectively valid empirical cognition, will also be precisely determined. For they are nothing but propositions that subsume all perception under those pure concepts of the understanding (according to certain universal conditions of intuition).

10. This name seems preferable to the term *particularia*, which is used for these judgments in logic. For the latter expression already contains the idea that they are not universal. But when I start from unity (in singular judgments) and so proceed to universality, I must not include any reference to universality. I think plurality merely without universality and not as an exception to it. This is necessary if logical considerations are to underlie the pure concepts of the understanding. However, its logical use need not be altered.

Logical Table of Judgments

1
As to Quantity
Universal
Particular
Singular

2
As to Quality
Affirmative
Negative
Infinite

3
As to Relation
Categorical
Hypothetical
Disjunctive

4
As to Modality
Problematic
Assertoric
Apodeictic

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Transcendental Table of the Pure Concepts of the Understanding

1
As to Quantity
Unity (Measure)
Plurality (Magnitude)
Totality (Whole)

2
As to Quality
Reality
Negation
Limitation

3
As to Relation
Substance
Cause
Community

4
As to Modality
Possibility
Existence [*Dasein*]
Necessity

Pure Physiological Table of the Universal Principles of the Science of Nature

1
Axioms of Intuition

2
Anticipations of Perception

3
Analogies of Experience

4
Postulates of Empirical Thought in General

304 § 21a. In order to sum the whole matter up into one idea, it is first necessary to remind the reader that we are not discussing the origin of experience, but what lies in experience. The former belongs to empirical psychology and even then would never be developed adequately without the latter, which belongs to the critique of cognition and particularly of the understanding.

Experience consists of intuitions, which belong to the sensibility, and of judgments, which are solely the understanding's business. However, those judgments that the understanding forms solely from sensible intuitions are far from being judgments of experience. For in the one case the judgment connects the perceptions only as they are given in sensible intuition, while in the other case the judgments must express what experience in general and not what mere perception contains (which possesses only subjective validity). A judgment of experience must therefore add to sensible intuition and its logical connection in a judgment (after it has been rendered universal by comparison) something that determines the synthetic judgment as necessary and therefore as universally valid. This can be nothing other than that concept which represents the intuition as determined in itself with respect to one form of judgment rather than another, namely a concept of that synthetic unity of intuition which can be represented only through a given logical function of judgment.

§ 22. The sum of the matter is this: the task of the senses is to intuit—that of the understanding is to think. But to think is to unify representations in one consciousness. This unification either originates merely relative to the subject and is accidental and subjective, or is absolute and is necessary or objective. The unification of representations in one consciousness is judgment. Therefore, thinking is the same as judging or referring representations to judgments in general. For this reason judgments are either merely subjective, if representations are referred to a consciousness in only one subject and united in that subject, or objective, if they are united in one consciousness in general, that is, necessarily. The logical moments of all judgments are simply the various possible ways of unifying representations in consciousness. But if they function as concepts, they are concepts of their necessary unification in one consciousness and thus principles of objectively valid judgments. This unification in one consciousness is either analytic, by identity, or synthetic, by the combination and addition of various representations to each other. Experience consists in the synthetic connection of appearances (perceptions) in one consciousness insofar as this connection is necessary. For this reason pure concepts of the understanding are those under which all perceptions must be subsumed before they can serve in judgments of experience, in which the synthetic unity of the perceptions is represented as necessary and universally valid.[11]

§ 23. Insofar as judgments are considered merely as the condition of the unification of given representations in one consciousness, they are rules. Insofar as these rules represent the unification as necessary, they are *a priori* rules; and insofar as these *a priori* rules cannot be deduced from higher rules, they are principles. But with respect to the possibility of all experience, if one considers only the form of thought in it, no conditions of judgments of experience are higher than those which bring the appearances (according to the different form of their intuition) under pure concepts of the understanding that render the empirical judgment objectively valid. These conditions are therefore the *a priori* principles of possible experience.

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11. But how does this proposition: that judgments of experience contain necessity in the synthesis of perceptions, agree with the statement I have argued for so often before: that experience as cognition *a posteriori* can provide contingent judgments only? When I say: experience teaches me something, I mean only the perception that lies in experience—for example, that heat always follows the shining of the sun on a stone—thus, the proposition of experience is to this extent always contingent. That this heat necessarily follows the shining of the sun is indeed contained in the judgment of experience (by means of the concept of cause), but I do not learn it through experience. Rather, the reverse holds: experience is first of all generated by this addition of the concept of the understanding (of cause) to perception. To see how the perception comes by this addition one must refer to the *Critique* itself in the section on the transcendental faculty of judgment. [Kant is referring to The Schematism of the Pure Concepts of the Understanding, A137ff./B176ff.]

Now the principles of possible experience are at the same time universal laws of nature, which can be cognized *a priori*. And thus the problem in our second question: *How is pure natural science possible*? is solved. For the systematization that is required for the form of a science is found to perfection here, because, beyond the previously mentioned formal conditions of all judgments in general (and thus of all rules in general) offered in logic, no others are possible. While these constitute a logical system, the concepts based on them, which contain the *a priori* conditions of all synthetic and necessary judgments, are for just that reason a transcendental system. Finally, the principles by means of which all appearances are subsumed under these concepts constitute a physiological system, that is, a system of nature, which precedes all empirical cognition of nature, makes it possible in the first place, and for that reason may be called the proper universal and pure natural science.

§ 24. The first[12] of the physiological principles subsumes all appearances, as intuitions in space and time, under the concept of *magnitude* and is to that extent a principle of the application of mathematics to experience. The second one does not directly subsume the empirical element, namely sensation, which denotes the real in intuitions, under the concept of quantity, because sensation is not an intuition that would contain either space or time, though it does place the object corresponding to it into both. But still there is a quantitative difference between reality (sense-representation) and zero, i.e., a total lack of intuition in time. For between every given degree of light and darkness, between every degree of heat and absolute cold, between every degree of heaviness and absolute lightness, between every degree of occupied space and totally empty space, still smaller 307
degrees can always be thought, just as ever diminishing degrees always obtain between consciousness and total unconsciousness (psychological darkness). For that reason no perception could prove an absolute absence of it; for instance, no psychological darkness could be viewed as a kind of consciousness that is simply outweighed by another, stronger consciousness, and the same holds in all cases of sensation, for which reason the understanding can anticipate even sensations that constitute the proper quality of empirical representations (appearances) by means of the principle: that they all (thus the real in all appearances) have a degree. This is the second application of mathematics (*mathesis intensorum*) to natural science.

§ 25. Regarding the relation of appearances and merely with a view to their existence, the determination of this relation is not mathematical but rather dynamical, can never be objectively valid, and consequently is never fit for experience if it is not subject to *a priori* principles that make the cognition of experience relative to appearances possible in the first place. For this reason appearances must be subsumed under the concept of substance, which, as a concept of the thing itself, underlies all determination of existence; or secondly—insofar as succession, that is, an event, is found among appearances—under the concept of an effect with respect to a cause; or lastly—insofar as coexistence is to be known objectively, that is, by a judgment of experience—under the concept of community (interaction). Thus *a priori* principles underlie objectively valid, though empirical judgments, that is, the possibility of experience insofar as it is to connect objects in nature according to their existence. These principles are the proper laws of nature, which can be called dynamical.

Finally, judgments of experience include the cognition of the agreement and connection, not of appearances among themselves in experience, but of their relation to experience in general, which contains either their agreement with the formal conditions that the understanding cognizes, or their coher- 308
ence with the materials of the senses and perception, or both combined into one concept. Consequently it contains possibility, actuality, and necessity according to universal laws of nature; and this constitutes the physiological doctrine of method (the distinction of truth and of hypotheses, and the limits on the admissibility of the latter).

12. The three following paragraphs can hardly be understood properly unless one refers to what the *Critique* itself says about the principles; they can, however, be of service in giving a better view of their general features and in fixing one's attention on the main points.

§ 26. The third table of principles derived *from the nature of the understanding itself* according to the critical method displays an inherent perfection, placing it far above every other table that has ever been or may still be attempted (though in vain) by analyzing *the objects themselves* dogmatically. For it exhibits all synthetic *a priori* principles completely and according to one principle, namely the faculty of judging in general, which constitutes the essence of experience with respect to the understanding, so that we can be certain that there are no more such principles, a satisfaction that the dogmatic method can never attain. But this is by no means its greatest merit.

We must pay close attention to the proof that shows the possibility of this *a priori* cognition and at the same time limits all such principles to a condition which must never be lost sight of if it is not to be misunderstood and extended in use beyond the original sense which the understanding attaches to it, namely that these principles contain only the conditions of possible experience in general insofar as it is subjected to *a priori* laws. Consequently I do not say that things *in themselves* possess a magnitude, that their reality possesses a degree, that their existence contains a connection of accidents in a substance, etc. For no one can prove this, because such a synthetic connection from mere concepts is absolutely impossible, where all relation to sensible intuition, on the one hand, and all connection of it in a possible experience, on the other hand, is lacking. Thus, the essential limitation of the concepts in these principles is: that all things necessarily stand *a priori* under the conditions stated above only as objects of experience.

Second, a specifically unique mode of proof of
309 these principles then follows: they are not referred directly to appearances and to their relations, but to the possibility of experience, of which appearances constitute only the matter, not the form. That is, they are referred to objectively and universally valid synthetic propositions, in which we distinguish judgments of experience from mere judgments of perception. This takes place because appearances, as mere intuitions, *occupying a part of space and time*, fall under the concept of magnitude, which synthetically unifies their manifold *a priori* according to rules; and because, insofar as perception contains sensibility in addition to intuition, there is an ever-decreasing transition between sensation and nothing (i.e., the total disappearance of sensation), the real in appearances must have a degree insofar as it does *not* itself occupy *any part of space or time*.[13] Still the transition to actuality from empty time or empty space is possible only in time; consequently, though sensation, as the quality of empirical intuition by means of which it is distinguished from other sensations, can never be cognized *a priori* as a quantity of perception, it can still be intensively distinguished from every other similar perception in a possible experience in general. For this reason the application of mathematics to nature with respect to sensible intuition, by which nature is given to us, is made possible and determined in the first place.

Above all, the reader must pay attention to the mode of proof of the principles that occur under the title of the Analogies of Experience. For these do not refer to the creation of intuitions, as do the principles 310
of the application of mathematics to natural science in general, but rather to the connection of their existence in experience; and this can be nothing but the determination of their existence in time according to necessary laws, under which alone the connection is objectively valid and thus becomes experience. Therefore, the proof does not apply to the synthetic unity in the connection *of the things* in themselves, but rather of *perceptions*, and of these not in regard to their content, but rather to the determination of time and of the relation of their existence in it according to

13. Heat and light, etc. are just as large (according to their degree) in a small space as in a large one; in like manner inner representations, pain, consciousness need not vary according to degree depending on whether they last a short or a long time. Hence the quantity is just as great in a point or in a moment as in a space or time of any magnitude. Degrees are therefore magnitudes, not in intuition, but rather in mere sensation (or in the magnitude of the ground of an intuition). Hence they can only be estimated quantitatively by the relation of 1 to 0, namely by their capability of decreasing by infinite intermediate degrees to disappearance or of increasing from zero through infinite gradations to a determinate sensation in a certain time. *Quantitas qualitatis est gradus* [i.e., the quantity of quality is degree].

universal laws. If empirical determination in relative time is to be objectively valid and thus experience, these universal laws must contain the necessary determination of existence in time in general (according to a rule of the understanding *a priori*). I cannot discuss the issue further in these *Prolegomena*, but I suggest that my reader (who has probably been long accustomed to view experience as a mere empirical synthesis of perceptions and hence who has not considered that it extends well beyond their reach, namely by imparting universal validity to empirical judgments for which purpose it requires a pure and *a priori* unity of the understanding) pay special attention to this distinction between experience and a mere aggregate of perceptions and to judge the mode of proof from this point of view.

§ 27. We are now in a position to remove Hume's doubt. He rightly maintains that through reason we cannot have insight into the possibility of causality, i.e., of the relation of the existence of one thing to the existence of another that is necessitated by the former. I add that we have just as little insight into the concept of subsistence, i.e., the necessity that a subject lies at the foundation of the existence of things that cannot itself be a predicate of any other thing; even more, we cannot even form a concept of the possibility of such a thing (though we can point out examples of its use in experience). The very same incomprehensibility affects the community of things, since we cannot have insight into how an inference from the state of one thing to the state of quite another thing beyond it, and *vice versa*, can be drawn, and how substances, each of which has its own separate existence, should depend upon one another and
311 even do so necessarily. At the same time, I am very far from holding these concepts to be merely derived from experience and the necessity represented in them to be imaginary and a mere illusion long habit has produced in us. Rather, I have sufficiently shown that they and the principles derived from them are firmly established *a priori* before all experience and have their undoubted objective correctness, though of course only with respect to experience.

§ 28. Thus, although I have no concept of such a connection of things in themselves, how they could either exist as substances or act as causes or stand in community with others (as parts of a real whole), and I am just as unable to conceive such properties in appearances as such (because those concepts contain nothing that lies in the appearances, but only what the understanding alone must think), we still have a concept of such a connection of representations in our understanding and in judgments in general, namely: that representations appear in one sort of judgment as a subject in relation to predicates, in another as a ground in relation to consequences, and in a third as parts, which, when taken together, constitute a total possible cognition. Further, we cognize *a priori* that without considering the representation of an object as determined in some of these moments, we can have no valid cognition of the object and if we should concern ourselves with the object in itself, there is no possible characteristic by which I could know that it is determined in any of these moments, that is, under the concept of either substance or cause or (in relation to other substances) community, for I have no concept of the possibility of such a connection of existence. However, the question is not how things in themselves, but rather how the empirical cognition of things is determined with respect to the above moments of judgment in general, that is, how things as objects of experience can and should be subsumed under these concepts of the understanding. And then it is clear that I have complete insight into not only the possibility but also the necessity of subsuming all appearances under these concepts, that is, of using them for principles of the possibility of experience.

§ 29. In order to experiment with Hume's prob- 312
lematical concept (his *crux metaphysicorum*), namely the concept of cause, we are, first, given *a priori* by means of logic the form of a conditioned judgment in general, i.e., we use one given cognition as antecedent and another as consequence. But it is possible that we may encounter in perception a rule for this relation that states: that a certain appearance is constantly followed by another (though not conversely), and this is the case when I can use the hypothetical judgment and, for instance, say: if the sun shines long enough upon a body, it grows warm. Of course, there

is as yet no necessary connection and thus no concept of cause. However, I continue and say: if the above proposition, which is merely a subjective connection of perceptions, is to be a judgment of experience, it must be viewed as necessarily and universally valid. But such a proposition would be: Through its light the sun is the cause of the heat. The rule that was empirical above is now considered as a law and not merely as valid of appearances, but valid of them for the purposes of a possible experience which requires universal and therefore necessarily valid rules. Therefore, I certainly do have insight into the concept of cause as a concept necessarily belonging to the mere form of experience and its possibility as a synthetic unification of perceptions in consciousness in general; but I do not have any insight at all into the possibility of a thing in general as a cause, because the concept of cause does not at all denote a condition that belongs to things, but rather only to experience, namely that experience is only an objectively valid cognition of appearances and of their succession insofar as the antecedent can be conjoined with the consequent according to the rule of hypothetical judgments.

§ 30. For this reason, if the pure concepts of the understanding refer not to objects of experience but to things in themselves (*noumena*), they have no significance whatsoever. They serve, as it were, only to spell out appearances so that we may be able to read
313 them as experience. The principles that arise from their reference to the sensible world only serve our understanding for use in experience. Beyond this they are arbitrary combinations without objective reality and we can neither cognize their possibility *a priori* nor verify their reference to objects, let alone make them intelligible by any example; because examples can only be borrowed from some possible experience, the objects of these concepts can be found nowhere but in a possible experience.

This complete solution of Hume's problem, though it goes against its originator's expectations, rescues the *a priori* origin of the pure concepts of the understanding and the validity of the universal laws of nature as laws of the understanding, yet in such a way that it limits their use only to experience, because their possibility depends solely on the relation of the understanding to experience—not by deriving them from experience, but rather by deriving experience from them—a completely reversed mode of connection that never occurred to Hume.

This is therefore the result of all our previous inquiries: "All synthetic *a priori* principles are nothing more than principles of possible experience and can never be referred to things in themselves, but only to appearances as objects of experience." For this reason pure mathematics as well as pure natural science can never be referred to anything other than mere appearances and can only represent either what makes experience possible in general or what, by being derived from these principles, must always be capable of being represented in some possible experience.

§ 31. And thus we finally have something determinate that one can depend on in all metaphysical enterprises that have been bold enough until now, but always at random, treating everything blindly without discrimination. That the goal of their exertions should be so near occurred neither to dogmatic thinkers nor to those who, confident in their supposed sound reason, started with concepts and principles of pure reason (which were legitimate and natural, but only for use in experience) in search of insight, to which they neither knew nor could know any determinate limits, because they had never re- 314
flected nor were able to reflect on the nature or even on the possibility of such a pure understanding.

Many a naturalist of pure reason (by which I mean anyone who believes he can decide matters in metaphysics without any science) may pretend that long ago, by the prophetic spirit of his sound sense, he not only suspected but knew and comprehended what is presented here with so much preparation or, if he likes, with prolix and pedantic pomp: namely that with all our reason we can never reach beyond the field of experience. However, when he is finally questioned about his rational principles, he must grant that many of them have not been derived from experience and that they are therefore independent of experience and valid *a priori*. How then and on what grounds will he restrain both himself and the dogmatist who makes use of these concepts and principles beyond all possible experience precisely

because they are recognized to be independent of it? And even he, this adept in sound reason, in spite of all his assumed and cheaply acquired wisdom, is not exempt from inadvertently wandering beyond objects of experience into the field of chimeras. He, too, is often deeply enough involved in them, though in announcing everything as mere probability, rational conjecture, or analogy he gives his groundless pretensions a different appearance with his popular language.

§ 32. Since the oldest days of philosophy, besides the beings of sense or appearances (*phaenomena*) which make up the sensible world, inquirers into pure reason have conceived special beings of the understanding (*noumena*), which are supposed to constitute an intelligible world. And since they equated appearance and illusion (something we may well excuse in an undeveloped epoch), actuality was only granted to the beings of the understanding.

In fact, if, as is fitting, we view the objects of the
315 senses as mere appearances, we thereby confess at the same time that they are based upon a thing in itself, though we do not know this thing in its internal constitution, but rather only its appearances, i.e., the way in which our senses are affected by this unknown something. The understanding, therefore, precisely by assuming appearances, also grants the existence of things in themselves and to this extent we may say that the representation of such beings that underlie the appearances, consequently of mere beings of the understanding, is not only admissible but also unavoidable.

Our critical deduction by no means excludes such things (*noumena*), but rather limits the principles of the Aesthetic[14] in such a way that they shall not extend to all things, since everything would then be turned into mere appearance, but that they are to hold good only of objects of possible experience. Thus, in this way beings of the understanding are granted, but only with the enforcement of this rule that admits of no exception: that we neither know nor can know anything at all determinate about these pure beings of the understanding, because our pure concepts of the understanding as well as our pure intuitions extend to nothing but objects of possible experience, consequently to mere beings of sense and, as soon as we leave this sphere, these concepts retain no meaning whatsoever.

§ 33. There is indeed something seductive in our pure concepts of the understanding that tempts us to a transcendent use—a use which transcends all possible experience. Not only are our concepts of substance, force, action, reality, etc. quite independent of experience, containing nothing of sense appearance, and not only do they thus appear to be applicable to things in themselves (*noumena*), but, what strengthens this conjecture, they contain a necessity of determination in themselves, which experience never attains. The concept of cause implies a rule according to which one state follows another necessarily; but experience can show us only that one state of things often or even typically follows another and therefore furnishes neither strict universality nor necessity.

For that reason the concepts of the understanding seem to have a deeper meaning and content 316
than could be exhausted by their mere empirical use and thus the understanding inadvertently adds to the house of experience a much more extensive wing that it fills with nothing but beings of thought, without even noticing that it has taken its otherwise legitimate concepts beyond the limits of their use.

§ 34. Two important, and even indispensable, though very dry, investigations were therefore necessary in the *Critique of Pure Reason*—namely pp. 137, 235.[15] In the former it is shown that the senses do not furnish the pure concepts of the understanding *in concreto*, but rather only the schemata for their use and that the object conformable to it occurs only in experience (as a product of the understanding from the materials of sensibility). In the latter it is shown that, although the pure concepts and principles of our understanding are independent of experience and despite the apparently greater sphere of their use, nothing whatsoever can be thought by them

14. [Kant is referring here to the chapter in the *Critique of Pure Reason* that develops his doctrine of sensibility, that is, the Transcendental Aesthetic, A19–49/B33–73.]

15. [Kant is referring here to "The Schematism of the Pure Concepts of the Understanding" and "On the Basis of the Distinction of all Concepts of the Understanding into Phenomena and Noumena."]

beyond the field of experience, because they can do nothing but merely determine the logical form of judgment relative to given intuitions. But since there is no intuition at all beyond the field of sensibility, these pure concepts are void of all meaning, because they cannot possibly be exhibited *in concreto*; consequently all these noumena, together with their sum, the intelligible world,[16] are nothing but representations of a problem, whose object is possible in itself, but whose solution is totally impossible according to the nature of our understanding. For our understanding is not a faculty of intuition, but merely one of the connection of given intuitions in
317 one experience. Experience must therefore contain all objects for our concepts; but beyond it no concepts have any significance, since there is no intuition that could underlie them.

§ 35. The imagination may perhaps be forgiven for occasional flights of fancy and for not keeping carefully within the limits of experience, since it gains life and vigor by such flights and since it is always easier to moderate its boldness than to stimulate its languor. But the understanding which ought to *think* can never be forgiven for indulging in such flights; for we depend upon it alone for assistance to set limits, where necessary, to the flights of the imagination.

But the understanding begins its aberrations very innocently and modestly. It first straightens out the elementary cognitions, which inhere in it prior to all experience, but which still must always have their application in experience. It gradually drops these restrictions, and what is there to prevent it, since it has quite freely derived its principles from itself? And then it proceeds first to newly-imagined powers in nature, then shortly thereafter to beings outside nature, in short to a world, for whose construction the materials cannot be wanting, because they can be furnished abundantly through fertile fiction, and though it is not confirmed, it is also never refuted by experience. This is the reason that young thinkers are so partial to metaphysics of the truly dogmatic kind and often sacrifice to it their time and their talents, which might be better employed in other ways.

But there is no use in trying to moderate these fruitless endeavors of pure reason by all kinds of reminders as to the difficulties of solving questions so occult, by complaints about the limits of our reason, and by degrading our assertions into mere conjectures. For if their *impossibility* is not distinctly shown and reason's *cognition of itself* does not become a true science in which the field of its legitimate use is distinguished, so to speak, with mathematical certainty from that of its worthless and idle use, these fruitless efforts will never be abandoned for good.

§ 36. *How is nature itself possible?* 318

This question—the highest point that transcendental philosophy can ever reach, and to which it must proceed for its limits and completion—actually contains two questions.

First: How is nature in the *material* sense, namely according to intuition, considered as the sum of appearances possible in general? How are space, time, and that which fills both, the object of sensation, possible in general? The answer is: By means of the constitution of our sensibility, according to which it is affected in its own unique way by objects that in themselves are unknown to it and totally distinct from its appearances. This answer is given in the *Critique* itself in the Transcendental Aesthetic and in these *Prolegomena* by the solution of the first main problem.

Secondly: How is nature possible in the *formal* sense, as the sum of the rules to which all appearances must be subject in order to be thought as connected in one experience? The answer must be this: It is possible only by means of the constitution of our understanding, according to which all the representations of sensibility are necessarily referred to one consciousness and by which the unique way in which we think (namely by rules), and hence experience also,

16. We speak of the *intelligible* world, not (as it is typically expressed) the *intellectual* world. For *cognitions* are *intellectual* through the understanding and also refer to our world of sense; but, insofar as *objects* can be represented *merely by the understanding* and to which none of our sensible intuitions can refer, they are termed "intelligible." But since some possible intuition must correspond to every object, we would have to assume an understanding that intuits things immediately; but we do not have the least notion of such an understanding, nor do we have a notion of the *beings of the understanding* to which it is to be applied.

are possible, but must be clearly distinguished from insight into the objects in themselves. This answer is given in the *Critique* in the Transcendental Logic and in these *Prolegomena* in the course of the solution of the second main problem.

But how this unique property of our sensibility itself or that of our understanding and of the apperception that is necessarily the basis of it and of all its thinking is possible cannot be analyzed further or answered, because it is to them that we must take recourse for all our answers and for all our thought about objects.

There are many laws of nature that we can know only by means of experience, but conformity to law in the connection of appearances, i.e., in nature in
319 general, we cannot discover by any experience, because experience itself requires laws that underlie its possibility *a priori*.

The possibility of experience in general is therefore at the same time the universal law of nature and the principles of the former are themselves the laws of the latter. For we know nature only as the sum of appearances, i.e., of representations in us, and hence we can derive the laws of their connection only from the principles of their connection in us, that is, from the conditions of their necessary unification in one consciousness, which constitutes the possibility of experience.

Even the main proposition expounded throughout this section—that universal laws of nature can be distinctly cognized *a priori*—naturally leads to the proposition: that the highest legislation of nature must lie in ourselves, i.e., in our understanding, and that we must not seek the universal laws of nature in nature by means of experience, but conversely must seek nature, as to its universal conformity to law, in the conditions of the possibility of experience, which lie in our sensibility and in our understanding. For otherwise how would it be possible to know these laws *a priori*, since they are not rules of analytic cognition, but truly synthetic extensions of it? Such a necessary agreement of the principles of possible experience with the laws of the possibility of nature can occur for only one of two reasons: either these laws are taken from nature by means of experience or, conversely, nature is derived from the laws of the possibility of experience in general and is quite the same as the mere universal conformity to law of the latter. The former is self-contradictory, for the universal laws of nature can and must be cognized *a priori* (that is, independently of all experience) and constitute the foundation of all empirical use of the understanding. Therefore, only the latter alternative remains.[17]

But we must distinguish the empirical laws of na- 320
ture, which always presuppose special perceptions, from the pure or universal laws of nature, which, without being based on particular perceptions, merely contain the conditions of their necessary unification in experience. In light of the latter, nature and possible experience are quite the same and since the conformity to law here depends upon the necessary connection of appearances in one experience (without which we cannot cognize any object whatsoever in the sensible world), consequently upon the original laws of the understanding, it seems at first strange, but is not the less certain, to say: *The understanding does not derive its laws (a priori) from, but rather prescribes them to nature*.

§ 37. We shall illustrate this seemingly bold proposition by an example, which will show that the laws we discover in objects of sensible intuition (especially when these laws are cognized as necessary) are already held by us to be such as have been placed there by the understanding, although they are otherwise similar in all points to the laws of nature we ascribe to experience.

§ 38. If we consider the properties of the circle by which this figure combines in itself so many arbitrary determinations of space at once in a universal rule, we cannot avoid attributing a nature to this geometrical thing. For example, two lines that intersect one another and the circle, however they may be drawn, are always divided so that the rectangle constructed

17. Crusius alone thought of a compromise: namely that a spirit who can neither err nor deceive implanted these laws of nature in us originally. But since false principles often get mixed in, as indeed the very system of this man shows in not a few examples, the use of such a principle in the absence of sure criteria to distinguish a genuine origin from a spurious one appears very difficult, since we never can know with certainty what the spirit of truth or the father of lies may have instilled into us.

with the segments of the one is equal to that constructed with the segments of the other. The question now is: Does this law lie in the circle or in the understanding? That is, does this figure contain in itself the ground of the law independently of the understanding or does the understanding, having constructed the figure itself according to its concepts (i.e., according to the equality of the radii), introduce into 321
it this law of the chords intersecting one another in geometrical proportion? When we follow the proofs of this law, we soon perceive that it can be derived only from the condition that the understanding assumes for the construction of this figure, namely the equality of the radii. But if we enlarge this concept to pursue further the unity of various properties of geometrical figures under common laws and consider the circle as a conic section, which of course is subject to the same fundamental conditions of construction as other conic sections, we shall find that all the chords that intersect within the ellipse, parabola, and hyperbola always intersect so that the rectangles of their segments are not indeed equal, but always bear a constant ratio to one another. If we proceed still farther to the fundamental doctrines of physical astronomy, we find a physical law of reciprocal attraction diffused over all material nature, the rule of which states that it decreases inversely as the square of the distance from each attracting point, i.e., as the spherical surfaces increase, over which this force spreads. This law seems to be necessarily inherent in the very nature of things and hence is usually propounded as cognizable *a priori*. As simple as the sources of this law are, resting merely upon the relation of spherical surfaces of different radii, its consequences are equally valuable with regard to the variety of their agreement and regularity so that not only are all possible orbits of the celestial bodies conic sections, but a relation of these orbits to each other arises so that no law of attraction other than that of the inverse square of the distance can be imagined as fit for a cosmological system.

Here, accordingly, is a nature that rests upon laws which the understanding cognizes *a priori* and primarily from the universal principles of the determination of space. Now I ask: Do the laws of nature lie in space and does the understanding learn them merely by trying to find out the enormous wealth of meaning that lies in space or do they inhere in the understanding and in the way in which it determines space according to the conditions of the synthetic unity that governs all of its concepts? Space is something so uniform and, with respect to all special properties, so indeterminate that we should certainly not seek a treasure of natural laws in it. By contrast, what determines space to assume the form of a circle 322
or the figures of a cone and a sphere is the understanding insofar as it contains the ground of the unity of their constructions. The mere universal form of intuition, called space, must therefore be the substratum of all intuitions that could be determined as particular objects and of course the condition of the possibility and of the variety of these intuitions lies in it, but the unity of the objects is determined entirely by the understanding and according to conditions that lie in its own nature. Thus the understanding is the origin of the universal order of nature in that it comprehends all appearances under its own laws and thereby first constructs *a priori* experience (as to its form), by means of which whatever is to be cognized only through experience is necessarily subjected to its laws. For we are not concerned with the nature of things in themselves, which is independent of the conditions of both our sensibility and our understanding, but rather with nature as an object of possible experience, and in this case, by making experience possible, the understanding brings it about that the sensible world either is not an object of experience at all or must be nature.

Appendix To Pure Natural Science

§ 39. *Of the System of the Categories*

Nothing can be more desirable to a philosopher than to be able to derive *a priori* from one principle the various concepts or principles that had occurred to him in their concrete use and to unite everything in this way in one cognition. Formerly he believed only that those things that remained after a certain abstraction and seemed, by comparing one another, to constitute a special kind of cognition were completely collected;

but this was only an *aggregate*. Now he knows that precisely this many, neither more nor less, can constitute this kind of cognition and he perceives the necessity of his division, which is comprehension; and only now does he have a *system*.

To search our common knowledge for concepts
323 that do not rest upon particular experience and yet occur in all cognition of experience, where they, as it were, constitute the mere form of connection, presupposes neither greater reflection nor deeper insight than it does to detect in a language the rules of the actual use of words in general and thus to collect elements for a grammar. In fact both inquiries are very closely related, even though we are not able to give a reason why each language has just this and no other formal constitution and still less why any precise number of such formal determinations are found in it in general.

Aristotle collected ten such pure elementary concepts under the name of categories.[18] To these, which were also called predicaments, he found himself obliged afterwards to add five post-predicaments,[19] some of which, however, (*prius*, *simul*, and *motus*) are contained in the former. However, this rhapsodic collection could be considered and commended more as a mere hint for future inquirers than as a properly developed idea and hence, in a more enlightened state of philosophy, it has been rejected as completely useless.

After long reflection on the pure elements of human knowledge (containing nothing empirical), I at last succeeded in distinguishing with certainty and in separating the pure elementary concepts of sensibility (space and time) from those of the understanding. Thus the seventh, eighth, and ninth categories had to be excluded from the former list. And the others were of no service to me, because there was no principle according to which the understanding could be measured out fully, and all the functions from which its pure concepts arise determined exhaustively and with precision.

18. 1. *Substantia*. 2. *Qualitas*. 3. *Quantitas*. 4. *Relatio*. 5. *Actio*. 6. *Passio*. 7. *Quando*. 8. *Ubi*. 9. *Situs*. 10. *Habitus*.
19. *Oppositum*. *Prius*. *Simul*. *Motus*. *Habere*.

But in order to discover such a principle, I looked around for an act of the understanding which contains all the rest and is distinguished only by various modifications or moments, in bringing the multiplicity of representation to the unity of thinking in general: I found that this act of the understanding consists in judging. Now the labors of logicians were already present, though not yet completely free of defects, and with this help I was able to exhibit a complete table of the pure functions of the under- 324
standing, which are, however, indeterminate with respect to any object. I finally referred these functions of judging to objects in general or rather to the condition of determining judgments as objectively valid, and in this way arose the pure concepts of the understanding, concerning which I could be sure that these, and this exact number only, constitute our entire cognition of things from mere understanding. I was justified in calling them by their old name, *categories*, while I reserved for myself the liberty of adding, under the title of *predicables*, a complete list of all the concepts deducible from them through combinations—whether among themselves or with the pure form of the appearance (space or time) or with its matter insofar as it is not yet empirically determined (the object of sensation in general)—as soon as a system of transcendental philosophy could be completed—on behalf of which I was engaged in the *Critique of Pure Reason* itself.

Now the essential point in this system of categories, which distinguishes it from the old rhapsodic collection that proceeded without any principle, and for which reason alone it deserved to be considered as philosophy, consists in this: that by means of it the true significance of the pure concepts of the understanding and the condition of their use could be precisely determined. For here it became obvious that they are themselves nothing but logical functions and as such do not constitute the least concept of an object in itself, but require some sensible intuition as a basis. They therefore serve only to determine empirical judgments (which are otherwise undetermined and indifferent as regards all functions of judging), relative to these functions, thereby furnishing them

with universal validity, and by means of them making *judgments of experience* in general possible.

Such an insight into the nature of the categories, which at the same time limits them to the mere use of experience, never occurred either to their first author or to any of his successors; but without this insight (which depends immediately upon their derivation or deduction), they are quite useless and only a miserable list of names, without explanation and a rule for their use. Had the ancients ever conceived such a notion, doubtless the whole study of pure rational cognition—which, under the name of metaphysics, has for centuries spoiled many a sound
325 mind—would have reached us in quite a different form and enlightened the human understanding instead of actually exhausting it in obscure and vain speculations and rendering it unfit for true science.

This system of categories makes all treatment of every object of pure reason itself systematic and provides an indubitable hint or clue as to how and through what points of inquiry every metaphysical consideration must proceed in order to be complete; for it exhausts all the possible moments (*momenta*) of the understanding, under which every other concept must be classified. In this way the table of principles arose, the completeness of which we can only vouch for by the system of the categories. Even in the division of concepts that must extend beyond the physiological application of the understanding (p. 334, p. 415)[20], it is the very same clue that always forms a closed circle, since it must always be determined *a priori* by the same fixed points of the human understanding. There is no doubt that the object of a pure concept either of the understanding or of reason insofar as it is to be considered philosophically and according to *a priori* principles can be completely cognized in this way. I could not even refrain from making use of this clue with respect to one of the most abstract ontological divisions, namely the various distinctions of "the concepts of something and of nothing," and to construct a regular and necessary table of their divisions (*Critique*, p. 207)[21] accordingly.[22]

And this system, like every other true one founded 326
on a universal principle, also shows its inestimable value in that it excludes all foreign concepts that might otherwise slip in among the pure concepts of the understanding, and determines the place of every cognition. Those concepts, which under the name of *concepts of reflection* have similarly been arranged in a table according to the clue of the categories, enter into ontology without having any privilege or legitimate claim to be among the pure concepts of the understanding. The latter are concepts of connection and thereby of the objects themselves, whereas the former are only concepts of the mere comparison of concepts already given, hence of quite another nature and use. By my systematic division[23] they are separated from this conflation. But the value of my separate table of the categories will be even more obvious when we distinguish the table of the transcendental concepts of reason from the concepts of the understanding, as we are about to do. Since the transcendental concepts of reason are of a completely different nature and origin, their form must be completely different from that of the table of categories. As necessary as this separation is, it has never

20. [See B402, B442–3.]

21. [See B348.]

22. On the table of the categories many nice observations may be made, for instance: (1) that the third arises from the first and the second combined into one concept; (2) that in those of magnitude and quality there is merely a progress from unity to totality or from something to nothing (for this purpose the categories of quality must stand thus: reality, limitation, total negation) without *correlata* or *opposita*, whereas those of relation and modality have them; (3) that, as in logic categorical judgments are the basis of all others, so the category of substance is the basis of all concepts of actual things; (4) that, as modality is not a particular predicate in judgment, so too the modal concepts do not add a further determination to things, etc. Such observations are all of great use. If beyond this we enumerate all the *predicables*, which we can find in nearly complete form in any good ontology (for example, Baumgarten's), and arrange them in classes under the categories, where we must not neglect to add as complete a dissection of all these concepts as possible, a merely analytical part of metaphysics will then arise that does not contain a single synthetic proposition, which might precede the latter (the synthetic part), and which would by its precision and completeness be not only useful, but, in virtue of its systematic character, even elegant to some extent.

23. [See *Critique of Pure Reason*, The Amphiboly of the Concepts of Reflection, A260ff./B316ff.]

been made in any system of metaphysics, for, as a rule, these ideas of reason are all mixed up with the categories as if they were children of one family—a confusion that was unavoidable in the absence of a definite system of categories.

327 The Main Transcendental Problem: Part Three

How is metaphysics in general possible?

§ 40. Pure mathematics and pure natural science did not need for their own safety and certainty a deduction of the sort that we have provided for both. For the former rests upon its own evidence and the latter, though it arises from pure sources of the understanding, rests upon experience and its thorough confirmation. Physics cannot altogether refuse and dispense with the testimony of experience, because with all its certainty as [natural] philosophy it can never rival mathematics. Both sciences therefore stood in need of this inquiry, not for themselves, but for the sake of another science, namely metaphysics.

Metaphysics is concerned not only with concepts of nature, which always find their application in experience, but also with pure rational concepts, which can never be given in any possible experience whatsoever. Consequently the objective reality of these concepts (namely that they are not mere chimeras) and the truth or falsity of metaphysical assertions cannot be discovered or confirmed by any experience. This part of metaphysics, however, is precisely what constitutes its essential end, to which the rest is only a means, and thus this science is in need of such a deduction *for its own sake*. Therefore, the third question now proposed relates, as it were, to the core and unique feature of metaphysics, namely reason's occupation with itself and its acquaintance with objects that allegedly arise immediately from pondering its own concepts, without requiring or even being able to establish this acquaintance through experience.[24]

Without solving this problem reason can never satisfy itself. The empirical use to which reason limits the pure understanding does not fully satisfy reason's own complete vocation. Every single experience is 328
only a part of the whole sphere of its domain, but the *absolute totality of all possible experience* is itself not experience, though it is a necessary problem for reason, the mere representation of which requires concepts quite different from the categories, whose use is only *immanent*, i.e., refers to experience insofar as it can be given. By contrast, the concepts of reason aim at completeness, i.e., the collective unity of all possible experience, thereby transcend every given experience, and become *transcendent*.

Just as the understanding needs the categories for experience, reason contains in itself the source of ideas, by which I mean necessary concepts, whose object cannot be given in any experience. The latter inhere in the nature of reason as much as the former do in the nature of the understanding. And if the former carry with them an illusion likely to mislead, this illusion is inevitable, though it can certainly be kept from misleading us.

Since all illusion consists in holding the subjective basis of our judgments to be objective, pure reason's self-knowledge in its transcendent (exaggerated) use is the only means of prevention against the aberrations into which reason falls when it misinterprets its vocation and, in transcendent fashion, refers to the object in itself that which concerns only its own subject and its guidance in all immanent use.

§ 41. The distinction between *ideas*, that is, pure concepts of reason, and categories or pure concepts of the understanding, as cognitions of completely different kinds, origins, and uses, is so important a point in the foundations of a science that is to contain the system of all these *a priori* cognitions that without this 329
distinction metaphysics is absolutely impossible or is at best a random, bungling attempt to build a house of cards without knowledge of the materials at hand or of their fitness for any purpose. Had the *Critique of Pure Reason* achieved nothing but first point out this distinction, it would thereby have contributed more to clearing up our conception of and to guiding our inquiry in the field of metaphysics than all the vain

24. If we can say that a science is *actual* at least in the idea of all men as soon as it is clear that the problems that lead to it are proposed to everybody by the nature of human reason and that therefore many (though faulty) attempts are unavoidably made on its behalf, then we are bound to say that metaphysics is subjectively (and indeed necessarily) actual and thus we justly ask how it is (objectively) possible.

efforts which have been made until now to satisfy the transcendent problems of pure reason, without even suspecting that we were in quite another field than that of the understanding, and hence that we were classifying concepts of the understanding and those of reason together as if they were of the same kind.

§ 42. All pure cognitions of the understanding have the feature that their concepts are given in experience and their principles can be confirmed by it. By contrast, the transcendent cognitions of reason cannot appear in experience as *ideas* or be confirmed or refuted by it as *propositions*. For that reason, whatever errors may creep in can only be discovered by pure reason itself—a discovery of great difficulty because it is precisely pure reason that naturally becomes dialectical by means of its ideas and this unavoidable illusion cannot be held in check by any objective and dogmatic inquiries into things, but rather only by a subjective investigation of reason itself as a source of ideas.

§ 43. In the *Critique of Pure Reason* it was always my greatest care to endeavor not only to distinguish carefully several kinds of cognition but also to derive concepts belonging to each kind from their common source. I did this so that, by knowing their origin, I might not only determine their use with certainty but also have the unexpected, but invaluable advantage of knowing the completeness of my enumeration, classification, and specification of concepts *a priori*
330 and thus according to principles. Without this, everything in metaphysics is mere rhapsody, in which no one knows whether what one has is enough or whether and where something is missing. We can of course have this advantage only in pure philosophy, but it also constitutes its very essence.

Since I had discovered the origin of the categories in the four logical functions of all the judgments of the understanding, it was quite natural to seek the origin of the ideas in the three functions of syllogisms. For as soon as such pure concepts of reason (the transcendental ideas) are given, unless one wanted to view them as innate they could hardly be found anywhere other than in the same activity of reason that constitutes the logical element of syllogisms insofar as it concerns mere form; but, insofar as it represents judgments of the understanding as determined *a priori* with respect to one or the other of its forms, it constitutes transcendental concepts of pure reason.

The formal distinction of syllogisms necessitates their division into categorical, hypothetical, and disjunctive. The concepts of reason based on them therefore contained, first, the idea of the complete subject (the substantial); secondly, the idea of the complete series of conditions; thirdly, the determination of all concepts in the idea of the complete sum of what is possible.[25] The first idea was psychological, the second cosmological, the third theological, and, since all three occasion a dialectic, albeit each in its own way, the division of the whole Dialectic of Pure Reason into its Paralogism, its Antinomy, and its Ideal, was arranged accordingly. Through this derivation one can feel completely assured that all the claims of pure reason are completely represented and that none can be wanting, because the faculty of the reason itself, from which they are all derived, is thereby completely surveyed.

§ 44. In these general considerations it is also 331
remarkable that the ideas of reason do not help us in the way that the categories do for the use of our understanding in experience, but are rather completely dispensable and even become an impediment to the maxims of a rational cognition of nature. However, in another respect that remains to be determined they are necessary. Whether the soul is or is not a simple substance is of no consequence to us in explaining its appearances. For by no possible experience can we make the concept of a simple being sensible and thus we cannot render it intelligible *in concreto*. The concept is therefore quite

25. In disjunctive judgments we consider *all possibility* as divided with respect to a particular concept. The ontological principle of the universal determination of a thing in general—either one or the other of all possible contradictory predicates must be assigned to each object—which is at the same time the principle of all disjunctive judgments, underlies the sum of all of possibility in which the possibility of every object in general is considered as determined. This may serve as a brief explanation of the above proposition: that the activity of reason in disjunctive syllogisms is formally the same as that by which it brings about the idea of the sum of all reality, containing in itself what is positive in all contradictory predicates.

empty as regards all hoped-for insight into the cause of appearances and cannot at all serve as a principle for explaining what inner or outer experience supplies. In the same way the cosmological ideas of the beginning of the world or of its eternity (*a parte ante*) can be of no use to us in explaining any event in the world itself. And finally, according to a proper maxim of natural philosophy, we must refrain from all explanations of the design of nature, drawn from the will of a supreme being, because this would not be natural philosophy, but an admission that we have come to its end. Therefore, the use of these ideas is quite different from that of those categories by which (and by the principles built upon which) experience itself first becomes possible. But our laborious analysis of the understanding would be completely superfluous if we had nothing else in view than the mere cognition of nature as it can be given in experience; for both in mathematics and in natural science reason does its work quite safely and well without any such subtle deduction. Therefore our critique of the understanding is joined with the ideas of pure reason for a purpose that lies beyond the empirical use of the understanding; but above we declared such a use to be totally inadmissible in this respect and without any object or significance. Yet there must be a harmony between what belongs to the nature of reason and what belongs to the nature of the understanding, and the former must contribute to the perfection of the latter and cannot possibly confuse it.

332 The solution of this question is as follows: Pure reason does not in its ideas aim at particular objects that lie beyond the field of experience, but only requires completeness of the use of the understanding in the connection of experience. But this completeness can be a completeness of principles only, not of intuitions and of objects. However, in order to represent the ideas determinately, reason conceives them as the cognition of an object. This cognition is completely determined insofar as these rules are concerned, but the object is only an idea invented for the purpose of bringing the understanding's cognition as near as possible to the completeness indicated by that idea.

§ 45. *Prefatory Remark to the Dialectic of Pure Reason*—We have shown above in §§ 33 and 34 that the purity of the categories from all admixture of sensible determinations may mislead reason into extending their use beyond all experience to things in themselves. However, because these categories themselves find no intuition which can give them significance or sense *in concreto*, they, as mere logical functions, can represent a thing in general, but not provide a determinate concept of anything by themselves alone. Such hyperbolic objects are called *noumena* or pure beings of the understanding (or better, beings of thought), such as, for example, *substance*, but conceived *without permanence* in time, or *cause*, but *not* acting *in time*, etc. For predicates that serve only to make the conformity to law of experience possible are applied to these concepts, although they are deprived of all the conditions of intuition that alone make experience possible, by which, in turn, these concepts lose all significance.

There is no danger, however, of the understanding spontaneously making an excursion so very wantonly beyond its own limits into the field of the mere beings of thought without being impelled by foreign laws. But if reason, which cannot be fully satisfied with any empirical use of the rules of the understanding, since that is always conditioned, requires a completion of this chain of conditions, then the understanding is forced out of its sphere. If this happens, reason partly represents objects of experience in a 333
series that extends so far that no experience can grasp it and partly (with a view to complete the series) even seeks *noumena* entirely beyond it, to which reason can attach that chain, and so, having at last escaped from the conditions of experience, make its hold, as it were, complete. These are the transcendental ideas, and, though according to the true but hidden ends of the natural vocation of our reason they may aim, not at extravagant concepts, but at an unlimited extension of their empirical use, they may still seduce the understanding by an unavoidable illusion to a *transcendent* use, which, though deceitful, cannot be restrained within the limits of experience by any resolution, but only by scientific instruction and with difficulty.

I. *The Psychological Idea*[26]

§ 46. Long ago people observed that in all substances the proper subject, namely what remains after all the accidents (as predicates) are abstracted, consequently the *substantial* itself is unknown and various complaints have been lodged about these limits to our insight. But it is appropriate to consider that the human understanding is to be blamed not for its inability to know the substantial of things, i.e., to determine it all by itself, but rather for asking to cognize determinately what is a mere idea as if it were a given object. Pure reason demands that we seek a proper subject for every predicate of a thing, and for this subject, which is itself necessarily nothing but a predicate, its subject, and so on indefinitely (or as far as we can reach). But from this it follows that we must not hold anything that we can attain to be an ultimate subject and that substance itself can never be thought by our understanding, however deeply we may penetrate and even if all of nature were revealed to us. For the specific nature of our understanding consists in thinking everything discursively, i.e., by concepts, and so by mere predicates, for which therefore the absolute subject must always be lacking. For this reason all real properties by which we cognize bodies are simply accidents, even impenetrability,
334 which we can represent to ourselves only as the effect of a force for which we lack the subject.

Now it appears as if we have this substantial in our consciousness of ourselves (in the thinking subject), and indeed in an immediate intuition; for all the predicates of inner sense refer to the *I* as a subject and this cannot be thought as the predicate of any other subject. For this reason completeness with respect to given concepts as predicates to a subject—not merely an idea, but an object—namely the *absolute subject* itself, seems to be given in experience. But this expectation is disappointed. For the *I* is not a concept,[27] but rather only an indication of the object of inner sense insofar as we cognize it by no further predicate. Consequently, in itself it cannot be a predicate of any other thing; however, just as little can it be a determinate concept of an absolute subject, since it is, as in all other cases, only the relation of inner appearances to their unknown subject. Yet this idea (which serves very well as a regulative principle, completely destroying all materialistic explanations of inner appearances of our soul) occasions by a very natural misunderstanding a very specious argument, which, from this supposed cognition of the substantial aspect of our thinking being, infers its nature insofar as our acquaintance with it falls entirely outside the sum of experience.

§ 47. Now, although we may call this thinking self (the soul) substance, as the ultimate subject of thought that cannot be represented further as the predicate of another thing, this concept remains quite empty and without any consequences, if permanence—which is what renders the concept of substance fruitful in experience—cannot be proved of it.

But permanence can never be proved from the 335
concept of a substance as a thing in itself, but for the purposes of experience only. This is sufficiently shown by the First Analogy of Experience,[28] and whoever does not wish to grant this proof may try for himself whether he can succeed in proving, from the concept of a subject that does not exist itself as the predicate of another thing, that its existence is thoroughly permanent and that it cannot come into or go out of existence either in itself or by any natural cause. Such synthetic *a priori* propositions can never be proved in themselves, but only in reference to things as objects of possible experience.

§ 48. Therefore, if we want to infer from the concept of the soul as a substance to its permanence, this can hold good of the soul only for possible experience and not of the soul as a thing in itself and beyond all possible experience. But life is the subjective condition of all our possible experience. Consequently, we can infer the permanence of the soul only in life; for the death of man is the end of all experience which

26. [See *the Critique of Pure Reason*, On the Paralogisms of Pure Reason.]

27. If the representation of apperception (the *I*) were a concept by which something could be thought, it could be used as a predicate for other things or contain such predicates in itself. Now, it is nothing more than a feeling of an existence without the least concept and is only a representation of that to which all thinking stands in relation as an accident (*relatione accidentis*).

28. [Cf. *Critique*, A182/B224.]

concerns the soul as an object of experience, unless the contrary has been proved, which is the very question at hand. Thus, the permanence of the soul can be proved only during the life of man (which one will readily grant), but not, as we desire to do, after death (which is our real interest); and for this general reason: that the concept of substance insofar as it is to be considered as necessarily combined with the concept of permanence can be combined in this way only according to the principles of possible experience and therefore only for the purposes of experience.[29]

336 § 49. That something real outside us not only corresponds but must correspond to our outer perceptions can likewise never be proved as a connection of things in themselves, but can be proven for the sake of experience. This means that there is something empirical, i.e., some appearance in space outside us that admits of a satisfactory proof. For we have nothing to do with objects other than those that belong to possible experience, precisely because such objects cannot be given to us in any experience and thus are nothing for us. Outside me empirically is that which appears in space, and since space, together with all the appearances it contains, belongs to those representations whose connection according to laws of experience proves their objective truth just as the connection of the appearances of inner sense proves the actuality of my soul (as an object of inner sense), I am conscious of the actuality of bodies in space as outer appearances (by means of outer experience) in the same manner as I am conscious of the existence of my soul in time (by means of inner experience)—which soul is cognized only as an object of inner sense by appearances that constitute an inner state and of which the essence in itself, which underlies these appearances, is unknown. Cartesian idealism therefore only distinguishes outer experience from dreaming and the conformity to law 337
of the former (as a criterion of its truth) from the irregularity and the false illusion of the latter. In both it presupposes space and time as conditions of the existence of objects and asks only whether the objects of outer senses, which we put in space when we are awake, are actually to be found in it just as the object of inner sense, the soul, is in time; that is, whether experience carries with it sure criteria to distinguish it from imagination. This doubt, however, may easily be disposed of and we always do so in common life by investigating the connection of appearances in both space and time according to universal laws of experience, and we cannot doubt that they constitute truthful experience when the representation of outer things are in complete agreement. Material idealism, in which appearances are considered as such only according to their connection in experience, may accordingly be refuted very easily; and it is just as sure an experience that bodies exist outside us (in space) as that I myself exist according to the representation of inner sense (in time): for the concept *outside us* signifies only existence in space. However, since the I in the proposition, "I am," means not only the object of inner intuition (in time) but also the subject of consciousness, just as body means not only outer intuition (in space) but also the thing *in itself* that underlies this appearance; the question, whether bodies (as appearances of outer sense) exist in nature as bodies *apart from my thoughts*, may be denied without any hesitation. The question, whether I myself as an *appearance*

29. It is indeed very remarkable how carelessly metaphysicians have always passed over the principle of the permanence of substances without ever attempting a proof of it; it is doubtless because they found themselves abandoned by all means of proof as soon as they began to consider the concept of substance. Common sense, which was clearly aware that no unification of perceptions in experience is possible without this presupposition, remedied this defect with a postulate. For it could never derive such a principle from experience itself, partly because it could not trace matters (substances) in all their alterations and dissolutions far enough to find the matter always undiminished, partly because the principle contains *necessity* which is always the sign of an *a priori* principle. They then boldly applied this postulate to the concept of the soul as a *substance* and concluded a necessary continuance of the soul after the death of man (especially since the simplicity of this substance, which is inferred from the indivisibility of consciousness, secured it from destruction by dissolution). Had they found the genuine source of this principle—a discovery which requires deeper inquiry than they were ever inclined to make—they would have seen that this law of the permanence of substances occurs only for the purposes of experience and hence can hold good only of things insofar as they are to be cognised and conjoined with others in experience, but never of them independently of all possible experience and consequently cannot hold good of the soul after death.

of inner sense (the soul according to empirical psychology) exist apart from my faculty of representation in time, is no different and must likewise be answered in the negative. And in this manner everything, when it is reduced to its true meaning, is decided and certain. Formal idealism (which I have also called transcendental) actually refutes material or Cartesian idealism. For if space is nothing but a form of my sensibility, as a representation in me it is just as actual as I myself am and nothing but the empirical truth of the representations in it remains to be considered. But, if this is not the case, if space and the appearances in it are something existing outside us, then all the criteria of experience beyond our perception can never prove the actuality of these objects outside us.

338 ## II. The Cosmological Idea[30]

§ 50. This product of pure reason in its transcendent use is reason's most remarkable phenomenon and serves as a very powerful agent to rouse philosophy from its dogmatic slumber and to stimulate it to the arduous task of undertaking a critique of reason itself.

I call this idea cosmological, because it always takes its object only from the sensible world and does not need any world other than one whose object is of the senses; consequently, to this extent it stays at home, does not become transcendent, and is therefore not yet an idea; by contrast, to conceive the soul as a simple substance already means to conceive an object (the simple) that cannot be represented by means of the senses. In spite of this, the cosmological idea extends the connection of the conditioned with its condition (whether the connection is mathematical or dynamical) so far that experience can never keep up with it. In light of this point, it is therefore always an idea, whose object can never be given adequately in any experience.

§ 51. In the first place, the usefulness of a system of categories is revealed here so clearly and unmistakably that even if there were not several other proofs of it, this alone would sufficiently establish its indispensability in the system of pure reason. There are no more than four such transcendent ideas—just as many as there are classes of categories; in each of which, however, they aim only at the absolute completeness of the series of the conditions for a given conditioned. According to these cosmological ideas, there are also only four kinds of dialectical assertions of pure reason, which, since they are dialectical, themselves thereby prove that each of them is opposed by a contradictory assertion, where both are based on specious principles of pure reason. All metaphysical tricks of the most subtle distinction cannot prevent this opposition, which rather compels the philosopher to return to 339
the first sources of pure reason itself. This antinomy, which is not arbitrarily invented, but founded in the nature of human reason, and is hence unavoidable and never-ending, contains the following four theses together with their antitheses:

1.
Thesis.
The world has *a beginning* (limit) with respect to time and space.
Antithesis.
The world is *infinite* with respect to time and space.

2.
Thesis.
Everything in the world consists of the *simple*.
Antithesis.
There is nothing simple; rather, everything is *composite*.

3.
Thesis.
There are in the world causes through *freedom*.
Antithesis.
There is no freedom; rather, everything is *nature*.

4.
Thesis.
In the series of causes in the world there is some *necessary being*.
Antithesis.
There is nothing necessary in it; rather, in this series *everything* is *contingent*.

30. [Cf. *Critique of Pure Reason*, The Antinomy of Pure Reason (A405ff./B432ff.).]

§ 52. a. This is the strangest phenomenon of human reason, no other instance of which can be shown in any of its other uses. If, as is commonly done, we represent to ourselves the appearances of the sensible world as things in themselves and if we assume that the principles of their combination are principles universally valid of things in themselves and not merely of experience (as is usually done and, in fact, unavoidably done without our *Critique*), an unexpected conflict arises that can never be removed in the common dogmatic way, because the thesis as well as the antithesis can be established by equally clear, evident, and irresistible proofs—for I will vouch for the correctness of all these proofs—and reason therefore perceives that it is at odds with itself, a condition at which the skeptic rejoices, but which must make the critical philosopher pause and feel ill at ease.

340 § 52. b. In metaphysics we may blunder in various ways without any fear of entering into falsehood. For we can never be refuted by experience if only we avoid self-contradiction, which in synthetic but purely fictitious propositions may be done whenever the concepts we connect are mere ideas that cannot be given (according to their entire content) in experience. For how can we discover in experience whether the world is eternal or had a beginning, whether matter is infinitely divisible or consists of simple parts? Such concepts cannot be given in any experience, regardless of how extensive it might be, and consequently the falsehood of either the affirmative or the negative proposition cannot be discovered by this touchstone.

The only possible case where reason would have to reveal, against its will, its secret dialectics (which it falsely passes off as dogmatics), would be if it based an assertion upon a universally admitted principle and also deduced the exact opposite with the greatest accuracy of reasoning from another principle that is equally attested to. This is actually the case here with respect to four natural ideas of reason, from which four assertions arise, on the one hand, and as many counter-assertions, on the other, each consistently following from universally acknowledged principles. In this way they reveal the dialectical illusion of pure reason in the use of these principles which otherwise would have forever remained concealed.

This, therefore, is a decisive experiment, which must necessarily expose any fault that lies hidden in 341
the assumptions of reason.[31] Contradictory propositions cannot both be false, unless the concept that underlies both is self-contradictory. For example, the propositions: "a square circle is round" and "a square circle is not round" are both false. For, as to the former, it is false that the circle is round, because it is quadrangular. It is likewise false that it is not round, that is, has angles, because it is a circle. For the logical criterion of the impossibility of a concept consists precisely in the fact that if we presuppose it, two contradictory propositions both become false; consequently, since no middle between them is conceivable, nothing at all is thought by that concept.

§ 52. c. The first two antinomies, which I call mathematical because they are concerned with the addition or division of the homogeneous, are based on such a self-contradictory concept; and this allows me to explain how it happens that the Thesis and Antithesis are false in both cases.

When I speak of objects in time and space, I am speaking not of things in themselves, because I know nothing of things in themselves, but only of things in appearance, i.e., of experience as the special way of cognizing objects which is bestowed upon man alone. I must not say of what I think in time or in space that in itself and independent of this thought of mine, it exists in space and in time. For in that case I would contradict myself, because space and time, together with the appearances in them, do not exist in themselves and outside of my representations, but

31. For that reason, I would be pleased to have the critical reader devote his attention mainly to this antinomy of pure reason, because nature itself seems to have established it in order to cause reason to hesitate in its daring pretentions and to force it to self-examination. I hold myself responsible for every proof I have given of the thesis as well as of the antithesis, and thereby establish the certainty of the inevitable antinomy of reason. When the reader is brought by this curious phenomenon to fall back upon the proof of the assumption upon which it rests, he will feel himself obliged to investigate more thoroughly with me the ultimate foundation of all cognition of pure reason.

are themselves only modes of representation, and it
342 is palpably contradictory to say that a mere mode of representation also exists outside our representation. Objects of the senses therefore exist only in experience; by contrast, to give them a self-subsisting existence apart from experience or prior to it is merely to represent to ourselves that experience actually exists apart from experience or prior to it.

Now if I inquire into the magnitude of the world with respect to space and time, it is equally impossible with respect to all my concepts to say either that it is it infinite or that it is finite. For neither assertion can be contained in experience, because it is impossible to experience either an infinite space or an infinite elapsed time, or the *limitation* of the world by an empty space or an antecedent empty time; these are mere ideas. The magnitude of the world, which is determined one way or the other, should therefore exist in the world itself apart from all experience. But this contradicts the concept of the sensible world, which is merely the sum of the appearances whose existence and connection occur only in our representations, that is, in experience, since this latter is not an object in itself, but a mere mode of representation. From this it follows that because the concept of the sensible world existing for itself is self-contradictory, the solution of the problem concerning its magnitude is always false, whether it is resolved affirmatively or negatively.

The same holds good of the second antinomy, which concerns the division of appearances. For they are mere representations and the parts exist merely in their representation, consequently in the division, i.e., in a possible experience in which they are given, and the division reaches only as far as possible experience reaches. To assume that an appearance, e. g., that of body, contains in itself prior to all experience all the parts that any possible experience can ever reach is to attribute to a mere appearance, which can exist only in experience, an existence preceding experience. In other words, it would mean that mere representations exist before they can be found in our faculty of representation. Such an assertion is self-contradictory as is every solution to our misunderstood problem, whether we maintain that bodies in themselves consist of infinitely many parts or of a finite number of simple parts.

§ 53. In the first (mathematical) class of antino- 343
mies the falsehood of the assumption consisted in representing something self-contradictory (namely an appearance as an object in itself) as if it could be consistently combined in one concept. But, regarding the second (dynamical) class of antinomies, the falsehood of the representation consists in representing as contradictory what can be combined. Consequently, whereas the opposed assertions were both false in the former case, in this case, where they are opposed to one another by a mere misunderstanding, they may both be true.

Specifically, mathematical connection necessarily presupposes the homogeneity of what is connected (in the concept of magnitude), while dynamical connection by no means requires the same. When we are concerned with the magnitude of what is extended, all of its parts must be homogeneous with one another and with the whole. By contrast, in the connection of cause and effect, homogeneity may indeed likewise be found, but it is not necessary. For at least the concept of causality (by means of which something is posited through something else quite different from it) does not require it.

If the objects of the sensible world are taken for things in themselves and the above laws of nature for the laws of things in themselves, the contradiction would be unavoidable. Similarly, if the subject of freedom were represented as mere appearance, like the remaining objects are, the contradiction could not be avoided. For the same thing would at the same time be affirmed and denied of the same object in the same sense. But if natural necessity is referred merely to appearances and freedom merely to things in themselves, no contradiction arises, even though we assume or grant both kinds of causality, however difficult or impossible it may be to make the latter kind conceivable.

In appearance every effect is an event or something that happens in time; according to the universal laws of nature, it must be preceded by a determination of the causality of its cause (a state), which follows according to a constant law. But determining the

344 cause to be causally efficacious must also be something that takes place or occurs; the cause must have *begun to act;* otherwise no succession between it and the effect could be thought. The effect as well as the causal efficacy of the cause would always have existed. Therefore, the *determination* of the cause to be efficacious must also have arisen among appearances and must consequently be an event just like its effect, which must in turn have its cause, etc. Hence natural necessity must be the condition, according to which efficient causes are determined. If, by contrast, freedom is to be a property of certain causes of appearances, it must, with respect to the latter as events, be a faculty of starting them *spontaneously (sponte)*, i.e., without the causal efficacy of the cause itself beginning and hence without requiring any other ground to determine its beginning. But then the cause would not be able to stand under time-determinations of its state with respect to its causal efficacy, that is, it *cannot* be an *appearance*, i.e., it would have to be considered a thing in itself, while its *effects* would be only *appearances*.[32] If we can think without contradiction the influence of beings of understanding on appearances, then natural necessity will attach to all connections of cause and effect in the sensible world, though freedom can be attributed to a cause that is itself not an appearance (but underlies appearance). Therefore, nature and freedom can be attributed to the very same thing without contradiction, but in different relations—in the one case as an appearance, in the other case as a thing in itself.

We have in us a faculty that not only stands in connection with its subjectively determining grounds, which are the natural causes of its actions, and is to this extent the faculty of a being that itself belongs 345 to the appearances, but also is referred to objective grounds, that are only ideas insofar as they can determine this faculty, a connection that is expressed by the word *ought*. This faculty is called *reason* and, to the extent that we consider a being (man) entirely according to this objectively determinable reason, it cannot be considered as a sensible being. Rather, this property is that of a thing in itself, of which we cannot comprehend the possibility—namely how the *ought* (which, however, has never taken place) should determine its activity and could become the cause of actions whose effect is an appearance in the sensible world. Yet the causality of reason would be freedom with respect to its effects in the sensible world insofar as we can consider *objective grounds*, which are themselves ideas, as their determinants. For in that case its action would not depend upon subjective conditions, consequently not upon those of time, and would thus also not depend upon the law of nature that serves to determine them, because grounds of reason provide the rule to actions universally, according to principles, without the influence of the circumstances of time or place.

What I put forward here is meant merely as an example for the sake of intelligibility and does not necessarily belong to our problem, which must be decided from mere concepts, independently of the properties which we encounter in the actual world.

Now I can say without contradiction: that all the actions of rational beings insofar as they are appearances (i.e., can be encountered in some experience) are subject to natural necessity; but the same actions merely with respect to the rational subject and its faculty of acting according to mere reason, are free. For what is required for natural necessity? Nothing more than the determinability of every event in the sensible world according to constant laws; therefore, a relation to a cause in the appearance whereby the

32. The idea of freedom occurs only in the relation of the *intellectual*, as cause, to the *appearance*, as effect. For this reason we cannot attribute freedom to matter with respect to the unceasing action by which it fills its space, though this action takes place from an internal principle. We can likewise find no notion of freedom suitable to purely rational beings, for instance, to God, insofar as his action is immanent. For his action, though independent of external determining causes, is determined in his eternal reason, that is, in the divine *nature*. It is only if *something* is to *begin* by an action and thus the effect to be met with in the sequence of time or in the sensible world (e.g., the beginning of the world) that we can pose the question whether the causal efficacy of the cause must itself have begun or whether the cause can originate an effect without its causal efficacy itself beginning. In the former case the concept of causality is a concept of natural necessity, in the latter, that of freedom. From this the reader will see that by explaining freedom as the faculty of starting an event spontaneously, I have exactly hit upon the concept that is the problem of metaphysics.

thing in itself, which underlies it along with its causality, remains unknown. But I say: *the law of nature remains*, whether the rational being is the cause of its effects in the sensible world from reason, that is, through freedom, or whether it does not determine them on rational grounds. For if the former is the case, the action is performed according to maxims, whose effect in the appearance will always conform to constant laws; if the latter is the case and the action does not occur according to principles of reason,
346 then it is subjected to the empirical laws of sensibility, and in both cases the effects cohere according to constant laws. We do not require or even know more than this concerning natural necessity. But in the former case reason is the cause of these laws of nature and is therefore free; in the latter the effects follow according to mere natural laws of sensibility, because reason does not exercise any influence on it; but reason itself is not determined on that account by sensibility (which is impossible) and is therefore free in this case too. Freedom is therefore no obstacle to the natural law of appearances, nor does this law diminish the freedom of the practical use of reason, which is connected with things in themselves as determining grounds.

Thus in this way practical freedom, namely freedom in which reason possesses causality according to objectively determining grounds, is rescued without natural necessity being curtailed in the least with respect to the very same effects as appearances. The same remarks will serve to explain what we had to say about transcendental freedom and its compatibility with natural necessity (in the same subject, but not taken in one and the same relation). For, as to transcendental freedom, every beginning of the action of a being from objective causes with respect to these determining grounds is always a *first beginning*, though the same action is in the series of appearances only a *subordinate beginning*, which must be preceded by a state of the cause that determines it and is itself determined in the same manner by another cause immediately preceding it. Accordingly, in rational beings or in beings in general insofar as their causality is determined in them as things in themselves, we are able to conceive a faculty of beginning a series of states spontaneously without falling into contradiction with the laws of nature. For the relation of the action to objective grounds of reason is not a temporal relation; in this case what determines causality does not precede the action in time, because such determining grounds represent a relation not to sensible objects, therefore, not to causes in the appearances, but to determining causes as things in themselves, which are not subject to temporal conditions. And in this way the action can be considered as a first begin- 347
ning with respect to the causality of reason, but also as a merely subordinate beginning with respect to the series of appearances. Accordingly, without contradiction we may consider it as free in the former respect, but as subject to natural necessity in the latter (insofar as it is merely appearance).

As to the *fourth* Antinomy, it is solved in the same way as the conflict of reason with itself was in the third. For, if the *cause in the appearance* is simply distinguished from the *cause of the appearances* (insofar as it can be thought as a *thing in itself*), both propositions are perfectly consistent: the one, that there is no cause anywhere in the sensible world (according to similar laws of causality), whose existence is absolutely necessary; the other, that this world is nevertheless connected with a necessary being as its cause (but of another kind and according to another law). The incompatibility of these propositions rests entirely upon the misunderstanding of extending what is valid merely of appearances to things in themselves and in general of confusing both in one concept.

§ 54. This then is the presentation and the solution of the whole antinomy, in which reason finds itself involved in the application of its principles to the sensible world. The former alone (the mere presentation) would be a considerable service for our knowledge of human reason, even if the solution of the conflict does not yet fully satisfy the reader, who has here to combat a natural illusion that has been presented to him as such only recently and that he had always regarded as genuine until then. For one of its consequences is unavoidable, namely that because it is quite impossible to prevent this conflict of reason with itself—as long as the objects of the sensible world are taken for things in themselves and

not for what they in fact are, namely mere appearances—the reader is thereby forced to take up once again the deduction of all our *a priori* cognition and the examination of it that I have provided in order to come to a decision about it. This is all I require at present. For after he has himself thought deeply
348 enough into the nature of pure reason in this occupation, the concepts that alone make the solution of the conflict of reason possible will become sufficiently familiar to him. Without this familiarity I cannot expect an unreserved assent even from the most attentive reader.

III. The Theological Idea[33]

§ 55. The third transcendental idea, which supplies material for the most important, though, if pursued only speculatively, transcendent and thereby dialectical use of reason, is the ideal of pure reason. In this case reason does not, as with the psychological and the cosmological ideas, begin from experience and err by increasing its grounds in striving to attain, if possible, the absolute completeness of their series. Rather, it breaks with experience completely and, from mere concepts of what would constitute the absolute completeness of a thing in general, consequently by means of the idea of a most perfect first being, it proceeds to determine the possibility and therefore the actuality of all other things. And in this way we have the mere presupposition of a being who is conceived not in the series of experience, yet for the purposes of experience—for the sake of comprehending its connection, order, and unity—i.e., the idea is more easily distinguished from the concept of the understanding here than in the former cases. For that reason we can easily expose the dialectical illusion which arises from our making the subjective conditions of our thinking objective conditions of objects themselves and from making an hypothesis necessary for the satisfaction of our reason into a dogma. Since the observations of the *Critique* on the pretensions of transcendental theology are intelligible, clear, and decisive, I have nothing more to add on the subject.

33. [Cf. *Critique*, "The Transcendental Ideal" A567–642/B595–670.]

General Remark on the Transcendental Ideas

§ 56. The objects that are given to us through experience are incomprehensible to us in many respects, 349
and many questions to which the law of nature leads us when it is pushed beyond a certain point (though it always conforms to these laws) cannot be answered, as for example the question: why substances attract one another? But if we abandon nature completely or exceed all possible experience in pursuing its combinations and thus enter the realm of mere ideas, we cannot then say that the object is incomprehensible and that the nature of things presents us with insoluble problems. For in that case we are concerned not with nature or with given objects at all, but only with concepts, which have their origin solely in our reason, and with mere beings of thought; and all the problems that arise from our concepts of them must be able to be solved, because reason can and must give a full account of its own procedure.[34] Because the psychological, cosmological, and theological ideas are nothing but pure concepts of reason that cannot be given in any experience, the questions that reason asks us about them are put to us not by the objects, but by mere maxims of reason for the sake of its own satisfaction. They must all be capable of satisfactory answers, which is done by showing that they are principles which bring the use of our understanding into thorough agreement, completeness, and synthetic unity, and, to this extent, that they are valid

34. Herr Platner in his *Aphorisms* thus acutely says (§§728, 729), "If reason is a criterion, no concept that is incomprehensible to human reason can be possible. Incomprehensibility occurs only in what is actual. In this case, incomprehensibility arises from the insufficiency of the acquired ideas." It only sounds paradoxical, but is otherwise not strange to say that much in nature is incomprehensible to us (e.g., the faculty of generation) but if we climb even higher and go beyond nature itself, everything becomes comprehensible to us once again; for we then entirely abandon the *objects* that can be given to us and occupy ourselves merely with ideas, with respect to which we can easily comprehend the law that reason prescribes by them to the understanding for its use in experience, because the law is reason's own product.

only for experience, but for experience as a whole. Although an absolute whole of experience is impossible, the idea of a whole of experience according to principles in general must impart to our cognition a peculiar kind of unity, namely that of a system, without which our cognition is nothing but piecework 350 and cannot be used for proving the existence of a highest purpose (which can only be the system of all purposes); I mean here not only the practical but also the highest purpose of the speculative use of reason.

The transcendental ideas therefore express the distinguishing vocation of reason, namely as a principle of systematic unity in the use of the understanding. Yet if we view the unity of this kind of cognition as if it were attached to the object of cognition, if we regard what is merely regulative as if it were constitutive, and if we persuade ourselves that we can enlarge our cognition by means of these ideas far beyond all possible experience or transcendentally, since it only serves to render experience within itself as nearly complete as possible, i.e., to limit its progress by nothing that cannot belong to experience: if we do all this, then this is a mere misunderstanding in our estimate of the distinguishing vocation of our reason and its principles and it is a dialectic that partly confuses the empirical use of reason and partly sets reason at odds with itself.

Conclusion

On Determining the Limits of Pure Reason

§ 57. After having provided the clearest arguments above, it would be absurd for us to hope that we can cognize more of any object than belongs to the possible experience of it or lay claim to the least cognition of anything not assumed to be an object of possible experience, which would determine it according to the constitution it has in itself. For how could we determine anything in this way, since time, space, and all concepts of the understanding, and especially all the concepts derived from empirical intuition or *perception* in the sensible world have and can have no other use than to make experience possible. And if this condition is omitted from the pure concepts of the understanding, they do not determine any object and have no significance at all.

But, on the other hand, it would be an even greater absurdity if we admitted no things in themselves 351 or wanted to pass off our experience as the only possible mode of knowing things, our intuition of them in space and in time as the only possible way, and our discursive understanding as the archetype of every possible understanding, and to take the principles of the possibility of experience as universal conditions of things in themselves.

Our principles, which limit the use of reason to possible experience alone, might in this way become *transcendent* and the boundaries of our reason could be set up as boundaries of the possibility of things in themselves (as Hume's *Dialogues* may illustrate),[35] if a careful critique did not keep watch over the limits of our reason with respect to its empirical use and put a stop to its pretensions. Skepticism originally arose from metaphysics and its lawless dialectics. At first it might denounce everything that transcends this use as worthless and deceitful, merely to favor the empirical use of reason; but gradually, when it was realized that the very same *a priori* principles that are used in experience, unnoticed and apparently with the very same right, led further than experience extends, then one began to doubt even the propositions of experience. But there is no danger here, for common sense will certainly always assert its rights. However, a special confusion arose in science, which cannot determine how far reason is to be trusted and why only so far and no further, and this confusion can be cleared up and all future relapses obviated only by a formal and principled determination of the limits of the use of our reason.

It is true: we cannot form a determinate concept of what things in themselves may be beyond all possible experience. Yet we are not free to abstain entirely from inquiring into them; for experience never satisfies reason fully. In answering questions, reason leads us back further and further and leaves us dissatisfied with their complete explanation, as anyone can see adequately from the dialectic of pure reason,

35. [Kant is referring to David Hume's *Dialogues Concerning Natural Religion* (1779).]

which for this reason has its proper subjective basis. Having acquired, with respect to the nature of our soul, a clear conception of the subject and having
352 come to the conviction that its manifestations cannot be explained *materialistically*, who can refrain from asking what the soul really is and, if no concept of experience is able to answer the question, from simply assuming a concept of reason (that of a simple immaterial being), though we cannot at all prove its objective reality? Who can satisfy himself with mere empirical knowledge in all the cosmological questions of the duration and magnitude of the world, of freedom or natural necessity, since, we may proceed however we like, every answer given according to principles of experience raises a new question, which likewise requires an answer and thereby shows that all physical modes of explanation are clearly insufficient to satisfy reason? Finally, who does not see from the thoroughgoing contingency and dependence of everything that can be thought and assumed only according to principles of experience, the impossibility of stopping there and who does not feel himself compelled, despite all warnings about getting lost in transcendent ideas, to seek peace and contentment beyond all the concepts that can be vindicated by experience in the concept of a being, the possibility of which in itself we can neither conceive nor refute, because it concerns a mere being of the understanding without which reason must necessarily remain forever dissatisfied?

Boundaries (in extended beings) always presuppose a space existing outside a certain definite place and enclosing it; limitations do not require this, but are mere negations, which affect a quantity insofar as it is not absolutely complete. But our reason sees in its surroundings, as it were, a space for cognition of things in themselves, though it can never have determinate concepts of them and is restricted to appearances alone.

As long as cognition of reason is homogeneous, determinate boundaries to it are inconceivable. In mathematics and natural philosophy human reason admits of limitations, but not of boundaries, i.e., that something lies outside it, at which it can never arrive, but not that it will find completion at any point in its internal progress. The extension of our insights in mathematics and the possibility of ever new discoveries are infinite; and the same is the case with the discovery of new properties of nature, of new forces and laws, by continued experience and its unification through reason. But limitations are cer- 353
tainly unmistakable here, for mathematics refers to *appearances* only, and what cannot be an object of sensible intuition, such as the concepts of metaphysics and of morals, lies entirely outside its sphere. It can never lead to them, but it does not at all require them either. It is therefore not a continual progression and approach towards these sciences and there is not, as it were, any point or line of contact. Natural science will never reveal to us the inner constitution of things, i.e., what though not appearance can still serve as the ultimate ground for explaining appearances. Nor does that science require this for its physical explanations. Even if such grounds should be offered from other sources (e.g., the influence of immaterial beings), they must be rejected and not used in the progress of its explanations. Rather, these explanations must be grounded only upon what can belong to experience as an object of sense and be brought into connection with our actual perceptions according to empirical laws.

But metaphysics leads us towards limits in the dialectical attempts of pure reason (which are not undertaken arbitrarily or willfully, but stimulated to it by the nature of reason itself). And the transcendental ideas, precisely because they cannot be avoided, but are also not capable of being realized, serve to point out to us not only the limits of the use of pure reason but also the way to determine them. That is also the end and the use of this natural predisposition of our reason, which has brought forth metaphysics as its favorite child, whose creation, like every other in the world, is not to be ascribed to blind chance, but to an original seed that has been wisely organized for great ends. For in its fundamental features metaphysics perhaps more than any other science is placed in us by nature itself and cannot be considered the product of an arbitrary choice or a contingent extension in the progress of experience (from which it is quite disparate).

Reason with all its concepts and laws of the understanding, which suffice for empirical use, i.e., within the sensible world, finds no satisfaction for itself in it because ever-recurring questions deprive reason of all hope that they could be answered completely. The transcendental ideas, which aim to provide
354 complete answers, are such problems of reason. Now it sees clearly that the sensible world cannot contain a complete set of answers nor consequently can all the concepts that serve merely for understanding it: space and time and whatever we have put forward under the name of pure concepts of the understanding. The sensible world is nothing but a chain of appearances connected according to universal laws; it has therefore no subsistence by itself; it is not the thing in itself, and consequently must point to what contains the basis of this appearance, to beings that cannot be cognized merely as appearances, but as things in themselves. In the cognition of them alone can reason hope to satisfy its desire for completeness in proceeding from the conditioned to its conditions.

Above (§§ 33, 34) we revealed the limits of reason with respect to all cognition of mere beings of thought. Now, since the transcendental ideas have made us proceed up to them, and thus have led us, as it were, to where fully occupied space (experience) touches the void (of which we can know nothing, the *noumena*), we can determine the limits of pure reason. For in all limits there is also something positive (e.g., a surface is the limit of corporeal space and is therefore itself a space, a line is a space that is the limit of the surface, a point is the limit of a line, but still always a place in space), whereas limitations contain mere negations. The limits pointed out in those paragraphs are not enough after we have discovered that something lies beyond them (though we can never cognize what it is in itself). For the question now is: What is reason's attitude in this connection of what we know with what we do not and never will know? This is an actual connection of a known thing with one quite unknown (and which will always remain so), and even if what is unknown should not become the least bit better known—which we cannot in fact even hope for—the concept of this connection must be capable of being determined and rendered distinct.

We should therefore think an immaterial being, a world of understanding, and a highest of all beings (all mere noumena), because only in them, as things in themselves, does reason find the comple- 355
tion and satisfaction that it can never hope for in the derivation of appearances from their homogeneous grounds, and because these actually refer to something distinct from them (and totally heterogeneous), since appearances always presuppose an object in itself and therefore suggest its existence whether we can know more of it or not.

But since we can never cognize these beings of understanding as they are in themselves, that is, determinately, yet must assume them in relation to the sensible world and connect them with it by reason, we are at least able to think this connection by means of such concepts as express their relation to the world of sense. Yet if we represent to ourselves a being of the understanding by nothing but pure concepts of the understanding, we then indeed represent nothing determinate to ourselves and consequently our concept has no significance; but if we think it by properties borrowed from the sensible world, it is no longer a being of understanding, but is conceived as one of the phenomena and belongs to the sensible world. Let us take an example from the concept of the supreme being.

The *deistic* concept is a completely pure concept of reason, but represents only a thing containing all realities, without being able to determine a single one of them; because for that purpose an example must be taken from the sensible world, in which case we should have an object of the senses only, not something quite heterogeneous, which cannot at all be an object of the senses. For I would attribute, e.g., understanding to the supreme being, but I have no concept of an understanding other than my own, namely one that must receive its intuitions through the senses and that is concerned to bring them under rules of the unity of consciousness. But in that case the elements of my concept would always lie in the appearance; however, the insufficiency of the appearances would force me to go beyond them to the concept of a being which neither depends upon appearances nor is bound up with them as conditions of

its determination. But if I separate the understanding from sensibility to obtain a pure understanding, then nothing remains but the mere form of thinking without intuition, by which, however, I can cognize nothing determinate and consequently no object. For that purpose I would have to conceive another understanding that would intuit its objects, but of which I do not have the least concept, because the human understanding is discursive and can cognize only by
356 means of general concepts. And the very same difficulty also arises if we attribute a will to the supreme being; for we have this concept only by drawing it from our inner experience, which therefore presupposes our dependence for satisfaction upon objects whose existence we require and thus upon sensibility, which is absolutely incompatible with the pure concept of the supreme being.

Hume's objections to deism are weak and affect only the proofs, not the deistic assertion itself. But with respect to theism, which comes about through a closer determination of the concept of the supreme being, which is merely transcendent in deism, they are very strong and, after this concept has been formed, in certain (in fact, in all common) cases irrefutable. Hume always insists that by the mere concept of an original being, to which we apply only ontological predicates (eternity, omnipresence, omnipotence), we actually think nothing at all determinate, and that properties which can yield a concept *in concreto* would have to be added; it is not enough to say: it is a cause. Rather, we must explain the nature of its causality, for example, through an understanding and a will. That is where his attacks on the essential point itself, namely theism, begin, since previously he had attacked only the proofs of deism, which does not carry with it any special dangers. All his dangerous arguments refer to anthropomorphism, which he holds to be inseparable from theism and to make it absurd in itself; but if the former are abandoned, the latter must vanish along with it, and nothing remains but deism, from which nothing can be made, which is of no value, and which cannot serve as any foundation to religion or morals. If this anthropomorphism were really unavoidable, even if all and any proofs of the existence of a supreme being were granted, we could never determine the concept of this being without becoming involved in contradictions.

If we combine the prohibition to avoid all transcendent judgments of pure reason with the apparently conflicting command to proceed to concepts that lie beyond the field of its immanent (empirical) use, we discover that both can subsist together, but only at the *limit* of all permissible use of reason. For 357
it belongs to the field of experience as well as to that of the beings of thought, and we are thereby taught at the same time how these so remarkable ideas serve merely for determining the limits of human reason. On the one hand, they teach not to extend cognition of experience limitlessly as if nothing but the world remained for us to cognize and, on the other hand, not to transgress the limits of experience and want to judge things beyond it as things in themselves.

But we stop at this limit if we restrict our judgment merely to the relation which the world may have to a being whose very concept lies beyond all the cognition that we are capable of within the world. For in that case we do not attribute to the supreme being any of the properties *in themselves*, by which we represent objects of experience, and in this way we avoid *dogmatic* anthropomorphism. However, we still attribute them to his relation to the world and allow ourselves a *symbolic* anthropomorphism, which in fact concerns language only and not the object itself.

When I say that we are compelled to consider the world as if it were the work of a supreme understanding and will, I am really not saying anything more than that a watch, a ship, a regiment, bears the same relation to the watchmaker, the shipbuilder, the commanding officer, as the sensible world (or everything that constitutes the basis of this sum of appearances) does to the unknown, which I do not hereby cognize as it is in itself, but as it is for me, namely in relation to the world of which I am a part.

§ 58. Such a cognition is a cognition *according to analogy* and does not signify (as is commonly un- 358
derstood) an imperfect similarity of two things, but a perfect similarity of two relations between completely

dissimilar things.[36] By means of this analogy, however, there remains a concept of the supreme being sufficiently determined *for us*, though we have left out everything that could *determine* it absolutely and *in itself*; for we determine it with respect to the world and thus with respect to ourselves and we do not require anything more. The attacks that Hume levels against those who would determine this concept absolutely, by taking the materials to that end from themselves and the world, do not affect us; and he cannot object that we have nothing left if we remove objective anthropomorphism from the concept of the supreme being.

For let us assume at the outset (as does Hume in his *Dialogues*[37] in the form of Philo against Cleanthes), as a necessary hypothesis, the *deistic* concept of the first being, in which this being is thought by the mere ontological predicates of substance, of cause, etc. *This must be done* because reason, being driven in the sensible world only by conditions that are themselves always conditioned, cannot be satisfied in any other way; and *this can be done* without falling into anthropomorphism, which transfers predicates from the sensible world to a being quite distinct from the world, because those predicates are simply categories, which, though they do not give a determinate concept of God, still provide a concept not limited to any conditions of sensibility. Thus nothing can prevent us from predicating of this being a *causality through reason* with respect to the world and thus from crossing over to theism, without being forced to attribute to this being itself this kind of reason as 359
a property inhering in him. For as to the *former*, the only possible way of pushing the use of reason (with respect to all possible experience, in complete harmony with itself) in the sensible world to the highest point is to assume a supreme reason as a cause of all the connections in the world. Such a principle must be quite advantageous to reason and can hurt it nowhere in its application to nature. As to the *latter*, reason is thereby not transferred as a property to the first being in itself, but *only to its relation* to the sensible world and so anthropomorphism is entirely avoided. For nothing is considered here but the *cause* of the rational form that is perceived everywhere in the world, and reason is attributed to the Supreme Being insofar as it contains the ground of this rational form in the world, but only according to analogy, i.e., insofar as this expression merely indicates the relation that the supreme cause unknown to us has to the world, in order to determine everything in it rationally in the highest degree. In this way we are prevented from using the property of reason to think God, but not from thinking the world in such a manner as is necessary to have the greatest possible use of reason according to one principle. We thereby acknowledge that the supreme being is quite inscrutable as to what it is in itself and even unthinkable *in any determinate way* and are thereby kept from making a transcendent use of the concepts which we have of reason as an efficient cause (by means of the will), in order to determine the divine nature by properties that can only be borrowed from human nature, and to lose ourselves in crude and fanatical concepts. It also keeps us from deluging the contemplation of the world with hyperphysical modes of explanation according to our concepts of human reason, which we transfer to God, thereby losing for this contemplation its proper end according to which it should be a rational study of mere nature and not a presumptuous derivation of its appearances from a supreme reason. The expression appropriate to our

36. There is a similar analogy between the legal relation of human actions and the mechanical relation of motive forces. I can never do anything to another man without giving him a right to do the same to me on the same conditions, just as no body can act with its motive force on another body without thereby causing the other to react equally against it. Here right and motive force are completely dissimilar things, but in their relation there is complete similarity. For that reason, by means of such an analogy I can obtain a concept of the relation of things that are absolutely unknown to me. For instance, as the promotion of the happiness of children (= a) is to the love of parents (= b), so the welfare of the human species (= c) is to the unknown in God (= x), which we call love: not as if it had the least similarity to any human inclination, but because we can suppose its relation to the world to be similar to that which things of the world bear to one another. But the relational concept in this case is a mere category, namely the concept of cause, which has nothing to do with sensibility.

37. [Kant is once again referring to Hume's *Dialogues Concerning Natural Religion*.]

feeble concepts is that we conceive the world *as if* its existence and internal plan stemmed from a supreme reason, by which we both cognize the constitution that belongs to the world itself, without pretending to
360 determine the nature of its cause in itself, and place the ground of this constitution (of the rational form in the world) in *the relation* of the supreme cause to the world, without finding the world sufficient by itself for that purpose.[38]

Thus the difficulties which seem to oppose theism disappear by combining Hume's principle—not to carry the use of reason dogmatically beyond the field of all possible experience—with this other principle, which he quite overlooked: not to consider the field of possible experience as one which restricts itself in the eyes of our reason. The *Critique of Pure Reason* points out the true mean here between dogmatism, which Hume combats, and skepticism, which he would substitute for it—a mean which is not like other means that we try to determine for ourselves, as it were, mechanically (by adopting something from the one side and something else from the other side), and by which nobody is taught a better way, but rather one that can be accurately determined according to principle.

§ 59. At the beginning of this remark I made use of the metaphor of a *limit* in order to establish the boundaries of reason with respect to its appropriate use. The sensible world contains merely appearances, which are not things in themselves. However, the understanding must assume the latter, *noumena*, precisely because it recognizes that the objects of experience are mere appearances. Both are comprised in our reason and the question is: How does reason proceed in limiting the understanding with respect to both these fields? Experience, which contains everything that belongs to the sensible world, does not limit itself; it proceeds in every case from the conditioned only to some other equally conditioned object. What limits it must lie completely outside it, and this 361
field is that of the pure beings of the understanding. But insofar as the *determination* of the nature of these beings is concerned, this field is an empty space for us and if only concepts that have been determined dogmatically are at issue, we cannot pass beyond the field of possible experience. But since a limit is itself something positive, which belongs to that which lies within as well as to the space that lies without the given sum, it is still an actual positive cognition, which reason only acquires by extending itself to this limit, but in such a way that it does not attempt to pass it, because it finds itself in the presence of an empty space, in which it can conceive forms of things, but not things themselves. But *limiting* the field of experience by something that is otherwise unknown to it is still a cognition belonging to reason in this standpoint, by which it is neither confined within the sensible world, nor does it stray beyond it, but rather restricts itself, as is fitting for knowledge of a limit, merely to the relation between what lies beyond it and what is contained within it.

Natural theology is such a concept at the limit of human reason, since it is constrained to look to the idea of a supreme being (and for practical ends to that of an intelligible world as well), not in order to determine anything relative to this mere being of the understanding, which lies beyond the sensible world, but in order to guide the use of reason within it according to principles of the greatest possible (theoretical as well as practical) unity. To this end we make use of the relation of the sensible world to a self-sufficient reason as the cause of all its connections. We do not thereby simply *invent* a being, but, since there must be something beyond the sensible world that can only be thought by the pure understanding, we *determine* that thing in this particular way, though of course only according to analogy.

And thus our original proposition remains, which is the result of the whole *Critique*: "that by all its *a priori* principles reason never teaches us anything more than objects of possible experience and even of these nothing more than can be cognized in experience."

38. I shall say that the causality of the supreme cause holds the same place with respect to the world that human reason does with respect to its works of art. Here the nature of the supreme cause itself remains unknown to me: I only compare its known effects (the order of the world) and their conformity to reason to the known effects of human reason and hence I term the former reason, without attributing to it on that account what I understand by this term in man, or without attaching to it as its property anything else known to me.

But this restriction does not prevent reason from leading us to the objective *limit* of experience, namely to the *relation* to something that is itself not an object of experience, but the highest ground of all experience. 362 However, reason does not teach us anything concerning the thing in itself: it only instructs us as to its own complete and highest use in the field of possible experience. But this is all that can be reasonably desired in the present case and we have reason to be satisfied with that.

§ 60. In this way we have fully exhibited metaphysics according to its subjective possibility as it is actually given *in the natural predisposition* of human reason and in what constitutes the essential end of its pursuit. We have found that this *merely natural* use of such a predisposition of our reason, if no discipline which is possible only from a scientific critique bridles and sets limits to it, involves us in transcendent *dialectical* syllogisms which are in part merely apparently and in part really conflicting and that this sophistical metaphysics is not only unnecessary for the promotion of our cognition of nature but even disadvantageous to it. However, a problem remains that is still worthy of investigation, namely to discover the natural ends aimed at by reason's disposition to transcendent concepts, because everything that lies in nature must be originally intended for some useful purpose.

Such an inquiry is in fact precarious and I acknowledge that what I can say about it is only conjecture, like every speculation about the ultimate ends of nature, something that I am allowed in this case alone, since the question does not concern the objective validity of metaphysical judgments, but rather our natural predisposition to them and therefore does not belong to the system of metaphysics but to anthropology.

When I consider all the transcendental ideas whose sum constitutes the proper problem of natural pure reason that compels it to abandon the mere contemplation of nature, to transcend all possible experience, and in this attempt to bring about the thing called metaphysics (whether it is knowledge or fiction), I think I perceive that the aim of this natural tendency is to free our concepts from the fetters of experience and from the boundaries of the mere contemplation of nature to such an extent that it at least sees a field opened up containing mere objects for the pure understanding that no sensibility can reach, not indeed for the purpose of speculatively occupying ourselves with them (for we can find no ground 363 to stand on), but so that practical principles can at least be assumed as possible, which, without finding some such scope for their necessary expectation and hope, could not expand to the universality which reason unavoidably requires from a moral point of view.

Now I find that the *psychological* idea (however little it may reveal to me about the pure nature of the human soul, elevated above all concepts of experience) at least shows distinctly enough the insufficiency of these concepts and thereby stops me from accepting materialism, a psychological concept that is unfit for any explanation of nature and, in addition, confines reason in practical respects. The *cosmological* ideas, by the obvious insufficiency of all possible cognition of nature to satisfy reason in its legitimate inquiry, serve in the same manner to keep us from naturalism, which asserts nature to be sufficient for itself. Finally, by means of the *theological* idea reason frees itself from fatalism (both as a blind natural necessity in the coherence of nature itself without a first principle and with respect to a blind causality of this principle itself) and leads to the concept of a cause possessing freedom and thus a highest intelligence, because all natural necessity in the sensible world is conditional, given that it always presupposes the dependence of things upon others and unconditional necessity must be sought only in the unity of a cause different from the sensible world, and the causality of this cause, in turn, were it merely nature, could never render the existence of the contingent comprehensible as its consequent. Thus the transcendental ideas serve, if not to instruct us positively, at least to destroy the rash and overly restrictive assertions of *materialism*, *naturalism*, and *fatalism*, and thus to create room for the moral ideas beyond the field of speculation. These considerations, I should think, explain in some measure the natural predisposition of which I spoke.

The practical value that a merely speculative science may have lies outside the limits of this science and can therefore be considered merely as a scholium

and, like all scholia, does not form part of the science itself. However, this relation surely lies within the limits of philosophy, especially of philosophy drawn from the sources of pure reason, where its speculative
364 use in metaphysics must necessarily be at one with its practical use in morals. Hence the unavoidable dialectic of pure reason in metaphysics considered as a natural tendency deserves to be explained not merely as an illusion that is to be removed, but also, if possible, as a *natural provision* for its end, though it cannot justly be assigned to metaphysics proper, since this duty is a work of supererogation.

The solutions of these questions which are treated in the chapter on the Regulative Use of the Ideas of Pure Reason[39] should be considered a second scholium, which is more clearly related to the content of metaphysics. For there certain rational principles are expounded which determine *a priori* the order of nature or rather the understanding that seeks nature's laws through experience. They seem to be constitutive and legislative with respect to experience, though they spring from pure reason, which, unlike the understanding, cannot be considered as a principle of possible experience. Now whether or not this harmony rests upon the fact that just as nature does not inhere in appearances or in their source (the sensibility) itself, but only insofar as the latter is related to the understanding, so too the systematic unity of the understanding's use to bring about a total possible experience can belong to the understanding only in relation to reason and thus whether or not experience is in this way mediately subordinate to the legislation of reason may be discussed by those who desire to trace the nature of reason even beyond its use in metaphysics, into the general principles of a history of nature; I have represented this as an important task, but I have not attempted its solution in the book itself.[40]

And thus I conclude the analytic solution of the 365
main question which I had proposed: How is metaphysics in general possible? by ascending from the data of its actual use in its consequences to the grounds of its possibility.

Scholium

Solution to the General Question of the Prolegomena, "How is metaphysics possible as a science?"

Metaphysics, as a natural disposition of reason, is actual, but if considered by itself alone (as the analytic solution of the third main question showed), it is dialectical and illusory. If we wanted to take principles from it and use them to follow this natural, but on that account no less false illusion, we could never produce science, but only a vain dialectical art, in which one school may outdo another, but none can ever acquire a just and lasting approbation.

In order that metaphysics as a science may be entitled to claim not mere fallacious persuasion, but insight and conviction, a *Critique of Reason* must itself exhibit the entire stock of *a priori* concepts, their division according to various sources (sensibility, the understanding, and reason), a complete table of them, an analysis of all these concepts, along with all their consequences, but especially the possibility of synthetic *a priori* cognition by means of the deduction of these concepts, the principles and the limits of their application, all in a complete system. Critique, therefore, and critique alone contains in itself the entire well-tested and established plan and even all the means required to bring about metaphysics as a science; by any other ways and means it is impossible. Therefore, the question here is not so much how this endeavor is possible, but how to get it going, how to induce clear minds to abandon their previously perverted and fruitless efforts for those that will not deceive, and how best to direct such a union for the common end.

39. *Critique of Pure Reason*, Second Division, chap. III, section 7 [A642–668/B670–696].

40. Throughout the *Critique* I never lost sight of my intention not to neglect anything that could render the inquiry into the nature of pure reason complete, regardless of how deeply hidden it might be. Everybody may afterwards carry his inquiries as far as he pleases, if only he has been shown what still remains to be done. This can reasonably be expected of him who has made it his business to survey the whole field, in order to consign it to others for future cultivation and allocation. And to this branch both of the scholia belong, whose dryness will hardly recommend themselves to amateurs and which for that reason are added here only for experts.

366 This much is certain: whoever has once tasted critique will be forever disgusted with all dogmatic chatter which he formerly put up with, because his reason had to have something, but could find nothing better for its support. Critique stands in the same relation to the common metaphysics of the schools as *chemistry* does to *alchemy* or as *astronomy* to the *astrology* of the fortune-teller. I vow that no one who has thought through and grasped the principles of critique, even if only in these *Prolegomena*, will ever return to that old and sophistical pseudo-science, but will rather look forward with a certain delight to metaphysics which is now indeed in his power, requiring no more preparatory discoveries, and now at last providing permanent satisfaction to reason. For this is an advantage upon which, of all possible sciences, metaphysics alone can count with certainty, namely that it can be brought to completion and a permanent state since it is incapable of further change or of any augmentation by new discoveries, because reason has here the sources of its cognition in itself, not in objects and their intuition, by which it could be taught anything more. When, therefore, it has exhibited the fundamental laws of its faculty completely and so determinately as to avoid all misunderstanding, nothing remains for pure reason to cognize *a priori;* in fact, there is even no basis for raising further questions. The sure prospect of knowledge so determinate and final has a special charm, even if we were to set aside all its advantages, of which I shall speak below.

All false art, all vain wisdom, lasts for a while, but finally destroys itself, and its highest cultivation is also the moment of its decline. That this time has come for metaphysics is clear from the state into which it has fallen among all learned nations, despite all the zeal with which sciences of every other kind are developed. The old organization of our university studies still retains its shadow; now and then a sole Academy of Sciences tempts men by offering prizes to write essays on it, but it is no longer counted among the thorough sciences; and let anyone judge for himself how a man of genius, if he were called a great metaphysician, would receive the compliment, which may be well-meant, but would hardly be envied by anyone.

367 Although the period of the downfall of all dogmatic metaphysics has undoubtedly arrived, we are still far from able to say that the period of its regeneration has already arrived by means of a thorough and complete critique of reason. All transitions from an inclination to its opposite pass through a stage of indifference and this moment is the most dangerous for an author, but, in my opinion, the most favorable for the science. For, when the partisan spirit has died out by a complete dissolution of former connections, minds are in the best state to listen to several proposals for an organization according to a new plan.

When I say that I hope these *Prolegomena* will excite investigation in the field of critique and provide a new and promising object to sustain the general spirit of philosophy, which seems to lack sustenance on its speculative side, I can already imagine beforehand that everyone whom the thorny paths of my *Critique* have tired and put in a bad mood will ask me what the basis for my hope is. My answer is: *the irresistible law of necessity*.

That the human mind will ever give up metaphysical inquiry is as little to be expected as that we should prefer to give up breathing altogether in order to avoid inhaling impure air. There will therefore always be metaphysics in the world; in fact, everyone, especially every reflective man, will have it and, for lack of a recognized standard, will carve it up for himself in his own fashion. What has been called metaphysics until now cannot satisfy any critical mind, but to forego it entirely is impossible; therefore a critique of pure reason itself must now be *attempted* or, if one exists, *investigated*, and put to a general test, because there is no other means of supplying this pressing need, which is something more than a mere thirst for knowledge.

Ever since I have known critique, whenever I finish reading a book of metaphysical content, which, by the preciseness of its concepts, by its variety, order, and easy style, was not only entertaining but also 368 helpful, I cannot help asking, "Has this author advanced metaphysics a single step?" The learned men, whose works have been useful to me in other respects and have always contributed to the development of my mental powers, will, I hope, forgive me for saying

that I have never been able to find either their essays or my own less important ones (though self-love may recommend them to me) to have advanced the science of metaphysics in the least, and for the very obvious reason that metaphysics did not exist then as a science and cannot be put together in piecemeal fashion; rather its seed must be fully preformed in the *Critique*. But in order to prevent all misunderstanding, we must remember from what has already been said that by an analytic treatment of our concepts the understanding certainly gains a great deal, but the science (of metaphysics) is not thereby advanced in the least, because these analyses of concepts are nothing but the materials out of which science is to be constructed in the first place. Let the concepts of substance and of accident be analyzed and defined as much as one might like, all this is very well as a preparation for some future use. But if we cannot prove that in all which exists the substance endures and only the accidents vary, our science is not in the least advanced by all our analyses.

Until now, metaphysics has never been able to prove *a priori* either this proposition or the principle of sufficient reason, much less any more complex theorem that belongs, e.g., to psychology or cosmology, or indeed any synthetic proposition. Therefore, by all this analysis nothing is affected, created, or improved, and science, after all this bustle and noise, still remains as it was in the days of Aristotle, though the preparations would have been incontestably better than otherwise, if only the clue to synthetic cognitions had been discovered.

If anyone feels offended by this, he can refute my charge by producing a single synthetic proposition belonging to metaphysics that he can prove dogmatically *a priori*, for until he has actually performed this feat, I shall not grant that he has truly advanced the science—even should this proposition be sufficiently confirmed by common experience. No demand can
369 be more moderate or more equitable, and in the (inevitably certain) event of its non-performance, no assertion more just than that metaphysics has never existed as a science.

But there are two things which, in case the challenge be accepted, I must refuse to tolerate: first, trifling about *probability* and conjecture, which are as poorly suited to metaphysics as to geometry; and secondly, a decision by means of the magic wand of so-called *healthy common sense*, which does not convince everyone, but which accommodates itself to personal peculiarities.

For, *as to the former*, nothing can be more absurd than to attempt to base our judgments upon probability and conjecture in metaphysics, a philosophy from pure reason. Everything that is to be cognized *a priori* is thereby announced as apodeictically certain and must therefore also be proved in this way. We might as well think of basing geometry or arithmetic upon conjectures. As to the calculus of probabilities in the latter, it does not contain probable, but rather perfectly certain judgments concerning the degree of the probability of certain cases under given uniform conditions, which, in the sum of all possible cases, must infallibly happen according to the rule, though it is not sufficiently determined for every single instance. Conjectures (by means of induction and analogy) can be allowed only in empirical natural science, yet even there at least the possibility of what we assume must be quite certain.

The appeal to *healthy common sense* is even more absurd if concepts and principles are said to be valid, not insofar as they hold with respect to experience, but even beyond the conditions of experience. For what is common sense? It is the ordinary understanding insofar as it judges correctly. But what is the ordinary understanding? It is the faculty of cognition and of the use of rules *in concreto*, as distinguished from the *speculative understanding*, which is a faculty of cognizing rules *in abstracto*. Thus, common sense can hardly understand the rule that every event is determined by means of its cause, and thus can never comprehend it in general. For that reason, it demands an example from experience and when it hears that this rule means nothing but what it al- 370
ways thought when a pane was broken or a kitchen utensil missing, it then understands the principle and grants it. Therefore, common sense is of use only insofar as it can see its rules confirmed by experience (though they are actually *a priori*); consequently, to have insight into them *a priori* and independently

of experience belongs to the speculative understanding and lies entirely beyond the horizon of common sense. But metaphysics is entirely confined to the latter kind of knowledge and it is certainly a bad sign of common sense to appeal to it as a witness, when it has no opinion here whatsoever and men look down upon it with contempt until they are in trouble and can find neither advice nor help in their speculation.

It is a common excuse that those false friends of common sense (who occasionally prize it highly, but usually despise it) are accustomed to using when they say that ultimately there must surely be some propositions which are immediately certain and of which there is no occasion to give any proof or even any account at all, because otherwise we could never stop inquiring into the grounds of our judgments. But in proof of this right—beyond the principle of contradiction, which is not sufficient to show the truth of synthetic judgments—they can never provide anything else indubitable that they can immediately ascribe to common sense, except mathematical propositions, such as two times two is equal to four, between two points there is but one straight line, etc. But these judgments are radically different from those of metaphysics. For in mathematics by thinking I myself can construct whatever I represent to myself as possible through a concept: I add the first two to the other two, one by one, and myself make the number four, or in thought I draw from one point to another all manner of lines, equal as well as unequal; yet I can draw only one that is like itself in all its parts. But, by all my power of thinking, I cannot extract from the concept of a thing the concept of something else whose existence is necessarily connected with the former, but I must take recourse to experience. And though my understanding furnishes me *a priori* (yet only in reference to possible experience) with the concept of such a connection (causality), I cannot exhibit it in *a priori* intuition, 371
like the concepts of mathematics, and so show its possibility *a priori*. This concept, together with the principles of its application, always requires, if it shall hold *a priori*—as is necessary in metaphysics—a justification and deduction of its possibility, because otherwise we cannot know how far it is valid and whether it can be used only in experience or beyond it as well. Therefore, in metaphysics as a speculative science of pure reason we can never appeal to common sense, but may do so only when we are forced (in certain matters) to abandon it and to renounce all purely speculative cognition, which must always be theoretical knowledge, and consequently when we are forced to forego metaphysics itself and its instruction, for the sake of adopting a rational faith which alone may be possible for us and sufficient for our wants (perhaps even more beneficial than knowledge itself). For in this case the form of the issue is completely changed. Metaphysics must be a science, not only as a whole but in all its parts; otherwise it is nothing, because, as speculation of pure reason, it has a hold only on universal insights. Beyond its field, however, probability and common sense may be used advantageously and legitimately, but according to its own unique principles whose importance always depends on its relation to the practical.

This is what I hold myself justified in requiring for the possibility of metaphysics as a science.